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COLORADO STATE PUBLICATIONS LIBRARY

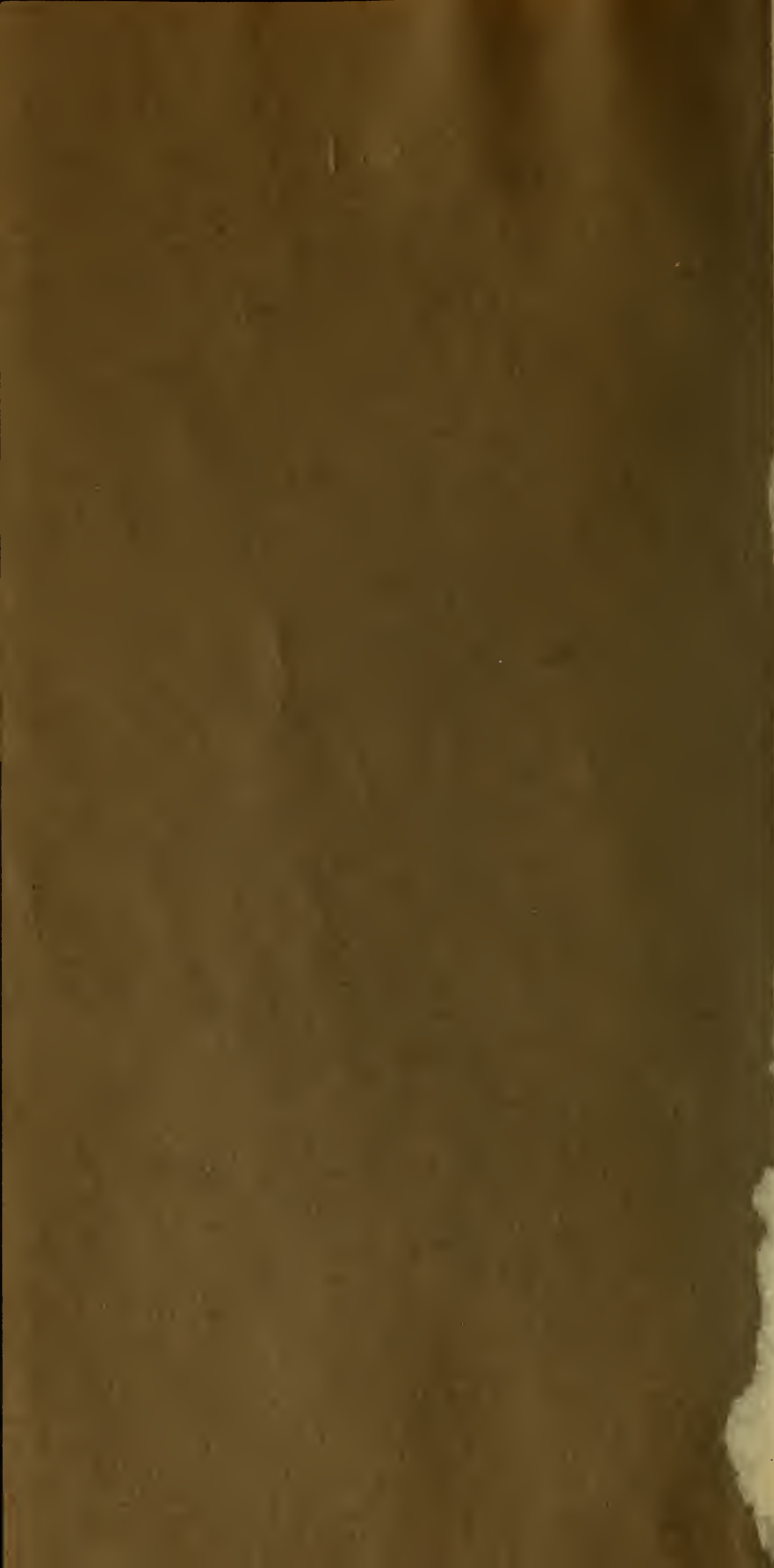


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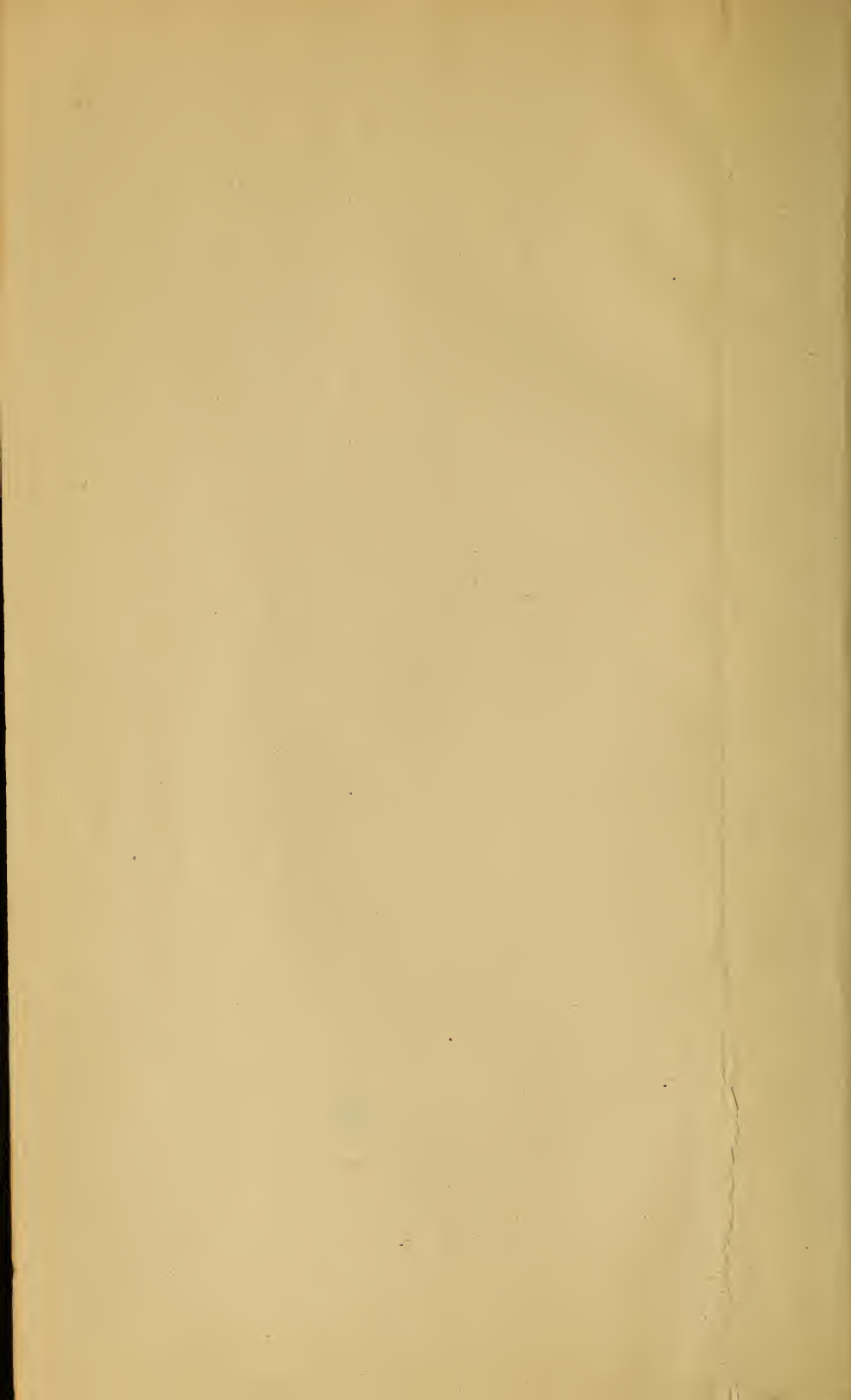


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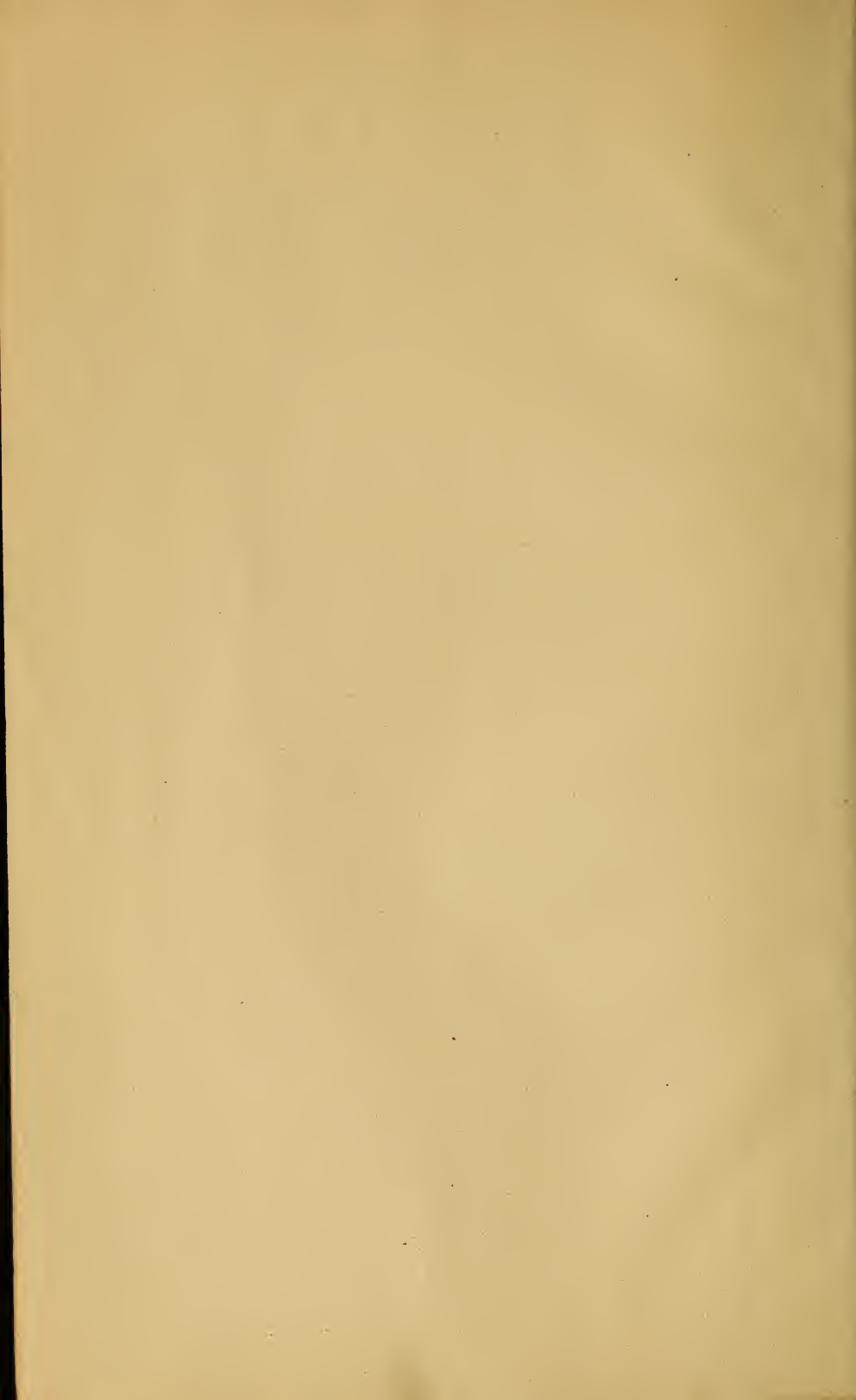


Hist =  $\frac{0.25}{1875}$  p 9  
Dec 10 - 1875

Teacher's wages - wages p 10  
" 4. by  $\frac{0.25}{1875}$  p 15  
" 4 - p 24

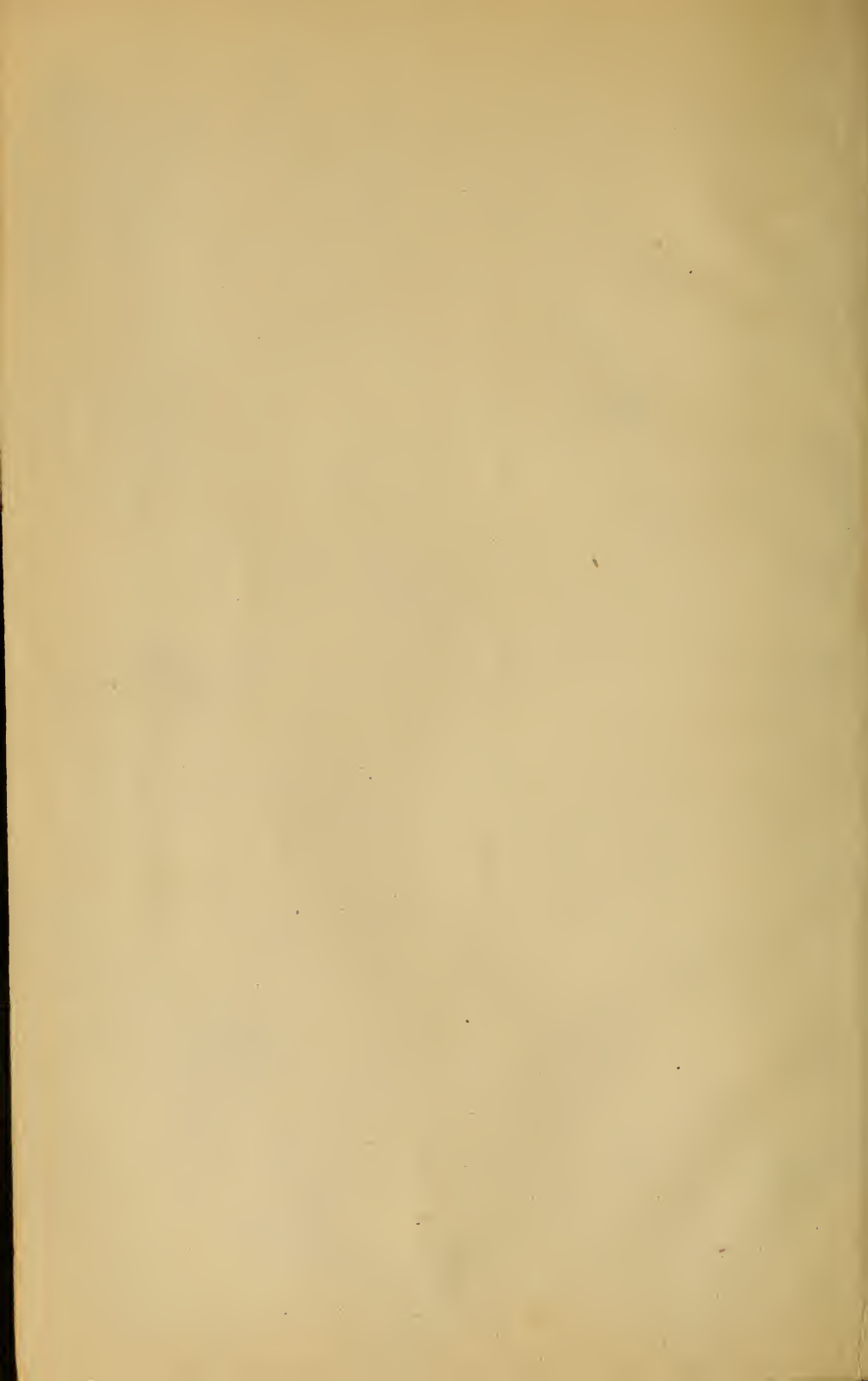
Woman's Ed 119

State Plan p 12









FIRST 11236-46

BIENNIAL REPORT

OF THE

Superintendent of Public Instruction

OF THE

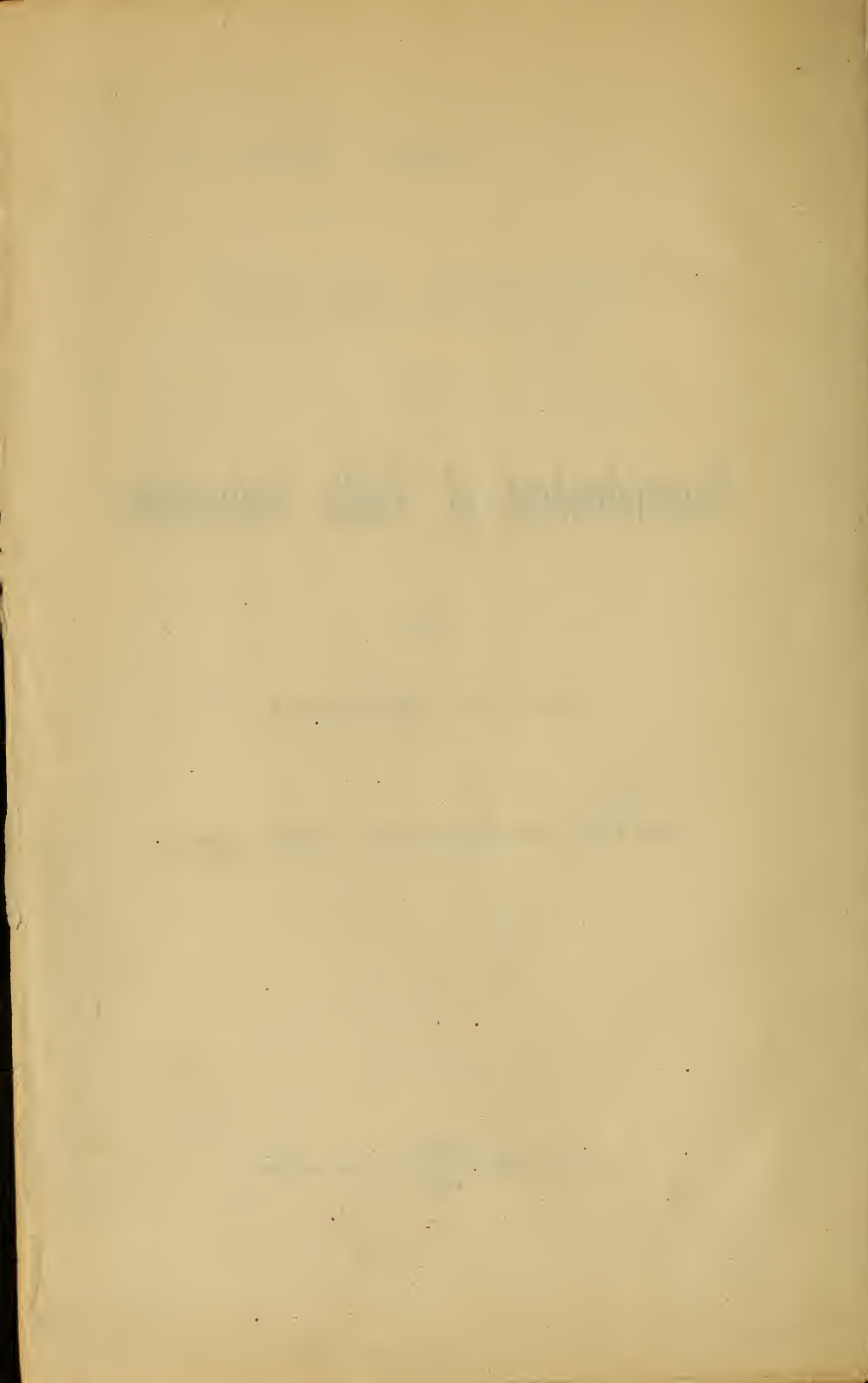
STATE OF COLORADO,

FOR THE TWO YEARS ENDING AUGUST 31, 1878.

DENVER:

DAILY TIMES PRINTING HOUSE AND BOOK MANUFACTORY

1879.



STATE OF COLORADO,  
*Office of* SUPERINTENDENT OF PUBLIC INSTRUCTION, }  
DENVER, DECEMBER 10, 1878. }

*To His Excellency* JOHN L. ROUNTT, *Governor of Colorado.*

SIR: In compliance with the provisions of section ten of the school law, I have the honor to transmit herewith a report of the affairs of the Department of Public Instruction for the biennial term ending August 31, A. D. 1878.

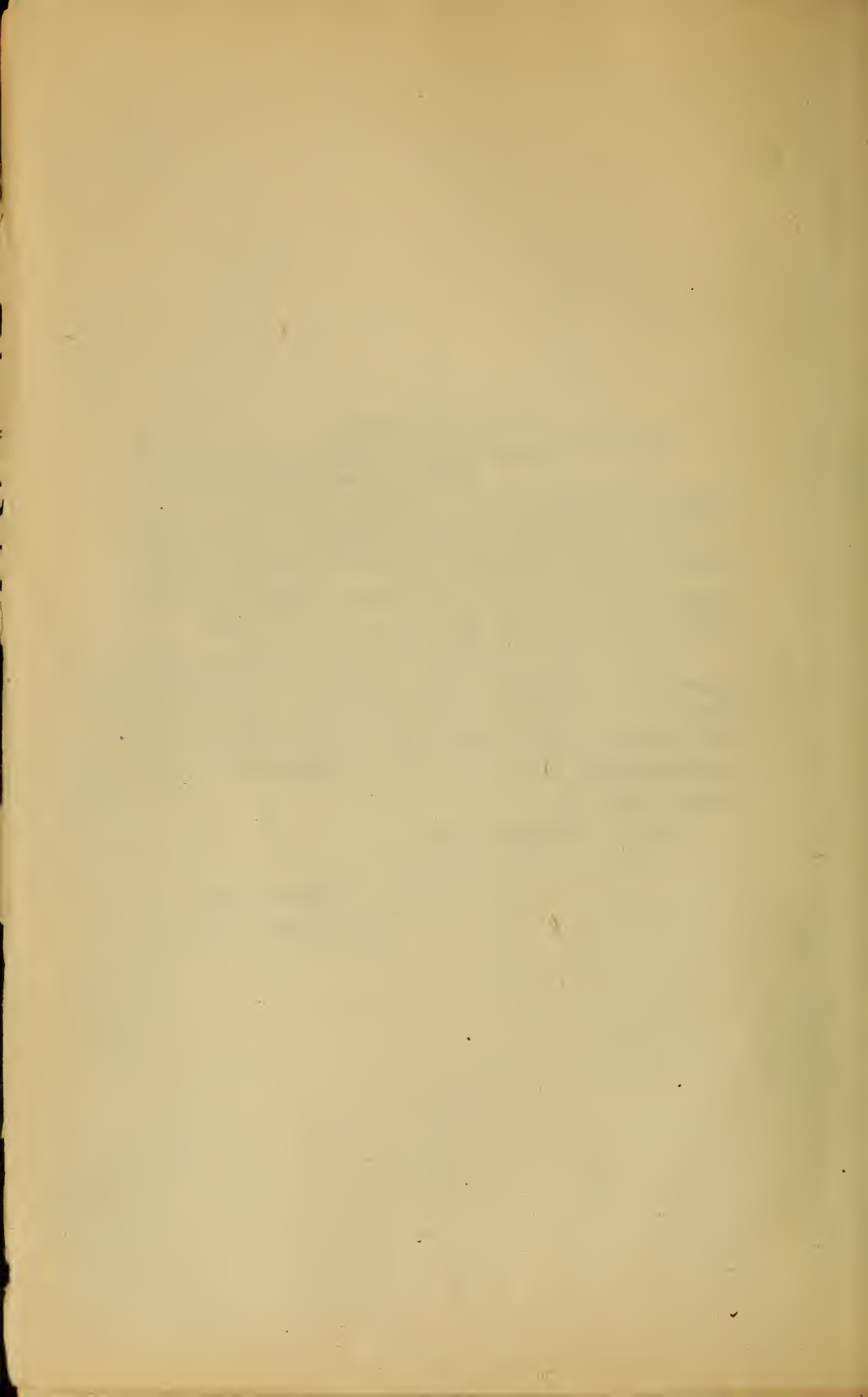
As our official relations are about to terminate, I deem it proper to overstep the ordinary bounds of a formal official letter, to thank you for the deep interest you have shown in the educational affairs of the State, and your constant readiness to advance the interests of this department by every means in your power.

I am, sir, with great respect,

Your obedient servant,

JOS. C. SHATTUCK,

*Supt. of Public Instruction.*



# REPORT.

## COMPARATIVE STATEMENT.

ITEMS.	1877.	1878.	Increase.
Whole number of persons between 6 and 21 . . . . .	21,612	26,473	4,861
Whole number enrolled in school . . . . .	14,085	16,641	2,556
Average attendance . . . . .	8,141	9,699	1,558
Percentage of average attendance to whole number . . . . .	.37	.36	Decrease, .01
Percentage of average attendance to enrollment . . . . .	.58	.58	. . . . .
Percentage of enrollment to whole number . . . . .	.65	.63	Decrease, .02
Number of districts in the State . . . . .	313	372	59
Number of school houses . . . . .	219	249	30
Value of school houses and property . . . . .	\$472,983 00	\$474,771 00	\$1,788 00
Number of male teachers . . . . .	233	226	Decrease, 7
Number of female teachers . . . . .	297	341	44
Average wages of male teachers per month . . . . .	\$56 10	\$49 90	Dec. \$6 20
Average wages of female teachers per month . . . . .	51 45	46 95	Dec. \$4 50
Average cost per month for each pupil . . . . .	3 43	2 72*	. . . . .
Received from county school fund . . . . .	120,057 00	128,788 00	8,731 00
Received from special school fund . . . . .	65,394 00	57,371 00	Dec. 8,023 00
Total receipts including amount on hand at beginning of year . . . . .	245,145 00	281,674 00	36,529 00
Expended for teachers' wages . . . . .	140,780 00	153,089 00	12,309 00
Expended for incidental expenses . . . . .	25,711 00	26,184 00	473 00
Total expenses . . . . .	215,225 00	243,850 00	28,625 00
Expenditure per capita of school population . . . . .	7 95	10 14	2 19
Expenditure per capita of pupils enrolled . . . . .	12 20	16 40	4 20
Expenditure per capita of average attendance . . . . .	21 10	27 66	6 56
Average rate of county school tax (in mills) . . . . .	3.2	2.9	Decrease, .03
Average rate of special school tax (in mills) . . . . .	. . . . .	2	. . . . .
Average rate of special building tax (in mills) . . . . .	. . . . .	1	. . . . .
Number of volumes in school libraries . . . . .	1,583	2,883	1,300

\* Based upon average number belonging. If based upon average attendance, as 1877, the result is \$3.30.

5976

In submitting the foregoing comparative statement I desire to qualify it with the remark that the increase or decrease noted is not entirely trustworthy because of the manifest errors in the reports from many of the counties for 1877. Reports, more or less complete, for the year ending August 31, 1877, were received from twenty-four counties. In two of the remaining six there was then, and is now, no organized district, hence no report to be rendered. From the remaining four the most persistent effort failed to elicit a response. In compiling the statistical summary for that year I have included no *estimates* for those counties from which no reports were received, deeming it better that my report should state facts only and leave guessing to others. It must be admitted, however, that an examination of the county reports for 1877 leaves the impression that a large amount of guessing entered into their composition. This was due not so much to faults in county superintendents as to the carelessness of district secretaries.

The law provides that the county superintendent's report shall contain "an abstract of the reports made to him by the district secretaries," and those district reports were carelessly and imperfectly made in so many instances that an abstract of them was simply a compilation of errors. The financial statistics were in such shape as to prove conclusively that, in keeping district accounts, carelessness was the rule and accuracy the exception. More care had been taken, however, to preserve data concerning disbursements than receipts, as was shown by the fact that in these reports as first received at this office the *cash* expenditures and amount on hand *exceeded the entire receipts by nearly twenty thousand dollars*. And this carelessness was not confined to small districts. One district reported as the annual expenditure for teachers' wages a sum considerably less than it had really paid to one of its six teachers, while its heaviest expenditure was reported under the head of "incidental



expenses." In the report of but one county containing any considerable number of districts could the financial statement be made to balance as it was first received. My efforts to secure the correction of these efforts were well seconded by the county superintendents, who generally did all that could be done at that late day to rectify the mistakes, a majority of which were rectified. The excess of expenditures was reduced to about five thousand dollars and there it remains, let us hope, "the last of its race."

It needs no argument to show that knowledge of the condition of our schools must be obtained largely from statistical reports, or that these reports are useless, or worse, if not reasonably accurate. At the county elections of 1877, for the first time in our history, every county in the State elected a county superintendent who was willing to enter upon the duties of the office. Soon after the beginning of their term a circular was sent to each superintendent, containing the following words, which I consider of sufficient permanent value to be worthy a place here :

"One of the most crying evils in the working of our present State school system is the careless, unbusiness-like way in which district accounts are kept in many instances. Out of these erroneous and incomplete accounts grows a mass of reports so incomplete and inaccurate as to be quite unreliable. District accounts often are and must be kept by persons who, though otherwise worthy and capable, have little time or taste for clerical work. It is impossible to have correct reports next fall unless accounts are correctly kept during the year. Now, therefore, by the authority vested in me by the school law (see sections nine and twenty) I hereby instruct you to make it a part of your official duty to examine the books of the secretary and treasurer in all districts, to see if said books are properly kept and the funds properly accounted for, and if errors are found you will see them corrected. If taken early in the year these accounts can be put right and kept right."

The returns this year show a decided advance "all along the line." An improved blank was sent out, and although there is still room for improvement, it is certain no such full and reliable reports have ever before been received by this office as those now on file from twenty-eight counties for the year ending August 31, 1878. This in-

cludes every county in which there is an organized district.

The percentage of average attendance and of enrollment to the whole number of persons of school age seems to have decreased slightly during the past year, but the decrease is too slight to occasion much anxiety, while the fact that only about five-eighths of our school population are enrolled in school, should provoke careful inquiry as to the best means of increasing this percentage.

The incongruity observable between the increase in the number of school houses—thirty—and the increase in value of school property—only \$1,788—is explained by the fact that heretofore the disposition has been to return these houses at cost, while this year they have generally been returned at present valuation. As an instance of the great change in the cost of building, I mention the Agricultural College at Fort Collins, which has just been completed at a cost of \$7,500, which experienced men estimate would have cost at least \$12,000 six or more years ago.

#### TEACHERS.

The decrease in teachers' wages has been about ten per cent. As we are now evidently on the rising wave of prosperity, it is not probable that a further decrease will be made. It is curious to observe that while men's wages have decreased eleven per cent., women's have decreased but eight and three-fourths per cent., and to observe, also, that the number of male teachers is seven less in 1878 than in 1877, while the number of female teachers is forty-four greater. I am glad to record the fact that the people of this State give a very general assent to the doctrine that wages should be fixed by the amount and kind of labor, not by the sex of the laborer.

The subjoined table, giving the average monthly wages of male and female teachers in eight States, whose reports are at hand, shows that Colorado puts the wages of men and women more nearly on an equality than any other

State, albeit woman suffrage was defeated here by nearly two-thirds majority :

	Male.	Female.	Difference.
Maine.....	\$32 76	\$16 56	\$16 20
Massachusetts (including board).....	82 22	34 30	47 92
Connecticut.....	64 55	36 20	28 35
Michigan.....	42 54	27 45	15 09
Minnesota (including board).....	36 75	28 81	8 44
California.....	83 78	69 68	14 10
Oregon.....	45 42	34 33	11 09
Colorado.....	49 90	46 95	2 95

The primary teacher is better appreciated, hence better paid in proportion to other grades here than is usual elsewhere.

"It is recognized, if not implied, in the administration of our schools, that a certain grade of proficiency enables a candidate to get a position in the grammar schools, and that a lower grade is sufficient for a place in the primary department.—*Philadelphia Ledger*.

This is neither recognized nor implied in Colorado, but the belief is general that primary teachers are "born, not made," quite as truly as poets, and when one proves her ability by her works, her value is recognized, and in salary she frequently ranks next the principal.

To properly train children during the first two years of their school life requires a skill rarer and of a higher order than to instruct classes in Latin and geometry. It is a true saying and worthy of all acceptance, "We can better afford to have blockheads in charge of our colleges than of our primary schools."

#### PER CAPITA EXPENDITURES.

The average cost per month for each pupil was based

upon the average attendance in 1877 because but few counties reported the average number belonging. Calculated on the same basis this year, this item shows a decrease of thirteen cents. In estimating the per capita expenditure this year the bond interest has been included, increasing the dividend about twenty-five thousand dollars not included in 1877, because not reported. After making this allowance, however, there is an increased expenditure per capita, while the average cost per month per pupil is lessened, which would indicate a lengthening of school terms. Table IV, however, shows a shortening of terms, in the average, by seventeen days.

#### SCHOOL LIBRARIES.

It is gratifying to note the large increase in the number of volumes in school libraries—over 80 per cent. This is well. A small amount invested annually in good books will in a few years accumulate a library worth more to the youth than a costly school house. Carlyle says, "The university of the future is the library." A large portion of the increase in this item comes from a generous donation to the public school library of Denver by two of our public spirited citizens. "May their tribe increase;" and it will. If the people realize the importance—which cannot be overestimated—of training the rising generation to a taste for good reading and an earnest effort be made to supply food for this healthful appetite, a great deal can be done to preserve our boys and girls from the debasing influence of the vile trash with which the country is flooded and which is daily winning "somebody's darling" to lewdness and crime.

#### SCHOOL FUND.

The minimum tax which the counties may levy for school purposes is two mills; this is increased in many

counties so that the average for the State last year was two and nine-tenths mills.

That was not enough, and was supplemented by special taxation averaging a little more than two mills, making the average rate for school purposes, exclusive of the building fund and interest on school bonds, nearly five mills.

If the minimum rate were raised to four mills it would stop at least ninety per cent. of the vexatious special tax, distribute educational expenses more equitably upon all taxable property, strengthen weak districts, and *not increase the burdens of the people as a whole.*

#### LAND GRANT.

Our schools must be supported by taxation in the future as in the past. While our neighbors on the east have a school fund amounting to millions arising from the sale and lease of land given them by the general government, without some additional legislation by Congress, our fund from the same source will not in this generation greatly lessen our school taxes.

There has been received from the sales of school land \$12,541. This is mostly the first payment of thirty per cent. of purchase price. Some parcels have been sold for cash. The value of the lands already sold—at the selling price—is \$38,050. The number of acres sold is 8,440, making the average price per acre \$4.50.

The money already received is invested in state securities at ten per cent. interest, which interest will be divided among the counties according to law. The state treasurer has also received \$3,342.35 on account of the leasing of school lands, which amount awaits disposal at the hands of the legislature. It is properly income to be divided with the interest on the proceeds of sales, but in absence of specific law in the premises, it was thought best that it should remain in the treasury until the legislature shall direct its disbursement. Let me recapitulate :

State fund arising from sale of school lands now sold, when all paid in, in round numbers .....	\$40,000 00
<hr/>	
*Annual interest in government four per cents.....	\$ 1,600 00
Annual receipts from rental—say.....	4,000 00
<hr/>	
Total annual income.....	\$ 5,600 00

\*See provisions of law concerning investment of this fund.

True, the annual rental will be increased by the leasing of additional land, but it must be multiplied by twenty before it will afford us much relief from taxation or compare with the income of our sister western states. The land sold is the cream of the arable school land. If leased it would have returned an income of \$4,000, or two and one-half times as much as when invested in government bonds, and every acre of *this* land could have been leased—if it had not been for sale. The interests of the school fund seem to demand more specific legislation concerning the leasing of school lands, and the withdrawal from the market of all that is unsold. A line running parallel with and a little west of the 105th meridian, bisects the state, and practically the eastern half is plain, the western, mountains. In this western half our school grant is inoperative, almost wholly, on account of the mineral restriction. In the eastern half, the valuable land is confined to such narrow strip along the valleys of the South Platte and the Arkansas rivers and their tributaries, as can be irrigated by the waters of those streams, and however wild theorists may dream of irrigating the whole of these broad arid plains, it is enough to say here that our most intelligent farmers and experienced engineers (experienced in canal building and water measurement) believe that the irrigable belt along these streams is but a ribbon's width in comparison with the vast stretch of plain, which, while the present order of nature lasts, must be given over to the herder and the shepherd, and which is too near valueless to be esti-

mated by the acre. While it is impossible from any data at my command to give the acreage accurately, a glance at the map—with these facts in mind—will show us the puny dimensions of our land grant of two sections in each surveyed township, when it is estimated for the income there is in it. Out of these fertile valleys we lose, according to reports from the several land offices, in round numbers, fifty-five thousand acres sold or otherwise disposed of previous to our grant, and for which we must take—what ever we can find, *in the same land office district*. These are not pleasant facts, concerning our school fund, but it is surely the part of wise men to examine the worst aspects of the case, rather than to amuse ourselves with day dreams of a four million acre school grant—one-eighteenth the area of the State—which *would* be ours but for several “ifs”—one of them no less substantial than the Rocky Mountains themselves. If the mineral restriction were removed, our grant would still be poor compared to a similar one in the valley States east of us, (the permanent fund of Kansas already reaches two million five hundred thousand dollars), but then at least we would not suffer both from the unfavorable conditions in nature and the unfairness of the government, which unfairness without doubt comes entirely from a misapprehension of the facts in the case.

#### EXAMINATION OF TEACHERS.

The law makes it the duty of county superintendents to examine all persons who present themselves at the quarterly examination; to grant certificates to such as are deemed worthy, and it is further provided that no person shall be paid out of the public fund for teaching, unless such person holds a certificate of competency, signed by the said superintendent. In conducting these examinations a great variety of methods and degrees of severity prevailed—here as elsewhere—and it often happened that a second grade certificate in one county required a higher degree of

scholarship than a first grade in an adjoining county. This it was desirable to remedy, and after extended correspondence and conversation with the county superintendents, the State Board of Education decided, in August, 1877, that it was best the Superintendent of Public Instruction should issue uniform questions to all the counties. The first list was issued for the quarterly examination on the last Saturday in August, 1877, and the plan met with very cordial approval for the most part from all interested, and has been continued up to this time. That the public may know precisely what is required of persons who wish to teach in Colorado, I give here the first list sent out, remarking only that these fairly represent all that have followed, except in this: there was a general complaint that too much work was prescribed for the time given, and as the law requires the examination to be held Saturday, hence allowing but one day, the number of questions has been reduced.

## QUESTIONS.

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### NOTES TO EXAMINEES.

1. Provide yourself with a lead pencil.
2. Write your name, age, nativity and postoffice address on a slip of paper, put it in the envelope, seal it, and put your *number* but not your name on the back.
3. Write your *number* on each paper.
4. Take a different paper for each branch, write the subject at the head of each paper, and write on but one side of the paper.
5. Number your answers to correspond with the questions, but do not repeat the questions.
6. Read all the questions upon a topic before answering any of them.
7. You will be marked in penmanship by an examination of all your papers, and in estimating the grades the general appearance of the papers as well as the correctness of the answers will be considered.
8. Communication without permission and looking over the papers of others will be regarded as failures.



9. Do not take the questions from the room. Any applicant who shall violate this rule will forfeit all right to a certificate.
10. When possible abbreviate. Give *short but complete solutions* to arithmetical problems.
11. Omission will be considered as failures, and partial answers will, in all cases, be rejected.
12. In grammar, no word will be considered parsed that is not *fully parsed*.

## I.

## ARITHMETIC.

Time, 40 minutes. Indicate the working of problems. No credit for mere answers.

1. Express in Roman and Arabic notation one million sixty-eight thousand five hundred sixty-five.
  2.  $875 \div 769$ . Solve and explain as to a child.
  3.  $\frac{6+4}{7-5}$ . Solve and demonstrate.
  4.  $\frac{7-4}{9-5}$ . Solve and demonstrate.
- Divide one million by one millionth, and explain.
6. What do you understand by "The Metric System," and what advantages are claimed for it?
  7. Define compound numbers; percentage; interest; discount; commission.
  8. What is the amount of \$1,345 from April 9, 1870, to September 5, 1871, at 7 per cent. per annum?
  9. When gold is at a premium of 30 per cent., what is the discount on greenbacks?
  10. What is the largest square stick of timber that can be sawed from a log thirty-six inches in diameter?

## 2.

## UNITED STATES HISTORY AND CONSTITUTION.

Time, 40 minutes.

1. What permanent settlements were made within the present limits of the United States by the English, Spanish and Dutch prior to the year 1621?

3. What was the purpose of the "Articles of Confederation," and when adopted?
4. Which of the original States first adopted the Constitution of 1787, and which last?
5. What State was first added to the original thirteen, and in whose administration was it admitted?
6. Name the first Vice President, and give some account of his life.
7. Name the Presidents who have been re-elected.
8. Give the qualifications of Senators and Representatives in Congress.
9. Name in their order the steps through which a bill for raising revenue must pass to become a law.
10. What do you understand by "Original Jurisdiction?" "Appellate Jurisdiction?"

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### 3

#### READING.

Time for written examination, 30 minutes.

1. What is inflection?
2. What is emphasis?
3. What is modulation?
2. When and where did the First Continental Congress meet?
4. Why do you hear a reading class read?
5. What is your method of conducting a recitation in reading?

6, 7, 8, 9, 10. Selections to be read:

#### INDEPENDENT SIXTH READER.

*First*—From "Nature's Teaching," page 150.

*Second*—From "The Haunted House," page 368.

If this reader is not at hand, examiners will make other selections to test applicants in both prose and poetry, and give the last five credits according to the proficiency shown.

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### 4.

#### PHYSIOLOGY AND LAWS OF HEALTH.

Time, 25 minutes.

1. Define anatomy; comparative anatomy; physiology; comparative physiology; hygiene.
2. Describe the changes to which the food is subjected in the process of digestion.

3. Describe the circulation of the blood, beginning with arterial blood as it leaves the heart.
4. Name and describe the principal organs of respiration.
5. Is it proper to compress the chest?

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## 5.

### ORTHOGRAPHY.

Time, 30 minutes.

1. What is a letter?
  2. How many elementary sounds in the English language?
  3. What is spelling?
  4. Should the ear or the eye be trained to judge of spelling?
  5. Syllabify the following words, and mark the accented syllable: inquiry, contemplate, irreparable.
  - 6, 7, 8. Spell correctly champagne, preparation, renovate, ceseed, traveler, moneys, willfull, changable, wagon, fagot, parallell, receive, resusitate, superceed, revery, separate, menazhery.
- 9 and 10 will be marked by the spelling in all your papers.

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## 6.

### SCHOOL LAW.

Time, 20 minutes.

- 1, 2, 3, 4, 5. State the requirements of the school law concerning teachers.
- Five credits or less according to the completeness of the answer.

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## 7.

### BOTANY.

Time, 25 minutes.

1. Name and describe all the parts of a plant.
2. Name and describe all the parts of a flower.
3. Name the organs of growth and those of reproduction.

4. Give an example of an annual; biennial; perennial.
5. Mention ten valuable products derived from the vegetable kingdom in the United States.

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## 8.

### OTHER NATURAL SCIENCES.

Time, 35 minutes.

1. Name the great groups into which the animal kingdom is divided.
2. Give the five classes into which the vertebrates are divided.
3. Define the term physics.
4. Define specific gravity.
5. What are the constituent elements of air? Which is essential to animal life?
6. What is the most abundant chemical element in nature?
7. Into what two classes are the chemical elements divided?
8. What is meant by the "planetary system?"
9. Name the "interior planets;" *i. e.*, those whose orbit is within the earth's orbit.
10. Name the planets which have satellites.

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## 9.

### GRAMMAR.

Time, 35 minutes.

1. Write a sentence containing all parts of speech.
2. Write two simple sentences; combine them into a complex, then into a compound sentence.
3. Give a synopsis of the verb *swing* in all the modes and tenses of the active voice; first person, singular number.
4. How does analysis differ from parsing?

5, 6, 7, 8, 9, 10. Analyse fully and parse the *italicized* words :

Ah, *well* for us *all* some sweet hope lies  
*Deeply buried* from human eyes ;  
 And in the *hereafter* angels may  
 Roll the stone *from its grave away*.

The last six credits depend upon the degree of proficiency shown in analysis and parsing

## IO.

### THEORY AND PRACTICE.

Time, 35 minutes.

1. What educational publications do you read regularly, and what benefits are derived from such reading ?
2. State your method of teaching reading to beginners.
3. Do you think it profitable for teachers to prepare carefully for each recitation ? What is your practice ?
4. Is the acquisition of knowledge or mental discipline the chief object of education ? Why ?
5. How many terms and what grades of school have you taught ? What is your motive in becoming a teacher ?
6. How do you provide for the ventilation of your school room ?
7. Would you have a programme of the daily exercises placed where all can see it ?
8. After a pupil has been detected in mischief and punished, how should he be treated ?
9. Should a teacher ever make remarks in the presence of his pupils reflecting on their parents ?
10. Why should every teacher be free from bad habits, and his life pure ?

## II.

### GEOGRAPHY.

Time, 30 minutes.

1. Give evidences of the rotundity of the earth.
2. Account for the changes of seasons.
3. In what season is Christmas at Cape Colony ?

4. Which of the European capitals is nearest the latitude of Denver ?
5. How wide is the equator ?
6. Mention and locate the two most extensive mountain systems on the globe; two most extensive river systems.
7. Bound the State in the United States having the largest area; the State having the smallest area; the most populous State.
8. Describe the physical features of the same States.
9. Bound Colorado; give its area; physical features.
10. Name the principal products of Colorado, also three of its leading exports and same number of imports.

With these questions was sent the following circular to county superintendents :

In sending questions for your next quarterly examination, I desire to make the following suggestions as to their use.

While I believe examinations, uniform in questions and in methods, are every way superior to those having as many processes and grades as there are counties in the State, yet I wish no county superintendent to use the questions or the suggestions, if he has a method of his own which he believes is better, all things considered. The examination is *your* work. Upon its faithful and fearless discharge, depends, in a large degree, the character of our schools. I am trying to aid, not to control you.

There should be work for a full day of six hours for the average applicant. Let it be understood by all that to receive a certificate, the applicant **MUST DO THE WORK** at the time and in the manner prescribed for all. If one can do it in half a day, well,—but let it be known that a certificate will *never* be given for a part of the work. Absentees must take the consequences of their own misfortune, however imperative the cause of their absence. This is not given as a rule, but merely the plain statement of a fact.

The slips are so prepared that you can give out a half day's work at a time, and I urge this plan as much fairer to all than giving the topics singly, as some will gain time in one branch, others in another.

The time given with each topic is suggestive only. The topics are numbered from 1 to 11. For first session of three hours give out Nos. 1 to 5, inclusive; second session of same time, Nos. 6 to 11, inclusive. Take up questions and answers promptly at expiration of each session. If you wish an oral examination, take sufficient time for that and for reading before or after the time allotted to the session.

Do not take a *minute* of the session for general exercises or *talk*, or allow any one else to do so.

Take such *further time* as you wish to satisfy yourself as to the moral

character of all applicants, and as to their experience in and aptitude for the business of teaching, and also time to give such counsel concerning their duties as you may think helpful.

For marking applicants, divide the topics into two groups: First group, Nos. 1, 2, 3, 5, 9, 10 and 11; second group, Nos. 4, 6, 7, 8 and penmanship. Give certificates as follows:—

## FIRST GRADE CERTIFICATE.

First group—average 90 per cent. ; no branch below 75 per cent.  
 Second “ “ 75 “ “ “ 60 “

## SECOND GRADE CERTIFICATE.

First group—average 75 per cent. ; no branch below 60 per cent.  
 Second “ “ 60 “ “ “ 40 “

## THIRD GRADE CERTIFICATE.

First group—average 60 per cent. ; no branch below 50 per cent.  
 Second “ “ 50 “ “ “ 40 “

File and retain all answers for your own protection. *Number* the applicants, but take no names.

Give each a blank envelope and paper sufficient for the work. Examine and grade all papers by number before opening the envelopes to learn the names. (If you can get a committee of competent persons to examine and grade the papers, it will guard you still further from any charge of unfairness, which disappointed applicants are apt so make).

*A high degree of practical success in teaching should be accepted as a sufficient reason for issuing a certificate of a higher grade than is warranted by the percentage upon examination, and inexperience or want of success should lower the grade of the certificate given, while failure as a teacher might be so marked as to make it your duty to refuse a certificate, whatever the percentage obtained.*

I earnestly recommend that certificates of the *first* grade be given only to teachers who have earned it by success in the school room as well as at examination. I also recommend the addition of ten to the grade earned on Theory and Practice, for the regular reading of some good educational periodical, or of one or more reliable books upon the subject.

Refuse certificates to applicants of whose moral character you have a reasonable doubt.

PLEASE REPORT to me as soon as convenient after your examination, on the blanks furnished for the purpose, giving the names of all applicants.

Preserve these instructions for future reference.

Take great pains that none of the questions go out of your hands until he end of the quarter.

Discourage private examinations as far as possible—giving, instead, temporary certificates till next public examination.

The school law requires examination in the "Elements of the Natural Sciences." As this is a new departure it was thought best to fix the standard of requirements in these branches a little lower than in those branches in which applicants had formerly been examined.

It will appear from the circular that an attempt has been made to lead county superintendents to put a higher value upon professional skill in determining the grade of certificate.

I believe it would be a good rule, if county superintendents would uniformly refuse a first grade certificate except when sure that the applicant has shown a good degree of skill in the school room as well as readiness in examination. It is seriously questioned in some quarters, how far we can judge of one's scholarship, even by the most skillful examination, and there seems to be a tendency to abate somewhat the zeal in this matter, but until some one proposes a better method, we must depend on examinations mainly as a test of scholarship, but it is an unsafe criterion by which to judge professional skill.

Statistical table No. 1 gives the results of the examination for the year ending August 31, 1878.

#### STATE EXAMINATIONS.

The law provides that State diplomas of perpetual validity may be issued by the State Board of Education to applicants who have taught two years or more in this State with eminent success, and who pass a satisfactory examination or who have received a diploma elsewhere.

Lists of questions have been prepared by the assistance of gentlemen in different parts of the State, who kindly consented to act as a volunteer committee, each one being asked to take charge of branches with which he was especially familiar, but no applicants have yet presented themselves. It will be seen that if the law be faithfully



executed, none but successful teachers will come in possession of Colorado diplomas.

At a meeting of the State Board of Education, held December 2, 1878, the following resolutions were passed :

WHEREAS, This Board is authorized to grant diplomas to professional teachers, under certain conditions set forth in section 3 of the school law; therefore,

*Resolved*, That the following persons, holding diplomas obtained in other States, being above suspicion as to their moral character, and, in certain knowledge of this Board, having exhibited professional ability of a very high order in the schools of this State during more than two years, be awarded State diplomas of the first grade, viz : Horace M. Hale, Aaron Gove, Justin E. Dow, James H. Baker, Frank J. Annis, Henry L. Parker, Isaac C. Dennett, Henry F. Wegener, Mary Thomas, Adele M. Overton.

*Resolved*, That for reasons similar to those set forth above, the following persons be awarded State diplomas of the second grade, viz. : Adele B. Clark, Kate Wheelock, S. M. Smeigh.

The State Board have determined to issue no State diplomas except to applicants whose practical success places them in the front rank of the profession.

#### SECONDARY EDUCATION.

In September, 1877, the State University at Boulder began its educational work under the direction of Dr. J. A. Sewall as president, assisted by Prof. J. E. Dow in the chair of ancient languages. For a statement of its condition and progress, I refer to the report of the president and the secretary of the board of regents.

Its success has more than realized the dream of its most enthusiastic friend.

The board of regents have shown excellent judgment in every move. The faculty—now increased to four—has won a strong place in the confidence of the people of the State. A library has been founded at the University by a gift of \$2,000 from C. G. Buckingham, Esq., of Boulder, to which has been added donations from other gentlemen.

Altogether, the State has reason to be proud of its University for what it *is*, as well as for what it promises to be.

The State Agricultural College at Fort Collins has recently completed its first building and, it is expected, will open next season. The State School of Mines at Golden, in charge of Profs. Moss and Lakes, is in excellent hands and is reported prosperous, as is the Institute for Deaf Mutes at Colorado Springs. I earnestly recommend such change in the laws as shall require all the educational institutions, supported entirely or partially by the State to make their reports to this office, that all may be published with the report of the superintendent. This is usual and is best for the institutions, and more satisfactory to the people, who rightfully expect to find all official documents pertaining to public education of a State, for a given year, in one volume.

In addition to the institutions above mentioned, there is a high school department connected with the graded school in every town of considerable size in the State, while in Denver the high school is well supplied with teachers and apparatus, has graduated two classes, and deservedly enjoys the confidence of the entire community.

#### SCHOOL LAW.

The law passed by the general assembly in 1877—which was mainly a re-enactment of the territorial law of 1876—has given general satisfaction, and any radical change at this time would be detrimental to the interests which the law was intended to promote. It would be well if some slight verbal changes could be made to relieve certain clauses of ambiguity, and some changes which would be additions rather than replacements, would be advantageous. For example: The law now provides that the Superintendent of Public Instruction shall have printed and furnished to teachers and school officers such blank

forms and books as may be necessary to the discharge of their duties, but no provision is made for the expense of such books and blanks.

The provision is a wise one, if the means of executing it were provided. None of the blank record books to be had in the market are well suited to the requirements of our law, and—what is more important—twenty per cent. or more would be saved to the people if the State purchased these supplies by the quantity and furnished them to the different counties. The cost of these necessary books and blanks, furnished each county, might be deducted from the semi-annual apportionment of State school fund, this being as legitimate an expense as teachers' wages. I would also recommend the addition of a section to the bond law, enabling district boards, with the consent of the owners of the bonds, to fund district bonds at a less rate of interest, on long time. Most school bonds issued in the State bear interest at twelve per cent. per annum, which was lower than the ruling rate here when the bonds were issued, but is now a high rate, and our State having become better known, it is believed our school bonds can be funded in seven to eight per cent. twenty year bonds.

It is now the duty of the district secretary to list the school population resident in his district between the 20th of June and the 10th day of July. I would recommend such change in the law as to require him, within the time as aforesaid, to make a list of the school population resident in his district on the 20th day of June.

This would prevent the double listing which is now a frequent cause of confusion in the lists returned to the county superintendent. The school funds being apportioned by the census list, it is for the best interests of all that every possible safeguard be thrown around these lists.

#### OUR MEXICAN POPULATION.

I have spoken of the advisability of fixing a higher minimum rate of county tax for school purposes. I recur

to the subject in connection with the question of education among our Mexican population. In a speech during the last evening of the tenth legislative assembly, the member from the Fifteenth District, Mr. Salazar, said :

I shall return to my people and tell them that whatever else they do, they must have their children taught to read and speak the English language.

I quote also from a recent letter of Mr. Charles John superintendent of Costilla county :

At present ten public schools (two newly organized), having efficient teachers, in good working order, are the pride of Costilla county. \* \* \*

Cannot the State do something to assist the Mexican people, who strain every nerve to have imparted to their children, and many they have, such knowledge as can be procured by the scanty means of county taxes, a few fines, and perhaps a special tax — the latter a burden hardly to be borne by the impoverished, half-starved people, who for the last five years have seen their crops devoured by grasshoppers? The winter has set in with unusual severity. The parents have one consolation — they know that their little ones can attend the public schools, learn something, and warm their shivering bodies the greater portion of the day in the school room.

These people are “to the manor born.” *We* came among *them*, and in numbers have long since outstripped them. It is plainly our duty and should be our pride, to extend free schools among them as rapidly as possible.

An increase of county tax, would better equalize the support of schools upon all classes of property, and render a special tax unnecessary. As has been already shown, the income of the state fund will not materially assist them or others.

#### COMPULSORY EDUCATION.

Compulsory education in America is no longer an experiment. It is a well proven failure. The theory is unassailable; the practice—well, perhaps it is yet too soon to apply adjectives to the practice—for no American community has been found which could be induced to practice it. Compulsory laws have been enacted by some eight or ten states, most of them under conditions far more favorable to

the execution of the law than exist in Colorado; in all of these states it has been found impossible to enforce the law. It is claimed—doubtless with truth—that in certain localities the moral effect has been helpful; beyond that it is a dead letter. While it is difficult to find citizens who will carefully perform the few duties required now of district officers, which duties are not specially disagreeable, and which everybody wishes discharged, it is certainly folly to expect to find persons that possess sufficient educational enthusiasm, or that take enough interest in the affairs of their neighbors to be willing to incur their displeasure by complaining of them, or by taking any other steps needful to enforce a compulsory law. To the oft repeated statement that such a law is a success in Germany, it is enough to reply that it is a failure in America, as can easily be proven by the official reports of the states in which it has been tried. If American experience has settled anything during the last ten years, it has established the fact that *education can not be made compulsory in the United States.*

#### CONCLUSION.

Since entering upon the duties of this office, I have been able, through the courtesy of the different railroads, to visit the principal towns annually, at a very small expense to the state, viz.: for 1877, \$36.20; and for 1878, \$60.20.

The general assembly having failed to make any appropriation to meet the expense contemplated by section ten, of the school law, the reimbursement of expenses therein authorized has been made from the general contingent fund.

The condition of this fund during the fall of each year has prevented me from visiting at that season of the year—the best for the purpose—places and schools farther from the capital.

I think it is generally conceded that the ends contem-

plated by the law, in making it the duty of the state superintendent to visit the different counties, have been attained, as far as it has been possible to comply with the law. If the funds needful to reimburse actual expenses had been appropriated for that purpose, I would have visited—and, I think with profit to the state—every county in which there is an organized district, and probably at less expense than is contemplated in the section above cited.

The public schools of the state are generally in a prosperous condition, even in the newer portions; the settlers, true to what has become almost an instinct with Americans, are prompt and eager to establish schools. Teachers' associations have been organized in many of the counties, and the state association meets in Denver on the second day of January, proximo, for its fourth annual session. At the last session there were teachers in attendance who had traveled nearly two hundred miles for the purpose.

The statistical tables which are appended to and made a part of this report, are prepared with the hope that they are sufficiently full to give the public such information as may be considered of permanent value, and not so extended and minute as to discourage any one from giving them a careful examination.

LIST OF COUNTY SUPERINTENDENTS OF  
SCHOOLS.

WHOSE TERM OF OFFICE EXPIRES JANUARY, 1880.

COUNTY.	NAME.	POST-OFFICE.
Arapahoe . . . . .	W. A. Donaldson . . .	Denver.
Bent . . . . .	J. L. Merritt . . . .	West Las Animas.
Boulder . . . . .	L. S. Cornell . . . .	Boulder.
Clear Creek . . . . .	F. R. Carpenter . . .	Georgetown.
Conejos . . . . .	S. E. Newcomb . . . .	La Jara.
Costilla . . . . .	Charles John . . . .	Garland.
Custer . . . . .	J. H. Tebbs . . . . .	Rosita.
Douglas . . . . .	C. E. Parkinson . . . .	Castle Rock.
Elbert . . . . .	B. C. Killin . . . . .	Middle Kiowa.
El Paso . . . . .	James Correy . . . . .	Colorado Springs.
Fremont . . . . .	H. C. King . . . . .	Canon City.
Gilpin . . . . .	F. C. Young . . . . .	Central City.
Grand . . . . .	Hilry Harris . . . . .	Hot Sulphur Springs
Gunnison . . . . .	Frank A. McMaster.	Gunnison.
Hinsdale . . . . .	John H. Werkheiser .	Lake City.
Huerfano . . . . .	A. H. Quillian . . . .	Walsenburg.
Jefferson . . . . .	R. L. Stewart . . . . .	Golden.
Lake . . . . .	E. R. Naylor . . . . .	South Arkansas.
La Plata . . . . .	J. P. Wallace . . . . .	Parrott City.
Larimer . . . . .	E. N. Garbutt . . . . .	La Porte.
Las Animas . . . . .	M. H. Murphy . . . . .	Trinidad.
Ouray . . . . .	C. M. Hoge . . . . .	Ouray.
Park . . . . .	M. J. Bartley . . . . .	Fairplay.
Pueblo . . . . .	A. B. Patton . . . . .	Pueblo.
Rio Grande . . . . .	J. L. Howe . . . . .	Del Norte.
Routt . . . . .	T. H. Iles . . . . .	Hayden.
Saguache. . . . .	L. H. Decker . . . . .	Saguache.
San Juan . . . . .	Wm. Munroe . . . . .	Silverton.
Summit . . . . .	C. A. Walker . . . . .	Breckinridge.
Weld . . . . .	Oliver Howard . . . .	Greeley.





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STATISTICAL TABLES.

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EXAMINATION OF TEACHERS, 1878.

COUNTIES.	CERTIFICATES GIVEN.									Total number examined.		
	First grade.			Second grade.			Third grade.					
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Arapahoe . . . . .	2	2	4	3	16	19	..	13	13	13	39	52
Bent . . . . .	2	..	2	3	1	4	6	3	9	11	4	15
Boulder . . . . .	7	8	15	5	7	12	5	17	22	20	48	68
Clear Creek . . . . .	2	4	6	..	4	4	..	4	4	3	17	20
Conejos . . . . .	..	..	..	1	..	1	..	..	..	1	..	1
Costilla . . . . .	2	..	2	1	..	1	1	..	1	8	..	8
Custer . . . . .	1	1	2	3	2	5	..	..	..	8	6	14
Douglas . . . . .	1	..	1	3	4	7	3	7	10	7	11	18
Elbert . . . . .	2	2	4	1	2	3	..	..	..	3	4	7
El Paso . . . . .	6	6	12	4	4	8	1	5	6	11	15	26
Fremont . . . . .	1	..	1	2	5	7	5	2	7	8	9	17
Gilpin . . . . .	..	..	..	2	5	7	..	12	11	2	16	18
Grand . . . . .	..	..	..	..	..	..	..	1	1	..	1	1
Hinsdale . . . . .	..	..	..	..	1	1	..	..	..	..	1	1
Huerfano . . . . .	2	3	5	3	1	4	..	..	..	4	5	9
Jefferson . . . . .	4	2	6	2	5	7	5	14	19	13	27	40
Lake . . . . .	..	1	1	1	1	2	1	5	6	4	13	17
La Plata . . . . .	..	..	..	2	..	2	..	..	..	2	..	2
Larimer . . . . .	2	1	3	9	5	14	..	6	6	13	13	26
Las Animas . . . . .	6	3	9	2	4	6	6	3	9	16	10	26
Ouray . . . . .	1	..	1	..	2	2	1	2	3	2	4	6
Park . . . . .	..	..	..	2	..	2	..	1	1	2	1	3
Pueblo . . . . .	1	1	2	5	3	8	6	10	16	6	20	26
Rio Grande . . . . .	1	1	2	1	..	1	..	4	4	4	5	9
Saguache . . . . .	..	1	1	..	1	1	1	..	1	2	2	4
San Juan . . . . .	..	1	1	1	..	1	2	2	4	3	3	6
Summit . . . . .	..	1	1	..	..	..	..	1	1	..	2	2
Weld . . . . .	4	2	6	6	4	10	13	25	38	22	62	84
Totals . . . . .	47	40	87	62	77	139	56	156	192	188	338	526

Failures; Males, 14 per cent.; females, 19 per cent.

**TABLE II.**  
**SHOWING SCHOOL CENSUS, ENROLLMENT, AVERAGE DAILY ATTENDANCE, ETC.**

COUNTRIES.	NUMBER OF PERSONS BETWEEN SIX AND TWENTY-ONE YEARS OF AGE.						NUMBER OF PUPILS ENROLLED IN PUBLIC SCHOOL.						AVERAGE DAILY ATTENDANCE.		PER CENT. OF ENROLLMENT ON WHOLE NUM. BR.		PER CENT. OF ATTENDANCE NUMBER ENROLLED.	
	1877.			1878.			1877.			1878.			1877.	1878.	1877.	1878.	1877.	1878.
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.						
Arapahoe . . . . .	2 169	2,298	4,467	2,721	2,708	5,429	. . . . .	. . . . .	3,223	1,711	1,753	3,464	1,886	2,160	71	64	59	62
Bent . . . . .	192	186	378	204	182	386	. . . . .	. . . . .	321	166	131	297	157	165	83	77	49	55
Boulev. . . . .	1,224	1,049	2,273	1,306	1,228	2,534	. . . . .	. . . . .	1,866	1,036	921	1,957	1,011	1,129	82	77	54	67
Clear Creek . . . . .	615	467	1,082	661	565	1,226	. . . . .	. . . . .	655	497	448	945	395	493	60	77	60	52
Conejos . . . . .	. . . . .	. . . . .	. . . . .	45	30	75	. . . . .	. . . . .	. . . . .	8	4	12	. . . . .	11	. . . . .	16	. . . . .	91
Costilla . . . . .	. . . . .	. . . . .	. . . . .	470	361	831	. . . . .	. . . . .	. . . . .	182	170	352	. . . . .	176	. . . . .	42	. . . . .	50
Custer . . . . .	259	248	507	235	266	501	. . . . .	. . . . .	441	213	281	494	356	243	87	98	80	49
Douglas . . . . .	287	251	538	271	266	537	. . . . .	. . . . .	420	195	199	494	171	250	78	91	40	50
Elbert . . . . .	164	123	287	177	157	334	. . . . .	. . . . .	158	104	85	189	93	114	55	56	59	60
El Paso . . . . .	636	647	1,283	937	944	1,881	. . . . .	. . . . .	955	544	536	1,056	583	556	74	56	61	52
Fremont . . . . .	276	314	590	368	335	703	. . . . .	. . . . .	526	261	251	512	280	223	89	73	53	43

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Gilpin . . . . .	531	526	1,057	628	612	1,240	. . . . .	921	491	463	954	544	566	87	77	59	59
Grand . . . . .	. . . . .	. . . . .	. . . . .	12	10	22	. . . . .	. . . . .	5	7	12	. . . . .	10	. . . . .	55	. . . . .	83
Hinsdale . . . . .	227	173	400	192	156	348	. . . . .	78	102	97	199	49	108	20	57	63	54
Huerfano . . . . .	615	542	1,157	673	659	1,332	. . . . .	318	208	204	412	134	189	28	31	42	46
Jefferson . . . . .	601	540	1,141	656	592	1,248	. . . . .	874	487	474	961	462	541	76	77	53	56
Lake . . . . .	111	103	214	266	227	493	. . . . .	177	160	116	276	111	226	82	56	62	82
La Plata . . . . .	66	50	116	73	64	137	. . . . .	60	52	49	101	35	79	51	74	58	78
Larimer . . . . .	385	316	701	436	351	787	. . . . .	505	320	262	582	282	286	80	74	50	49
Las Animas . . . . .	1,033	889	1,922	1,216	1,227	2,443	. . . . .	644	560	351	917	324	545	34	37	50	59
Ourray . . . . .	33	37	70	25	26	51	. . . . .	33	23	25	48	25	35	47	94	76	73
Park . . . . .	173	146	319	147	123	270	. . . . .	241	99	97	196	96	78	76	72	40	40
Pueblo . . . . .	667	644	1,311	740	675	1,415	. . . . .	362	404	354	758	257	526	28	54	71	69
Rio Grande . . . . .	267	224	491	257	253	510	. . . . .	262	139	144	283	164	134	50	55	62	47
Saguache . . . . .	. . . . .	. . . . .	. . . . .	169	134	303	. . . . .	. . . . .	139	136	273	. . . . .	116	. . . . .	90	. . . . .	42
San Juan . . . . .	24	18	52	36	18	54	. . . . .	20	22	11	33	13	21	40	61	65	64
Summit . . . . .	38	27	65	28	20	48	. . . . .	28	28	20	48	25	36	42	100	90	75
Weld . . . . .	608	593	1,201	687	648	1,335	. . . . .	957	573	545	1,118	688	683	80	84	71	61
Totals . . . . .	11,201	10,411	21,612	13,636	12,837	26,473	. . . . .	14,085	8,608	8,033	16,641	8,141	9,699	65	63	58	58





TABLE IV.  
SCHOOL HOUSES.

COUNTIES.	1877.				1878.				NUMBER OF DISTRICTS.		AVERAGE LENGTH OF SCHOOL IN DAYS.	
	NUMBER.	VALUE IN DOL- LARS.	SITTINGS.	VOLUMES IN LIBRARY.	NUMBER.	VALUE IN DOL- LARS.	SITTINGS.	VOLUMES IN LIBRARY.	1877.	1878.	1877.	1878.
Arapahoe . . . . .	26	\$49,927	2,716	310	29	\$199,085	2,485	1,030	28	29	129	119
Bent . . . . .	4	3,994	232	..	4	4,416	232	..	8	8	157	145
Boulder . . . . .	33	41,725	1,576	68	33	41,495	1,592	184	40	43	109	117
Clear Creek . . . . .	6	31,100	655	29	7	29,450	790	27	6	9	130	96
Conejos . . . . .	..	..	..	..	..	..	..	..	..	..	..	60
Costilla . . . . .	..	..	..	..	..	..	..	..	..	..	..	82
Custer . . . . .	3	700	134	..	7	815	220	..	11	12	87	78
Douglas . . . . .	13	5,804	397	..	12	5,866	384	..	19	19	103	85
Elbert . . . . .	11	3,822	243	..	11	3,531	260	..	11	11	131	127
El Paso . . . . .	17	44,230	852	..	18	43,500	1,041	151	21	22	123	100
Fremont . . . . .	10	4,634	257	..	13	4,744	397	..	15	17	99	93
Gilpin . . . . .	6	56,000	628	1,100	5	34,150	727	1,425	5	6	151	124



Grand . . . . .	219	\$472,683	12,147	1,583	249	\$474,771	12,824	2,883	343	372	Av. 108	Av. 91
Gunnison . . . . .												
Hinsdale . . . . .												
Huerfano . . . . .	3	1,200	190	75			1,957	165	1	3	65	93
Jefferson . . . . .	19	25,535	905		5		26,195	861	11	16	82	57
Lake . . . . .	7	1,675	252		23	64	4,975	248	28	27	108	86
La Plata . . . . .					8		4,075	248	10	13	78	37
Larimer . . . . .	14	7,407	500		1		265	38	4	5	32	51
Las Animas . . . . .	1	518	288		12	2	4,835	469	15	18	127	94
Ouray . . . . .					3	74	1,200	770	15	18	97	86
Park . . . . .	9	1,260	236				1,144	176	1	3	53	46
Pueblo . . . . .	11	32,660	753		10		33,280	536	6	8	101	108
Rio Grande . . . . .	2	9,496	266		14		10,015	268	23	29	79	63
Routt . . . . .					3				4	4	120	105
Saguache . . . . .												
San Juan . . . . .	1	209	20		4		1,000	101		8		42
Summit . . . . .							249		1	2	40	73
Weld . . . . .	23	50,480	1,080		2		425	41	2	2	63	63
Totals . . . . .	219	\$472,683	12,147	1,583	249	\$474,771	12,824	2,883	343	372	Av. 108	Av. 91

TABLE V.  
FINANCIAL STATEMENT FOR 1877.

COUNTIES.	RECEIPTS.						EXPENDITURES.					
	Amount on hand at beginning of school year.	Amount of special tax collected either by secretary or treasurer.	Amount received from county.	Amount received from school fund.	Amount received from subscriptions and other sources.	Total fund.	Amount paid teachers.	Amount paid for rent, insurance, incidentals, etc.	Amount paid for building, furniture, etc.	Total expended.	Amount on hand.	
Arapahoe . . . . .	\$9,792 09	\$26,746 17	\$1,361 45	\$5,648 41	\$83,505 13	\$44,299 20	\$11,592 51	\$21,183 80	\$77,100 72	\$6,404 41		
Bent . . . . .	4,210 90	. . . . .	5,671 76	355 50	10,238 16	4,672 44	947 18	684 68	6,361 38	4,244 69		
Boulder . . . . .	929 41	8,714 22	10,142 05	3,036 10	22,821 78	13,819 49	1,799 07	5,974 07	21,593 23	1,228 55		
Clear Creek . . . . .	1,572 88	3,154 75	6,084 20	397 62	11,119 45	5,371 70	869 43	727 47	6,968 60	4,150 85		
Conejos . . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .		
Costilla . . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .		
Custer . . . . .	533 30	715 59	2,446 78	22 00	3,710 78	2,656 90	688 20	. . . . .	3,682 70	249 11		
Douglas . . . . .	1,446 56	977 41	3,463 89	24 70	5,285 81	3,814 91	167 63	176 02	3,895 03	1,238 81		
Elbert . . . . .	2,479 72	959 05	3,459 17	41 17	7,239 11	3,046 36	22 25	1,019 10	4,102 71	3,136 40		
El Paso . . . . .	696 58	2,744 40	5,806 97	588 24	9,837 23	7,736 78	764 06	388 57	8,999 39	1,311 28		

STATE SUPERINTENDENT'S REPORT.

Fremont . . . . .	155 91	851 34	3,635 62	35 00	4,496 32	3,362 94	444 17	219 00	4,062 69	654 19
Gilpin . . . . .	1,865 70	9,435 76	3,958 80	51 55	15,311 79	10,771 50	1,988 82	1,527 51	14,287 83	1,023 96
Grand . . . . .										
Gunnison . . . . .										
Hinsdale . . . . .			668 89	210 65	879 54	697 44	53 50	128 60	878 19	1 35
Huerfano . . . . .		816 43	1,454 11	151 00	2,421 52	1,711 61	104 58	585 00	2,401 19	20 33
Jefferson . . . . .	1,562 24	4,991 73	4,892 05	1,532 70	12,871 52	8,419 42	1,352 45	2,225 41	11,997 88	874 24
Lake . . . . .	95 30		2,455 58	915 00	3,370 58	1,770 95	11 35	900 00	2,670 95	773 25
La Plata . . . . .			114 95	101 94	216 89	122 35	27 60		188 55	28 34
Larimer . . . . .	1,720 81	1,726 57	4,549 39	158 32	8,155 09	4,185 99	434 90	1,416 74	6,037 63	2,117 46
Las Animas . . . . .	638 81	383 93	1,683 72	1,047 75	3,478 66	2,454 32	639 99	242 39	3,336 70	141 95
Ouray . . . . .				30 00	30 00	30 00			30 00	
Park . . . . .	115 23	50 20	1,621 23	39 90	1,826 61	1,310 34	102 43	2 00	1,414 65	412 96
Pueblo . . . . .	3,064 21	343 16	5,820 94	28 24	9,058 02	6,323 53	138 60	50 14	6,430 05	2,816 74
Rio Grande . . . . .	4,378 63	2,575 05	891 22	911 01	8,756 00	2,795 71	795 62	4,835 40	8,426 73	329 27
Routt . . . . .										
Saguache . . . . .										
San Juan . . . . .			358 41		358 41	210 11		46 00	256 11	102 30
Summit . . . . .		6 00	336 77	120 47	473 24	402 50	12 30		414 80	58 44
Weld . . . . .	1,622 94	8,989 90	9,179 01	166 92	19,683 60	10,793 88	2,153 59	4,032 28	16,677 71	3,477 26
Total . . . . .	\$35,531 27	\$65,393 66	\$120,056 96	\$15,524 03	\$245,145 28	140,780 25	25,110 83	49,364 58	215,225 42	34,926 14

TABLE VI.  
FINANCIAL STATEMENT FOR 1878.

COUNTIES.	RECEIPTS.						EXPENDITURES.					
	Balance on hand September 1, 1877.	Amount received from general fund.	Amount received from special fund.	Amount received from building fund.	Amount received from all other sources.	Total Receipts.	Teachers' wages.	Current expenses.	Sites, buildings, furniture, etc.	Temporary loans paid.	Total expendi- tures.	Balance on hand Aug. 31, 1878.
Arapahoe . . . . .	\$5,573 18	\$34,302 64	\$15,567 79	\$31,475 75	\$814 09	\$87,733 45	\$49,346 38	\$7,269 97	\$6,627 30	\$20,414 77	\$83,568 44	\$1,075 03
Bent . . . . .	3,982 03	4,158 13	. . . . .	. . . . .	. . . . .	8,140 16	4,598 87	979 44	526 45	. . . . .	6,104 76	2,035 40
Boulder . . . . .	1,066 77	19,965 73	5,790 93	1,490 44	1,032 00	29,345 87	16,349 21	2,678 93	1,656 94	4,588 56	25,273 64	4,072 23
Clear Creek . . . . .	4,278 21	7,862 31	3,116 27	502 39	1,412 00	17,171 18	8,308 09	1,757 61	2,189 11	. . . . .	12,254 81	4,916 37
Conejos . . . . .	. . . . .	424 05	. . . . .	. . . . .	. . . . .	424 05	120 00	24 00	. . . . .	. . . . .	144 00	280 05
Costilla . . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Custer . . . . .	138 57	3,768 37	. . . . .	. . . . .	15 00	3,921 94	2,596 80	98 66	7 00	. . . . .	2,702 46	1,219 48
Douglas . . . . .	1,238 65	3,412 45	362 79	355 32	230 60	5,209 81	3,254 35	60 25	119 01	49 49	3,483 10	1,816 71
Eibert . . . . .	2,379 89	3,477 76	. . . . .	35 37	12 00	5,905 02	3,260 29	45 00	59 00	. . . . .	3,364 29	2,540 73
El Paso . . . . .	1,035 98	6,290 86	3,261 07	593 00	1,560 34	12,743 25	7,921 55	1,467 76	1,060 69	1,280 51	11,730 51	1,012 74
Fremont . . . . .	427 07	3,065 10	924 00	814 06	44 14	5,274 37	3,341 96	563 94	663 75	165 72	4,735 37	539 00

STATE SUPERINTENDENT'S REPORT.

Gilpin . . . . .	830 53	5,306 94	9,749 38	581 32	896 06	17,364 23	11,187 50	3,263 06	2,182 30	75 00	16,707 86	656 87
Grand . . . . .	. . . . .	139 22	. . . . .	. . . . .	. . . . .	139 22	40 00	. . . . .	. . . . .	. . . . .	40 00	99 32
Gunnison . . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Hinsdale . . . . .	. . . . .	1,725 09	2,384 13	. . . . .	220 71	4,329 93	1,925 19	801 03	154 00	1,103 23	3,983 45	346 48
Huerfano . . . . .	185 64	2,452 97	1,241 59	. . . . .	5 60	3,385 80	2,275 59	160 43	47 45	. . . . .	2,483 47	1,402 13
Jefferson . . . . .	768 84	3,764 18	6,720 49	564 50	5,173 62	16,931 63	6,775 24	1,404 78	862 05	5,967 40	15,009 47	1,922 16
Lake . . . . .	720 20	981 59	37 90	2,598 00	127 02	4,374 71	1,105 31	46 31	2,508 00	. . . . .	3,659 62	715 09
La Plata . . . . .	79 15	415 34	52 39	. . . . .	. . . . .	546 88	431 99	14 50	. . . . .	. . . . .	446 49	100 39
Larimer . . . . .	2,206 07	3,731 52	698 10	398 59	625 72	7,660 00	4,070 12	391 84	250 79	850 97	5,563 72	2,096 28
Las Animas . . . . .	119 33	3,977 11	419 36	. . . . .	1,424 06	5,939 86	4,194 58	897 07	242 00	283 92	5,617 57	322 29
Ouray . . . . .	. . . . .	155 53	650 00	. . . . .	. . . . .	805 53	525 00	. . . . .	. . . . .	. . . . .	525 00	280 53
Park . . . . .	382 42	1,602 66	. . . . .	. . . . .	206 55	2,191 63	1,793 00	60 15	2 00	. . . . .	1,765 15	426 48
Pueblo . . . . .	2,848 11	6,261 27	188 10	2,931 23	5,409 24	7,637 95	5,402 49	859 54	4,166 55	4,441 90	14,870 48	2,767 47
Rio Grande . . . . .	312 25	1,021 03	3,176 86	508 46	100 76	5,119 36	2,518 88	885 50	553 56	8 45	3,966 39	1,152 97
Routt . . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Saguache . . . . .	106 58	1,314 82	192 94	. . . . .	15 62	1,629 96	1,145 96	80 30	11 88	164 80	1,402 94	227 02
San Juan . . . . .	103 30	251 93	. . . . .	. . . . .	. . . . .	355 23	75 00	39 58	240 65	. . . . .	355 23	. . . . .
Summit . . . . .	61 50	383 14	. . . . .	. . . . .	103 00	547 64	375 00	. . . . .	11 60	. . . . .	386 60	161 04
Weid . . . . .	3,394 74	8,875 81	2,836 47	652 62	495 45	16,255 09	10,240 54	2,334 69	457 24	583 10	13,615 57	2,639 52
Total . . . . .	\$32,179 01	\$128,787 55	\$57,370 56	\$43,413 00	\$19,923 58	\$281,673 75	\$153,088 89	\$26,184 34	\$4,599 32	\$39,977 82	\$243,850 37	\$37,823 38

## TABLE VII.

## FINANCIAL SUMMARY, 1878.

RECEIPTS.	RECEIPTS.	EXPENDITURES.
1. Balance on hand September 1, 1877.....	\$32,179 01	
2. Amount received from general fund.....	128,787 55	
3. Amount received from special fund.....	57,370 56	
4. Amount received from building fund.....	43,413 05	
5. Amount received from all other sources.....	19,923 58	
6. Total receipts.....	\$281,673 75	
EXPENDITURES.		
7. Teachers' wages.....		\$153,088 89
8. Current expenses.....		26,184 34
9. Sites, buildings, furniture, etc.....		24,599 32
10. Temporary loans paid.....		39,977 82
11. Total expenditures.....		\$243,850 37
12. Balance on hand August 31, 1878.....		37,823 38
Totals.....	\$281,673 75	\$281,673 75

Financial reports of 1877 contained so many grave errors, for reasons stated in report, that a summary would be entirely unreliable, hence is not given.

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STATE LIBRARIAN.

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STATE OF COLORADO,  
*Office of* SUPERINTENDENT OF PUBLIC INSTRUCTION,  
DENVER, *December 20, 1878.* }

*To his Excellency* JOHN L. ROUTH, *Governor of Colorado:*

SIR: I have the honor to transmit through you to the Legislature, in accordance with the provisions of law, the first biennial report of the State Library.

I am, sir, very respectfully,

Your obedient servant,

JOS. C. SHATTUCK,

*Ex-officio State Librarian.*



## REPORT OF STATE LIBRARIAN.

### NUMBER OF VOLUMES RECEIVED SINCE DEC. 15, 1876.

United States documents, .....	358
State documents from various States, .....	694
Total, .....	<u>1,052</u>

Reports turned over to the Supreme Court Library, as provided by law, one hundred and forty-six volumes, making in all about eight hundred volumes, which have been transferred from the State and Territorial Library to the Supreme Court Library.

### NUMBER OF VOLUMES NOW IN STATE LIBRARY.

United States documents, .....	2,782
State documents and miscellaneous books, .....	3,050
Total .....	<u>5,832</u>

Of the newspapers of the State, the Denver Daily Tribune and the Colorado Farmer are furnished gratuitously and kept on file. The Daily Rocky Mountain News was furnished till Nov. 12, ultimo.

Chapter 52 of the Revised Statutes of Colorado Territory made the Territorial Treasurer *ex officio* Librarian and prescribed his duties. The State constitution transferred this *ex officio* responsibility to the Superintendent of Public Instruction.

The first General Assembly transferred some of the duties mentioned in chapter 52 aforesaid to the Secretary of State, the making of exchanges, etc. The rent, express charges, postage, etc., have been paid out of the General Contingent fund.

The duties of the Superintendent of Public Instruction, as prescribed by the school law, make it impossible for him

to have immediate charge of the State Library, as neither the law nor public opinion would allow him to sacrifice the business for which he is specially elected on account of *ex officio* duties. The State Legislature therefore authorized the employment of an Assistant Librarian, but made no provision to pay him for his services. As a matter of fact, Judge Orson Brooks has been in immediate charge of the Library for nine years, and has never received a dollar for his services from either State or Territory. The books need arranging and cataloguing. They are now shelved with little regard to system, and the latest catalogue is about nine years old. I trust the Legislature will at least provide the means to have this much done.

JOS. C. SHATTUCK,

*Ex-Officio State Librarian.*

---

STATE UNIVERSITY.

---



To the honorable Board of Regents of the University of Colorado:

GENTLEMEN: In compliance with the provisions of section twenty-one of the act establishing the University of Colorado, I submit the following report for the years 1877 and 1878:

Whole number of students in preparatory department. . . .	52
Normal department. . . . .	14
Total. . . . .	<u>66</u>

The number of students pursuing the different branches taught is as follows: Greek, 14; Latin, 47; German, 16; French, 2; geometry, 14; algebra, 29; physical geography, 27; elementary physics, 27; elementary chemistry, 14.

The following is the course of study pursued by the entire *normal class* during the first year: Descriptive geography, arithmetic, English grammar, United States history, reading with phonetic analysis, and spelling.

Five counties of the State were represented, as follows: Arapahoe, 2; Boulder, 55; Gilpin, 4; Pueblo, 1; Weld, 4.

The average age of the pupils, about eighteen years.

For further details I refer you to the catalogue and circular herewith transmitted.

Respectfully,

JOSEPH A. SEWALL,

*President.*





HON. JOSEPH C. SHATTUCK,

*Superintendent of Public Instruction :*

In accordance with the provisions of section twenty-two, of the act establishing the University of Colorado, we beg leave to submit the following report :

The Board of regents made the necessary arrangements for opening the university for the reception and instruction of students September 5, 1877, with the following instructors :

J. A. Sewall, M. D., president and professor of chemistry and metallurgy ; J. E. Dow, A. M., professor of the Greek and Latin languages ; Miss A. M. Sewall, assistant in the Normal Department (four months) ; on the first of January, 1878, Miss Mary Rippon was employed as instructor in the German and French languages.

At the commencement of the second year (September, 1878,) Frank W. Gove, A. B., was employed as the instructor in mathematics.

The faculty of the university at this date (October 1, 1878), with the salary of each member thereof, is as follows :

President and professor of Chemistry and Metallurgy.....	\$3,000
Professor of the Latin and Greek languages.....	2,000
Instructor in the German and French languages.....	1,200
Instructor in Mathematics.....	1,100

For information regarding the university funds, we refer you to the report of J. A. Cooper, treasurer of the board (" Exhibit B "). For the amount of expenditure and the items thereof, with the general summary, we refer you to " Exhibit A," which is herewith transmitted.

We respectfully ask that you recommend the legislature to make a sufficient appropriation to complete and furnish the university building and improve the university grounds, to purchase instruments and apparatus for the purpose of successful and profitable instruction and study, and for other necessary expenses.

Respectfully submitted by the Board of Regents,

JUNIUS BERKLEY,

*Secretary.*

## SUMMARY.

### SECRETARY'S REPORT.

1. Salary of teachers .....	\$ 7,068 32
2. Building and grounds. . . . .	4,346 60
3. Expenses board of regents. . . . .	928 55
4. Furniture .....	741 57
5. Fuel. . . . .	451 32
6. Freight .....	427 47
7. Janitor and his supplies. . . . .	538 06
8. Printing, stationery and postage. . . . .	213 11
Total. . . . .	<u>\$14,715 00</u>

## FINANCIAL SUMMARY.

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### RECEIPTS.

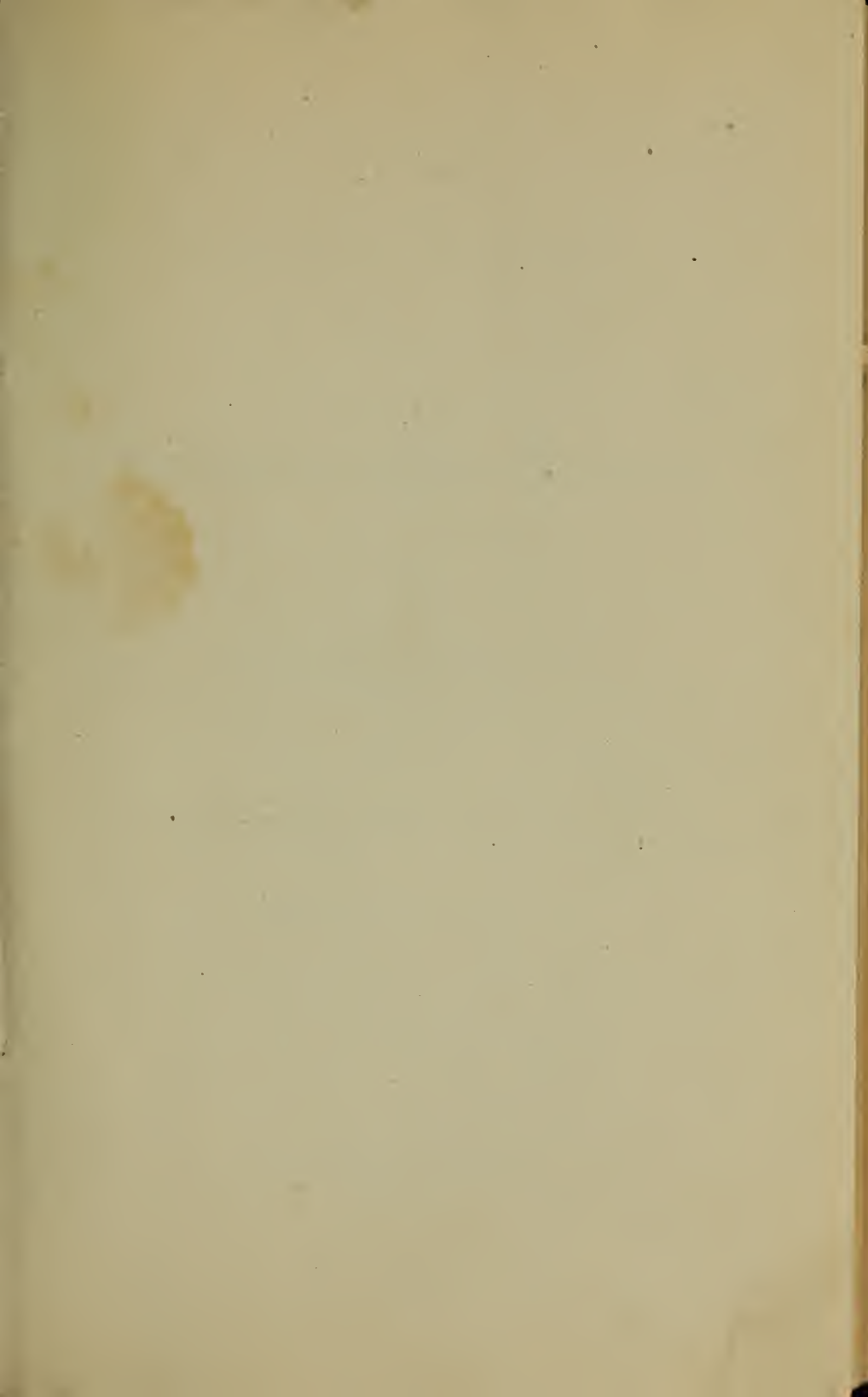
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Balance from former treasurer.....	\$	415	18
Amount received from territorial warrants.....		6,920	00
Amount received from rebate on freights.....		72	30
Amount received from state warrants.....		5,500	00
Amount due Treasurer to balance.....		121	61
			<hr/>
			\$13,029 09

### DISBURSEMENTS.

Amount paid on order of board of regents.....\$13,029 09







SECOND  
BIENNIAL REPORT

OF THE

Superintendent of Public Instruction

OF THE

STATE OF COLORADO,

FOR THE

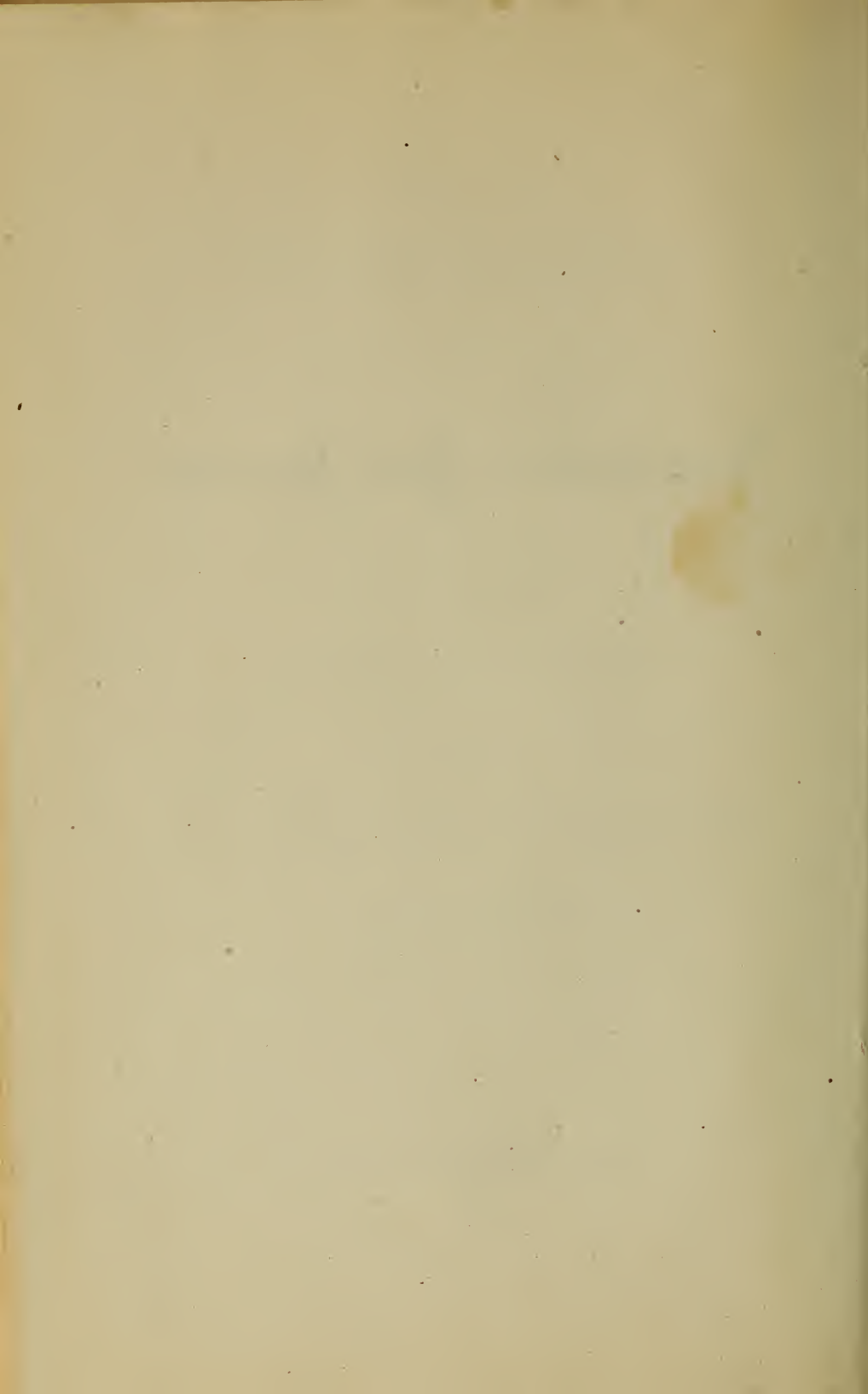
YEARS ENDING AUGUST 31, 1879, AND AUGUST 31, 1880.

PUBLISHED BY AUTHORITY.

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DENVER COLO.:  
TRIBUNE PUBLISHING CO., STATE PRINTERS.,

1881.





# STATE BOARD OF EDUCATION.

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1879 TO 1881.

---

JOS. C. SHATTUCK,  
*Superintendent of Public Instruction.*

NORMAN H. MELDRUM,  
*Secretary of State.*

CHARLES W. WRIGHT,  
*Attorney General.*

---

1881 TO 1883.

---

L. S. CORNELL,  
*Superintendent of Public Instruction.*

NORMAN H. MELDRUM,  
*Secretary of State.*

CHARLES H. TOLL,  
*Attorney-General.*

# STATE UNIVERSITY,

BOULDER.

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## BOARD OF REGENTS.

	TERM EXPIRES.
GEORGE TRITCH . . . . .	1883
JAMES RICE . . . . .	1883
JUNIUS BERKLEY . . . . .	1885
HORACE M. HALE . . . . .	1885
MAX HERMAN . . . . .	1887
JOS. C. SHATTUCK . . . . .	1887

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## FACULTY.

JOSEPH A. SEWALL, M.D., LL.D.,  
*President, and Professor of Chemistry and Metallurgy.*

ISAAC C. DENNETT, A. M.,  
*Professor of Latin and Greek.*

PAUL H. HANUS, B. S.,  
*Instructor in Mathematics.*

MARY RIPPON,  
*Instructor in German and French.*

A. M. SEWALL,  
*Assistant.*

# STATE SCHOOL OF MINES,

GOLDEN.

---

## BOARD OF TRUSTEES.

	TERM EXPIRES.
JAMES T. SMITH . . . . .	1881
F. E. EVERETT . . . . .	1881
J. T. KING . . . . .	1881
F. STEINHAEUER . . . . .	1883
E. L. JOHNSON . . . . .	1883

---

## FACULTY.

ALBERT C. HALE, A. M., Ph. D.,  
*President, Professor of Experimental and Applied Chemistry  
and Assaying.*

MILTON MOSS, Ph. D.,  
*Professor of Analytical Chemistry and Blowpipe Analysis.*

ARTHUR LAKES,  
*Professor of Geology and Drawing.*

GREGORY BOARD, M. E.,  
*Professor of Mineralogy and Metallurgy.*

E. L. BERTHOUD, C. E.,  
*Professor of Civil and Mining Engineering.*

THOMAS L. BELLAM, A. M.,  
*Professor of Mathematics and Physics.*

ERI P. RICE,  
*Assistant.*

# STATE AGRICULTURAL COLLEGE,

FORT COLLINS.

---

## BOARD OF TRUSTEES.

	TERM EXPIRES.
H. STRATTON . . . . .	1881
J. J. RYAN . . . . .	1881
W. F. WATROUS . . . . .	1883
B. S. LA GRANGE . . . . .	1883
J. S. STANGER . . . . .	1885
P. M. HINMAN . . . . .	1885
OZRO BRACKETT . . . . .	1887
S. W. HORNER . . . . .	1887

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## FACULTY.

E. E. EDWARDS, D. D.,  
*President.*

\*F. J. ANNIS, A. B.,  
*Professor of Mathematics and Applied Chemistry.*

A. E. BLUNT, A. M.,  
*Professor of Practical Agriculture.*

\*Resigned.

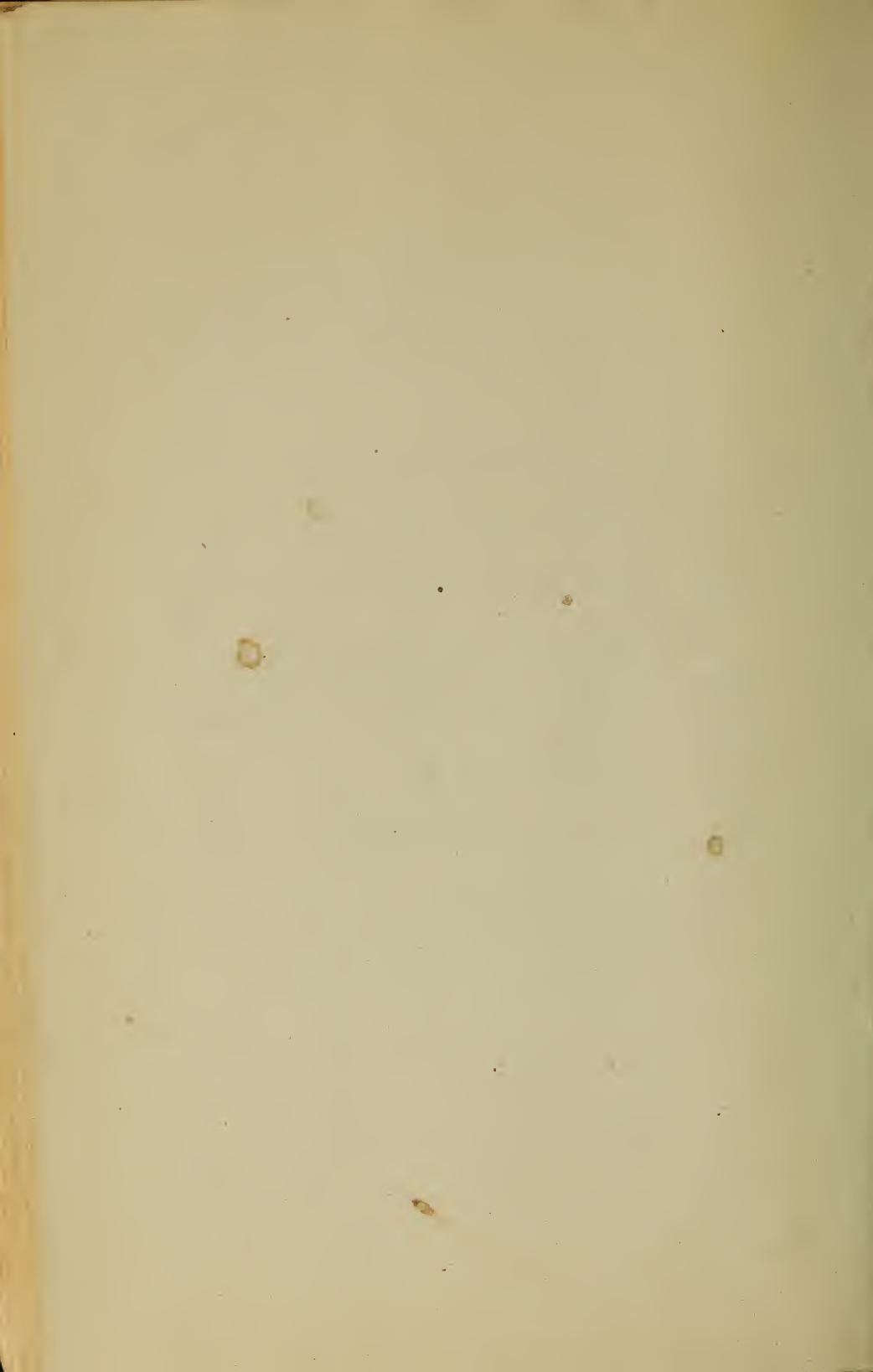
DEPARTMENT OF PUBLIC INSTRUCTION,  
DENVER, COLO., Dec. 10, 1880.

*To His Excellency, FREDERICK. W. PITKIN, Governor of  
Colorado.*

I have the honor to transmit herewith the Second  
Biennial Report of the Superintendent of Public Instruc-  
tion, for the two years ending August 31, 1879, and August  
31, 1880.

Very Respectfully,

JOS. C. SHATTUCK,  
*Sup't of Public Instruction.*



SYNOPSIS  
OF THE  
PUBLIC SCHOOL SYSTEM OF COLORADO.

---

OFFICERS.

Superintendent of Public Instruction.  
State Board of Education.  
County Superintendents.  
District Boards.

SCHOOLS.

Ungraded District Schools.  
Town and City Graded Schools, with  
High School Courses.

HIGHER AND SPECIAL SCHOOLS.

University, Boulder.  
School of Mines, Golden.  
Agricultural College, Fort Collins.  
Mute and Blind Institute, Colorado Springs.

OTHER AGENCIES.

State Teachers' Association, voluntary.  
County Teachers' Association, voluntary.

SCHOOL AGE.

Between six and twenty-one, attendance voluntary.

SCHOOL YEAR.

Begins September 1, ends August 31.

SUPERINTENDENT OF PUBLIC INSTRUCTION.

Elected by the people for two years. Has general supervision of the public schools. Collects and tabulates

the school statistics of the State; apportions the State school fund to the counties; gives information to school officers upon construction of school law; prepares and furnishes blanks for use of school officers; visits annually such counties as most need his personal attendance, inspecting schools and making public addresses; is President of the State Board of Education and a member of the State Board of Land Commissioners; makes biennial report to the Governor, in December previous to each session of the Legislature; causes school law to be published and distributed in pamphlet form; is *ex-officio* State Librarian.

#### STATE BOARD OF EDUCATION.

Consists of Superintendent of Public Instruction, Secretary of State and Attorney-General.

Issues State diplomas to such teachers as may pass examination, after having taught successfully in the State for two years; tries appeals from the decision of County Superintendents, but cannot render a judgment for money.

#### COUNTY SUPERINTENDENTS OF SCHOOLS.

Elected by the people for two years. Compensation five dollars per day, and ten cents for each mile necessarily traveled, but such compensation may not exceed eight hundred dollars in one year; holds quarterly examinations for teachers and grants certificates to successful applicants; apportions the county school fund to the districts; visits each district at least once each quarter while school is in session, for the purpose of inspecting the schools, advising with teachers and school officers, and examining the books and accounts of the latter, to see if the same are properly kept, and the district funds accounted for; receives reports from district secretaries and makes report annually to Superintendent of Public Instruction; hears appeals from decisions of District Boards; supplies districts and teachers with copies of the



school law and all needed blanks; is Land Commissioner of the county.

#### DISTRICT BOARDS.

In districts of the first class: *i. e.*, those which have a school population of more than 1,000, the District Board is composed of six directors, two of whom are elected annually on the first Monday in May, and hold office three years. They elect one of their number president, a secretary who may be a member of the Board, and a treasurer who may not be a member of the Board. In all other districts, the Board consists of three members, term three years, one elected each year. These District Boards are the executive officers of the districts, which are bodies corporate, created by law.

The directors are custodians of the district property of all kinds; they employ and discharge teachers and laborers, and fix the salaries of the same; make rules for the government of the schools, and prescribe the course of study and the text-books; suspend or expel pupils; disburse all school money; keep district records; take school census; report annually to County Superintendent; enforce the rules and regulations of the Superintendent of Public Instruction and in general do all things necessary to carry on the schools.

In districts with a school population of 350 or more, the directors fix the amount of the special tax levy, if any, for school purposes; in smaller districts the question is submitted to a vote of the people.

The Constitution of the State provides, "That no person shall be denied the right to vote at any school district election, or to hold any school district office on account of sex."

#### SCHOOLS.

No district is entitled to any portion of the State or county fund unless it maintains a school, taught by a licensed teacher for at least 60 days in each year. In the county districts, schools are maintained from 60 to 120

days, sometimes prolonged even to 200 days. In cities and towns the schools are from 120, (in a few,) to 200 days in length; those in which is enrolled a majority of the pupils of graded schools, are in session at least 190 days; while those in which is enrolled a majority of the pupils of ungraded schools, are in session about 100 days.

All the graded schools have a High School course open to all, while Denver is the only sufficiently populous as yet to require a High School with a full and entirely distinct faculty.

#### HIGHER AND SPECIAL SCHOOLS.

Separated, as the people of Colorado are, by so many miles and so much cost of travel, from the institutions of learning in the older States, they early saw and felt the necessity of providing for the advanced education of the youth of the State at home, since the majority are effectually debarred from attending elsewhere.

Out of this necessity sprung the University at Boulder, the Agricultural College at Fort Collins, and the School of Mines at Golden, all supported by the State; all of course, yet in their childhood, but all vigorous and promising; in charge of teachers of experience and skill, and with courses of study which compare favorably in breadth and thoroughness, with similar institutions in the older States.

The University is controlled by a Board of Regents, six in number, two of whom are elected biennially by the people.

The Boards of management for the other institutions are appointed by the Governor.

A tax of one-fifth of one mill is levied by the State for the support of each.

#### SCHOOL REVENUE.

The Public School revenue of Colorado is derived almost exclusively from taxation. In common with other new Western States, she has a land grant of sections 16 and 36 in each surveyed township, but so large a portion of

these fall upon arid lands that the grant is of little aid to our school fund. The Statute provides for the annual levy of a county tax for school purposes of not less than two nor more than five mills; this, with the proceeds of penal fines, constitutes the county school fund.

To this is added whatever may be received from the State fund, which, during the past year, has amounted to fifty-three cents per capita of the school population. Out of the twenty-nine counties reporting for the year ending August 31, 1880, fifteen exceeded the minimum rate, and three reached the maximum.

This fund is devoted to teachers' wages and current expenses, such as fuel, repairs needful to preserve school buildings and property, but cannot be used for building or enlarging and improving school houses; this must be paid out of a special building fund raised by a tax on the property of the district, and authorized by a vote of the people. If the amount received from the county fund is too small to support the school as long as is desired by the district, a special fund may be raised for this purpose by a levy upon the property of the district, by order of the District Board in districts having a school population of more than 350, by vote of the people in smaller districts. There is no statutory limit to either levy. All school taxes are levied upon the county books and collected by the county collector.

#### REPORTS.

Annual reports, more or less complete, were received for the year 1879, from every county but Routt, in which there is no organized school district. Some of these reports were defective and tardy.

For the year 1880, all the counties have reported except Park and Routt, though so many of these reports were delayed as to seriously interfere with the compilation of the statistics required in this report. In sparsely settled counties, with few districts, there is little a County Superintendent can do concerning schools, and that little must be

done at a personal sacrifice if at all. One County Superintendent writes in answer to the question: "What is your compensation for the year?" "Seventy-five dollars out of pocket." The increase of population in many counties will soon make business enough to demand attention and secure remuneration; and if in all cases the people would select for the office of County Superintendent a man with some fitness, some educational enthusiasm, better results would soon follow. Considering that the law prescribes no qualifications, it is gratifying that the selections are generally so good.

The following circular was sent to all County Superintendents, to remind them of the importance of making prompt and correct reports this year:

SUPERINTENDENT OF PUBLIC INSTRUCTION,  
DENVER, COLORADO, July 30, 1880.

*To County Superintendents:*

GENTLEMEN:—I forward to each of you to-day, blanks for your annual reports, and in doing so I wish to urge upon your attention certain matters concerning the filling out and return of the same.

Preserve the roll in which the blanks are sent and use it in sending report to this office, but remember the report will require letter postage.

This being the year for my biennial report it is necessary that the county reports be forwarded on time, *i. e.*, by the first Tuesday in October.

A failure on the part of a County Superintendent to properly make out and promptly forward his report, according to law, will subject that county to the loss of its portion of the State fund for the coming year. I have each year gone over many of the county reports and corrected clerical errors and omissions—for which there was no excuse but carelessness—and have accepted them as perfect whenever it was possible for me to make them so. This year want of time will compel me to file them as I receive them, and if not according to law the county will have to

suffer. Many of your predecessors took much care and commendable pride in sending up a report, creditable alike to themselves and the county, but some were very remiss. May I not hope that the careless ones are all out of office this year?

You are paid fair wages for such time as is needful to make your report; I entreat you, take the time and make the report. I know you will have to labor persistently with many district secretaries, and often to assist them in order to secure from them the reports on which yours is based. In most cases you know them personally and know where your help will be required. Render it in due season rather than wait till a timely report cannot be made even with your help.

In making your report, please observe carefully all foot notes and suggestions thereon. Notice that most of the columns on pages two, three, four and five are numbered by small figures at top. You will see that these numbers on pages two and three correspond with numbers in the summary on page seven, while the numbered columns on pages four and five correspond exactly with the numbers in the financial summary on page six, hence this summary is made by entering therein the footings of the corresponding columns on pages four and five. Put no footings at the bottom of any of the columns, as the proper filling out of the summaries on pages six and seven will furnish all that are required, and *these summaries must be filled out*, as far as applicable to your county, if you wish your reports to answer the requirements of the law. See Section eighteen.

The financial summary, page six, will be found so sensitive that the slightest error in the entries or footings on pages four and five, will surely appear here, and must be corrected before the summary will balance; or if one district secretary has failed to make his exhibit balance, it will destroy your balance, and must be corrected before being entered. You are somewhat familiar with the

affairs of each district; if, with your help, any secretary fails to get a balance, it is better that you enter (in red ink), in his exhibit the amount necessary to balance the same, as "By error," or "To error," as the case may be, and then investigate the matter on your first visit to the district, rather than send up an incomplete or erroneous report, to make a blot against your county in the State report.

Please make no alterations in or additions to these blanks in any place or particular. Answer the questions by figures in the proper columns, and attempt no changes. Suggestions as to improvements in the blank will be thankfully received and filed in the office for future use.

JOSEPH C. SHATTUCK,

*Superintendent of Public Instruction.*

The greatest obstacle in the way of accurate and timely reports, however, does not lie with the County Superintendents, but with district secretaries. In the small districts it seems to be an established custom that secretaries serve without pay, hence it is not surprising that the service is unsatisfactory in many cases, and that, judging by the county reports, fully one-fourth of the districts reports are so carelessly made as to be quite unreliable, and hence a strong shadow of doubt is thrown over the compiled statistics of the State. After all reasonable allowance be made for postal delay, twelve counties were so tardy in making their last annual report, as to forfeit their share of the State fund for the present year, if the law be strictly enforced. These counties received last school year nearly \$5,000, or about one-third of the entire State fund. I have no doubt that these delays were, in most instances, caused by the errors and delays of district secretaries.

I will give one illustration of the careless inaccuracy of district, and consequently, of county reports.

The county reports for the school year of 1879, show \$45,127.78 on hand at the close of that year, *i. e.* August 31.

The reports for 1880 should show, of course, the same amount on hand at the beginning of that year, *i. e.*, September 1, 1879, instead of which they report \$37,614.92 on hand at that time, and these figures do not fairly represent the blunders, because many of them, in a measure, balance others and do not show in full in the footings. In only three counties are the amounts identical, as they should be in all. One county reports \$3,126.63 on hand at the close of 1879, and only \$202.23 at the beginning of 1880; \$3,000 is a large amount of school money to disappear from the records of one county "between two days." I call the especial attention of County Superintendents to this matter. They should examine each district report to see if it agrees, in this respect, with the report of the previous year, and if not, ascertain why not.

The following circular was sent out from this office, in the hope that it might stimulate the recipients to such action as would result in timely and correct reports:

SUPERINTENDENT OF PUBLIC INSTRUCTION,  
DENVER, COLORADO, July 5th, 1880.

*To District Secretaries :*

I desire, in a friendly but earnest manner, to call your attention to the importance of making your reports to your respective County Superintendents promptly by the 10th day of September.

The blanks which are furnished you for this purpose have been prepared with the view of making your labor in this respect as light and simple as possible, and yet answer the law and the best interests of the public service, for I am well aware that, with many secretaries, this work is a labor of love. Examine carefully the directions and foot notes on your blank before filling it. They are all meant to be of service to you, and careful attention to them will enable you to avoid various errors which, in scores of instances in former years, have been prolific sources of annoyance to secretaries and superintendents.

and loss to districts. A tardy, incomplete, or inaccurate report from one secretary, may cost a district its portion of the county school fund for the ensuing year; may cause the County Superintendent to be late or faulty in his report to this office, and thus force the State Superintendent to drop the county from the list in apportioning the State fund. I call especial attention to the financial exhibit in your report. In making this, you should consult the accounts of your district treasurer, and report exactly the CASH received and expended during the year for all purposes, and which your own books may not correctly show, owing to unpaid orders, etc.

If your district has had transaction in bonds during the year, answer the question asked in the blank, but do not mix these transactions with your financial exhibit, save as follows: If you have sold bonds during the year, the amount realized therefrom should appear in the last item under "Receipts;" also the same item should include the amount, if any, turned over to your district by the County Treasurer after paying the interest coupons, as provided in section 91 of the School Law. It is not enough that School Boards handle the district funds honestly and judiciously, it is equally their duty—both to themselves and the public—to make full and correct reports.—See "Thirteenth," Section 50, page 28, School Law.

Again I urge you,—be prompt, be careful, be accurate.

JOS. C. SHATTUCK,  
*Superintendent of Public Instruction.*

(County Superintendents will please forward a copy of this circular to each Secretary in their respective counties.)

Whatever is worth doing at all, is worth doing well, and experience teaches that it is vain to expect men and women to do this work as it should be done, unless paid for the same, and I recommend as a model "Civil Service Reform" at our own doors, that for the time necessarily spent in keeping the district accounts, taking the census, and making the annual report, secretaries be reasonably



compensated. Let them keep a memorandum of all the hours spent in the district service, and how they are spent, and present the same to the Board for auditing and payment. The law—Section 50—authorizes this. Of course through this door some abuses will creep in because there are those in all communities who cannot touch public funds or public business without soiling their fingers, and occasionally such an one will find his way on to a school board, but I am persuaded that the expense and the loss would not amount to as much in ten years as the delinquent counties are liable to lose the present year, and the misfortune is that the innocent suffer with the guilty. Doubtless many of the secretaries of these counties did their duty—but a few were negligent and bring loss upon all. Vicarious punishment is the inexorable rule of human society in all its departments.

#### SCHOOL DISTRICTS.

In a new country, while settlements are small and wide apart, the question of the size and organization of school districts is always a troublesome one. In our State it is especially so. Our settlements are of necessity along the river margins or in the mountain valleys, and often must be small or the school house will have to be at so great a distance from a portion of the inhabitants as to be practically inaccessible. One County Superintendent writes me of a district three miles wide and *twenty-five miles long*, yet containing less than twenty persons of schoolage, and these mostly near one end of the district, while those near the other end were too few to form a district under the statute, which fixes ten as the minimum limit. This doubtless is an extreme case, but the difficulty it illustrates is not rare, and the formation of a new district is too often looked upon as a sovereign remedy for all the ills incident to this situation *which it is not*, and it were better if, before organizing so many small districts, more parents would reflect upon the fact that in Colorado, in this decade,

twenty to twenty-five dollars per month will not secure a teacher, one time in ten, whose instruction and association will be of any benefit to their children, but is like to be a half-taught girl with no ambition above a new bonnet and a beau, a widow deservingly poor but quite incompetent, or some male tramp infinitely more harmful than either.

Our present law offers great facilities for the formation and divisions of districts. It is to some extent the fruit of a reaction against the provisions of the Territorial law, which left the fixing and changing of district boundaries entirely with the County Superintendents, whose action, in some instances, wrought inconvenience, and the dissatisfaction made itself felt in the Legislature and induced the passage of the present provisions which leave the matter entirely with the people. Division of a district too often is brought about by a neighborhood quarrel, instead of a desire to secure increased educational facilities, and I believe it would be better if the County Superintendent had the veto power in this case. Now his duties are simply clerical. He may not prevent the legal division of a district, though he may be perfectly assured that such division will work serious and permanent harm to the schools of all districts affected by the change.

It is fortunately true that our population is increasing and districts filling up so that where the population is small this year, it may be large enough for a good school next, still the business of dividing districts has been carried somewhat to excess, even in our growing communities. The law of Massachusetts provides for the consolidation of districts and the expenditure of public money in conveying children living at a distance to and from school. There are many places in Colorado where this course would result in longer and better schools, for the same money that is now spent for short and often poor ones.

#### TEACHERS' INSTITUTE.

Section eighty of the school law provides for a teachers

institute in each judicial district, and that such institute which must originate in the expressed desire of twenty-five or more teachers, may receive State aid to the extent of one hundred dollars in each year. No such institute has ever been held or ever will be.

Colorado is a State of "magnificent distances." The county seats of any two counties are too far apart, and the cost of travel too great, to expect the teachers of such counties to unite in an institute. In our young State, the supply of teachers have been drawn, of necessity, from abroad. Fortunately the immigration hither of skilled teachers has been so great and so constant that no difficulty has been experienced in securing excellent material for all vacancies, and hence we have needed the aid of institutes and normal training less than most States. But a change is at hand. There is no ebb in the tide of immigration, but in spite of it a new element is observable among our teachers, namely, young people who have grown up among us, the graduates of our own schools. These do need, or rather the schools need, that these should have the training of normal institutes, and this will be more urgent with each passing year. No attempt to unite two or more counties for this purpose will succeed, for reasons given above.

The experience of other States teaches that there must be some pressure brought to bear upon teachers or they will not attend as generally as is desirable. Their certificates must be made contingent on their attendance, or those who attend must be given some preferences by law or custom—in appointments, something of this kind has been found very useful in securing attendance and faithful work. The State could well afford to pay one hundred dollars annually toward the expenses of any well-conducted county institute, in which twenty or more teachers would spend at least two weeks.

#### EXAMINATION OF TEACHERS.

Since August, 1877, questions for the quarterly examinations have been sent to the County Superintendents

from this office, and, with few exceptions, have been used by them. This is entirely voluntary, but the results of this uniformity of examination have been so satisfactory to all concerned, that very few, if any, teachers or superintendents, would willingly return to the old method where each County Superintendent prepared the questions for his county, with no knowledge of or comparison with those of any other county. Great care has been taken that these questions should not fall into improper hands until they reached the County Superintendents, and no instance has come to my knowledge in which their secrecy has been violated.

### QUESTIONS.

FOR THE QUARTERLY EXAMINATION OF TEACHERS—THIRD QUARTER,  
1880. PREPARED BY THE SUPERINTENDENT OF PUBLIC  
INSTRUCTION, DENVER, COLORADO.

#### NOTES TO EXAMINEES.

1. Provide yourself with a lead pencil.
2. Write your name, age, nativity and postoffice address on a slip of paper, put it in the envelope, seal it, and put your *number*, but not your name, on the back.
3. Write your *number* on each paper.
4. Take a different paper for each branch, write the subject at the head of each paper, and write on but one side of the paper.
5. Number your answers to correspond with the questions, but do not repeat the questions.
6. Read all the questions on a topic before answering any of them.
7. Communication without permission, and looking over the papers of others, will be regarded as failures.
8. Do not take the questions from the room. Any applicant who shall violate this rule will forfeit all right to a certificate.
9. When possible, abbreviate. Give *short but complete solutions* to arithmetical problems.
10. Omissions will be considered as failures, and partial answers will, in all cases be rejected, and, in estimating your rank, the general appearance of the papers, as well as the correctness of the answers will be considered.
11. In grammar, no word will be considered parsed that is not *fully parsed*.

#### I.

#### ARITHMETIC.

1. Divide the L. C. M. of 40, 45, 54, 72, and 135, by the G. C. D. of 620 and 1,116. Ans. 10.

2. Reduce 4897 gr Troy to pounds. By analysis. Anal. 5 ; ans. 5.
3. If it takes a man  $\frac{3}{4}$  of a day to mow an acre of grass how long will it take him to mow 7-10 of an acre? By analysis. Anal. 5 ; ans. 5.
4. If wheat yield 72 per cent. of its weight in flour, how much flour can be made from 245 bushels of wheat? Proc. 5 ; ans. 5.
5. Define *corporation* and *usury*. 2 pts., 5 each.
6. What is the present worth of a note for \$675, due in five months, and without interest, money being worth 7 per cent. per annum? Proc. 5 ; ans. 5.
7. If .63 gal. of wine cost \$1.47, what will 9-20 gal. cost? By proportion. Proc. 5 ; ans. 5.
8. In a granary is a bin  $12\frac{2}{3}$  ft. long, 8 ft. 7 in. wide, and 5.4 feet deep. How many bushels will it hold? Proc. 5 ; ans. 5.
9. My house is 24 feet wide, the ridge which is in the middle of the roof is 9 feet higher than the side walls, and the eaves project 1 ft. 6 in. beyond the sides of the house. How wide is each side of the roof? Proc. 5 ; ans. 5.
10. Separate 75,686,967 into three equal factors. Proc. 5 ; ans. 5.

## 2.

## HISTORY AND CONSTITUTION OF THE UNITED STATES.

1. What can you say of the early voyages of the Northmen to this country? 10.
2. After the Northmen, (a) Who first certainly discovered North America? (b) In what year? a—6 ; b—4. 10.
3. Narrate the early history of Pennsylvania. 10.
4. (a) What was the North West Territory, and (b) how did it pass into possession of the United States? a—4 ; b—6. 10.
5. What was the most important event of Jefferson's administration? 10.
6. How was John Quincy Adams elected President? 10.
7. What is a constitution? 10.
8. Describe the process of *naturalization*. 10.
9. Explain the terms, *members at large*, *electoral college*. 2 pts., 5 each.
10. Show the process by which a vetoed bill may become a law. 10.

## 3.

## READING.

“ Is it not better at an early hour  
 In its calm cell to rest the weary head,  
 While birds are singing, and while blooms the bower,  
 Than sit the fire out, and go starved to bed ?”

1. Is the above extract a paragraph or a stanza? Why? 2 pts., 5 each.
2. What is meant by the terms “early hour,” “calm cell,” as used above? 2 pts., 5 each.
3. What is meant by “sit the fire out,” “go starved to bed?” 2 pts., 5 each.

4. Select five words from the above extract as a lesson in spelling and definition, giving reasons for your selection. 5 pts., 2 each.
5. Express briefly in your own words, the sentiment of the foregoing extract. 10.

NOTE.—Let the candidate read a selection at sight, upon which he shall be marked according to the judgment of the superintendent, from 1 to 50.

## 4.

## PHYSIOLOGY.

1. Give the two uses of the muscles. 2 pts., 5 each.
2. What changes does the food undergo in the intestines? 10.
3. Why is the heart double? What is the function of each part? 2 pts., 5 each.
4. Describe the pleura and its functions. 2 pts., 5 each.
5. Why should school-rooms be well ventilated? 10.

## 5.

## WRITING AND ORTHOGRAPHY.

## WRITING.

1. How many spaces high is the loop in the small letter h? How many kinds of curves in the same letter? 2 pts., 5 each.
2. What is made the standard of measurement in width? What height? 2 pts., 5 each.
3. Write ten letters, no one of which is properly more than one space in height. 10.
4. What good will it do a pupil to have him trace the copy carefully with a dry pen? 10.
5. Write the first five letters of the alphabet as capitals. 10.

Let the penmanship of the candidate, as shown in the answers to the above questions be marked from 1 to 50, according to the judgment of the superintendent.

## ORTHOGRAPHY.

1. (a) What is the distinction between a *subvocal* and an *aspirate*? (b) Give two subvocals and two aspirates. a—5; b—5
2. (a) What sounds has the letter *i*? (b) Give words illustrating its different sounds. a—5; b—5
3. Syllabinate and mark the accent of *superintendent* and *especially*. 2 pts., 5 each
4. What rule of spelling is illustrated in spelling the plural of chimney? 10.
5. Write, with the proper marking to indicate the sound of each letter, the words *knowledge* and *science*. 2 pts., 5 each.
6. Spell ten words pronounced by the superintendent. 10 pts., 5 each.

## 6.

## SCHOOL LAW.

1. In what manner is the revenue raised for the support of the public schools of this State? 10.

2. 3. (a) To whom must the teacher make report, and (b) what is the penalty for failure in this duty? a—13; b—7.
4. 5. (a) How may persons obtain a State Diploma in Colorado, and (b) what is the character of such diploma. a—16; b—4.

## 7.

## BOTANY.

1. Define *plant*, and tell the difference between a plant and an animal or a mineral, and tell how a plant is affected by cultivation. 3 pts., 5 each.
2. Define the two grand divisions of the vegetable kingdom—Phœnogamia and Cryptogamia, and tell how they are distinguished. 10.
3. Define *root* and tell its office to the plant. Describe the different forms. 2 pts., 4 each.
4. Define *stem*.
5. Define *digestion* in plants, where and how it is performed? 2 pts., 5 each.

## 8.

## OTHER SCIENCES.

1. Through what space will a body, falling freely, pass in the tenth second? 10.
2. Name and describe the forces which produce circular motion. Name 4, description 6.
3. (a) What are artesian wells, and (b) upon what principle do their phenomena depend? a—3; b—7.
4. Describe the following measurements: *Azimuth, declination, right ascension, celestial latitude and celestial longitude.* 5 pts., 2 each.
5. What is a sidereal day? A solar day? Which is the longer? Why? What day does the clock measure in 24 hours? 5 pts., 2 each.
6. In what phases of the moon do eclipses of the sun and moon occur? Why not an eclipse at every revolution of the moon? 2 pts., 5 each.
7. Define geology and mineralogy. 2 pts., 5 each.
8. How are the relative ages of unstratified rocks ascertained? 10.
9. What great facts are taught by the study of geology? How is geological history divided? 2 pts., 5 each.
10. Name the divisions, or sub-kingdoms, of the animal kingdom. 10.
11. Name the different classes of vertebrates. 10.
12. Give the characteristics of birds of prey. 10.
13. Define chemistry. How many chemical elements are known? 2 pts., 5 each.
14. Describe the manufacture of coal gas. 10.
15. Describe, as a chemist, the manufacture of soap, both *hard* and *soft*.

## 9.

## GRAMMAR.

1. Why is the sentence, "He ought to have went," incorrect? 10.

2. In the sentence, "The prophets, do they live forever?" parse *prophets*. 10.
3. What is the difference between an adjective and an adverb? Illustrate. 2 pts., 5 each.
4. Give a list of ten words commonly used as prepositions.
5. Write a sentence having for its predicate the *passive, potential, present, third, plural* form of the verb *see*. 10.
6. Analyze: "The use of the dictionary should be insisted upon in the case of all pupils of sufficient maturity."
7. What is the difference in the proper use of the relatives *who, which* and *that*? 10.
8. How may a declarative sentence be made interrogative? 10.
9. Correct: *If I was a teacher I would give shorter lessons*, and give the reason for the change. 2 pts., 5 each.
10. Name the parts of speech not found in the following sentence: "Millions of spiritual creatures walk the earth unseen, both when we wake and when we sleep." 10.

## 10.

## PEDAGOGICS.

1. Why does the writing of words assist in learning their spelling? 10.
2. Give three aims of a good primary drill in reading, 10.
3. State the advantages and disadvantages of the practice of permitting pupils to recite by turn.
4. Give a list of proper incentives to study.
5. What is the great end of punishment in school? Why? 2 pts., 5 each.
6. Indicate your method of teaching your pupils to use our language correctly. 10.
7. To what extent and why should the teacher be acquainted with the nature and laws of both body and mind? 2 pts., 5 each.
8. What are the duties the teacher owes to parents and to the State. 10.
9. Name the principal faults which children are prone to contract in reading. Give the best methods of correcting them. 2 pts., 5 each.
10. How should composition be taught? 10.

## 11.

## GEOGRAPHY.

1. Define zone, declination of axis, 2 pts., 5 each.
2. How are islands divided? What is the general position of each kind? 3 pts., 4 off for each error.
3. Describe the formation of an iceberg, from the falling of the snow. 10.
4. Dividing the United States into highlands and lowlands, in which division do most of the States lie? In which most of the territories? 2 pts., 5 each.
5. Name the chief differences between the coal fields of eastern and western Pennsylvania. 8.



6. From what two States was the District of Columbia originally taken? What was its original area? What portion has been receded? 3 pts., 2 off for each error.
7. What countries constitute Great Britain? Which is the largest. Which is the smallest? 3 pts., 4 off for each error.
8. In sailing down the Danube from its source, what three important cities will you pass? 3 pts., 4 off for each error.
9. From what countries do we receive our principal supplies of spices? 10.
10. On which side of the Pyrenees is the climate the warmer? Why? 2 pts., 5 each.

With these questions the following circulars have been sent out, with a view of securing, as nearly as possible, uniformity of method in the examination as well as uniformity in questions:

OFFICE OF THE  
SUPERINTENDENT OF PUBLIC INSTRUCTION, }  
DENVER, COLORADO. }

*Circular to County Superintendents concerning the Quarterly Examination of Teachers:*

GENTLEMEN:—In sending questions for your next quarterly examination, I desire to make the following suggestions as to their use:

While I believe examinations, uniform in questions and in methods, are in every way superior to those having as many processes and grades as there are counties in the State, yet I wish no County Superintendent to use the questions and suggestions if he has a method of his own which he believes better, all things considered. The examination is *your* work. Upon its faithful and fearless discharge depends, in a large degree, the character of our schools. I am trying to aid, not to control you.

There is work for two days, of five or six hours each, for the average applicant, and I recommend a two days' session, at least in the more populous counties. Applicants should have time to do themselves justice. Let it be understood by all, that to receive a certificate, the applicant **MUST DO THE WORK** at the time and in the manner prescribed for all. If one can do it in half a day, well,—but let it be known that a certificate will *never* be given for

a part of the work. Absentees must take the consequences of their own misfortune, however imperative the cause of their absence. This is not given as a rule, but merely the plain statement of a fact.

By dividing the slips you can give out half a day's work at a time, and I urge this plan as much fairer to all than giving the topics singly, as some will gain time in one branch, others in another.

The topics are numbered from 1 to 11. For the first day, use 1 to 5, inclusive; second day, 6 to 11, inclusive. Take up questions and answers promptly at expiration of each session. If you wish an oral examination, take sufficient time for that and for reading before or after the time allotted to the session.

Do not take a *minute* of the session for general exercises or *talk*, or allow any one else to do so.

Take such *further time* as you wish to satisfy yourself as to the moral character of all applicants, and as to their experience in and aptitude for the business of teaching, and also time to give such counsel concerning their duties as you may think helpful.

For marking applicants divide the applicants into two groups: First group, Nos. 1, 2, 3, 5, 9, 10 and 11; second group, Nos. 4, 6, 7 and 8 and penmanship. Give certificates as follows:

#### FIRST GRADE CERTIFICATE.

First group—average 90 per cent.; no branch below 75 per cent.  
 Second " " 75 " " " " " 40 " "

#### SECOND GRADE CERTIFICATE.

First group—average 75 per cent.; no branch below 60 per cent.  
 Second " " 50 " " " " " 40 " "

#### THIRD GRADE CERTIFICATE.

First group—average 60 per cent.; no branch below 50 per cent.  
 Second " " 50 " " " " " 40 " "

File and retain all answers, for your own protection. *Number* the applicants, but take no names.

Give each a blank envelope and paper sufficient for the work. Examine and grade all papers by number before

opening the envelopes to learn the names. (If you can get a committee of competent persons to examine and grade the papers, it will guard you still further from any charge of unfairness, which disappointed applicants are apt to make.)

*A higher degree of practical success in teaching should be accepted as a sufficient reason for issuing a certificate of a higher grade than is warranted by the percentage upon examination, and inexperience or want of success should lower the grade of the certificate given, while failure as a teacher might be so marked as to make it your duty to refuse a certificate, whatever the percentage obtained.*

I earnestly recommend that certificates of the first grade be given only to teachers who have earned it by success in the school-room as well as at examination. I also recommend the addition of ten to the grade on Theory and Practice, for the regular reading of some good educational periodical, or of one or more reliable books upon the subject.

Refuse certificates to applicants of whose moral character you have a reasonable doubt.

PLEASE REPORT to me soon as convenient after your examination, on the blanks furnished for the purpose, giving the names of all applicants.

Preserve the instructions for future reference.

Take great pains that none of the questions go out of your hands until the end of the quarter.

Discourage private examinations as far as possible—giving, instead, temporary certificates till next public examination.

So cordial has been the approval of this system of uniform questions, by County Superintendents and others interested, that it may be considered the settled policy of the State.

Respectfully yours,

JOS. C. SHATTUCK,

*Superintendent of Public Instruction.*

Uniformity of questions for the county examinations throughout the State is winning favor elsewhere as well as in Colorado. Several States have adopted practically the same plan as that in use here. I believe the time has fully come when this system which has been in successful operation for more than three years "without law," should be enforced in a modified form by law.

It is a very easy thing to ask difficult questions, but to prepare a list of questions that will be a fair test of the scholarship of the examined and not a collection of puzzles gathered in unfrequented nooks of science, and to do this monthly or quarterly, is a task of no small proportions.

I certainly did not estimate it lightly three years since, when the first list was sent out, but its importance and its difficulties have grown upon me with every returning quarter. After consultation with a number of thoughtful Superintendents, I recommend that the Superintendent of Public Instruction, the President of the State University, the President of the State Agricultural College, and the President of the State School of Mines, be constituted by law a Committee of Examination, which shall prepare the questions and regulations for conducting the quarterly examinations, which shall be sent out by the Superintendent of Public Instruction, as has been done for three years past—and that the County Superintendents be directed by law to use the same. These gentlemen are all in the pay of the State, and the additional labor divided among them would not be onerous, and it is probable that for all time, at least a majority of the persons holding these positions will be men eminently qualified for this work.

While experience has proven the superiority of uniform examination in all the counties—uniform both in questions and methods, yet in the matter of granting certificates I would not in the least abridge or control the discretion now exercised by the County Superintendents. No examination can be a test of the teaching power of any applicant; that can only be demonstrated in the school-room.

Professional skill—or the absence of it—is proven by the daily work, as personal character is shown by the daily life of a teacher. The competent County Superintendent knows well the rank of every teacher in his county in these two particulars, and a wise exercise of the judgment founded upon this knowledge is of far greater practical importance to the youth of his county than any conclusions based upon percentages obtained at examinations.

#### STATE EXAMINATIONS.

But one applicant has as yet taken the State examination, and that one did not secure a diploma. Since last report three diplomas have been granted to persons who held State certificates from other States, viz.: Ira W. Davis, of Black Hawk; Ellen J. Merritt, of Colorado Springs; and Albert E. Chase, of Georgetown.

The policy of issuing State diplomas on any other condition than examination is of doubtful wisdom. Other States have been obliged to abandon it, and, doubtless, Colorado should do the same. The same Committee of Examination suggested above, should also have charge of State examinations, which might be held under the direction of this committee by County Superintendents in such sections of the State as the residence of applicants might require. That the statute of Illinois provides that "State certificates shall be granted only upon public examination, of which due notice shall be given in such branches and upon such terms, and by such examiners as the State Superintendent and the Principals of the Normal Universities may prescribe." Substitute the Presidents of our State Institutions for "Principals of Normal Universities," in the above, and it is doubtful if any better rule can be adopted.

#### UNGRADED SCHOOLS.

At the last meeting of the State Teachers' Association—January 1880—a committee, consisting of Mr. Howard, of Weld, Mr. Cornell, of Boulder, and Mr. Patton, of Pueblo,

was appointed to prepare a course of study for Ungraded Schools. After extensive correspondence and examination of many different courses, that prepared by Superintendent J. O. Knaus, of Lehigh county, Pa., was adopted, in the main, and published and distributed by Mr. Howard for the committee.

COURSE OF STUDY FOR THE UNGRADED SCHOOLS OF THE STATE OF COLORADO.

In the arrangement of the following Course of Study, Wilson's series of Readers was taken as a basis. It will also be applicable to any other series of Readers of corresponding grade.

In schools where another series of Readers is used, requiring it, read one book higher; that is, where Primer is mentioned, read First Reader; for First Reader, read Second Reader, and so on through the series.

FIRST GRADE.

*Language.*—Pupils with the Primer should be taught—

- 1.—Letters and sounds.
- 2.—Oral Spelling, with and without the book.
- 3.—To pronounce words readily at sight.
- 4.—To tell the meaning of words and sentences.
- 5.—To notice pauses and inflections when reading.

*Writing.*—To print letters, words, figures and sentences on the slate.

*Arithmetic.*—1. To count and add objects to 100. 2. Roman numbers to XX.

SECOND GRADE.

*Language.*—1. Read in First Reader with the preceding directions.

- 2.—Spell all *new* and *difficult* words of the reading lesson.
- 3.—Oral Composition.

*Writing.*—1. Print lessons on slate until script letters are learned; then the lessons should be copied in script.

NOTE.—Examine and criticise the slate-work ALWAYS.

*Arithmetic.*—1. Counting objects, notation and numeration, to 1,000.

- 2.—Addition and Subtraction—oral and written—without a book.
- 3.—Tables to 6x12.
- 4.—Roman numbers to C.

THIRD GRADE.

*Language.*—1. Read in Second Reader with the preceding directions.

- 2.—Short written Compositions, using some of the words found in the lessons.
- 3.—Relate in their *own* English language what they read.
- 4.—After having finished the first half of the Reader, the Primary Speller may be used. [See Remark No. 7.]

NOTE.—Learning the *meaning* (not definition) of words in reading and other lessons, and their use in original sentences, is a valuable exercise.

Teachers should drill their pupils frequently, daily, if possible, on language lessons of this kind.

*Writing.*—1. Copy parts of lessons on the slate—being careful to note the pauses and capital letters.

2.—Begin to write on paper with pen and ink. [See Remark No. 6.]

*Arithmetic.*—1. Mental without a book.

2.—Table to 12x12.

3.—Thorough drill in notation and numeration.

4.—Review and application of addition and subtraction.

5.—Multiplication and division.

6.—Roman numbers to CL.

*Geography.*—2. The directions of the compass.

2.—Distance and direction.

3.—Town, Township, County and State Geography, without a book.

NOTE.—For this purpose a map of Colorado, with township and county boundaries distinctly marked, should be used in every school.

#### FOURTH GRADE.

*Language.*—1. Read in the Third Reader with the preceding directions, having special attention to natural reading.

NOTE.—Remember that good reading consists in correct pronunciation, a careful observance of pauses and inflections, and a natural tone.

2.—Definition of words.

3.—Language lessons and oral grammar.

4.—Composition and forms for letter-writing.

5.—Primary speller should be completed.

*Writing.*—1. Copy on the slate the most difficult words of the reading lessons.

2.—Write in copy with a pen.

*Arithmetic.*—1. Mental, with a book.

2.—Review the fundamental rules for the sake of accuracy and rapidity.

3.—Use of United States money.

4.—Fractions, denominate numbers, etc.

5.—Roman numbers to D.

*Geography and History.*—1. Begin with a book in geography, with special attention to the geography of our own country.

2.—With the lessons in geography should be combined the most interesting and important events of U. S. history.

#### FIFTH GRADE.

*Language.*—1. Read the Fourth Reader with special attention to the rules of Reading, Elocution etc.

2.—Use large speller—spelling and defining.

3.—The use of the dictionary.

4.—Language lessons with a text-book.

5.—Composition and letter-writing.

6.—Change simple poetry into prose.

## 7.—Declamation.

*Writing*.—1. Use a copy book, with special attention to neat penmanship.

2.—Copy on paper business forms—bills, notes, checks, etc.

3.—Book-keeping (single entry).

*Arithmetic*.—Mental and written continued. Especial attention should be given to the business portion of arithmetic, with additional practical examples by the teacher.

*Geography*.—Study with the book continued. If properly managed, the greater part of what is contained in ordinary text-books can be completed.

*History of the U. S.*—A text-book may be used. If time will not permit to have history as a regular daily exercise, it is suggested that it alternate with reading in the Fourth Reader, and be read by the class, with explanations and questions by the teacher.

## SIXTH GRADE.

History of the United States as a reading book (instead of the Fifth Reader), Grammar, Composition, Declamation, Arithmetic, Physical Geography, Algebra, Physiology and other branches.

## SUGGESTIONS AND REMARKS.

1.—Every teacher ought to form a regular programme of daily exercises in conformity with the above course.

It is not intended that pupils shall be *compelled* to study branches they and their parents object to, after the teacher's persuasive powers have failed.

2.—The advantages of a uniform course for all the ungraded schools in the State will be apparent to every teacher on a little reflection.

3.—*Object Lessons*.—Short familiar talks on the lessons and on common objects should be had with the primary classes. The following may serve as a brief outline :

For first and second grades, familiar objects and their principal parts, with their names and uses. Third grade, for summer, facts in botany ; for winter, domestic animals. Fourth grade, for summer, insects, birds and plants ; for winter, woods, grains, seeds and fruits.

4.—Vocal music should be one of the daily exercises in each school.

5.—Drawing should also receive more attention.

6.—No copy books should be used until the first half of the Second Reader is completed, because of the constant slate drills, the pupils always, if possible, having a long pencil or holder in use in these drills—the teacher invariably criticising and correcting the writing and insisting on neat work. No writing or printing exercise should be considered as completed until the teacher has inspected every pupil's work.

7.—No Speller is to be used until the pupil is able to read well in the first half of the Second Reader, because the pupil will find it as much as he can do to master the new and difficult words in his Readers. He is to be required to write them neatly on his slate, to spell and pronounce them from the slate, then to spell them orally, define such as the teacher may think him



not familiar with, and commence to learn the use of these words by putting them into sentences of his own construction. This should be continued in the Third Reader.

8.—It is a good plan to have each text book divided into sections. If not divided by the author it may be done by the teacher. Do not advance to a new lesson or a new sections until the preceding one is mastered.

9.—Two important objects of recitation are: 1st. To ascertain the pupil's preparation of a lesson. 2d. His knowledge of it. Question your pupils thoroughly respecting each. *Insist* upon well prepared lessons *always*. Make your pupils do their own thinking as much as possible. The teacher should give aid to pupils judiciously.

10.—Govern by keeping your pupils constantly employed, and with firmness, tempered with kindness.

11.—Every teacher will be benefited by making the following topics a study: Classification of School, Assigning Lessons, Aid to Pupils, and the Recitations.

12.—Lose no opportunity to inculcate a love for truth, justice and right, for this is the foundation of our liberties.

13.—*Paste this course of study on your School Register.*

I heartily commend the course to the attention of superintendents, teachers and school boards.

That teachers should be frequently changed in our ungraded schools, must be accepted as a necessary result of small schools and short terms. To my mind, all discussions as to the best remedy for this evil are wasted, until the time shall come—if it ever does—when there are no thinly settled portions of country. A great majority of the "country districts" in the United States cannot, by any reasonable taxation, raise sufficient money to build a commodious school-house, with the "modern improvements," deemed essential in city schools, and pay a man or woman, worthy by nature and training, to be ranked with the best of the profession, such salary as will induce him to look upon that community as his home and that school as his life work. Does anyone suppose the time will ever come when the generality of country districts will pay their teachers more than seventy-five dollars per month and employ them for more than nine months in the year? How idle then, when wages in such schools average but about half this amount, to expect that young men and women, who develop skill

in teaching will forget their own interests and smother their own ambition and labor on, term after term, for a pittance. It seems to be the law of human society that only the aggregated wealth of large communities can support a high order of talent in any profession.

Believing, then, that our country schools will be controlled in the future, as they have been in the past, by a shifting procession of inexperienced teachers, this effort to assist them by furnishing an outline of the work they are expected to do, commends itself to me as reasonable and important. Within the limits of this course there is room enough for the full exercise of the invention and individuality of such as have them, while the less gifted will find these suggestions a daily help and guide.

Upon County Superintendents, more than all others, depends the introduction or use of this course of study. It will not introduce itself. It will require the patient, persistent labor of years. Is not the end worth the effort?

#### BLANKS FOR SCHOOL OFFICERS.

Under the law as amended by the Legislature at its last session, I have prepared blank books for the use of officers and teachers, and have supplied all demands, except that to a few counties not yet reached by express the heavier books have not been sent. The cost of the first supply for all the districts was considerable, but the amount required annually hereafter will not be great. Whole amount deducted from State fund to date on account of books furnished is \$1,958.24.

The books furnished are as follows, viz.: Blank certificates, three forms, County Superintendent's record, secretary's record, treasurer's cash book, teacher's daily register, annual register, orders on district treasurer, orders on County Treasurer, notice of apportionment.

#### STATE FUND.

The permanent school fund, which consists of the proceeds of sale of school lands, amounts in round numbers

to \$36,000. This is invested in State warrants at eight per centum. The public school income fund arises from interest on the permanent fund and rent of leased lands. Of this fund there has been three distributions, as follows:

July, 1879 . . . . .	\$7,041 30
Jan. 1880 . . . . .	5,918 40
July, 1880 . . . . .	9,765 36
Total . . . . .	<u>\$22,725 06</u>

The first apportionment was twenty-six and six-tenths per capita of school population; the second, twenty cents, and the third thirty-three cents. As the expenditure per capita for the State was \$11.07 last year, it will be seen that this revenue will not materially lessen taxation. For details of apportionment, see table.



# GENERAL STATISTICS.

## SUMMARY.

DESCRIPTION.	1879.	1880.	Increase.
Number of districts . . . . .	389	414	25
Number of males of school age . . . . .	15159	18565	3406
Number of females of school age . . . . .	14579	17001	2422
Total school population . . . . .	29738	35566	5828
School population between 6 and 16 . . . . .	26969	28597	1628
School population between 16 and 21 . . . . .	29738	26969	-2769
Number between 6 and 16 enrolled in school . . . . .	1924	20215	18291
Number between 16 and 21 enrolled in school . . . . .	8508	10377	1869
Number enrolled in graded schools . . . . .	10263	11742	1479
Number enrolled in ungraded schools . . . . .	18771	22119	3348
Total number enrolled in school during the year . . . . .	10919	12618	1699
Average daily attendance . . . . .	63	62	dec. 1.
Per cent. of enrollment on school population . . . . .	75	75	.
Per cent. of enrollment under 16 on populat'n same age . . . . .	22	22	.
Per cent. of enrollm't bet. 16 and 21 on pop. of same age . . . . .	58	57	dec. 1.
Per cent. of average attendance on enrollment . . . . .	45	47	2
Volumes in school libraries . . . . .	3260	3612	352
Number of school houses . . . . .	252	292	40
Value of school houses and property . . . . .	\$496891	\$682410	\$185519
Number of male teachers in graded schools . . . . .	28	26	dec. 2.
Number of female teachers in graded schools . . . . .	108	140	32
Number of male teachers in ungraded schools . . . . .	227	221	dec. 6.
Number of female teachers in ungraded schools . . . . .	230	291	61
Avg. wages of male teachers in gr'd schools per month. . . . .	\$101 28	\$101 75	\$0 47
Avg. wages of female teachers in gr'd schools per m'th. . . . .	72 75	64 39	dec. 8 36
Avg. wages of male teachers in ungr'd schools per m'th . . . . .	44 06	42 84	dec. 1 22
Avg. wages of female teachers in ungr'd schools per m'th . . . . .	40 65	40 87	22
Average cost per month for each pupil in graded schools . . . . .	2 35	2 52	17
Average cost per month for each pupil in ungr'd schools . . . . .	2 66	2 24	dec. 42
Received from county tax (general fund) . . . . .	119419	182326	62907
Received from district tax (special tax) . . . . .	95675	154007	58332
Received from district tax for building fund . . . . .	15704	94938	79234
Received from all sources, including amount on hand at beginning of year . . . . .	309499	522581	213082
Expended for teachers' wages . . . . .	153144	186426	33282
Expended for current expenses . . . . .	36100	47253	11153
Expended for buildings, sites and furniture . . . . .	40158	115922	75764
Total expenditure . . . . .	264371	395227	130856
Expenditure per capita of school population . . . . .	8 88	11 07	2 19
Expenditure per capita of enrollment . . . . .	14 08	17 80	5 58
Expenditure per capita of average attendance . . . . .	24 21	31 38	10 38
Expenditure per capita of pop. between 6 and 16 . . . . .	24 21	14 60	-10 61

The school population of Colorado since its admission was as follows:

1877 . . . . .	21,612
1878 . . . . .	26,473
1879 . . . . .	29,738
1880 . . . . .	35,566

The number of different pupils enrolled in school for the same time was:

1877 . . . . .	14,085
1878 . . . . .	16,641
1879 . . . . .	18,771
1880 . . . . .	22,119

The average daily attendance was as follows:

1877 . . . . .	8,141
1878 . . . . .	9,699
1879 . . . . .	10,919
1880 . . . . .	12,618

The number of school houses:

1877 . . . . .	219
1878 . . . . .	249
1879 . . . . .	255
1880 . . . . .	292

Value of school buildings, sites and furniture:

1877 . . . . .	\$472,983
1878 . . . . .	474,771
1879 . . . . .	496,891
1880 . . . . .	682,410

Number of male teachers employed:

1877 . . . . .	233
1878 . . . . .	226
1879 . . . . .	255
1880 . . . . .	247

## Number of female teachers employed:

1877 . . . . .	297
1878 . . . . .	341
1879 . . . . .	338
1880 . . . . .	431

What is known as the "General Fund," is derived from the county tax for school purposes, penal fines, and the amount received from the State fund.

## The receipts from these sources have been as follows:

1877 . . . . .	\$120,057
1878 . . . . .	128,788
1879 . . . . .	119,419
1880 . . . . .	182,326

## Receipts from special (district) taxes:

1877 . . . . .	\$ 65,394
1878 . . . . .	57,377
1879 . . . . .	95,675
1880 . . . . .	154,007

## Expended for teachers' wages:

1877 . . . . .	\$140,780
1878 . . . . .	153,089
1879 . . . . .	153,144
1880 . . . . .	186,426

## Total expenditure for school purposes:

1877 . . . . .	\$215,225
1878 . . . . .	243,850
1879 . . . . .	264,371
1880 . . . . .	395,227

## Expenditure per capita of school population:

1877 . . . . .	\$ 7 95
1878 . . . . .	9 21
1879 . . . . .	8 88
1880 . . . . .	11 07

Expenditure per capita of pupils enrolled in school:

1877 . . . . .	\$12 20
1878 . . . . .	14 65
1879 . . . . .	14 08
1880 . . . . .	17 80

Expenditure per capita of average daily attendance:

1877 . . . . .	\$21 10
1878 . . . . .	25 14
1879 . . . . .	24 21
1880 . . . . .	31 38

#### OUR SCHOOLS AND THEIR SUPPORT.

In my report for 1878, I urged the propriety of raising the legal minimum mill tax, levied by the counties for school purposes, the proceeds of which constitute the bulk of our "General Fund."

The situation is in no way changed since then. The amount of the general fund last year was \$182,325; the proceeds of special district taxation, exclusive of the building fund, were \$154,007. I can think of no single means that would do more to assist the weak districts, enabling them to support longer and better schools, without the trouble of a special tax. This would be somewhat at the expense of the towns and wealthier communities, and that objection has been fatal to the change in the past, doubtless it will be in the future, though no one disputes that it is consistent with the fundamental principles of the American public education. Our entire free school system is based on two ideas; first, that property must support the schools, and next, that these schools shall be so planted and managed as to afford, as nearly as possible, equal advantages to all people, without regard to condition or locality. The selfish impulses of the rich—both as individuals and communities—are opposed to this. In individuals, however, this selfishness has been so generally smothered and controlled by broader views of and kindlier interest in the welfare of the race, as to give little trouble. Indeed, snarling at the



expensiveness of schools come quite as frequently from the poorer class, whose children are the beneficiaries of the fund arising from this common tax upon property, as from those whose wealth supplies the fund. Society with us is in such a constant state of ebullition, the bottom coming to the top and the top going to the bottom; so many who are at the top realize that without the free schools their own rise had been impossible, that local taxation for the support of the schools is generally upheld.

General Garfield but voiced the controlling sentiment of the nation when he said: "Next importance to freedom and justice is popular education, without which neither freedom nor justice can be permanently maintained." Amid all the bitter criticism which has been hurled at the public schools in recent years, the critics have made haste to announce their devotion to free schools, finding fault only with the methods in which the money was spent—never claiming that it should not be expended upon schools for the benefit of all the people.

Only in November last has a writer of note aimed a blow at the schools themselves, for the first time within my knowledge.

He declares American public education a failure, and, in proof, contrasts the percentage of criminals and lunatics in the six New England States—the home of the free common school—with that of the six Southern Atlantic States, where, until since the war, free schools were unknown, and property only educated the children of the property holder, and proclaims it as his conclusion that *ignorance and vice have no relation*. Why the argument was not strengthened by pointing the contrast with the Ute Indians, as a shining example of a happy people who tolerate no school houses, and, *therefore*, have no use either for prisons or insane asylums, I cannot tell. The most complete answer possible to this skillful special plea has been given by the people of these same Atlantic Southern States, who now acknowledge their harmful error, and

are making what speed they can to establish free schools, and thus prove their conversion to the American idea that *property must support schools for the masses*; and it is a further and a very happy reply to the review article of Mr. White, that, on the 15th day of December, 1880, a representative of one of these same States should rise in his place in the Senate of the United States, and in a manly speech in behalf of his people, admit the fatal mistake of the South in educating their ruling caste alone, and avow their determination as far as in them lies, hereafter to enlighten the masses; and to this avowal he added an earnest entreaty, that the Nation—dominated as he declared it is and must be by men nurtured amid the influences of free schools—the Nation, now rich and prosperous, should assist in planting the free public school within reach of the hitherto uneducated laboring people throughout the crushed and impoverished South. And this is a representative man, speaking for the same section which, twenty-five years ago, in the columns of its most influential paper said: "We abominate the schools *because they are free!*"

Surely Mr. Grant White is answered.

Does it not seem strange, then, that while the "Universal Yankee Nation" is so enthusiastically in favor of taxing the rich *man* to assist in the education of the children of his poorer neighbor, wealthy *districts* always oppose any scheme for taxation or distribution which obliges them to assist in supporting schools for the poorer districts, *i. e.*, *their* neighbors?

Yet such is the fact from Maine to California. Said a member of the Vermont Legislature last year in opposing a bill of this kind. "We are apt to figure whether a village like—— would give more than it would receive."

That is the whole question. In Colorado, in such counties as contain cities or villages, an increase of the county levy means that the cities and villages "would give more than they receive," so they prefer to support their own

schools liberally by special district tax, and leave their poor neighbors to struggle on as they may. I do not expect to see the minimum raised by statute, but I state the case to encourage every citizen patriotic enough to wish to see the fundamental principle of taxation, on which our schools are founded, carried out to its logical end and best results, to induce County Commissioners to levy such county tax that the schools of the county may be supported mainly by the general fund instead of the special. I felt the need of this years ago, and every day of intercourse with the people and observation among the schools of our State has but intensified my conviction.

Intelligent County Superintendents state the weakness of our country schools usually in this order: "Short terms, frequent change of teachers, and inefficient teachers." Now, the first of this triad being given, no argument is necessary to prove that the others follow as inevitably as death and taxation. To lengthen the term is to lay the axe at the root of the tree. In this way only can the remaining troubles be reached.

#### AS TO CHANGE OF TEACHERS,

in schools where the terms are long enough to make the continuous employment of one person practicable, district boards rarely err in making a change when they can shake themselves free from all improper entanglements and "influences," and address themselves to the one object of procuring the best ability to be had for the money they have to spend. A change for the better is always desirable. It is never a wrong to a teacher to fill her place with a better one; not to do this *is* a wrong to the children and the community. The oath of a school officer binds him to have an eye single to the best good of the school, but it is not infrequent that his vision is seriously obscured by other and conflicting interests. Too often personal advantage, love, hate, fear, financial complications or political intrigues, some of these motives, are allowed by school officers (as

well as other people), to smother their judgment and govern their actions.

The following incident is not imaginary :

One of the teachers in a graded school failed to secure proper discipline in her room. The pupils were very disorderly, and the principal of the school consulted with the President of the Board as to what should be done. Said the President : " You had better let her alone. She is the intimate friend of an influential family here, who will make no end of trouble if she is interfered with."

Again, a tenderness of heart which makes men dislike to cause pain often neutralizes the demand of duty and puts in school, or keeps in, a person who is not a teacher, but is a most worthy, excellent man or woman. Purely local considerations, also, often exercise a controlling influence in school appointments. An inefficient teacher is employed, because she belongs in the district or " graduated at our school," when a good one could easily be had for the same money.

If a member of a school board were wishing to purchase a ten-dollar coat or shawl, he would never buy of his neighbor, his uncle, or his grandfather, if he *knew* he could get a better article for the same money in New York. Witness the car-loads of merchandise that leave there by mail daily. The same rule should govern their official actions. They should purchase the very best teaching ability to be found in the country which is within their means. In no other way can they redeem their obligations to the district and justify their oaths. Faulty judgment is not the rock on which school boards most frequently make shipwreck ; it is judgment overborne by some of these unworthy considerations. When such boards have sufficient integrity of purpose to throttle personal interests and set aside all extraneous considerations ; sufficient moral courage to face the disapprobation of influential neighbors if duty demanded it, and to storm the citadel of relatives and friends in which many an indifferent teacher is securely fortified—then *real* teach-

ers can take courage, and the cause of education will less frequently be wounded in the hands of its friends.

#### COUNTY SUPERINTENDENTS

in the work of supervising the schools of their counties, can in no other way render such valuable aid to the schools, as by doing all in their power to induce school boards to employ good teachers, and to prevent the engagement of poor ones, but I believe the County Superintendents, such as have earnestly engaged in school work, with one voice, will declare that they find it more difficult to prevent school boards from employing persons of known unfitness, than to supply all demands for really skillful teachers. At no other point can Superintendents touch so near the heart of the system as in putting the schools under the care of real live, apt teachers. There are schools in Colorado to-day that rank high as educational forces, though they are found in out of the way places, and in cramped, ill-furnished rooms; there are others, which are yielding only confusion and disaster, though held in costly, well-furnished buildings. The one is not a success because of its unpleasant surroundings, but in spite of them, the other does not prove that tasteful, convenient rooms are useless, but that all other adjuncts of a good school go up in the balance when weighed against a teacher.

I quote the following paragraph, not knowing to whom credit is due :

“Superintendent Westhafer notifies the teachers of Martin county, that during his official visits to schools, he will pay especial attention to the following particulars: System gradation, interest of parents, accuracy of work, discipline of school, fitness and energy of teacher, neatness of room and inmates, condition of grounds and building, temperature and ventilation of room, influence of teacher over school and community.”

I know nothing of Superintendent Westhafer, and more than one State has a Martin county, but I congratulate that Martin county upon having a Superintendent who knows

how to plan his work, and recommend other Superintendents and teachers to paste his list in their memorandum books.

If called upon to point out the most noticeable defects in the best schools of this State, I should head the list with

#### READING AND WRITING.

A great deal of written work is done, but too little attention is given to the training of the muscles of the hand and arm, that the work may be done easily and well. Usually the children's rigid muscles and labored movements, when attempting to write, are painful to the beholder, as well as tiresome to the operator.

Reading is generally undervalued, though I am glad to note the fact that it is this year receiving more attention in a number of our towns than heretofore. Last spring I listened to the graduating exercises, of one of our high schools, with exquisite pain. As I looked upon these young people, passing thus and there the boundary which separates boyhood and girlhood from manhood and womanhood, evidently well furnished, for their age, in much of the learning of the schools, and yet not more than one in four able to speak so as to be heard more than twenty feet away, and the fourth evidently heard only because the vicious habits of speech acquired at school were not able to hide entirely good natural gifts. And yet, can we blame these children? Have they not used all the advantages given them? If this glaring fault of speech is ever overcome, it must be at the expense of much money, time and labor, which they ought to be in a condition to spend in other directions, now that we have given them all the public school has to offer.

Surely their punishment is enough. But what shall we say of the teachers who have allowed such mumbling daily for years, and the school officers and communities that have tolerated such utter neglect of training in a point so vital? Simply that they have slumbered over this matter. I hope a sweeping reform is begun, for we sadly need it. The best reading I heard in the State last year—speaking of a school,

not of a single individual—I heard at Boulder. I mention the name frankly, hoping it may provoke some other schools to emulation.

COLORADO AT WEST POINT.

It has been a frequent charge in recent years that, of the young men who take the entering examination at West Point Military Academy, a larger portion fail to pass now than formerly, and the failures have been charged up to the alleged deterioration of the public schools. Since Colorado became a State she has sent but one candidate for admission to West Point, and he entered last year. Having considerable anxiety to know the standing of the first representative of Colorado schools at the Military Academy, I wrote to the War Office for information, and received the following reply :

HEADQUARTERS DEPARTMENT OF WEST POINT,  
UNITED STATES MILITARY ACADEMY,  
WEST POINT, N. Y., Dec. 7, 1880.

JOS. C. SHATTUCK, *Supt. of Public Instruction.*

SIR—Referring to your letter of November 30, ultimo, addressed to the Adjutant General of the Army, and referred to these headquarters by endorsement of the 4th inst., I am directed by Major-General Schofield to inform you that, at the examination of candidates in June last, Cadet H. I. Hale's marks were :

Arithmetic—96 out of 100.

Grammar—96 out of 100.

Geography—very good ; not marked.

History—119 out of 135.

Writing and orthography—very good. No errors. Candidates were not arranged in order according to their marks, but Hale was among the best, and he still maintains that standing. Very respectfully,

Your obedient servant,

WM. M. WHERRY,  
*Act'g Asst. Adjutant-General.*

Cadet Hale is the son of Hon. H. M. Hale—my predecessor in office. He was valedictorian of the first class which graduated from Denver High School—that of '77; and until he entered the Military Academy, had attended no school but the public schools of this State. His rank, so far, speaks well for the schools which his father did so much to build up and improve. Colorado will watch his career with interest.

#### THE STATE LIBRARY.

No funds having been appropriated for the arrangement and care of the library, there is no material change to note since my last report. Public documents are received annually from the general government, and continually from the various States.

I am in constant receipt of letters from different State librarians, offering to complete our sets of the documents of their States, if we lack any, and asking that we complete ours with them.

Until some provision is made by the Legislature for the proper arrangement and care of our library, it can only be stored. The Superintendent of Public Instruction—*ex-officio* State Librarian, by provision of the constitution—can never do more than have a supervisory control of it; he cannot be the actual librarian in charge. The last Legislature fixed the office of the Secretary of the State Board of Land Commissioners in the library—thus making that officer virtually assistant librarian.

This was at best but a temporary expedient, which has already outlived its usefulness. The land business of the State is already large and rapidly growing, and will ere long be as important and laborious as that of the Auditor's office, and cannot be transacted in the library with convenience either to the business or to the public.

An act of the Legislature of 1879 encouraged the formation of a State Historical Society, for the purpose of collecting and preserving historical data of the State, and such specimens of the mineralogy and natural history of the



State as it might be able to obtain, all to be stored and cared for in the State Library. If proper provision were made for the library, the collections of the Historical Society could be cared for without additional expense, and, thus fostered, would come, with the passing years, to be of surpassing interest, and would alone be ample equivalent for the expenditure. This question comes to us then in this form: Has the time arrived when the library of Colorado shall be cared for somewhat like that of other States, or shall be stored yet longer, waiting until that time does come?

Judge Orson Brooks has gratuitously cared for the library, to the extent of keeping account of the books received, and his report is herewith submitted:

*To the Hon. J. C. SHATTUCK, Superintendent of Public Instruction, Colorado:*

DEAR SIR:—Herewith please find my biennial report of the number of volumes received into the State Library since my last report:

Number of volumes in library Dec. 11, 1878 . . . . 5,833

Number of volumes received since, to Jan. 1, 1881 . . . . 887

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Total number volumes in library . . . . . 6,720

I am sorry to say our library is in a deplorable condition, piled heterogeneously in different rooms in the State House, and of no use to the public at present.

Your obedient servant,

ORSON BROOKS,  
*Acting State Librarian.*

#### SUGGESTIONS TO APPLICANTS.

It is believed that answers will be found to the questions usually asked in letters received at this office from teachers, in other States, who are desirous of coming to Colorado, by an examination of this report, with the exception of the one concerning supply and demand. To that I will say

that the supply of teachers generally exceeds the demand about five to one.

And yet, of the *best*, a goodly number from abroad are employed each year. Positions in our graded schools are usually filled, for the coming year, between June 20 and August 20. If *you* are not able and willing to come here, and make personal application, understand that there are enough, and more than enough, who do come, to fill all vacancies, and that your chance of securing work by letter is not worth the postage stamp you enclose, even when one-third to one-half of the stamp is stuck fast to the letter of inquiry, as is generally the case. Information pertaining to this State is cheerfully given at this office, but please enclose your stamps dry, if at all. At this altitude few persons enjoy being the second party to lick the same stamp.

The following circular gives information as to how vacancies are filled in the city of Denver :


OFFICE OF  
CITY SUPERINTENDENT OF SCHOOLS,  
DENVER, COLORADO, July 1, 1880.

[On account of the many inquiries concerning our schools, and of the numerous applications for positions, this circular of information is prepared.—AARON GOVE, *Supt.*]

The public school system of East Denver is under the control of a Board of Education of six members, elected by the people. The system embraces primary and grammar schools and a high school.

Teachers are elected by the Board of Education, but first must pass an examination and obtain a certificate to teach. The salaries of teachers are as follows: For the first year, \$635. For the second year and thereafter, \$760. The school year is thirty-eight weeks. Teachers are not confirmed in their appointments until the close of the twelfth week of service. If at this time the Board confirm the appointment, the engagement is likely to be

permanent, subject to the rules and regulations of the Board.

 NO ENGAGEMENTS ARE MADE BY CORRESPONDENCE.

The Board reserves the right to increase, for special merit or extraordinary success, the salary of any teacher. This may be done at any regular meeting, by unanimous vote.

In order to obtain a legal certificate to teach in the city, it is necessary that the applicant be present at the examination of teachers. This examination is both written and oral; occupies two days, and embraces reading, spelling, English grammar, physical and descriptive geography, arithmetic, elements of algebra, United States history, English literature, elements of vocal music, and methods and theory of teaching.

The next examination of teachers will be held on———. Certificates are given to candidates who successfully pass the examination—scholarship, experience, history and character, each enters into the merits of the case when certificates are awarded. All are welcome to the examination.

The expense of living in Denver is rather more than in cities of similar size in the States.

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The examination is held the first week in July. The Board of Education of Denver honestly endeavor to select teachers on their merits alone, and always retain them on that ground. No one can obtain or hold a position in Denver schools because of the friendship or favor of anybody. The Boards of our smaller towns aim at the same impartiality, but are not always able to do their work with the same independence of friend or foe.

#### CONCLUSION.

During the two years covered by this report my traveling expenses have been reimbursed by the State to the amount of \$156.65. I have visited where I believed it would be

most beneficial to the cause of education in the State, and in the exercise of that discretion vested in me by law, have not thought it wise or needful to make long and costly trips by stage or private conveyance to the sparsely settled portions of the State. Furthermore, the business of the office has become such that it has become difficult for the Superintendent to be absent more than a few days at a time. The correspondence reaches about 150 letters per month, and is often of such a nature that delays cause great inconvenience.

Wherever I have been I have received the most cordial greetings, and my addresses generally have been attended by audiences, gratifying both in numbers and in character; and I know, both by personal observation and by correspondence, that, throughout the State, our best citizens take such hearty, active interest in the public schools that they can take no step backward; but in number and in excellence will keep pace with the growth of the communities which so proudly foster them, and that in the future, as in the present, it will be the rule in Colorado towns that the most costly edifice will be the school building, the most precious institution, the public school.

## REPORTS OF COUNTY SUPERINTENDENTS.

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Hoping to encourage discussion and an interchange of opinions among County Superintendents, the following circular was sent out; and the replies which were received are herewith appended:

OFFICE OF THE  
SUPERINTENDENT OF PUBLIC INSTRUCTION,  
DENVER, COLORADO, July 30, 1880.

*To County Superintendents :*

GENTLEMEN :—I invite discussion upon any or all of the following questions, the answers to be numbered to correspond with the questions, written on one side of paper separate from your report, and forwarded at the same time. If not too voluminous these answers will be published with my report, hence permit me to ask that they be as brief as is consistent with your idea of the importance of the subject.

While calling attention to these points, I have no desire to limit your discussion to these alone, but invite opinions, tersely expressed, upon any other question touching the efficiency of your schools, or the operation of the school law. "Come, let us reason together."

1. Are the accounts of school moneys properly kept in the several districts?
2. (a) Have these moneys been spent economically?  
(b) Have there been any instances of illegal or irregular expenditure?
3. What is your opinion of the advisability of the disbursement of the district funds by the County Treasurer, upon orders drawn and approved by the district officers?

4. Have you any suggestions on the subject of a (*a*) district boundaries, or (*b*) the organization of new districts?

5. Do you recommend any changes in the examination of teachers as now provided by law?

6. What can you say of the competency and success of the teachers of your county?

7. Has there been any improvement in school buildings and grounds during the past year?

8. Name some of the evils which impair the efficiency of your schools.

9. Describe the efforts which have been made by yourself, by teachers, or by school officers and patrons to improve any of the schools in your county.

JOS. C. SHATTUCK,

*Superintendent of Public Instruction.*

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#### ARAPAHOE COUNTY.

W. F. BENNECKE, *Superintendent.*

In accordance with your communication of July 30, 1880, I herewith submit answers, as numbered, and attach what may be considered expedient to—

“Come, let us reason together.”

1. Yes, sir.

2. (*a*) Yes, sir.

(*b*) In one district the treasurer acknowledged vouchers signed by the president only.

3. Heard no complaints of district officers:

4. (*a*) and (*b*) No, sir.

5-6. The real human within a human being is his self-activity, and to instruct our children to become self-active is the aim of all education. To understand this fully teachers should have studied, and should study, the works of our prominent educators thoroughly, be well versed in didactic and methodic. I would, therefore, suggest that the questions for examination of teachers be, in part, in conformity with the foregoing instead of such which apply to memory only. I noticed reluctance to approbation of

the principles of *theory*—of *preparing for work* while speaking of this imperative duty of teachers. They tell their pupils to think before they speak or act, yet they ignore their own part in the matter. "I have succeeded so far," is frequently heard; thus assuming their right to judge of their own actions. I met with excellent teachers, but they are few; I met with young teachers who were eager to listen, and I can name them, now thoughtful, earnest workers. But I will here say that the co-operation of the officers of several districts aided greatly in sustaining my efforts to have good teachers engaged, and I am thankful to them. Thinking readers will form the conclusion.

7. In districts one, two and twenty-six, new buildings are in course of erection and will be finished in November or December.

8-9. See five and six.

#### BENT COUNTY.

CHARLES W. BOWMAN, *Superintendent*.

1. They are.
2. (a) As a rule they have.  
(b) There are some cases where general school fund has been used for repairs and other incidentals.
3. Upon the whole I think it would be safer, but might (or would) be convenient for some teachers living at a long distance from county seat.
4. None.
5. None.
6. I notice a marked improvement in the standard during the last year.
7. Yes.
8. A lack of interest among patrons and in some cases directors. Want of home restraint or encouragement.
9. In making appointments (which have been frequent,) have aimed to get live, reliable men, who would take hold of the schools and try to improve them; and have lectured in the schools to the pupils, praising, encouraging and criticising.

It must have become apparent that sections nineteen and twenty, school law, practically conflict. The first, or nineteenth, requires the County Superintendents to apportion public money on first Monday in July. The twentieth requires that on the *same day* he make report of "financial condition" to the County Commissioners. Now it is practically impossible to do this all on the same day. It would seem that the report to the County Commissioners should include the new school census, which at this date has not been completed. If this report is to embrace the transactions of the *entire* school year, it is not possible to complete it a month before such expiration. Precisely what is intended in section twenty by the "financial condition" of the County Superintendent's office is uncertain.

There ought to be some regulation as to the number of school population which a district *must* have to retain its organization. I mean a minimum limit. As it is a district could be maintained without any children or with but one family. (Instance District No. 9, this county, where the average number belonging last year was only six.)

During the last year one Board of Directors inquired of the County Superintendent whether money on hand in Treasurer's hands could not be loaned; to which an emphatic negative was returned.

\* Would it not be well to prohibit loaning school funds by law? Some Boards might prefer borrowing it to maintaining school. Others, in loaning, might not be able to realize cash when wanted from securities; thus the school would suffer.

Under Section twenty a County Superintendent is only allowed pay for visiting districts while school is in session. There are occasions when he needs to visit on other business, such as building school houses and organizing new school districts, or correcting school accounts. His advice and counsel are sometimes needed on such occasions.

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\* This is prohibited by Section thirteen, Article ten, State Constitution.—  
J. C. S.



In Section seventy, ninth line, for the word *ten* it occurs to me *nine* ought to be substituted. Then directors would have a little surplus sometimes for improving their buildings. Nine months is enough school in a year. It might be well to make a maximum limit. A case has come under my observation of a school of sixteen scholars being maintained eleven months, the teacher receiving \$75 per month—and a very poor teacher at that or any price. Had the money held out the school might have continued *thirteen months* in the year.

It appears that some teachers are in the habit of coming in after the August examination for temporary certificates. With these they begin school, and then in November, should they fail to pass, the school is necessarily closed. Something ought to be done to prevent this. They ought to be compelled to have a regular certificate before making a contract.

#### CLEAR CREEK COUNTY.

H. MONTAGUE, *Superintendent*.

I would suggest that the law is defective in not requiring the County Superintendent to notify the County Treasurer of the election of officers of the various districts, and of any changes which may take place in those offices. In order to guard against fraud, the District Secretaries should be required to furnish the Superintendent with the signatures of the district officers, and the Superintendent should supply the County Treasurer with the same.

#### COSTILLA COUNTY.

CHARLES JOHN, *Superintendent*.

3. In my opinion it would be advisable for the County Treasurer to disburse the district funds upon orders drawn and approved by the district officers, as it is easier to control one man than a dozen, eleven of them scarcely able to add the simplest figures, and having their books—unless constant care and vigilance is exercised over them—in a most deplorable state.

## ELBERT COUNTY.

B. C. KILLIN, *Superintendent.*

I herewith submit my annual report for 1880. While showing is not all that could be desired, as for instance, the large amount of money unexpended in the hands of the District Treasurers, yet, I believe, most members of school boards are awake to the importance of distributing the school throughout the district, wherever can be furnished a suitable room and sufficient pupils to warrant them in so doing. How to get the most benefit from our school fund in sparsely settled localities is no easy problem. One district in Elbert County, with an enrollment of forty-one pupils, distributed school to three different places, three months at each place; two were running at the same time, the other began immediately at their close. This enabled a few, perhaps four, scholars to attend school six months. I believe this to be the fairest way under the circumstances, and invariably gives satisfaction to parents.

5. I believe the County Superintendent should have power to examine applicants for certificates at any time, and not to issue temporary certificates. I am opposed to that clause giving County Superintendents power to renew first grade certificates; the tendency in so doing is to make teachers careless.

7. Scarcely a district that has not made improvement in buildings and grounds during the past year. One new building has been erected in district number seven, at a cost of \$1,300. Another in course of erection in number twelve will cost when completed \$550.

8. The lack of interest, or carelessness of the school officers and patrons is really alarming. The former seem to think all that is required of them is to hire a teacher and sign his orders; a vast majority of them never visit the school from one year to another. They neither advise, encourage or censure either teacher or pupils. The few noble exceptions deserve great credit for their efforts.

9. I endeavor by all means in my power to have all the members of the school board, in each district, to visit officially, not formally, the school once each quarter it is in session.

I advise an examination (not an exhibition) the last day of each term of school, and that it be conducted by members of the school board, or by a committee appointed by the board. It is desirable to have as many of the patrons present as possible.

As a rule our school officers are intelligent, well-meaning and earnest, but a press of other duties, and, in some cases, a failure to comprehend the full duties and responsibilities of the position they occupy, induce them to allow the whole burden to rest upon the teachers. And thus, patiently bearing his responsibility and holding his peace, the teacher toils on, from week to week, from month to month, unaided, unappreciated.

#### EL PASO COUNTY.

JAMES P. EASTERLY, *Superintendent*.

The General Laws (p. 656, Sec. 13), require County Superintendents to report name, age, and postoffice address of mutes and blind to the President of the Board of Trustees of Deaf Mute Institute on June 1. The census blanks do not require more than the number of such persons, and hence County Superintendents cannot report. Again, the report ought to be made soon after the receipt of census lists so that such persons could be looked after at once, if not in the Institute.

Section twenty, of School Law, should be altered in the latter part so as to read "and to exhibit his books to the Board of County Commissioners on or before the first Monday in July in each year."

Section two, of Article nine, of Constitution, and Sections twenty-six and seventy-four, of Law, should be made clear and harmonious.

The census should be taken on November 10, or some

time in winter, for as it is, it does not represent the school population fairly for any place in this county, and similar ones.

School Boards in districts of third class should have power to levy a low rate of tax for school purposes, say not to exceed three mills on the dollar.

Teachers should be required to forward to the County Superintendent a duplicate of the report to District Secretary. Had this not been done by an established usage in this county I could not have made a complete report to you. I would suggest that the form now printed in the Daily Register be printed on light, but firm paper, that can be mailed under one stamp. But I recommend that the item, "average number belonging," be dropped. Among about forty reports filed with me by teachers, not more than twenty-five per cent. are correct. Hence that item in my report is mostly estimated by me. On many of them that item is lower than the average daily attendance, which, of course, is absurd. Many are blank. Besides, it is impracticable in country schools.

Answers to questions in circular.

- 1.—Yes, so far as officers are competent.
- 2.—(a) I think they have.  
(b) None for several years past.
- 3.—I think it advisable *by all odds*.

Then I would have no trouble in reporting the financial condition of each district, for the County Treasurer is always competent to keep such accounts, while District Treasurers are seldom so. Besides, the money is virtually so disbursed now, in nearly all instances, as I have observed for nearly four years in two counties.

- 4.—(a) No. (b) No.

- 5.—Yes. I suggest that the difference in certificates of the second and third grades be only in numbers of branches required, *not in average standing*, omitting the elements of "the natural sciences" from the third grade, and making it good for one year. I suggest also that no preference be

given to botany, but that above five elementary questions be prepared on each of the branches of science.

6. The teachers of this county are mostly *very* good and have succeeded well.

7. Yes. One new school house in No. 6 and two in No. 11.

8. Financial weakness of districts making terms too short and far apart. Distance of a large per cent. of school children from school, preventing attendance.

Inferior school houses.

Inefficient teachers, and the too prevalent disposition to change teachers rather than re-employ one who has done well.

The above given in order of importance, strongest first.

The first would be met nearly entirely by empowering school boards of the third class to make a low levy of tax.

9. In addition to what the law requires of me, *all* of which I have faithfully endeavored to perform, I have prepared a lecture on the general subject of education, which I have delivered in districts No. 5, No. 6, No. 15, No. 18, No. 21 and No. 25. I hope to give it in nearly all the districts and thus prepare the way by this general subject, for the discussion of more special subjects. I have also endeavored to help and have helped teachers to find the right place for them and schools to find the right teachers.

Our teachers have generally been faithful and successful.

School officers generally are endeavoring to keep good financial condition and keep school open during as many months as possible.

Patrons have generally availed themselves of the opportunity to hear my lecture in a manner creditable to themselves and gratifying to me.

#### HUERFANO COUNTY.

A. H. QUILLIAN, *Superintendent.*

Many of the school officers in this county are Mexicans. They do not read, speak or write the English language.

Much of the school fund is still in the county treasury. You will see that the district officers have reported only the amounts drawn and expended. I have urged, waited and begged for full reports. This abstract will show how I have succeeded. Several of the districts have sent only lists of the children.\*

#### LARIMER COUNTY.

W. B. SUTHERLAND, *Superintendent*.

1. Yes.
2. (a) Yes; (b) No.
5. I would recommend that each applicant pay a fee for private examination, instead of the county; also that the fee be large enough to discourage them as far as practicable.
6. Will compare well with those of other States.
7. Three new buildings during the year.
9. I endeavor to raise the standard by rejecting inefficient teachers, and by insisting upon good government and discipline.

#### OURAY COUNTY.

C. M. HOGE, *Superintendent*, P. H. SHUE, *Deputy*.

The schools in this county are in a very flourishing condition, considering the small proportion of organized and habitable territory. There seems to be a very commendable effort on the part of the several school boards and the public in general by liberal donations and patronage to make up the smallness and insufficiency of the school funds, and keep the districts out of debt.

#### SAGUACHE COUNTY.

ORRIS P. ARTHUR, *Superintendent*.

The teachers have failed to keep a record of authors studied. Since you have now furnished the county with proper registers, it will be different the ensuing year.

Have had extreme difficulty with the financial affairs of the districts, but have straightened them finally. Now

that they will be supplied with proper books, a vast improvement may be justly expected.

### SUMMIT COUNTY.

H. STORMS, *Superintendent.*

In reply to questions given in circular, I send the following :

1. I have not been able to examine the accounts in districts Nos. 1 and 2, as the treasurers were away at the time I called for that purpose.

Districts Nos. 3 and 4, being recently formed, had no accounts at the time of my visit.

2. (a) I believe the school moneys have been economically spent, but (b) there have been instances of illegal expenditures, the reports showing, that the general fund has been used to pay for furniture, permanent improvements, etc.

3. I am pleased with the present system of disbursement of the fund.

4. No, though the boundaries in this county are very indefinitely given, there being no government survey lines to follow.

The district boundaries are the same as the boundaries of voting precincts, which are frequently changed by the formation of new precincts.

5. Yes, I think the superintendent should be authorized to issue certificates, on examination at other times and places, than as now provided.

I referred to this matter in a communication made after visiting districts Nos. 3 and 4.

But one teacher in the county had a regular certificate, and it is a real hardship for teachers in the distant districts, to go to the county seat to be examined.

In one case five or six days and an expensive journey of sixty or seventy miles are required to comply with the law.

I fear the present system will lead to the frequent change of teachers to the injury of the schools.

6. The teachers are generally competent and give satisfaction.

7. Very slight.

8 (a) A sparsely settled county of large extent, in which the districts are few, and the settlements are mostly small, poor and far apart. (b) The small amount of the levy for school purposes and the failure to collect what was levied. (c) The few candidates from whom to select teachers, and hence the necessity of depending on such as can be secured.

9. Directors are taking steps to secure uniformity of books in districts and county. In visiting schools I have recommended increase of levy in the county for school purposes, and urging school officers to levy special taxes in different districts.

The subjoined letter from Mr. Storms illustrates so clearly what it means to be County Superintendent in some of the mountain counties and interested me so deeply, that I venture to publish it, though not intended for the public, believing that many others will read it with equal interest.

J. C. S.

I left home August 11th on a visiting tour, reaching Kokomo in time to spend an hour or two in the school.

Early the next morning—before breakfast—I took the trail for Red Cliff, which place I reached an hour or two before noon.

I was sorry to find the teacher sick and the school not in session.

Remained there consulting with school officers until about 3 p. m. when I started to return to Kokomo.

At dusk I lost the trail and when I found it, daylight had gone, and, in the darkness, I feared to undertake to follow its windings under fallen timber and over steep, narrow and rocky ways, so I turned out my horse, wrapped my saddle blanket around my feet, took a reclining position with my shoulders against the foot of a large tree, and



shivered out the night with an occasional tramp around to aid the circulation.

Being near the top of the range at the head of Eagle River it was very cold.

I reached Kokomo for breakfast the next morning, and after visiting the school again, road home in a rain storm severe and lasting enough to do credit to any country east of the Missouri River.

I was out three days, traveled forty miles or more and had a rough experience, relieved by various pleasant and agreeable incidents, cordial greetings, etc.

The expenses of the trip were so great that I reached the conclusion that the Summit County Superintendent of Schools, could not afford to hire a horse, pay toll, or indulge in the luxury of three meals a day, with Dr. Tanner's experiment so freshly in memory.

At one place a public spirited citizen, mistaking me for a preacher, came out and showed me a short cut to Red Cliff, by which I could save one or two miles in distance, and seventy-five (75) cents in toll each way.

I followed his directions very gladly.

Expenses :

*Poor* meals, seventy-five cents each.

Lodging, seventy-five cents, except when, for supper, I gazed on the beauties of nature at the head of Eagle River, and lodged under "the rag of a sky, not half tucked up."

## WELD COUNTY.

DAVID BOYD, *Superintendent.*

I have had the utmost difficulty in getting anything like either complete or correct reports from a number of the secretaries. In all cases where writing appeared likely to answer the purpose, I wrote, upon receiving inaccurate or incomplete reports. Some I had to visit and go to the remotest, original sources.

Sometimes the fault is with the teacher, but that is rarely the case.

Many of the officers who have been furnished with suitable books, don't use them, keeping them *clean* for their successors. The general excuse offered by the secretaries is that they receive no pay and they cannot afford the time. I have advised that the secretaries be paid a fair compensation for time actually spent. Quite a number of the districts have large balances on hand. It appears to me that they can better afford to pay for this work done well than to have it slighted for nothing.

I return the following answers to your interrogatories sent to me as County Superintendent of Weld County, dated July 30, 1880. In most of the districts the accounts are kept satisfactorily. They have nearly all been furnished with the blank forms of orders and books furnished from your office, and where opportunity offers I have given the directions necessary to keep the books correctly. These blank forms must in time very much improve the condition of the accounts of the district officers.

2. (a) So far as I know economically.  
(b) None that have come to my notice.
3. I believe it to be a safer, more convenient and every way more satisfactory way than the old one.
4. (a) I would suggest that a minimum area be fixed for a district from which a portion has been set off to form a new district. It is now provided that no district may be divided that does not contain more than an area of nine square miles, but if it does contain more, there is no limit set to the area that must be left. Two or three families situated in a corner not more than a square mile might contain the requisite number of fifteen persons of school age and all of the rest of the district might be detached to the ruin of the district. I would farther recommend that the number of persons of school age left in the old district from which a part has been taken to form a new one should be twenty, instead of fifteen as the law now is. In my experience of last year I find evidence that there are not wanting persons who, through evil intent, would use any

means within the letter of the law to damage a district that don't happen to be managed to their liking.

5. I think that for third-class certificates the examination should only extend to the common English branches, United States history and physiology.

6. Fair, under the circumstances in ungraded schools, but far from what is desirable. In the graded schools quite satisfactory.

7. One fine building has been erected in No. 27. In most of the districts there are comfortable frame buildings and in those where the buildings are yet inferior provision is in general being made for the erection of new houses. About half of the country schools have some pattern of improved seats and desks, but in many the most miserable old benches are still retained. But little attempts seem to be made to ornament the grounds in the country districts.

8. Sparse population, short school year, frequent changes of teachers, indifference of parents, and directors, and the crudity and inexperience of teachers.

9. The success of the school mainly depends upon the teacher. The Superintendent has but little access to either directors or patrons in the country districts. What I have done has been principally by way of advice, encouragement and stimulation of teachers and pupils. When grave defects have appeared that directors could remedy I have endeavored see them. The short, flying visits which superintendents are in the habit of making to districts afford them but little opportunity of learning the needs of the people, or of stimulating them into making their best efforts for the good of the schools. I have thought that a very good way would be for the Superintendent to make appointments and meet during the winter at their respective school houses, the patrons, and address them upon the wants of the schools and their duties toward them.



# UNIVERSITY OF COLORADO.

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HON. JOSEPH C. SHATTUCK, *Supt. Public Instruction* :

DEAR SIR :—In accordance with the provision of Section — of the act providing for the maintenance of the University of Colorado, I herewith submit the following report for the years 1879 and 1880:

Whole number of pupils in attendance . . . . .	121
University classes (proper) . . . . .	18
Preparatory school . . . . .	72
Normal school . . . . .	31

Of this number Colorado furnishes from counties as follows:

Arapahoe . . . . .	10
Boulder . . . . .	85
Clear Creek . . . . .	4
Gilpin . . . . .	7
Hinsdale . . . . .	1
Lake . . . . .	4
Pueblo . . . . .	1
Las Animas . . . . .	1
Weld . . . . .	2

Other States:

Illinois . . . . .	2
Iowa . . . . .	1
Nebraska . . . . .	2

Total . . . . . 121

The total expenses for the two years ending October 1, 1880, \$23,899.08, as follows:

Teachers . . . . .	\$15,289 95
Regents . . . . .	1,153 80

Janitor . . . . .	\$ 1,168 55
Fuel . . . . .	939 12
Stationery, including catalogues . . . . .	278 76
Furniture . . . . .	533 76
Laboratory . . . . .	2,521 40
Library . . . . .	100 90
Building and Grounds . . . . .	1,376 09
Sundries and Insurance . . . . .	536 95
	<hr/>
Total . . . . .	\$23,899 08

Respectfully submitted,

JUNIUS BERKLEY,

*Secretary.*

# STATE TEACHERS' ASSOCIATION.

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This body meets annually at the State Capital. The fifth session was held December 30 and 31, 1879, at which time the following papers, among others, were read:

## PRESIDENT'S ADDRESS.

JOSEPH A. SEWELL, Boulder.

In addressing you to-day I thought to avoid either of these two extremes:

I would not select a subject too near home, one that smells too strong of the shop, for we are entitled to what so many are clamoring for, and regarding the more commonplace duties and drudgery of school work, we are all, I am sure, ready to join in the cry of the weary ones touching such matters, "let us have a period of repose."

Nor would I, on the other hand, select a subject so far removed from our common and constant interests as to be obliged, when through, to answer the question, "Well, what has all this to do with school-keeping and teaching?" But, rather, I would take heed to the advice of Horace, remembering the virtue of him who "holds fast to the golden mean." Therefore I have prepared a

## SHORT ESSAY ON INFLUENCE,

saying something of this in a very general way, and then something of school influence especially. Not long ago I chanced to be in the office of one of your prosperous business men. The gentlemanly bookkeeper asked me if I would like to talk with a man in Golden. I thanked him, took the receiving instrument, and, after the customary "Hello," "hello," and the reply "Well," I said: "Why don't you run for Supreme Judge?" and instantly came

back the answer, "We have one Judge L— here now, and that is enough." And I heard a man speak full fifteen miles away. I was about to exclaim, "Wonderful! marvelous!" or something of the sort, when it occurred to me that probably somebody had said that before, or if somebody had not said it, most anybody could say it, and so I held my peace. But I thought much about it, and finally came to the conclusion that there was nothing very wonderful or marvelous about it after all.

You know that learned physicists tell us that, at one time, long ago to be sure, that the whole solar system (may be the whole created universe) was one vast sphere of homogeneous, highly attenuated gas—filling all space.

Well, it was a long distance from one side of this ball to the other. To contemplate even the radius is painful, and you know the diameter is twice the radius, and the circumference more than thrice the diameter, and the superficial area and the cubic content—oh, dear! why, if the imagination is pained by dwelling on the length of that radius it is lost completely in the effort to compass diameter, area and content—and so we stop short and say it was a famous great ball.

Well, we know enough of matter and the laws of matter to teach us that if any mass, however small, had been thrust against one side of this vast sphere of gaseous matter, the impress made at the point of contact would have passed through all these millions and millions of miles and rippled the other side.

Moreover, not only would an impression have been transmitted from molecule to molecule, but the particular kind of impression would have been faithfully borne to the antipodes, and if the pulsations impinging on this side had been of such length, breadth and character as to have produced "Why don't you run for Supreme Judge?" in due time on the other side, pulsations corresponding exactly in length, breadth and character would have come and produced "Why don't you run for Supreme Judge?"



No molecule, no atom of all that vast sphere but what responded quantitatively, and qualitatively, to the impression made. Well, the man in Golden, the wire, and the instruments and your humble speaker are nothing more nor less than parts and parcels of that original homogeneous, gaseous sphere, thrown out of relation somewhat more by the process of organization, a kind of

CIVILIZATION OF CHAOTIC MATTER,

yet the same matter, and when matter received the impressions here in Denver that were transmitted to matter in Golden, I do not know, but I fancy that the last act, the conscious recognition by brain or nerve cells of that Golden man of the genesis of the impressions in my own brain, or the matter in me affecting the matter in him, I fancy, I say, that the matter there as it cognized the action of matter here might have exclaimed, "My long-lost brother, in the nebulous days we sat side by side, but, when organization came, we were parted—the one sat on the right, the other on the left, or, more literally, one in Denver and the other left in Golden."

I read a page of Aristophanes, the frogs, perhaps, and laugh. Well, is it not strange that certain particles of matter that entered into the brain and nerve structure of Aristophanes should, acting two thousand years ago, set up an action in the molecules of my brain to-day, and these, acting in some way upon the fibres of the muscles of my face, cause certain of them to contract—and I laugh? Now, it is farther from Athens to Boulder than from Denver to Golden, and yet Aristophanes in Greece spoke to me two thousand years ago, and to-day, here in Colorado, I heard him. How did I hear the man in Golden? Why, he set matter vibrating there, and these vibrations were transmitted through matter to matter here in Denver. Aristophanes moved matters two thousand years ago, and the thought of his was produced in consequence of pulsations of matter in the brain, transmitted to the muscles of his hand and arm as he wrote down the thought, and then the vibrating ether

—the light waves modified as it or they, impinged on the written or printed page, reflects to my eye by like vibrations,

#### SETTING UP ACTION

in the matter of my eye, and in some way transmitted to my brain, producing a state of consciousness. And so I heard the man in Golden, just as I heard the man in Athens, and, for aught I know, the very matter, acting to produce the comedy of the frogs, in the nebulous age reposed and pulsated close to the matter that was wrought upon in me when I laughed.

When I speak to you here you understand that I, with my organs of speech, set the air into vibrations, which vibrations impinge on your ears, and you hear. I heard the man in Golden just as you hear me. I hear Aristophanes in the same way. One is no more marvelous than the other. The states of consciousness are produced by the influence of vibrating, pulsating matter, and, when once a vibration or pulsation is set up, it lasts forever.

In the beginning a thrill of creative force was sent through and permeated the chaos, and the influence of that thrill, that creative word spoken, has been felt and manifested through all the long ages. And sun and planet and satellite, earth, with its lands and its waters, the animal and the vegetable, the mastodon and the monad, the oak and the lichen, man and monerma, are but the orderly, organized ripples of the once great chaos. Sound and color, love and charity, hate and hope, and all the rest, are, each and all, so far as we understand, but the effects, the influence of these orderly ripples of matter, acted upon or influenced by that mighty power that we name but do not understand. And so the work of the

#### INVESTIGATOR OF NATURE

is limited to the single inquiry—the relation of that something of which we know nothing, but call matter—to that something of which we know nothing, but call force, or, briefly stated, the influence of force on matter. The

quantity, the quality, the law. The difference between the solar system of to-day and the nebulous mass from which it is derived, is measured by the amount of influence of the organic force acting upon the one and producing the other.

The homogeneous has given place to the heterogeneous. Elements that were associated have been separated, and the communications which were or could have been easily kept up among the masses of matter, because of their continuity and juxtaposition, are now rendered difficult, because of the differentiation of the groups of elements, and we are now discovering how, with this new order of things, we may bring groups of elements, masses of matter, differing and separated, into closer relation, and the telephone is but an instrument for accomplishing such an end.

Matter, like man, is ever sighing for the good old times, when all was common and alike, when there was no caste, no class, when everybody knew every other body's business, and many modern inventions unwittingly look to such a result, and thus art and nature co-operate in the work. The whole solar system, all the parts tend to rush together and form the mass, as of old, while the influence of that force we call centrifugal, alone stands in the way to prevent such a consummation and catastrophe. All the waters tend to fall into one common ocean, and then to rise and form one common cloud of vapor, striving to bring back the good old time.

#### IN THE NEBULOUS ERA

the atoms of matter in the auditory apparatus and brain of my friend in Golden were exactly like the atoms in my ear and brain, and all the matter lying between us was of the same character, and the matter now constituting me was agitated—it affected the matter constituting him. Now, the telephone has simply mended the link that was broken—restored the lost art of communicating.

If the patent officers had gone back far enough in their investigations neither Edison nor Bell could have obtained

a patent. Matter, as we understand it, acts on matter, everywhere and at all times. No mass, no molecule moves, but what all masses all molecules move. The pebble that rolls down the embankment breaks the former equilibrium or balance, and the whole material universe, each and every part, must change and adapt itself to the new order of things.

I speak, and the air about me is thrown into pulsating waves, the temperature of the compressed wave is elevated, changes are thus impressed on my immediate surroundings, which must and do extend to the uttermost bounds.

Water organizes into little spheres on the dusty floor, and Neptune compels perturbations that were not understood till the great astronomer discovered or predicted the existence of the far outlying planet.

#### THE AXIS OF OUR EARTH

is declined just a little to the plane of the orbit, and unequal day and night and the orderly and glorious succession of seasons result, and arctic cold and tropic heat are tempered to man's wants and necessities.

The earth revolves and the atmosphere about it lags a little and the trade winds blow steadily, constantly, everlastingly. All changes from the minutest to the mightiest are caused by the influence of matter acting on its kind.

The germinating plant drinks in the air and the moisture and locks the elements in seeming stable forms. The snow upon yonder mountain peak shall feed the stream that goes to irrigate the grain, to give it great molecular motion, life, and this inorganic snow, thus whirled for a time into vital vortices in the wheat grains, shall in turn go to vivify muscle and brain, and will proclaim itself in the acts of the laborer and in the word and thought of the poet and scholar; and thus the cold, cold snow is the very fuel that generates the force, exercises the influence that frames thoughts that glow, and coins words that burn.

#### MATTER ACTING ON MATTER,

force coping with force influences, brings about all phe-

nomena. On every form all existing influences have exerted their sway, gravitation, heat, electricity. The result is the issue of their action.

The contour and shape of any great mountain is thus the record of everything that has effected or influenced its mass since the beginning of things. Its ancient peaks are the register of every summer sun, every frost, every falling rain, every sun ray that has gently kissed it, every zephyr, and every tornado blast. It is what it is because of these, and also the lichen that clings to some sheltered spot on the rock. Without the summer sun, the storm and the lightning, neither the mountain nor the lichen would be as or what they are; both are the children of these influences.

Astronomers tell us that the sun is the most sublime object the eye can behold or the soul contemplate. The prodigious mass, compelling the planets to move in obedient circles around him. And yet he forgets not the humblest moss cup that clings to the wall, for he called it into existence by his heat and feeds it day by day with light.

And the heart of the little moss cup beats because of the secret throbbing of the great heart so many millions of miles away. Surely, the sunbeam is the finger of God.

#### OF MATERIAL THINGS.

Not only is it true that matter acts upon, influences matter, and force produces impressions that are never lost— influences the beginnings only of which we see, the end reaching to the eternities; but the measure of the acts, the exact quantity of the forces acting, the extent of the influences exerted. Just so much matter will attract with just so much force. A given quantity of air acting on a given quantity of coal will produce a given quantity of heat, which heat, acting as a working force, will lift just so many pounds so many feet. A given weight of zinc acting on a given weight of acid will generate a definite quantity of electricity.

Moreover, matter acts in a manner neither mechanical nor chemical, and yet it acts with power.

The sight of an antiquated bonnet, or ancient, old-fashioned form or pattern of dress, brings with it the wrinkled face of your mother, and, with the coming of that face, what a host of influences are operating!

That curl of faded hair, so carefully treasured, it may be among the leaves of the old family Bible, as though the book was not too holy to be the casket of so precious a relic, brings with it the golden locks, the sparkling eye, the laughter-rippled face, and you feel the little arms clasping your neck and the generous, unselfish kiss upon your cheek, and the heart moans and tears fall as you come to realize the reality, or rather the phantom, which that lock of faded hair called up. A bit of lustreless white ribbon, you take up from its long resting-place among your keepsakes, and, as you gaze on it, lo! all the air is merry with the ringing of the marriage bells. These material things, so small, so insignificant, acting on the physical senses, set up a train of influences in some way that move the soul to its profoundest depths.

The deeds that men have done, the words that they have spoken, aye, the very thoughts of them, have impressed themselves on matter, and in such a way that so long will these acts, these words, these thoughts, even, exert their influence, so long must they be felt.

Phidias still is the sculptor, and grand old Michael Angelo, wedded to his art, still lives and paints and chisels. Shakespeare's pen still is the instrument of the seer and the prophet of the human heart. "Give me liberty or give me death," "With malice toward none, with charity for all," were words that once set the air into definite and measured vibrations; but these vibrations have been transmitted to a more subtle medium, and their pulsations beat in upon every true American heart and make it good and loyal. When that which *was* shall cease to influence that which *is*, annihilation has come, and will reign.

#### ASTRONOMERS TELL US

that there are spots, varying in size and number, upon the

sun, and now it has been discovered that these spots exert an influence upon the climate of our earth, and the character of the climate affects the crops, and a poor crop means poverty, and poverty begets disease and crime; and so the student of social science must look for causes of conditions far beyond our little sphere. A little rain, more or less, on a Belgian plain, made St. Helena the prison-house of the mightiest military genius the world ever knew.

I remember, when a student of medicine, that poor people brought their little children up from the dark alleys and damp sub-cellars of the great city to the clinic, and the skillful, great-hearted professor would say: "I have no medicine for these ills. The cure for these poor little ones is generated millions of miles away; set them in the sunshine." And, as with trembling voice he said this, I thought an angel might have seen sunshine enshrined in the tear of sympathy that bedewed his cheek—a sunshine that might mitigate if it could not cure.

Now, if matter acts on matter, and

#### PHYSICAL FORCE IMPRESSES ITSELF

upon masses, and physical force contends with physical force and yields results, and if matter acting through physical force impresses that which we call soul or spirit, giving rise to a different and higher result, and, again, spirit acting through some physical force impressing matter, when shall we fix the limit of influence?

If a sparrow may not fall without the Father's notice, if the hairs of our head are numbered, are we to conclude that the sparrow's fall is a mere isolated event, and the hairs of our head numbered just out of idle curiosity, or, rather, that each and everything is a related factor, influencing every other factor? "That all are but parts," etc., or, as Bacon has it, "The highest link in the chain of nature is riveted to the throne of Jupiter."

#### CAUSE AND EFFECT.

Every cause has produced its effects, every word spoken

has made its impression, and nothing in the wide universe has the power to hold or conceal.

There can be no secrets. Transmission and transmutation are the process of nature. There is no secreting.

The trade winds we understand to be produced by well understood causes, and are evidently controlled by fixed laws. But are the more variable winds of temperate latitudes controlled by no law? Are they accidental or fortuitous? Where shall we draw the line dividing the region presided over by law and that territory not so controlled?

So, as we are enabled to see and understand how some causes acting exert a wide and powerful influence, can discover the relation between causes and effects, are we to infer, would it be reasonable to conclude that any cause, any act, any word, any thought, could be without effects following?

I do not know as what I have said proves that every good act done, every good word spoken, every good aspiration of the human soul exerts influences that are good, but from what I know to be true in the sphere of matter and physical force, I am abundantly satisfied, I know that light impresses the sensitive plate of the photographer and gives to us the images of those we love—electricity bears messages of joy or sorrow thousands of miles away, even beneath the deep sounding sea. And so I believe that in the sphere of the spiritual every true prayer is answered, every noble and uplifting aspiration brings down a blessing, even the prayers to the saints must be answered in the spirit in which such prayers are uttered. One of America's great

#### PHYSICISTS TELLS US

that "if on a cold, polished piece of metal any object, as a wafer, for instance, be laid, and the metal then be breathed upon, and when the moisture has had time to disappear, the wafer be thrown off, upon the now polished surface the most critical inspection can discover no trace of any form. If we breathe upon it a spectral figure of the wafer comes



into view, and this may be done again and again—nay, even more, if the polished metal be carefully put aside, where nothing can deteriorate its surface, and be so kept for many months (I have witnessed it even after a year), on breathing again upon it the shadowy form emerged.”

A shadow never falls upon the wall without leaving thereupon its permanent trace—a trace which might be made visible by resorting to the proper processes.

Now, surely the mind of the child is more sensitive to impressions than the cold polished metal, or the dead wall. And it may be that the processes for determining and measuring the impressions made will often need to be more refined even than those necessary in the former case, yet there can be no doubt but what the impress is made.

IT IS ASKED SOMETIMES,

you know, does it pay to educate? The answer is clear and decided with me, and I am sure that were it possible to keep school and give no instruction, teach no reading, arithmetic, geography, etc., and still keep school, it would pay to educate. The influence of fixed habits of conduct—the orderly coming in and going out—the cheerful observance of rules and regulations, the yielding of the will to the better and wiser willing of the teacher—all these tend mightily to fit the children to become true American citizens.

The influence of the worthy teacher in these directions is worth all that our schools cost, and the knowledge obtained is thrown in.

Every act, every word, every gesture, every thought even, exerts an influence upon the susceptible mind of the child, and if they be good, as they for the most part are, who can estimate their value? Who will be willing to annul such influence? I know that the good, conscientious, successful teacher is ready to, and does declare, “I have talked the best I know how to my boys, I have set good examples, I have tried hard to entertain good thoughts, I have ever prayed devoutly for these boys, and yet they are

not all angels, some of them are real bad boys, and my labor is fruitless. I do not believe the labor is lost. No, no, good has been done and no good can perish—good done is seed sown, and He who gives the early and the latter rain will give the increase.”

#### THE INFLUENCE EXERTED.

cannot fail to produce its legitimate results.

A single force acting on a body will cause that body to move in a right line, but if another force acts upon it, the course or direction will be changed. If many are acting, each in a different direction, to determine the exact course of the body might be a somewhat difficult problem in the composition and resolution of forces, but one thing is certain, the force that would, acting alone, carry the body in a straight line, ever exerts influence in that direction, and though a million other forces are acting in a million different directions, the effect or influence of the original or first single force will be felt and will modify all the rest, and what is true of any one of these millions, is true of all.

#### MAN'S CONDUCT IN THIS WORLD

is the result of multitudinous influences or forces—some of them are apparent—some hidden even from our keenest ken.

But every good influence tends to bear him in the right direction, and to oppose or modify at least those influences that are not good, and which tend to thrust him down. Let us, then, be not weary in well doing.

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#### HOW FAR SHOULD THE STATE EDUCATE?

DAVID BOYD, GREELEY.

How far upwards is the intent of the question asked, and to which we venture to make reply. In some countries, such as England, the question would be, how far downwards should the State educate? There the great Universities and Preparatory Schools like Harrow, Eton and

Rugby are managed by the State principally in the interest of a State church. The extension of State education to the people is now, in England, one of the live political issues of the day. On the other hand, in the United States, the free education of the youth of the whole people under State management, supported by general taxation, is a measure so generally accepted as right by all parties that no political issue can be made on it. Still there are not wanting able jurists who condemn all State education as unjust, yes, as rank communism. These men have high notions in regard to the absolute right of the individual in and to his private property, and consequently very restricted notions in reference to the powers of the State over private property. "The State," say they, "exists only for the protection of life and property. So much property, and even so much life as is absolutely necessary to secure life and property in general, may be used by the State." When it goes farther, even though the step taken be to further the well-being of all the people of the State, it is said the State is passing outside of its proper sphere by forcing the more wealthy to contribute to the support of the less wealthy; and the argument made in favor of State education impliedly grants this assumption of the restricted sphere of State supervision. The stock argument is, "It is cheaper to educate than to take care of criminals; it is cheaper to build school houses than prisons; it is cheaper to pay teachers than to pay policemen and prison guards." It is very doubtful if the above *dicta* are true, nor need they be at all true and yet leave sufficient reason for State education. The property of which any individual stands possessed, has become his to an amazingly limited extent through his own individual efforts. Each is but an insignificant member of the intricately complex body of modern civilized society. Has he made his wealth by manufacturing? Then he has been turning to his advantage the discoveries and inventions of the ages, the skill inherited or acquired by the masses of men whom he uses. The same is true be he engaged in

agriculture or commerce. Says an able recent writer: "The growth of population, the increase and extension of exchanges, the discoveries of science, the march of invention, the spread of education, the improvement of government, the amelioration of manners, have all a direct tendency to increase the productive power of labor—not of some labor but of all labor; not in some departments of industry but in all departments of industry; for the law of the production of wealth in society is the law of each for all and all for each." It is only through reciprocal relations with the masses of men that surround each, that each acquires and holds what he has. The superior knowledge and skill of a particular community gives him, who knows how to turn it to account, advantages which he could have in no other community. This knowledge and skill must be maintained or the community loses its vantage ground among the other communities of the nation. The same is true of any one nation in the family of nations. In the complex civilized world of to-day there is going on a struggle for supremacy, in which struggle intelligence is the force that tells. Not the intelligence of a few of the leaders, but the intelligence of the masses. Every new invention requires additional knowledge, skill, tact and patience for its utilization. Hence, the preservation of the wealth already in existence is as nothing compared with the preservation of efficiency of the agencies by which that wealth is constantly produced. Therefore, if it be a function of the State to protect property, much more ought it to be the function of the State to keep in constant vigor the agencies by which wealth is produced. Enlightened, educated men and women are needed more and more in the production of wealth. These cannot be produced daily as we need them. This intellectual culture we have received as a gift from the past. If it would not be seen perish from the earth we must supply it to the generation that is to succeed us in life's struggles and work. The wise man provides not only for the needs of the day, but lays in store for the future. Much more the wise nation; for the

nation never dies, and the glory of any age is less in what it has actually accomplished than in the progressive tendencies it has originated, and the foundations for future improvement it has laid deeply and securely.

But a very little observation will show us that it is a very one-sided view to take of the matter—this setting up the cost of taking care of criminals, etc., as a measure of the value of general intelligence and virtue. There is a sense of tranquility and security experienced by the man of wealth, living in an enlightened, orderly and self-restrained community, such as neither bolts, nor bars, nor police force, can secure for him, amongst an ignorant, disorderly and revolutionary people.

But wealth-making and the security of wealth aside, is not the very presence of liberally educated men and women a source of enjoyment to the man of wealth, leisure and refinement, surpassing anything that his wealth can purchase? Hence, we constantly see men of wealth and refinement retiring into neighborhood, characterized by intelligence, order and social progress. It is true that these things have but little value in the eyes of the completely sordid and selfish rich man. But the views of such on these matters are hardly worth respecting. If anyone regards wealth as the chief good, as an end and not as a means to a higher end, a means to refined happiness and well being for himself and fellowmen, then such a one is as demonstrably a fool as the prodigal who wastes wealth in sordid and mean pursuits. Such rich men have been the butt of the ridiculê and satire of the ethical literature of all ages and nations.

But aside from the mere presence of liberality, educated men and women in a community, giving it an aroma and flavor of refinement such as wealth alone cannot purchase or bestow; their abilities are usually of a kind to promote its highest well-being. For a large part of the work which they do for their fellows they receive no pay whatever, or if paid at all, rarely adequately. The whole tendency of a

liberal education is towards generosity of soul, and helpfulness of purpose. I know of no atmosphere so congenial to the growth of large-heartedness in the youthful disposition, as that which circulates in college halls. The liberalizing studies in which the students are engaged, the high-souled, noble-purposed instructors that are usually guiding them, together with the companionship of the elite of the youth of the land—all conspire in helping to build up a character, generous, truthful, trustful and eager for the promotion of righteousness and beneficence among men. It is true that contact with the stern, harsh and often deceitful practical world, struggling for wealth and power, not unfrequently makes sad discord in the harmony of this nicely toned soul-music, and disfigures the perfect proportions of their cherished ideals, born in a more congenial climate of fructifying phisic sunlight. Yet rarely, if ever, quite die out these generous impulses nor a faith in the higher possibilities attainable by well directed effort.

Whether all this either pays the State, which I am supposing furnishes them free educational opportunities, or themselves for the years of youthful prime exhausted in its pursuit, depends wholly upon what we are prepared to call pay. If we are to reckon this only in wages that may be computed in national currency, then the pay is doubtful. But since money rightly viewed is not an end of human endeavor but only a means to secure human happiness and welfare, then surely the culture of which we speak not only pays him who is in possession of it, but also those upon whom its genial light is shed. It is a sunlight of the soul bathing in beauty and stimulating into blossom, or ripened fruitage, whatever is richest, noblest, or most endearing in humanity. Then surely it ought to be the highest pride of a people the rearing of this choicest and rarest of fruits, a wholesome and vigorous moral and intellectual human culture.

That the vast body of men whose opinions are worth regarding, so consider, it is evident, since we so fondly

cherish the memory of those spots here and there on the earth where it appeared from time to time in luxuriance of growth. Such was Athens in the age of Pericles, Rome in the age of Augustus, Florence in the time of Medici, France in the reign of Louis IV., England in the reigns of Elizabeth and Anne, and Germany in the *reign* of Goethe. Hence our argument is that the State, regardless of any end ulterior to this culture itself and the fruits that it brings forth in the happiness and well-being of humanity, should furnish the largest possible opportunity for the highest possible culture of the largest possible number of the youth of her people that can be urged to accept it.

But, on the other hand, I contend it is not the duty of the State to furnish a so-called practical education at all. There will always be a large enough crowd shouldering its way into the bread-and-butter professions and the money-making trades. You will find a hundred men to appreciate an art by which a dollar may be earned, to one who will be able to value a devotion to truth for its own sake, or the worship of the beautiful as the sole reward for a ceaseless search after the light of its countenance.

Hence, I deem it not advisable to do as Michigan is doing, educating freely, or nearly so, young men and women for the professions of law and medicine. For not only are these lucrative professions, which are sure enough to be crowded, without any special inducements being offered, but an over-abundance in either profession is a detriment, rather than an advantage, to any community. For, in this case, we have a reversal of the rule of political economy, that the price is equal to the ratio of demand divided by supply. For, the more there are of either profession, compared with the business to be done, the higher must be the fees to live well and grow rich, as the practitioners of either profession generally succeed in doing. For, practically speaking, there is no competition in either profession. But here I would not be misunderstood as denying that both professions are adorned with men of culture

devoted to science and to the progress of the race. But this has nothing to do with the practice of either profession *per se*. The reward for the practice of either is, as obviously, so many dollars, as is that of the bricklayer.

But there is yet another profession, that of teacher of religion, which rests upon wholly other grounds. From the generally acknowledged beneficent character and results of its work, and its insufficient appreciation and remuneration, it would appear especially to deserve the patronage of the State. But such are the intricacy, ambiguity, and all but unknowableness of the dogmas with which religion seems hopelessly bound up, that no agreement seems possible among the advocates of opposing creeds. Hence the establishment by the State of a general school of theology is impracticable. If the State undertook it at all, it would have to sustain as many theological schools as there are denominations. There would be no economy in this, and it is not needed, since religious zeal, to its praise, be it said, has ever been equal to the task of furnishing seminaries wherever needed.

This is the relation in which the State stands to theological education in America. In nearly all other countries it is different. A national creed and form of worship are the inheritance of all nations who have grown up from barbarism to civilization on their own soil. Uniformity in faith and practice can only prevail in these things during the infancy of the growth of reason. Hence a national church must have its tap-root deeply hid in an age of ignorance and credulity. But with the growth of reason grows dissent. A particular type of dissent may overturn the hereditary church and establish itself in its place as Episcopacy did Catholicism in England. Now, wherever there has grown up a national church there has grown up with it the church theological school. All the older universities of Europe originated in this way. They had but one end in view—the training of the religious teacher of the national church. When dissent came, it had to train its



own preachers at its own expense. However, if a sect became formidable by the number, intelligence and audacity of its followers, its claims came gradually to be regarded, and the dissenting theological school was in part supported by the State. This is the case with the Presbyterian colleges of Great Britain and Ireland. The Catholic college of Minouth, Ireland, has also a royal grant. But the great universities of Oxford and Cambridge still remain the seminaries of the national church. No one can be admitted without subscribing to the thirty-nine articles of the English church. It is now proposed to secularize these universities, but such a consummation is not to be expected in many a day, though the tide is setting unmistakably in that direction.

In the United States the beginnings are totally different and the result of totally different character. In their early settlement these United States may be regarded as the asylum of the oppressed dissent of nearly all the nations of Europe. Hence they brought with them the practice of dissent in reference to higher schools of learning. We have seen that that was for each sect to establish its own theological schools, supported by private beneficence. This is the origin of all the earlier colleges of the United States. They originated in the necessity for an educated ministry of the gospel. The vast extent of the territory occupied by the people, the great number of sects meeting at length and mingling everywhere, have given rise to the establishment of so large a number of institutions striving to furnish the higher education, that the resources and energies expended bear but an insignificant part of the fruit that might be brought forth could these be concentrated at fewer points.

The State University is wholly different in its origin and purport. Finding it impossible to teach the creeds of all the sects inhabiting a State, there was nothing left it but to ignore all of them. However, it found the sectarian college in the field, and around it were gathered some of

the dearest memories of the most cultivated part of the people. From this results two evils to the State University. First, there is a disposition on the part of the more religious members of the different sects to oppose the State Universities on the ground that the education given there must be unreligious, which in their eyes is about as bad as to be irreligious. It is only natural that each sect should desire that its own youth should cling to the faith of its fathers. But this is scarcely to be hoped for, except it is kept under the denominational influence during the plastic period of mental development. Hence the State University has scarcely checked the tendency of the denominational colleges to increase and multiply. But does not this prove the want of faith of each sect in the potency of its own creed, when brought face to face on a fair field with no favors confronted by the spirit of scientific method?

The other evil bequeathed to the new State University by the sectarian college is the so-called classic course of study. Since the sacred books of the Christian religion were written originally in languages long since dead, any thorough knowledge of these books presupposes a knowledge of these languages. Hence no one can deny the importance of the study of these languages to the Christian theologian. But with the study of the languages naturally grew up a study of the literature not sacred, also contained in these languages. But these Pagan authors, at first taken up with a trembling hand and read with a palpitating heart by the pious monk in his cell during the Middle Ages, have now fairly usurped the place of Saints Chrysostom, Jerome and Augustine, and nearly that of John, Paul and Luke. But why should this be so? Why should a knowledge of Pagan classic culture be considered of so much importance in the formation of modern Christian culture? For do we not hear it from every pulpit in the land that all our culture worthy of the name is due to the Christian religion, and a direct out-come of the teachings and spirit of the Bible?

Even all the learning and worth of the great modern scientific skeptics are sweepingly set down as the fruit of Christianity. Yet these men insist that our youth shall read Homer and Plato, and Aristotle and Virgil and Cicero in the original, but are perfectly satisfied that Moses and Solomon and David and Isaiah be only read in a translation nearly three hundred years old!

Almost in the same breath we are told by these Christian divines that our culture is wholly Christian, and that no other course of study will yield the same rich, ripe fruit of culture that a study of the Pagan classics will. Surely it is not meant that the Homeric poems are in any way due to the teachings of Jesus, and would it not be more chronological to say that Plato influenced Paul than *vice versa*? But it is only this winter that I heard a distinguished Christian divine, in a public lecture, affirm that the germinal ideas of Greek and Roman culture were received from the Hebrews. Is it not a little strange that the Jews, who as a nation, furnished the *germinal* ideas which produced the creations of Phidias and Appelles, the poems of Pindar and Homer, the dramas of Æschylus and Sophocles, the orations of Cicero and Demosthenes, and the philosophies of the Academy and the Stoa, should never have produced themselves in their own land anything resembling these Greek and Roman masterpieces? Why did they leave nothing in their own tongue worthy to be studied by our youth in the original as a means of culture?

Now when W. T. Harris, of St. Louis, advocates the study of the classics, he does it for better reasons. Says he, in a lecture lately delivered upon the place of Greek and Latin in modern education, "We kindled the torches of our institution, and watch fires of our civilization at their sacred flames." Admitted. But what has that to do with studying their language? For admitting that language is an institution, as Whitney insists that it is, still plainly our language we did not get from either Greece or Rome. Neither language is genitive to ours. Structurally our

language and theirs are antithetic. They are synthetic, much declined languages, ours is an analytic, almost wholly undeclined language. What value there is at all in the study of these languages is found in the contrast they offer, not in their generative relation. Historically and philologically they and their descendants, French, Spanish, Italian and modern Greek are cousins to our own, in our family of languages. Ours traces back its pedigree through the low German to the Sanscrit, the common parent of all. The Icelandic Sagas are the linguistic link between Tennyson's *Maud* and the Sanscrit, Vedas, and not the poems of Hesiod.

Still, admitting, as I most assuredly do, that most of our institutions are rooted in Grecian and Roman culture; yet, what has that to do with studying their languages? Indeed, it appears to me that this is about the best device imaginable to keep our youth from a knowledge of these institutions. Every classic student knows that nearly all he learned about the institutions of these two peoples, he learned, not from reading the classic authors, but from the study of histories written in his own tongue by a modern scholar. I venture to assert that two years spent in reading Grote's and Curtius' *Greece*, and Mommsen's and Gibbon's *Rome*, together with translations of the principal classic authors would make one not only ten times better acquainted with their institutions, but will give him a far better insight into the spirit and scope of their civilizations than would three times that length of time spent in classical studies.

Indeed I believe that the value we attach to our own translations of the classics is largely due to the labor it costs us. We read over an obscure sentence. At first it refuses to yield up to us its contained thought. We read it over again and again. We consult grammar, lexicon, and notes. At length the light of the contained thought flashes upon the mind. We feel as if we had made a discovery. We over appreciate it because of the toil it costs us.

But it will be said, will not knowledge gained in this way live longer in the memory? My own experience is against it. And three are good reasons. The mind is so much occupied with the difficulty of the construction that the value of the thought impression is impaired. That thought may have its best effect it is as necessary that it have a clear linguistic medium to pass through, as that a sunbeam should pass for its best effect through a cloudless sky.

But then we will be told by the advocates of classical studies that their value depends not at all upon the knowledge gained or retained, but upon the discipline they afford. Well, what is there about the study of language as such that makes it so peculiarly a disciplinarian study?

I suppose it will be granted that a well disciplined mind is one which has all its faculties developed to their highest point of efficiency. We may enumerate these as perception, memory, imagination, attention, reason, practical judgment, taste and power of expression.

It is agreed upon all hands that the natural sciences are the best field in which to develop the perception and cultivate the spirit of observing and experimenting. But, on the other hand, much is claimed for drill in language as giving power and efficiency to the memory. Certainly it furnishes the memory with plenty of pabulum. But is it a wholesome and nourishing food? Is not the knowledge of endless grammatical forms *per se* about as worthless trash as can be crammed into the storehouse of the mind, and when there, more likely to burden and enslave than to refresh, awaken and stimulate? Indeed I know of no better process for quenching the susceptibilities of the soul. It is a feeding upon husks and chaff, fitted to dwarf and stunt the unfolding powers, blight in their embryo any germs of original genius that may be at the core beginning to quicken into life. In regard to imagination this thread-mill drill of Latin and Greek grammar is the best kind of a wet blanket to throw around its incipient flame. I believe this practice

has done more to quench the light and heat of this divinest attribute of the mind than has all the other devices invented by priestly cunning. It was as truly fortunate for Burns and Shakspeare that they knew but little Latin and less Greek, as it was unfortunate for Ben. Jonson and Bentley that they knew too much.

While in regard to attention much may be claimed for the beneficial effects of the effort to translate obscure and intricate passages of the classics, still, I hold that the higher mathematics and metaphysics are the best mental gymnastic for that purpose. If it were for no other reason than this I should hold this ground, because you can be more sure of keeping the student to the hard work in mathematics and metaphysics. The one difficult thing in language learning, which the student can best evade, is translation. Even though he do not have recourse to an English translation, still the notes of many editors are so numerous and injudicious, that there is really but little hard work left the student to do; and although such editors are not usually allowed in the class room of the best colleges, still the students rarely fail to have them in their private rooms, and their use is an open secret. But here it is worth while to observe that, after all, this capital power of the mind is largely dependent upon organic physical conditions. It is closely connected not only with the state of the brain and nerve cells, but upon that of the stomach and liver. I never knew a dyspeptic man who could fix for any great length of time the concentrated energies of his mind upon an obscure and intricate subject. Yet this is the power, taken with imagination, which especially enables one to achieve success in the struggle for intellectual supremacy.

As to reason, since no one claims a high place for language learning in developing this faculty, it may here be passed over. The same is true of the practical judgment which is developed by contact with men and affairs and the least possible by any of the studies of the schools. There yet remains literary taste and power of expression. For

the cultivation of both of these a study of the classic authors will be claimed as *par excellence* superior to all others. But here again I must differ. Literary taste and facility of expression cannot be so well cultivated by studying forms of expression remote from our own, and idioms, which if literally rendered, would be barbarous. To translate the classic thought in the classic idioms is a constant temptation, and it is rarely resisted. To acquire a correct taste and a power of expression at once forceful and elegant, we must study Shakspeare and Tennyson, not Spohocles and Vigil; Burke and Webster, not Cicero and Demosthenes; Macaulay and Hawthorne, not Longinus, and Theucydides.

So upon the whole, for the object in view, the narrow religious spirit which is especially represented by Romanism is right, in confining the studies of the young chiefly to language and insisting upon reading in an unknown tongue, rather than in translations, the literature of the ancients. It is the best of soporifics for the awakening spirit of inquiry. Protestantism departed from this in the case of the Bible, because she wanted the people to know it. She did differently in respect to the ancient classics, it might be inferred because she did not want the people to become too familiar with a culture antagonistic to her own. The Protestant translations of the Bible have been of the highest importance in developing modern European languages. A like attention given to translating the classics would have had equally beneficial results.

But understand me not as opposing the study of language. This ought to hold a place not only in the University but also in the High School. But in the schools of the not remote future the study of the *science* of language—that is comparative philology—will supercede the exclusive study of two dead languages. Max Müller, Whitney, Grimm and Bopp will be the authors that will take the place of Kuner and Crosby, Harkness and Zumpt.

But now, in conclusion, let me say that there is one profession to which the State is under obligations to furnish

it with a free education. It is the profession of teacher. Just as when a State undertakes to manage the military affairs of a nation, it is bound to give special drill and instruction to the army officers, so when it undertakes education, it is alike bound to train and discipline the teachers who are "drilling the raw world in the march of mind."

For the common school teacher there is needed the Normal, supplemented by the High School; and for the teachers of these latter there is needed the University. This demand alone will require a large number of persons to be furnished with the higher education, since we can expect that only a small percentage of graduates, under even the best training, will prove themselves competent teachers. But besides this, as we have before stated, the State should furnish the amplest opportunity for pushing forward, encouraging, sustaining, and vivifying whatever high-born desire is manifested in the common school and the High School. Let the spirit of inquiry, criticism, and the search for truth be encouraged to grow, and have free scope, modified, softened and chastened, however, by a reverence for the great and the good who have suffered or achieved as martyrs or heroes. Then the higher departments of learning will no longer be repressive of genius and originality but their true *almæ matres*.

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The sixth annual meeting of the Colorado State Teachers' Association met at the High School building, in Denver, on the 28th of December, 1880. The attendance was large and the session one of the most interesting and successful yet held. The address of President Baker on the poetic principle, and the paper of Professor Smith on the education of women are, herewith presented.



## PRESIDENT'S ADDRESS.

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JAMES H. BAKER, DENVER.

As we again meet in annual convention, we find many important problems of education still unsolved. Questions constantly arise relating to what is worthless in education, and what essential; what we should aim at in our instruction, and what we should expect the pupil to retain permanently; how far the memory should be cultivated as compared with the reason; the limit to which it is possible to urge the mind consistently with a healthy growth; how far the State shall educate; the relative value of different lines of study; the extent to which industrial education shall take the place of disciplinary work, etc.

Important as these questions are, I shall discuss no one of them in this address, but dismiss them with the belief that it is neither possible nor desirable that all should agree in theories or methods; that we can never obtain perfection in our work, and may hope only to be progressive.

Within certain limits it is not so important what a pupil does, or by what plan he proceeds, provided he works. But zeal in school labor is indispensable alike to teacher and pupil. There is a kind of apathy pervading all professions and all classes of society. We rarely find a man who is full of hope and enthusiasm and has a progressive spirit. I believe this is due to, a lack of poetic training,—a training which involves the whole realm of ideal creations, a development which is necessary to the intense realization of whatever falls in the line of our thought and work. The general lack of enthusiasms in school work and the tendency of the times toward the materialistic in thought and the merely practical in living, lead me to choose for my subject the "Poetic Principle."

We can imagine trees without foliage or shapely cast of stem and bough, herbage without the delicately-tinted blossom, clouds with no power to catch the beautiful colorings of sunset, birds with no sweetness of song—a nature with no beauty for the eye, no music for the ear. The architecture of the mountains, the voices of the ocean, might have been omitted from Nature's plan. We shudder at the picture, but the man who is merely scientific and mathematical lives in such a world.

I know how much I assume by this illustration contrary to the spirit of evolution and adaptation. I will not attempt to consider whether atomic matter and the universal heat force possessed the inherent necessity of evolving a world, or, on the contrary, a Creative Intelligence stood between the building material and the manifold, glorious result,—between chaos and the infinitely refined potency which we call the pathos and longing of the human heart, although, the deepest view of the present subject would lead us upon that forbidden ground. Religion is the highest poetry. But, whether we believe in God or extreme evolution, it will forever remain true that life without poetry is not worth living.

The murmur of the pines, the rage of the sea, the song of the bird, the yellow and gold of autumn make the complement to utility in nature; the poetic is the complement of the mathematical in the human soul. People are superficial, apathetic and unsuccessful because they reject the lessons of inspiration which nature would teach, and are contented with an existence but vaguely realized. Nature, properly understood, awakens the poetic spirit; the poetic spirit leads us forth into the field of progress.

The child, left to itself amidst the natural environments of country life, teaches us true and deep lessons. As soon as, by contact with nature through the senses, the mind is awakened, he discovers beauty in the flower, is pleased with the green landscape and laughs with nature's cheerful moods. Before the reason is employed or the intuitions

defined, he is attracted by the beauty of natural objects and is lulled by the soothing influence of music. He soon weaves fanciful pictures in his mental world, builds strange castles, peoples the air with impossible beings, and dreams of wonderful climes. He longs for legend and fairy tale, and listens to them with pleased credulity. He chases the butterfly by a natural instinct. This tendency of childhood to thrill with the inspirations of nature, and to love fanciful creations, is innate. Were man never burdened with absorbing cares and selfishness this tendency would never leave him. We find here the rudiments of that principle which grows into the ideals, purpose and enthusiasm of manhood, and which, controlled by reason, moves the world. Happy the man whose childhood has taken thorough lessons in this first school of life. Books are but a means to bring us back in later years to a fuller knowledge of Nature's meaning.

Burns would never have charmed us with the spontaneous sweetness of song had he not been reared in a land of history, poetry and romance, and had not his youthful ears been pleased with a wonderful collection of ballads, stories of fairies, wraiths, giants and enchanted towers. Wordsworth learned more by wandering through the green copses and over the mountain sides near Windermere than he gained from the schools. The child uses the imagination, learns to create, and is full of freshness and enthusiasm. Everything makes a vivid impression on his mind. He is therefore a true poet.

Nature was made for our instruction. It is the garb in which the Divine has clothed himself, a medium of thought between him and man. A proper interpretation of nature is necessary to any deep thinking or true living. People are superficial who drift along with the current of their present surroundings, carelessly adopt the customs of society and think only of common success. The Why and Whither of existence are the proper ultimates of thought. We provide food, build houses and ships, and utilize the

products of field, forest and mine in wonderful fabrics and mechanical inventions, and nature is useful. But we are compelled to ask why these cities, this manufacturing, this civilization, if they be the limit and end of existence. I would not be understood to advocate that ideal philosophy which has no sympathy with material progress. We can attend to human needs without losing the inspiration of living.

There is a realm of the imagination, opened to us through the avenue of the senses, in which man can learn and create. Nature is only suggestive. We learn strength from the giant oak, and the drooping willow teaches us sorrow; the morning breeze has its laugh, and the evening wind its sigh. Sunset teaches us hope, and the rage of the tempest finds kinship in the turbulency of the heart. Contact with the material is only the starting point. The mind once educated through the senses, and the world might be annihilated, and the soul still be capable of an infinite growth. Nature presents to us her beauty and grandeur to awaken the imagination, to make us poetical and progressive.

Greece with its many-featured landscape, its rich plains, its promontories and seas, its wonderful sky, taught the Greek beauty. His contact with the outer world also taught his susceptible mind to personify the powers that swept along with the flood, or moved in the breeze. He reached forth from his surroundings to invisible powers causing the phenomena with which matter is vitalized. In his love of beauty, and rudely in his religious belief, the Greek was a proper interpreter of Nature, and was poetic. His civilization was an outgrowth of his poetic feeling.

Why has man within him a capability and longing? Why has Nature the power to reveal to him so much, unless the facts indicate the utility of the poetic spirit? Be practical as you will; shut your eyes to Nature's teachings as you will; crush the natural, youthful tendency of the heart as you will; laugh at sentiment as you will, it ever

remains true that life is worth nothing unless it has poetry. He who does not experience the feelings of joy, melancholy and awe in the presence of Nature's deeper moods, is superficial. We say with Emerson, "Everywhere is beauty, plenty as rain, shed for thee," and "Poetry was all written before Time was." It remains for us to see and read. There is an interpretation of Nature which we do not always grasp, "that interpretation which man still craves after science has said its last word."

It is needless to say that the application of this subject has nothing to do with the mechanical execution of verse. Verse is not always poetry, and it embraces but a small part of the poetry that exists. The poetic principle is found after the mind has been led up through Sense-Perception, the Memory, and the Phantasy to the Imagination. Excepting in part the Philosophic Imagination, whatever leads men to create that which the forms of matter merely suggest, whatever makes men earnest and progressive is embraced by the poetic principle. The child's mind is full of ideal creations. In whatever he undertakes he employs freshness and enthusiasm. Hopefulness is a part of his creed, and he accomplishes more and does his work better for his childish zeal. Importance and attractiveness are thrown like a halo around that in which he is interested. In manhood, disappointments and a lack of faith too often lead to apathy. Work is done mechanically,—life has no enthusiasm, no hope, no growth. Were the poetry of childhood developed and strengthened in manhood, all labor would be undertaken with the same enthusiasm as in childhood; in all things men would aim at ideal excellence.

Poetry proper is an expression of beauty. I take for illustration a gem from Tennyson's "Morte D'Arthur."

"And from them rose  
A cry that shivered to the tingling stars,  
And, as it were one voice, an agony  
Of lamentation, like a wind, that shrills  
All night in a waste land."

No person of culture can read the passage without a thrill. A truth is expressed, but artistically, and it is beautiful in the highest degree. The discovery of that beauty is based upon the emotions, and taste is the criterion. But the poetic expression of beauty is not confined to verse. Ruskin says "Milton and Goethe at their desks were not more truly poets than Phidias with his chisel, Raphael at his easel, or deaf Bethoven bending over his piano inventing and producing strains which he himself could never hope to hear." A painting of Raphael or a page of Shakespeare is valuable only as it glows with an approximation to perfection. Art seeks after perfection in execution, endeavors to give expression to beauty; all art is therefore poetic. The man who seeks for the attainment of some higher excellence in whatever field is a poet, and the idea of the mute, inglorious Miltons is not so fanciful as some suppose.

The desire to create, to give expression to beauty, discovers itself rudely in the cromlechs of the Druids, and in the growth of everything artistic since. History and sentiment clustering around a name make it poetic. In the music of a word like the Scottish "burns" and "braes" we find a poetic charm. Patriotism is akin to poetry, and the men who rush to arms in defense of country and principle are true poets. Poetry stirs national pride at the mention of Thermopylæ, Bannockburn, Agincourt or Gettysburg; it makes us tread with subdued feeling on Bunker Hill or within the walls of Westminster; it pales the cheek before perfection in chiseled marble.

Dissatisfaction and longing lead to the production of poetry. The poet gives expression to his thoughts in verse. In others the search for ideal perfection leads to action and improvement. Conjecture, aspiration and invention are an outgrowth of the poetic spirit. It adds intensity and purpose to our lives.

"The only actual reality is an idea," is the language of Wendell Phillips, and, with philosophic penetration, Mac-

donald says, "The poetic region is the true one, and just ; *therefore*, the incredible one to the lower order of mind." All truth can be poetically expressed and all poetry is truth. An idea is as much a fact as a tree or stone. The existence of matter can not be proven ; the existence of ideas is indisputable. Each man is in a sense a central point of the universe ; he devotes all things to his use and may create without limit. God was the first poet, and His thought found expression in the laws of matter and the sculpture and painting of Nature. Finally, in the language of Shairp, "Poetry is the emanation, the golden exhalation, which arises from the close and vivid meeting of the soul and the outward object ;" better still, I quote Wordsworth, "Poetry is the breath and finer spirit of all knowledge."

Is poetry valuable ? The hope of the human race is involved in the answer. Banish poetry and the world lies barren and cheerless, aspiration ceases and progress is impossible. The Shakespeares and Miltons have done more for the world than the wealth and inventions of the ages. They grasp the meanings of Nature and interpret them for us ; they divine eternal truths and reveal them to us ; they give hope and energy to the world. In their ideal creations man sees something to attain to, and activity follows. Inventions, civilization, literature, progress, are the result. The human race needs something ahead to cheer them on. Life is a journey up hill, and men need leaders. The poet is the true standard-bearer of the race.

The stores of the mines and the fertility of the soil are a basis of prosperity, but poetry creates industry. Forests not only furnish lumber but make inventors, statesmen, poets. The Switzer and Scot owe their excellence of character to mountain and sea. "Mountaineers are always freemen." Saxon and Norseman owed to their black forests, meadows and purple inlets much of the energy which has so wonderfully influenced modern history.

Mythology had and still has its value. It gave employ-

ment to the creative power and kept the mind intense and active. "Mythology is the handmaid of literature," and no better means can now be found to quicken the imagination, nothing better to enlarge the field of thought and lead to action.

Science has its poetry, and it is necessary to any zeal in the pursuit of scientific subjects. The love of flowers and the inspiration from their teachings are a part of botany. The wonderful theory of molecules and atoms underlies chemistry and physics. Tyndall, when he sat on the Matterhorn, and, in thought, traced matter back to the original nebula, and wondered whether the formless fog contained potentially the sadness with which he regarded the Matterhorn, was intensely poetic. When we think of the wonderful laws of curves, and find them illustrated in nature, even mathematics reveals this element to us.

The teacher whose life is aimless and whose labor is mechanical is not worthy of the calling. Earnestness, progress, and love of truth all come from the poetic principle. A nature full of poetry places ideals before the mind and awakens zeal and enthusiasm. The minds of children should be influenced and led by enthusiasts. More of success in life comes from the soul of the teacher than from the routine work. Teaching is sacred, and no one is fit to engage in the work unless he is willing to use all means for right and powerful influence.

"Let who will make the laws of a people if I write their songs," is a well known saying and it reveals the strength of that power which moves the human heart. Whether it be the life and force of Homer, the sublimity of Milton, or the weird runic melody of the Norse Skalds, poetry ever has an influence in the higher region of character. Mill declares that some of Moore's songs have done more for Ireland than all Grattan's speeches. Beauty or sublimity in nature or the works of art, in music and poetry, appeals to the same faculty of our being, arouses the same emotions as the morally beautiful. By a law of our psychical



organization, the culture of that faculty by whatever means quickens our appreciation of moral traits. Who can grasp the divine conception that produced the majesty of an Apollo, or the radiance of a Madonna, can feel his heart attuned to the swelling harmony of grand music, and then think of an ignoble deed without aversion? Who can trace the inspiration of Milton without being raised to a higher sphere of thought and desire, or afterward contemplate a beautiful trait of character and not wish his own heart enriched by such an attribute? Those subdued states of the mind which might be called sad, were the term not expressive of pain, predispose the mind to duty. The spirit agitated by care and passion is not fit for moral impressions. The calm induced by the magic of rythm is rippled by the faintest touch.

Pure science and mathematics can never answer man's questionings or satisfy his needs. Science furnishes a sure foundation, but is useless without the superstructure. The humanities make the complement to true education. We rest upon the region of fact that we may safely build ourselves up into the region of fancy. There man is freed from the bonds of barren fact and creates his hope, his destiny, his happiness. Man as a creator, a poet, finds his true aim and usefulness. Who will fetter himself to sordidness and unbelief when the imagination lends us wings, and the free air is around us and the clear sky above us?

How shall man cultivate the poetic principle? By opening the avenues of his soul to the influences of Nature, by studying the works of Nature's best interpreters. Nature presents to man her manifold phases. The deep forest, the waterfall, awaken his imagination; he is drawn forth from himself, and creates a new world. All space is to him a workshop which he may fill with truths. We are born poetic. The spirit of childhood may and should be kept green. Blessed is that old age which still clings to the freshness of youth.

The deepest view of the present subject has not been

considered. But, were present religious beliefs discarded, sooner than rest upon barren materialism, I believe man would create a new mythology and worship a lie as a refuge from blank despair. It matters not whether every fiber of my being may glow with a certain belief in the Why and Whither of Existence, which constitutes the highest poetry. Every man is in a sense a law unto himself. But whether the coming creed, evolved from the battling of the mightiest forces that ever opposed themselves in the minds of men, shall thrill with the "Supreme dignity of Man," or with "God," poetry alone gives life any value, and it is the sole power by which the world is moved. Wordsworth, of all poets that ever lived, can best close this address:

" My heart leaps up when I behold  
A rainbow in the sky ;  
So was it when my life began.  
So is it now I am a man ;  
So be it when I shall grow old,  
Or let me die."

## THE HIGHER EDUCATION OF WOMEN.

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F. E. SMITH, BLACK HAWK.

Those of you who are old enough will remember that, before the question of slavery became of such paramount importance in the public mind, there were certain other important and interesting questions suggested for discussion; but hardly were they fairly stated before the war broke out banishing them for the time, so that they appear in our day like some river that has made a trip under ground. Foremost among these questions were those of State help in education, our international relations with the Chinese, the relative value of strictly scientific culture and strictly classical culture, and the admission of women to our institutions for higher education. This last is one of the live questions of the day and may well occupy our attention.

Since the period of the reformation there has been a gradual unloosening of the shackles and time endeared bonds that held society together in mediæval barbarism and ignorance. This has allowed a growing freedom for the individual mind to think, to act to live. So great has been the progress, so rapid the change of thought that each generation has feared the coming one would be launched into mental and moral destruction, and almost every father and mother have thought that their sons or daughters would be wrecked in the sea of doubt and radicalism on which they had reluctantly launched them; yet we of to-day look upon our surroundings and civilization as far less dangerous than our fearsome parents supposed they would be.

In the last two or three centuries nineteen-twentieths of the world's intellectual progress has been made; questions scientific and political without number have been practically settled; public schools have been established;

national aid has been offered to advance science and art, and thousands of startling inventions have surprised the world, so that the silent powers of the air do the work of a million men. But this turning idle of human labor has not been altogether on man's side; invention has entered the domestic circle, woman's sphere, with the knitting machines and sewing machines. It has turned over to the manufactory the wool, flax and cotton, leaving idle ten thousands of fingers that used to weave our solid homespun. Woman, thus thrust from her former vocations, has been compelled by the very laws of existence to enter fields and professions over which men had already acquired a firm monopoly. The customs of centuries favored the men and rendered the innovation still more objectionable. The former inferior condition of women was ever thrown in their faces. I remember a leading member of a New York community as remarking, when he learned that a neighbor's daughter wished to go to college, "Lor sakes; the little stuck-up thing! She thinks she can get her name up by getting a man's eddication; but she'll find out that a woman's head don't hold much larnin." Not alone from the shorter-sighted, uneducated classes came an opposition to the higher education of women, but from all classes of society whose vested ancient rights and professions would thereby be interfered with. The lawyer, with sudden thoughtfulness for woman's reputation, claims that her character would be contaminated by contact with the abandon of the court-room, its cigar stubs and elevated feet; the doctor sees how her tender-heartedness would unfit her for performing any surgical operation, the sight of blood would make her faint, and sympathy with suffering would make her stand helpless before an injured patient. Students exclaimed, "Keep her out of our colleges, lest she dull our sports and make herself strong-minded and intractable!" Indeed the whole mass of men echoed in their hearts the thought from "Locksley Hail,"

Woman is the lesser man, and thy passions matched with mine,  
Are as moonlight unto sunlight, and as water unto wine.

But the onward progress of society with its necessary change of human relations is little retarded by the opposition of individuals or even by the bigotry of a prejudiced class; and as we have seen, it became imperative for woman to seek other means of livelihood than those that were formerly assigned to her; these professions require more or less preparation; if it can be gained in an office, like type setting or telegraphy, then there is little demand for schools to teach them, but most of the professions of life require collateral study and preparation from whence arises the first demand for women to enter institutions for higher and more special instruction.

Another demand for women to be educated sprang up with the establishment of home life; youth was found to be the most plastic period of mental growth, and that impressions could be much more easily and permanently made on the mind of a child than if the lessons were withheld for the instructor of later years. Who could transmit these lessons to youth so well as the interested mother? and what mother, if not the most intelligent and highly educated, could perform this duty in the best possible manner? The idea of a home as we of to-day understand it, is not of ancient origin; the anarchy of mediæval life for the first time drove men from the public street, the forum, the amphitheatre, and the parade ground, to build a castle of their own, in which they might take just pride and lay the foundation of what has grown into the modern home.

The girl was now taught with her brothers at the mother's knee, and she, in after years, became teacher; she that proved the most apt came to find the neighbors' children gather about her for a more efficient instruction. After public schools had been established, the lower grades of instruction gradually passed into their hands, and the work was so satisfactorily performed that men could offer little competition. Every advance in the thoroughness of their preparation secured them still higher

positions as teachers. This then afforded the second demand for higher education.

The opportunities for a more extended culture being offered to women began as early as 1830, when Oberlin College welcomed students of both sexes. Antioch followed in 1840, and I think the Northwestern University, and the University of Wisconsin, soon after. Since the war, as intimated, there has been a lively discussion of the question, and many of the leading universities, like Michigan and Cornell, have offered equal advantages to women, and President Barnard is trying to arrange for their admission to Columbia College. At Harvard they have arranged a kind of side-table course, to which women are admitted, providing they do not make too much noise or talk out loud. No young lady can now complain that opportunities are not offered her to pursue studies as high as she may desire. With our excellent high schools, our normal courses, private boarding schools, ladies' seminaries, sectarian colleges and universities,—I say, with all these various opportunities, what more, in the line of education, could the women of this country ask for?

In foreign lands the case is entirely different. In Germany and Spain the question of higher education for women has scarcely been broached. In England they have at last been admitted to Cambridge university so as to enjoy a course though wholly distinct from the main work of the university, and not leading to any degree. France is rather in advance of England and during the last summer arrangements have been perfected for admitting ladies into several of the State and higher parochial schools. In Italy two or three of the universities have been opened to women, but with such good success that others will probably follow the example another year.

The women of all Mohametan countries, like Egypt, Turkey and Arabia, have no opportunities whatsoever, not even admission to lowest day schools. With the exception of Turkey, all the modern nations of Europe and America

may be said to have a strong tendency to afford women advantages for higher instruction. Before discussing the merits of this tendency, let us study for a few moments the distinctive differences between the mind of man and woman. It is now generally held that men have greater powers of reason, especially such reason as is applied in following the slow steps of some argument to a conclusion, while women appear to have a far quicker insight and penetration; thus women are able to come to a conclusion far quicker, but reach it without knowing just how or why, and ten chances to one will be right even though their only proof be "because." The comparison may be made more evident by speaking of the woman as flying up a pair of stairs, reaching the top without knowing how she got there, while the man clammers laboriously, step by step, reaching the summit after patient toil, but yet ready to explain just how he had arrived there. This power of quick perception seems, however to have wrought a noticeable change in woman's character, making them as a rule more desultory and volatile, where patient, careful work is demanded.

Thus endowed with mental capabilities differing from men's, though perhaps equal to them, woman presented herself at the door of higher institutions of learning, and with what results? Why, in all the more concrete studies of college and university courses they have eclipsed the men, whereas in the more abstract subjects like Logic, Mental Philosophy and Psychology, they seem to have fallen behind their rivals. At work in the chemical or anatomical laboratories she observes the slightest change and deduces her conclusions immediately and accurately. In our inter-collegiate prize contests several of the prizes were taken by the ladies, the number being far out of proportion as regards the number of lady and gentlemen students in the competing colleges.

In England their collateral work has been mentioned as excelling that of the gentlemen in almost every respect. Walter Smith, who is now State Director of Art in Massa-

chusetts, speaking of his extended experience, says: "I have found young women not only equal to their masculine fellow students, but clearer-headed and more successful both in their preparation and final examination, and, I frankly say, the ladies in my schools have proved themselves so efficient that the men cannot compete with the ladies." In Italy their success is the same, and at the two more important universities, the laurels have been borne off this year by lady students.

As to their effect on the habits of students, it has been beneficial in every instance, cropping off, it may be, some of the more barbarous amusements of college life, yet creating a higher moral tone." President White, now minister to Germany, says: "The difference between a college where ladies are not admitted and one where they are is simply the difference between the smoking car and the car back of it."

The prophecies that foretold what calamities were going to befall the human race when women tried to work in the learned professions have been proved as unreliable as the marginal weather notes of our almanacs. If a woman enters the court room, feet fall from tables, cigar stubs chase one another into the spittoon like so many frightened mice, and the lewd joke ceases. In surgery, contrary to expectations, the woman has not fainted away at the sight of blood, but far more times has she had occasion to speak in much the same tone as Lady Macbeth, "Coward, give me the scalpel!" As conversationalists, novelists, letter writers and actresses, they have for many years been esteemed the superiors of men.

There is another feature of this question which may well receive our attention; whether or not there is a limit to which the higher education of woman can be profitably carried. Women have had access to the most liberal culture for several years; they have received the highest instruction in medicine, music, art, law, mathematics and science, and yet there does not appear adequate returns in



the shape of original investigation and discovery, to pay for the amount of labor expended; where are the women who are doing original, strictly original work in science, mathematics, art or in mechanics?

There seems to be a wonderful dearth of women inventors and writers on original topics, as if somehow, they had just mental power enough to grasp what has already been discovered and explained; in music they can execute with wonderful excellence, but seem wanting in a power to compose pieces requiring great depth of imaginative emotion; in art they copy very nicely, and paint from nature with the most delicate precision, but never seem to succeed well in any work which requires vast powers of intuition and imagination. In science they have little power for original research, or better, as Mrs. Browning puts it in *Aurora Leigh*, "Woman's soul aspires, but not creates." If these suggestions be true, then as members of the State or community, their work must be considered merely as helping to retain and diffuse what is already known, without being capable of advancing society by adding to the facts and inventions already found out. Now the point where State help and individual enterprise should end is just where it ceases to be profitable to society, economically considered; if science, invention or society will not be forwarded by the expenditure, then it had better be withheld and applied more liberally in other directions where the benefit is certain and tangible.

As to what studies and advantages should be withheld from the higher education of women, we may well leave it to the common sense and experience of society to dictate. At present it looks as if original investigation in mathematics, mechanics and philosophy, together with the inductive work of scientific laboratories would be left out of their curriculum. In the main, however, the course and material for a girl's instruction should be the same as a boy's, only they should be differently directed, the girl should be given an earlier option in the choice of studies

than is accorded to boys ; there is considerable truth in what Ruskin says, " You can chisel and hammer a boy into anything you wish, just as you would a piece of rock or bronze, but you cannot hammer a girl into anything, *she grows*, as a flower, will wither without sun, will decay as the narcissus does if she cannot have air and freedom to take her own fair form and way."

The great obstacle at present in the way of woman's education both higher and lower is its lack of practicalness ; all of the instruction that four-fifths of the women receive from their debut in the primary department of our public schools to their graduation at the most cultured seminary, tends more to unfit than prepare them for the practical duties of life ; there is a strong tendency among modern women to disparage instruction in house-work and cookery, to get the superficial rather than the solid, to seek "culcha" rather than culture. And yet whether a woman be rich or poor, married or single, the ability to do or direct the domestic affairs of life is more valuable to her than all else she can learn. With their admission to higher learning has come too, a wonderful growth of self-consciousness which tends so strongly to destroy the free and easy movement of their thoughts and actions, to remove the buoyancy of spirits which is so strongly a characteristic of woman. Let women forget somewhat of self, being careful not "to lose the childlike in the larger mind," then all the culture in the world will not spoil their smoothness of manners. Let them feel that no future hindrance will be laid to oppose them in the studied professions further than the hindrance to success which men themselves meet. Let them learn to perform the more practical duties of life, and then men will not murmur against their advance in all the subjects of higher culture. If they can plead a better case at court, they will have plenty of clients, for men now have few scruples as to means, if they only beat. If they can show a deeper insight as physicians into the mystery of some subtle disease, they will have plenty of patients.

Society now demands the best and most effective talent, believing that in the end to be the cheapest; and whenever true worth is found it will not long lie unemployed. For years, from crowds of ignorant growlers, there has been a cry that capital and labor are antagonistic, but they are gradually finding out that no antagonism exists; and so with the growlers about woman's education and men's, there is no true antagonism, and they will find out by and by that all are brothers and sisters—not enemies—that all are moving slowly toward one goal. The leading thinkers are all agreed in this question about the education of woman, and I believe that the remarks recently made by M. Dor will meet with universal approval: "However great may be the number of schools, and however ardent the zeal of teachers, rest assured that the basis of substantial national instruction can only be found in countries where woman is educated." Educate woman! ought to be the cry raised before every minister of public instruction. Educate woman! for the woman of to-day is mother of the generation of to-morrow. Educate woman! believing not, dreaming not of any serious struggle between man and woman, for, as Tennyson concludes, in the beautiful poem of the Princess, there is none:

"The woman's cause is man's; they rise to sink  
Together, dwarfed or god-like, bond or free.

\* \* \* Let her make herself her own,  
To give or keep, to live and learn and be  
All that not harms distinctive womanhood,  
For woman is not undeveloped man —

\* \* \* \* \*

Yet in the long years liker must they grow,  
The man be more of woman, she of man;  
He gain in sweetness and in moral height,  
Nor lose the wrestling thews that throw the world;  
She mental breadth; nor fail in childhood care,  
Nor lose the childlike in the larger mind,  
'Til at the last she set herself to man  
Like perfect music unto noble words.  
And so these twain upon the skirts of time  
Sit side by side, full sunned in all their powers,

Self reverent each and reverencing each,  
Distinct in individualities,  
But like each other even as those who love.  
Then comes the statelier Eden back to man,  
Then reign the world's great bridals, chaste and calm,  
Then springs the crowning race of human kind.  
May these things be !”

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STATISTICAL TABLES.

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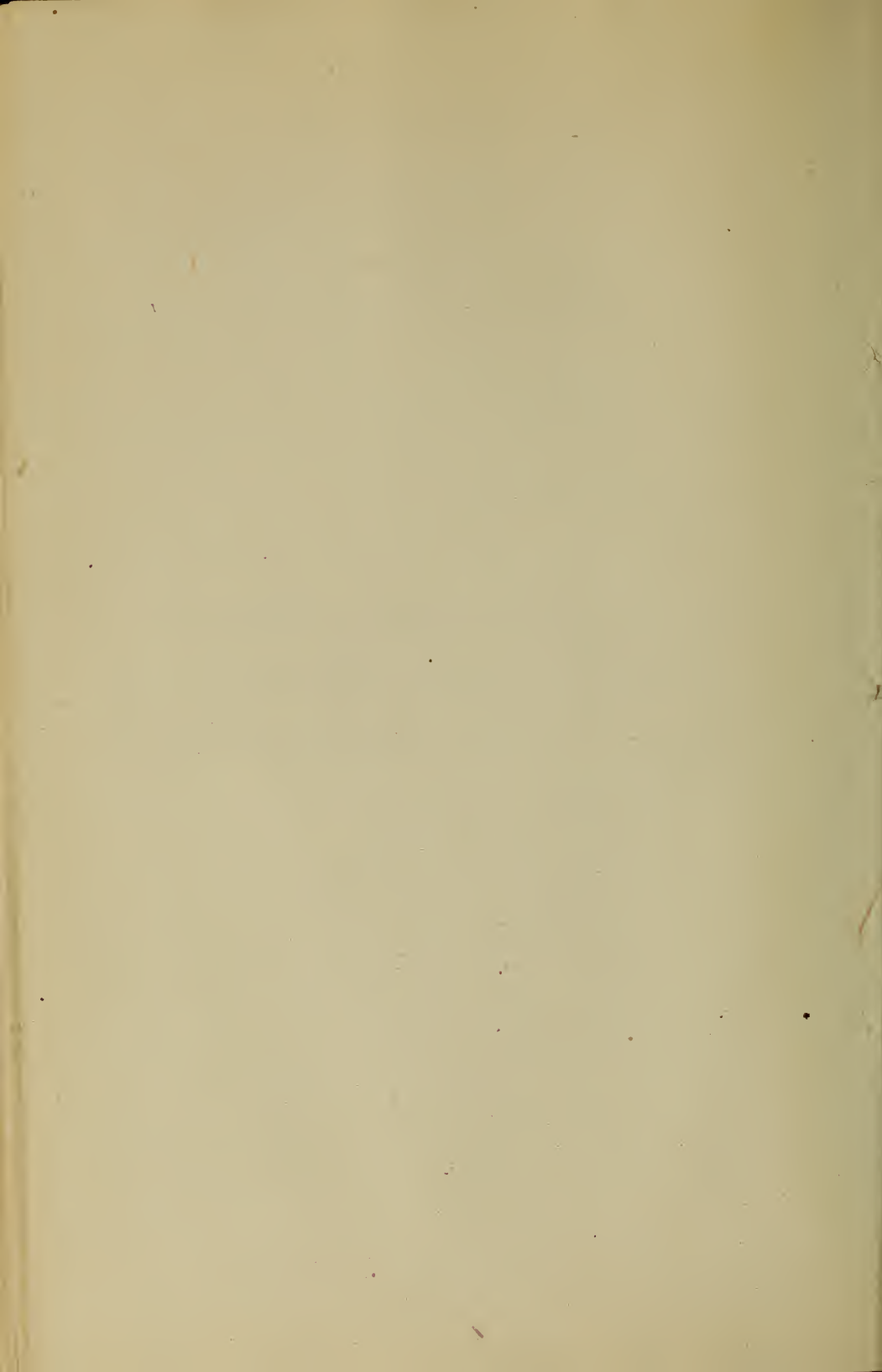


TABLE I.

COUNTY SUPERINTENDENTS OF SCHOOLS.  
1880-1882.

COUNTY.	NAME.	POSTOFFICE.
Arapahoe . . . . .	W. F. Bennecke . .	Denver.
Bent . . . . .	C. W. Bowman . .	West Las Animas
Boulder . . . . .	Rev. L. S. Cornell .	Boulder.
Chaffee . . . . .	Geo. L. Smith . . .	Centerville.
Clear Creek . . . . .	H. Montague . . .	Idaho Springs.
Conejos . . . . .	T. M. Finley . . .	Alamosa.
Costilla . . . . .	Charles John . . .	Ft. Garland.
Custer . . . . .	Dr. D. M. Parker .	Rosita.
Douglas . . . . .	J. W. Higgins . . .	Castle Rock.
Elbert . . . . .	B. C. Killin . . . .	Middle Kiowa.
El Paso . . . . .	J. P. Easterly . . .	Colorado Springs.
Fremont . . . . .	S. B. Minshall . .	Canon City.
Gilpin . . . . .	J. S. Dormer . . .	Central City.
Grand . . . . .	W. M. McQueary .	Hot Sulphur Springs.
Gunnison . . . . .	Dr. N. Jennings . .	Gunnison.
Hinsdale . . . . .	E. D. Bouton . . .	Lake City.
Huerfano . . . . .	Rev. A. H. Quillian	Walsenburg.
Jefferson . . . . .	Rev. T. L. Bellam .	Golden.
Lake . . . . .	B. F. Jay . . . . .	Leadville.
La Plata . . . . .	J. F. Hetchtman . .	Parrott City.
Larimer . . . . .	Dr. W. B. Sutherland	Loveland.
Las Animas . . . . .	J. W. Douthitt . .	Trinidad.
Ouray . . . . .	C. M. Hoge . . . .	Ouray.
Park . . . . .	M. J. Bartley . . .	Fairplay.
Pueblo . . . . .	A. B. Patton . . . .	Pueblo.
Rio Grande . . . . .	J. L. Howe . . . .	Del Norte.
Routt . . . . .		
Saguache . . . . .	Robert Voelkel . .	Cotton Creek.
San Juan . . . . .	H. O. Montague . .	Silverton.
Summit . . . . .	H. Storms . . . . .	Breckenridge.
Weld . . . . .	David Boyd . . . .	Greeley.

TABLE II.

## EXAMINATION OF TEACHERS.

COUNTIES.	1879.							1880.						
	CERTIFICATES GIVEN.							CERTIFICATES GIVEN.						
	First Grade.		Second Grade.		Third Grade.			First Grade.		Second Grade.		Third Grade.		
	Male.	Female.	Male.	Female.	Male.	Female.	Total.	Male.	Female.	Male.	Female.	Male.	Female.	Total.
Arapahoe	15	29	2	4	3	5	58	1	5	9	10	3	19	47
Bent	1	5	2	2	2	2	12	1	2	1	2	1	2	6
Boulder	5	4	11	13	8	11	52	2	5	12	12	7	15	53
Chaffee								2	2	2	3	2	2	12
Clear Creek	3	5	2	2		2	14		2		1	3	14	20
Conejos		2	2	1		1	4			1	2	3	1	4
Costilla		1	3	1		1	6			3	3		6	12
Custer	2	2	3	2		2	12	6	5	3	3		1	16
Douglas	1	1	3	6	2	1	12	1	1	2	7	3	6	19
Elbert		1	2	1		1	6	1	1	1	3	3	1	9
El Paso	6	19	4	5	2	6	42	7	19	3	9	9	6	46
Fremont	3	4	1	2		1	16	1		3	2	3	4	12
Gilpin	2	3		2		5	13	1			3		13	19
Grand			2				2				1			1
Gunnison					1		1							3
Hinsdale		1		1			2				1			3
Huerfano	1	2	3		2		9	1		1		1		4
Jefferson	3	2	7	11	9	1	33	4		6	5	4	7	26
Lake			3	1	3	4	16	4	2	1	12	3	12	34
La Plata			1							1				2
Larimer	3	1	1				5			6	10	2	9	31
Las Animas	3	3	10	11	2	3	29	4	3	2	1	2	4	14
Ouray	5	3	3	2	6	2	21	1		1	1	1		4
*P. R.	1	1					2	1		1	1	1		4
Pueblo	10	11	13	15	2	3	54	5	8	5	5	3	6	32
Rio Grande	1	1		1	1	9	13	1	1		1	6	7	16
†Routt														6
Saguache				1	3		4	3		1		1	1	6
San Juan			1				1							2
*Summit														2
Weld	2	3	9	10	11	17	52	6	8	5	6	1	8	34
Total	68	93	94	93	64	81	194	53	65	72	104	44	146	484

\*No report. †No organization.



TABLE III.

COUNTY.	CENSUS—1880.						CENSUS—1879.					
	Between 6 and 16.			Between 16 and 21.			Total Between 6 and 21.			Between 6 and 21 Years.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Arapahoe	2923	2989	5912	968	855	1823	3891	3844	7735	2866	3085	5951
Bent	132	113	245	53	39	92	185	152	337	161	167	328
Boulder	1034	934	1968	420	330	750	1454	1264	2718	1350	1160	2510
Chaffee	345	208	553	118	109	227	463	407	870	149	113	262
Clear Creek	569	520	1089	178	113	291	747	633	1380	701	637	1338
Conejos	154	137	291	42	17	59	106	147	253	187	146	333
Costilla	373	250	623	151	124	275	524	524	1048	444	438	882
Custer	513	440	953	140	121	261	653	561	1214	333	340	673
Douglas	244	263	507	68	63	131	312	326	638	275	395	670
Elbert	141	140	281	68	36	104	209	176	385	200	174	374
El Paso	727	756	1483	225	239	464	952	995	1947	938	906	1844
Fremont	387	451	838	109	114	223	403	565	1061	435	577	1012
Gilpin	590	537	1127	173	122	295	772	659	1431	655	619	1274
Grand	20	14	34	8	4	12	28	18	46	26	13	39
Gunnison	100	89	189	82	21	103	182	110	292	16	17	33
Hinsdale	107	104	211	55	43	98	162	147	309	159	119	278
Huerfano	445	440	885	188	155	343	633	604	1237	700	622	1322
Jefferson	645	677	1322	265	189	454	910	866	1776	730	746	1476
Lake	782	688	1470	223	190	413	1005	878	1883	773	649	1422
La Plata	94	105	199	31	21	52	126	126	252	96	72	168
Larimer	464	419	883	187	138	325	651	557	1208	450	432	882
Las Animas	1087	1047	2134	345	206	551	1440	1245	2685	1358	1161	2419
Ouray	93	66	159	29	21	50	122	87	209	60	62	122
*Park												
Pueblo	585	525	1110	159	162	321	544	687	1231	800	743	1543
Rio Grande	187	104	291	44	45	89	233	209	442	228	214	442
†Routt												
Saguache	162	166	328	75	72	147	237	238	475	167	166	333
San Juan	123	20	143	118	8	126	226	30	256	22	16	38
San Juan	129	147	276	118	37	155	247	154	401	14	16	30
Summit	558	582	1140	211	175	386	766	757	1523	717	793	1510
Weld												
Total	13777	13192	26969	4788	3839	8627	18565	17001	35566	15159	14579	29738

\*Report of 1879.

†No organization.

TABLE IV.—ENROLLMENT AND ATTENDANCE.

COUNTIES.	PUPILS.										PERCENTAGES.				County School Tax Levy.	
	1880.					1879.					1879.		1880.		Mills.	Mills.
	Enrolled in Graded Schools.	Enrolled in Un-Graded Schools.	Under 16 Enrolled in Public Schools.	Over 16 Enrolled in Public Schools.	Average Daily Attendance.	Enrolled in Graded Schools.	Enrolled in Un-Graded Schools.	Average Daily Attendance.	Enrollment on Whole No.	Daily Attendance on Enrollment.	Enrollment on Whole No.	Daily Attendance on Enrollment.				
	Enrolled in Graded Schools.	Enrolled in Un-Graded Schools.	Under 16 Enrolled in Public Schools.	Over 16 Enrolled in Public Schools.	Average Daily Attendance.	Enrolled in Graded Schools.	Enrolled in Un-Graded Schools.	Average Daily Attendance.	Enrollment on Whole No.	Daily Attendance on Enrollment.	Enrollment on Whole No.	Daily Attendance on Enrollment.				
Arapahoe	4323	503	4513	395	2776	3360	524	2435	62	58	66	63	3 1/2	3		
Bent	127	125	231	23	145	134	138	158	75	57	82	58	2	2		
Boulder	752	1303	1904	151	1134	722	1188	984	76	55	76	60	3 1/2	3 1/2		
Chaffee	262	262	208	54	188	102	102	20	72	72	58	60	*2	*2		
Clear Creek	601	454	913	142	643	588	423	628	76	61	74	62	3	5		
Conejos	278	278	249	29	156	57	13	70	56	17	23	23	*2	*2		
Costilla	222	380	283	97	122	422	302	302	42	32	48	71	*2	4		
Custer	723	723	669	54	333	430	232	232	40	45	65	52	5	5		
Douglas	495	437	331	58	331	43	430	255	78	66	82	54	3	3		
Elbert	256	256	240	16	147	222	113	66	66	57	59	50	3	2		
El Paso	739	593	1232	92	733	658	488	628	69	55	62	55	3	3		
Fremont	750	750	675	49	449	435	452	71	60	70	64	70	2	3		
Gilpin	1029	64	1071	22	568	908	79	581	77	53	67	57	*2	*2		
Gunnison	30	30	30	20	20	20	7	43	65	77	74	45	*2	*2		
Hinsdale	105	137	105	32	26	26	7	16	85	21	85	45	*2	*2		
Huerfano	665	773	1088	67	556	488	420	285	44	81	51	45	4	4		
Jefferson	531	604	1088	67	674	488	593	593	65	58	60	61	2	2		
Lake	765	169	907	28	438	210	128	210	82	52	29	29	3	3		
La Plata	175	207	175	32	123	128	72	72	64	76	56	49	5	5		
Larimer	231	563	739	55	493	333	397	350	66	64	79	49	3	3		
Las Animas	957	957	813	144	576	401	1018	401	36	60	42	48	2	2		
Ouray	125	125	116	9	85	96	20	20	80	68	70	83	2	2		
Park	234	248	234	18	204	248	248	248	65	56	70	57	3	3		
Pueblo	496	496	908	66	545	465	664	664	65	56	70	57	*2	*2		
Rio Grande	209	124	267	53	189	166	75	146	74	57	54	60	2	2		
Routt	274	274	225	49	125	183	114	114	58	45	51	63	*2	*2		
Saguache	32	32	30	17	17	38	22	22	55	58	60	60	2	2		
San Juan	121	121	120	1	82	20	16	16	53	61	60	60	*2	2 1/2		
Summit	666	666	1124	117	745	434	700	686	31	60	80	60	*2	4		
Weld	575	575	575	117	745	434	700	686	31	60	80	60	*2	4		
Totals	10377	7411	20215	1904	12618	8508	10263	10919	62	57	63	53				

† Report of 1879. \* Not reported, cannot be less than 2.

TABLE V.--TEACHERS AND SALARIES.

COUNTY.	No. of Different Teachers During the Year.						Teachers Employed at one time.						Average Monthly Salary.						
	1879.		1880.		1880.		1879.		1880.		1880.		1879.		1880.		1880.		
	Graded Schools.		Ungraded Schools.		Total		Graded Schools.		Ungraded Schools.		Total		Graded Sc's Ung'd Schls.		Graded Sc's Ung'd Schls.		Ung'd Schls.		
	Male.	Fem.	Total	Male.	Fem.	Total	Male.	Fem.	Total	Male.	Fem.	Total	Male.	Fem.	Total	Male.	Fem.	Total	
Arapahoe	21	68	89	8	54	60	8	38	41	74	82	127 50	86 68	51 66	39 38	115 00	64 66	69 00	46 00
Bent	7	3	10	1	2	3	5	3	8	10	9	100 00	70 39	50 83	45 00	100 00	68 33	51 00	45 00
Boulder	22	48	70	3	11	14	28	48	76	51	54	60 00	59 75	42 31	41 90	75 00	62 15	45 23	37 57
Chaffee	4	1	5	6	6	12	6	6	12	5	10	..	..	40 00	37 50	..	..	44 25	45 83
Clear Creek	8	18	26	2	9	11	5	9	14	19	19	90 00	71 25	57 50	49 00	150 00	68 21	63 01	46 42
Conejos	2	2	4	4	..	..	5	1	6	4	5	50 00	32 50	40 00	37 50	..	..	24 50	37 77
Costilla	7	2	9	..	..	..	8	3	11	9	9	..	..	27 50	36 66	..	..	39 67	60 00
Custer	12	4	16	..	..	..	14	9	23	13	10	..	..	42 30	43 33	..	..	48 85	44 55
Douglas	11	17	28	10	10	20	10	22	32	26	21	90 00	..	45 78	40 68	..	..	46 25	36 68
Elbert	10	7	17	..	..	..	11	14	25	7	12	90 00	..	45 56	41 28	..	..	45 33	43 10
El Paso	14	21	35	1	10	11	10	20	30	28	31	120 16	60 00	43 97	30 00	120 00	60 55	46 55	35 92
Fremont	9	10	19	..	..	..	15	8	23	18	21	..	..	40 65	36 80	..	..	41 80	40 00
Gilpin	5	13	18	3	10	13	..	2	15	15	15	..	..	71 31	..	38 75	120 00	68 00	..
Grand	..	..	..	..	..	..	..	..	..	1	1	..	..	45 00	..	..	..	..	40 00
Gunnison	..	..	..	..	..	..	..	..	..	1	1	..	..	35 00	..	..	..	..	25 00
Hinsdale	..	..	..	..	..	..	..	..	..	2	2	..	..	..	..	..	..	..	52 00
Huerfano	11	4	15	..	..	..	9	6	15	15	15	87 50	..	37 55	37 00	..	..	37 59	47 00
Jefferson	22	18	40	2	5	7	16	12	28	35	35	..	..	53 50	40 80	37 00	100 00	60 00	40 55
Lake	3	10	13	1	19	20	1	2	3	8	14	..	..	76 67	57 50	125 00	70 00	75 00	60 00
La Plata	..	..	..	..	..	..	3	5	8	5	8	55 00	..	49 00	..	..	..	60 00	38 00
Larimer	14	18	32	2	4	6	9	21	30	23	26	..	..	40 00	14 30	25 62	50 42	42 00	34 19
Las Animas	18	8	26	..	..	..	17	10	27	21	26	..	..	39 67	47 29	..	..	39 22	49 55
Ouray	5	..	5	..	..	..	8	2	5	4	4	..	..	43 00	..	..	..	56 67	50 00
*Park	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pueblo	14	20	34	1	7	8	11	6	17	38	25	..	..	70 00	43 71	41 20	168 42	71 11	43 38
Rio Grande	..	..	..	..	..	..	3	3	6	7	9	103 00	60 00	..	43 33	125 00	60 00	43 00	35 24
*Routt	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Saguache	5	2	7	..	..	..	5	7	13	9	10	..	..	50 00	46 20	..	..	50 00	46 66
San Juan	1	1	2	..	..	..	2	..	2	2	4	..	..	87 50	50 00	..	..	87 00	..
Summit	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Weld	22	31	53	1	9	10	15	28	43	47	40	87 50	65 30	37 32	37 63	111 11	57 25	44 00	35 40
Total	338	593	931	26	140	166	221	291	512	506	521	101 28	72 75	44 06	40 65	110 75	64 39	42 84	40 87

\*No Report.

TABLE VI.--SCHOOL HOUSES AND AVERAGE COST PER PUPIL.

COUNTY.	No. of Districts.		1879.				1880.				1879.				1880.			
	1879.	1880.	Number.	Valuation In Dollars.	Sittings.	Volumes In Lib'ry.	Number.	Valuation In Dollars.	Sittings.	Volumes In Lib'ry.	Number.	Valuation In Dollars.	Sittings.	Volumes In Lib'ry.	Average cost per Pupil in Graded Schools.	Average cost per Pupil in Ungraded Schools.	Average cost per Pupil in Graded Schools.	Average cost per Pupil in Ungraded Schools.
Arapahoe	30	30	31	\$79,597	2,510	1,030	33	\$31,159	3,325	1,150	33	\$4,19	3,31	1,150	\$2.48	\$3.95	2.35	3.95
Bender	9	6	3	4,202	294	198	4	4,936	198	198	4	1.99	1.99	1.99	2.33	2.35	2.35	2.35
Boulder	43	40	34	50,522	1,795	234	39	40,590	19,24	300	39	1.55	2.20	2.90	2.90	2.01	2.01	2.01
Chaffee	8	12	6	140	140	140	6	140	140	140	6	1.85	1.85	2.40	1.85	1.85	1.85	1.85
Clear Creek	10	10	8	33,750	798	27	10	33,586	945	17	10	1.90	2.86	2.40	1.90	1.90	1.90	1.90
Combs	3	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Custer	9	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dakota	43	17	2	6,255	500	..	11	5,670	673	..	11	2.80	2.80	..	2.80	2.80	2.80	
Dodge	19	21	17	4,868	430	..	16	10,755	594	..	16	2.80	2.80	..	2.80	2.80	2.80	
Elbert	12	12	12	4,868	325	..	12	4,892	423	..	12	5.49	5.49	..	5.49	5.49	5.49	
El Paso	22	24	19	43,425	920	383	24	48,995	1,277	406	24	2.75	2.75	2.45	2.45	3.50	3.50	
Fremont	49	19	14	53,200	355	..	16	49,150	725	..	16	1.79	1.79	2.45	2.45	3.52	3.52	
Gilpin	5	0	5	34,150	700	1,500	6	34,570	680	1,500	6	1.54	1.54	2.43	2.43	2.32	2.32	
Grand	1	1	1	75	18	..	..	..	..	..	..	..	..	..	..	..	..	
Gunnison	1	4	1	75	18	..	..	..	..	..	..	..	..	..	..	..	..	
Hinsdale	1	1	1	850	100	..	1	1,405	75	..	1	5.35	5.35	..	5.35	5.35	5.35	
Huerfano	16	17	3	10,670	925	64	5	13,200	216	..	5	3.26	3.26	2.80	2.80	2.64	2.64	
Jefferson	27	27	22	7,000	324	..	24	22,470	1,106	64	24	3.42	3.42	3.15	3.15	2.57	2.57	
Lake	4	7	2	7,000	324	..	2	6,000	200	..	2	3.00	3.00	3.15	3.15	2.57	2.57	
La Plata	20	21	17	16,170	745	..	17	9,600	280	..	17	3.06	3.06	3.15	3.15	2.57	2.57	
Larimer	5	7	3	842	100	..	3	21,318	750	..	3	1.81	1.81	1.30	1.30	1.53	1.53	
Las Animas	22	10	2	450	100	..	2	4,200	700	1	2	2.47	2.47	1.44	1.44	1.44	1.44	
Lincoln	4	5	2	1,488	210	..	2	1,100	140	..	2	2.50	2.50	1.93	1.93	1.93	1.93	
Ouray	8	8	10	1,488	210	..	10	14,888	210	..	10	2.72	2.72	2.45	2.45	2.84	2.84	
Pueblo	20	25	14	32,352	673	20	9	32,415	590	..	9	3.50	3.50	2.45	2.45	2.84	2.84	
Rio Grande	6	6	4	9,950	316	..	4	10,950	296	..	4	2.68	2.68	1.91	1.91	4.48	4.48	
†Routt	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Saguache	10	0	4	1,675	87	..	4	900	135	..	4	3.55	3.55	..	3.55	2.93	2.93	
San Juan	1	1	1	1,000	60	..	1	700	60	..	1	3.34	3.34	..	3.34	4.00	4.00	
Summit	1	4	2	700	50	..	2	550	85	..	2	4.16	4.16	..	4.16	2.80	2.80	
Weld	33	32	28	40,190	1,160	..	29	46,181	1,289	..	29	4.05	4.05	2.69	2.69	3.14	3.14	
Total	389	414	225	\$406,801	13,599	3270	292	\$682,410	16,560	3,642	292	\$2.35	\$2.66	\$2.52	\$2.52	\$2.24	\$2.24	

† No Report.

\* Figures for 1880 from Report of 1879.

TABLE VII.--FINANCIAL STATEMENT FOR 1879.

COUNTY.	RECEIPTS.				EXPENDITURES.				Bal. on hand Aug. 31, 1879.			
	Bal. on hand Sept. 1, 1878.	Amount rec'd from General Fund.	Amount rec'd from Special Fund.	Amount rec'd from Building Fund.	Total Receipts.	Teachers' Wages.	Current Expenses.	Sites, Buildings, Furniture Etc.		Tem-porary loans p'd.	Total Expenditures.	
Arapahoe	\$ 5169 59	\$ 35453 95	\$ 42231 84	\$ 2015 17	\$ 20070 56	\$ 124941 11	\$ 47563 11	\$ 14445 25	\$ 17744 96	\$ 18036 16	\$ 97789 48	\$ 7151 63
Bent	2035 46	4270 72	11020 31	16 70	16 70	6322 82	4680 46	421 31	100 93	4202 73	2030 60	1748 90
Boulder	3384 45	11020 31	6549 36	3005 02	1354 62	25512 76	13486 93	4590 30	4104 01	527 31	3005 22	1320 41
Chaffee	5641 02	5415 27	5778 46	895 45	119 54	139 41	9761 74	1683 60	1191 75	60 50	12697 68	5152 06
Clear Creek	281 55	351 80	340 80	274 19	274 19	17855 65	404 10	83 63	39 85	275 00	588 61	188 61
Conejos	929 31	3757 36	230 78	578 36	609 70	4917 45	3243 30	374 00	1048 60	3617 79	348 90	1298 86
Costilla	1551 05	2873 61	121 60	1907 94	368 70	5674 32	3076 19	101 05	2069 72	169 41	4225 84	1448 58
Custer	2360 01	3340 82	100 00	1144 87	13237 30	8067 57	3499 37	173 95	993 02	997 66	5821 58	2245 82
Douglas	1012 74	5565 31	5414 38	506 12	1144 87	13237 30	9131 78	1407 72	993 02	997 66	12430 58	2245 82
Elbert	376 09	3124 97	10300 16	56 81	56 81	4027 00	2751 61	453 76	630 89	57 70	3833 26	797 72
El Paso	223 46	4759 17	26 79	5 55	5 55	15420 60	10744 25	1382 24	1242 12	57 70	334 31	1994 87
Fremont	46 15	223 35	197 09	128 23	20 20	301 84	207 00	45 00	142 12	232 00	232 00	49 84
Gilpin	30 83	2210 47	76 54	128 23	20 20	2447 38	886 15	857 49	111 62	53 25	1796 89	650 50
Gunnison	466 67	1059 44	670 35	581 01	2421 60	1743 38	1882 01	36 66	704 11	85 85	1742 08	1748 90
Hinsdale	1069 20	5736 61	207 63	845 02	3227 53	1743 38	788 95	1959 51	704 11	5178 72	15750 60	1748 90
Huerfano	163 82	742 72	807 63	845 02	3227 53	1836 75	4901 58	262 45	2948 89	840 90	4730 83	155 32
Jefferson	78 49	831 21	301 80	31 88	2676 59	4901 58	792 58	262 45	498 43	1360 46	321 04	321 04
Lake	2049 94	3916 12	1221 80	31 88	2676 59	9695 73	4558 98	242 55	2978 58	123 00	7599 81	2295 52
La Plata	237 01	3417 35	1056 83	404 78	3535 19	10811 25	4708 75	593 67	60 38	2151 82	7484 02	3126 63
Larimer	1500 58	741 94	14 30	2076 79	79 95	963 95	737 17	175 00	111 62	111 62	912 17	50 88
Las Animas	1993 54	1993 54	6792 35	219 73	4932 85	2076 79	7997 68	3592 81	773 12	3237 75	15511 26	2672 79
Las Animas Park	1952 62	3431 35	2960 18	206 18	1355 86	16426 30	7907 08	862 94	233 20	1486 80	4917 94	916 94
Lincoln	189 53	1461 14	405 50	1151 50	2117 23	1151 50	1901 17	259 35	45 00	50 12	1857 64	258 59
Pueblo	169 26	574 13	3750 80	198 84	3160 36	1151 50	575 00	9 00	84 00	473 94	1155 44	9 06
*Rio Grande	2475 61	11507 62	3750 80	198 84	3160 36	2853 23	570 00	7 75	2706 02	1327 57	277 75	474 09
Routt							10914 14	2600 50	2706 02	1327 57	17548 29	5304 94
Saguache												
San Juan												
Summit												
Weld												
Total	\$ 34156 74	\$ 191948 79	\$ 95674 89	\$ 15704 41	\$ 44543 82	\$ 309498 65	\$ 153144 36	\$ 36636 76	\$ 40159 97	\$ 34968 79	\$ 564370 88	\$ 45127 77

\*No organization.

TABLE VIII.---FINANCIAL STATEMENT FOR 1880.

COUNTIES.	RECEIPTS.				EXPENDITURES.					Balance on hand August 31, 1880.		
	Balance on hand Sept. 1, 1879.	Amount rec'd from General Fund.	Amount rec'd from Special Fund.	Amount rec'd from Building Fund.	Amount rec'd from all other Sources.	Total Receipts	Teachers' Wages.	Current Expenses.	Sites, Buildings, Furniture, Etc.		Temporarily loans paid.	Total Expenditures.
Arapahoe	\$ 6194 84	\$62043 34		\$25923 40	\$ 5983 07	\$173310 19	\$ 53264 56	\$1838 06	\$43739 20	19731 67	\$130590 49	\$ 42719 70
Bent	2030 19	5441 00	729 65		8200 74	8200 74	3960 00	633 54	711 75		5305 29	28795 45
Boulder	3001 50	14355 39	7134 20	2957 82	2276 66	29725 57	15622 79	4767 23	3462 06	927 43	24779 51	4946 06
Chaffee		1239 33				1739 33	1335 52				1335 52	463 81
Clear Creek	5094 45	5177 01	5813 04	568 08	731 59	17384 17	10668 12	1915 46	646 89	307 47	13137 94	4246 23
Conejos	206 84	672 50			303 42	1182 76	781 25	62 10			843 35	339 41
Costilla	316 66	2466 75			193 01	2916 45	954 50		260 30		1214 86	1761 65
Custer	1395 06	4328 89		1302 88	4754 66	11691 49	3970 66	827 90	3653 34		8451 91	3239 59
Douglas	1448 49	3254 31	519 09	1379 83	871 49	7494 21	3459 75	110 31	1734 19	377 02	5681 27	1782 94
Elbert	1838 95	4069 99	855 83	656 62	179 72	7761 11	3526 83	234 37	548 21		4300 41	3451 70
El Paso	429 92	7914 14	8283 09	5386 91	368 12	22394 18	10245 03	2427 42	6707 96	1079 85	20400 26	1938 92
Fremont	2073 04	4131 38	1768 20	15749 15	942 55	23632 23	32945 54	2242 28	15130 28	166 99	20829 09	2223 14
Gilpin		3912 27	10665 49		361 40	16952 26	11567 46	1874 98	585 95	251 97	14886 36	2671 90
Grand	18 44	122 64	19 52		71 15	231 75	172 00				172 00	59 75
Gunnison		255 00				255 00	255 00				255 00	
Hinsdale	737 92	2314 25		15175 00		18237 05	955 00	520 27	2861 54		4816 81	13420 24
Huerfano	1831 00	3202 88	344 81	124 10	3232 31	8735 10	2153 50	88 25	289 88		2531 03	6203 57
Jefferson	1428 77	5668 62	6735 70	4968 65	9048 38	27850 18	9410 90	2540 21	10546 66	3643 34	26141 11	1799 07
Lake		6335 82	23348 41	62 25	1868 48	31614 69	1027 00	6337 98	8000 00		24615 98	6998 98
La Plata	382 04	1239 72	395 24	45 05	20 00	2073 05	1229 40	373 46	45 05		1627 91	445 14
Larimer	1869 83	5431 44	3239 00	5684 61	1845 84	17490 72	5734 62	1522 22	38055 66	1272 61	12325 13	5165 61
Las Animas	202 23	9631 00	1111 06	1841 33	318 53	13364 15	6105 00	1062 04	735 35	110 74	8013 13	5291 02
Ouray	60	337 74	357 59		707 63	1463 56	729 55	113 48	156 30	371 10	1370 43	93 13
Park	No Report											
Pueblo	445 19	7774 68	5148 31	11520 63	13994 54	38983 35	9715 21	1696 32	9366 24	13994 24	34772 01	4211 34
Rio Grande	1526 73	1375 53	2002 30	79 20	654 20	5038 02	2812 15	559 20	247 73		3619 43	2018 59
Routt		No organization										
Saguache	235 07	3085 11	761 99			4102 17	1542 39	585 33	11 25		2038 97	2663 20
San Juan	200 85	733 50		169 00		922 50	750 00	33 50	169 00		902 50	133 83
Seminole	4115 43	14103 87	1718 66	1940 19	5308 94	67167 03	413 00	33 50	200 55		613 55	6664 98
Weld							11557 47	2977 50	2369 33	3697 35	20522 50	
Total	\$37614 92	\$1823295 63	\$154006 60	\$94937 70	\$53695 81	\$522586 66	\$186425 55	\$4253 31	\$115922 17	\$45925 78	\$39526 81	\$127053 85

## TABLE IX.

## FINANCIAL SUMMARY, 1879.

RECEIPTS.	RECEIPTS.	EXPENDITURES.
1. Balance on hand September 1st, 1878 . . .	\$ 34,156 74	
2. Amount received from general fund . . .	119,418 79	
3. Amount received from special fund . . .	95,674 89	
4. Amount received from building fund . . .	15,704 41	
5. Amount received from all other sources . . .	44,543 82	
6. Total receipts . . . . .	\$309,498 65	
EXPENDITURES.		
7. Teachers' wages . . . . .		\$ 153,144 36
8. Current expenses . . . . .		36,099 76
9. Sites, buildings, furniture, etc . . . . .		40,157 97
10. Temporary loans paid . . . . .		34,968 79
11. Total expenditures . . . . .		\$ 264,370 88
12. Balance on hand August 31st, 1879 . . .		45,127 77
Totals . . . . .	\$309,498 65	\$ 309,498 65

## TABLE X.

## FINANCIAL SUMMARY, 1880.

RECEIPTS.	RECEIPTS.	EXPENDITURES.
1. Balance on hand September 1st, 1879 . . .	\$ 37,764 92	
2. Amount received from general fund . . .	182,325 63	
3. Amount received from special fund . . .	154,006 60	
4. Amount received from building fund . . .	94,937 70	
5. Amount received from all other sources . . .	53,695 81	
6. Total receipts . . . . .	\$522,580 66	
EXPENDITURES.		
7. Teachers' wages . . . . .		\$ 186,425 55
8. Current expenses . . . . .		47,253 31
9. Sites, buildings, furniture, etc . . . . .		115,922 17
10. Temporary loans paid . . . . .		45,925 78
11. Total expenditures . . . . .		\$ 395,526 81
12. Balance on hand August 31st, 1880 . . .		127,053 85
Totals . . . . .	\$522,580 66	\$ 522,580 66



TABLE XI.--APPORTIONMENT OF PUBLIC SCHOOL INCOME FUND.

COUNTY.	JULY, 1879--\$26.6-10 cts. Per Capita.				JANUARY, 1880--20 cts. Per Capita.				JULY, 1880--33 cents Per Capita.			
	Amount Apportion'd	Deducted for Blanks.	Balance Certified to Auditor.	Amount Apportion'd	Deducted for Blanks.	Balance Certified to Auditor.	Amount Apportion'd	Deducted for Blanks.	Balance Certified to Auditor.	Amount Apportion'd	Deducted for Blanks.	Balance Certified to Auditor.
Apache	\$1444 11	\$ 11 35	\$1432 76	\$1184 20	\$ 165 55	\$1078 65	\$1053 93	\$ 9 75	\$1043 18	108 24	108 24	814 10
Bent	104 67	2 10	100 27	60 60	17 68	47 92	108 24	14 11	94 13	828 30	828 30	50 55
Boulder	674 04	18 83	655 24	592 04	149 58	352 42	86 46	35 01	819 45	484 14	484 14	109 89
Chaffee	58 03	1 80	56 23	52 45	52 40	271 60	271 60	4 00	267 60	209 89	209 89	183 16
Clear Creek	326 11	5 58	320 53	271 60	27 58	30 02	299 73	25 35	274 38	191 49	191 49	153 42
Craig	19 05	3 20	15 85	166 20	63 00	113 20	113 20	8 24	105 00	658 42	658 42	553 56
Costilla	221 05	3 60	218 05	176 20	79 73	25 67	173 91	79 93	98 98	333 96	333 96	333 96
Custer	133 26	3 60	129 66	165 46	179 73	25 67	173 91	1 35	172 56	527 30	527 30	419 87
Douglas	188 84	5 70	183 14	170 80	110 62	62 18	191 49	12 87	180 62	10 89	10 89	10 89
Edwards	188 44	3 00	185 44	170 80	12 62	62 18	191 49	10 89	180 60	10 89	10 89	10 89
El Paso	586 34	8 55	581 79	368 80	124 10	397 03	368 80	79 93	500 73	668 52	668 52	553 56
Flour	181 89	5 00	176 89	202 00	17 90	276 29	333 96	1 35	332 61	419 87	419 87	333 96
Gilpin	329 84	1 80	328 04	254 80	17 90	276 29	333 96	1 35	332 61	419 87	419 87	333 96
Grand	5 85	30	5 55	7 80	1 15	6 65	5 85	12 87	12 87	10 89	10 89	10 89
Gunnison	92 56	75	91 81	6 60	4 22	2 38	10 89	10 89	10 89	10 89	10 89	10 89
Hinsdale	354 11	4 80	349 31	55 60	5 70	49 82	91 74	10 89	80 85	10 89	10 89	10 89
Huerfano	31 96	7 05	24 91	266 20	124 05	144 25	439 23	36 37	405 60	439 23	439 23	439 23
Jefferson	93 10	75	92 35	287 20	56 90	228 30	473 88	8 42	465 46	465 46	465 46	465 46
Lake	36 44	1 50	34 94	33 60	35 40	249 00	469 20	55 44	413 76	413 76	413 76	413 76
La Plata	259 34	6 00	253 34	184 40	6 32	27 27	55 44	5 94	49 38	55 44	55 44	55 44
Larimer	649 83	6 00	643 83	483 80	75 95	168 45	394 26	5 94	388 32	394 26	394 26	394 26
Las Animas	13 86	1 50	12 36	24 40	6 13	18 27	798 27	40 26	758 01	798 27	798 27	798 27
Lyon	71 82	2 40	69 52	75 80	28 32	40 48	46 26	7 45	59 71	46 26	46 26	46 26
Park	376 39	8 25	368 14	310 40	130 10	180 30	124 16	7 45	116 85	124 16	124 16	124 16
Pueblo	135 66	1 80	133 86	88 40	9 32	79 08	145 86	145 86	145 86	145 86	145 86	145 86
Rio Grande	86 39	3 00	77 39	70 60	8 37	62 23	116 49	116 49	116 49	116 49	116 49	116 49
*Rout	14 36	60	13 76	9 40	2 26	7 14	15 51	15 51	15 51	15 51	15 51	15 51
Saguache	12 76	6 00	6 76	6 00	6 00	6 00	6 00	9 90	9 90	9 90	9 90	9 90
San Juan	355 11	9 15	345 96	284 00	94 43	189 57	468 60	95 20	373 40	468 60	468 60	468 60
Summit	7041 30	\$ 127 83	\$6613 77	\$2018 40	\$1488 58	\$4429 82	\$9795 56	\$341 83	\$9353 53	\$9795 56	\$9795 56	\$9353 53
Weld	355 11	9 15	345 96	284 00	94 43	189 57	468 60	95 20	373 40	468 60	468 60	468 60
Total	\$7041 30	\$ 127 83	\$6613 77	\$2018 40	\$1488 58	\$4429 82	\$9795 56	\$341 83	\$9353 53	\$9795 56	\$9795 56	\$9353 53

\*No organization.

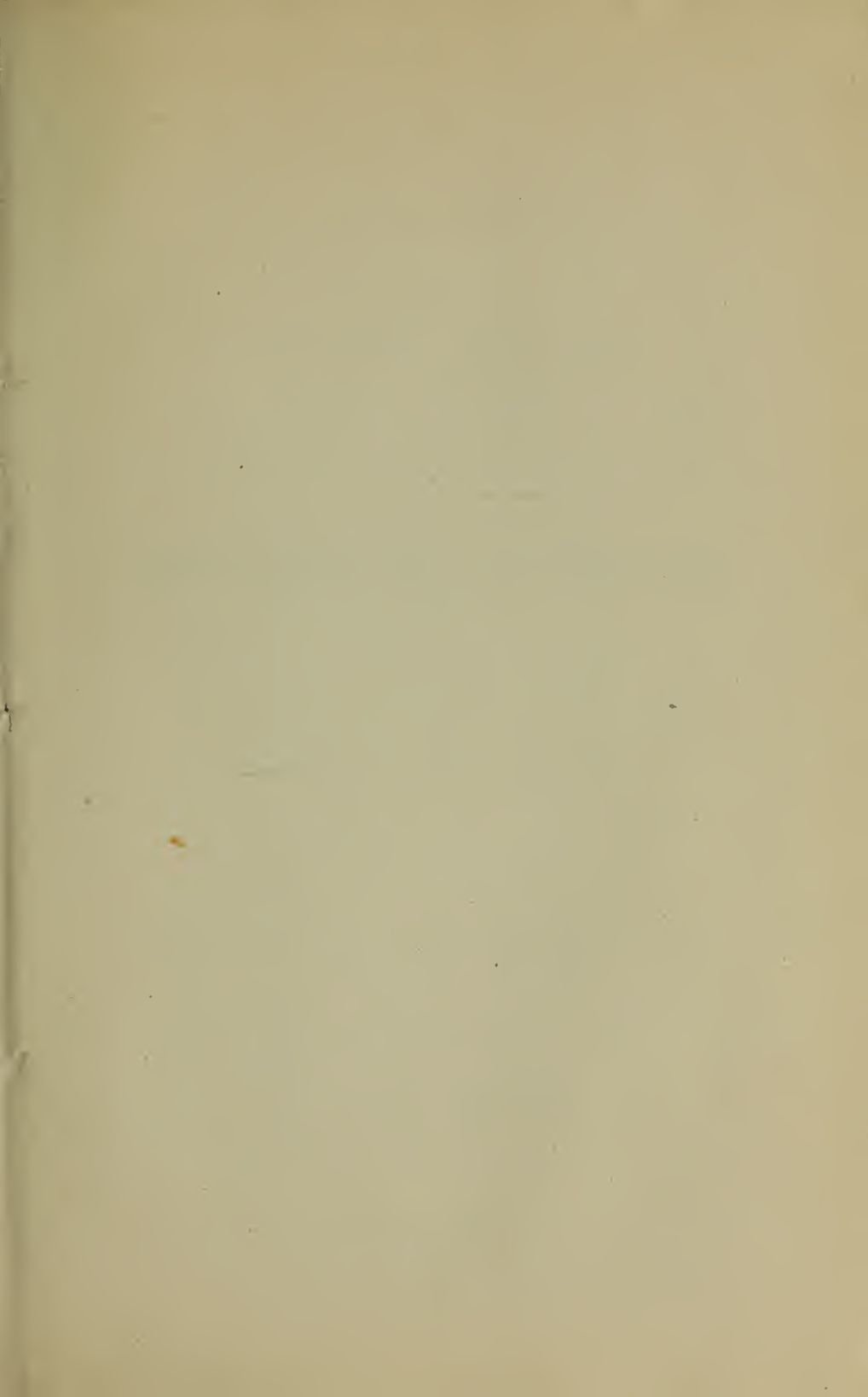
## TABLE XII.

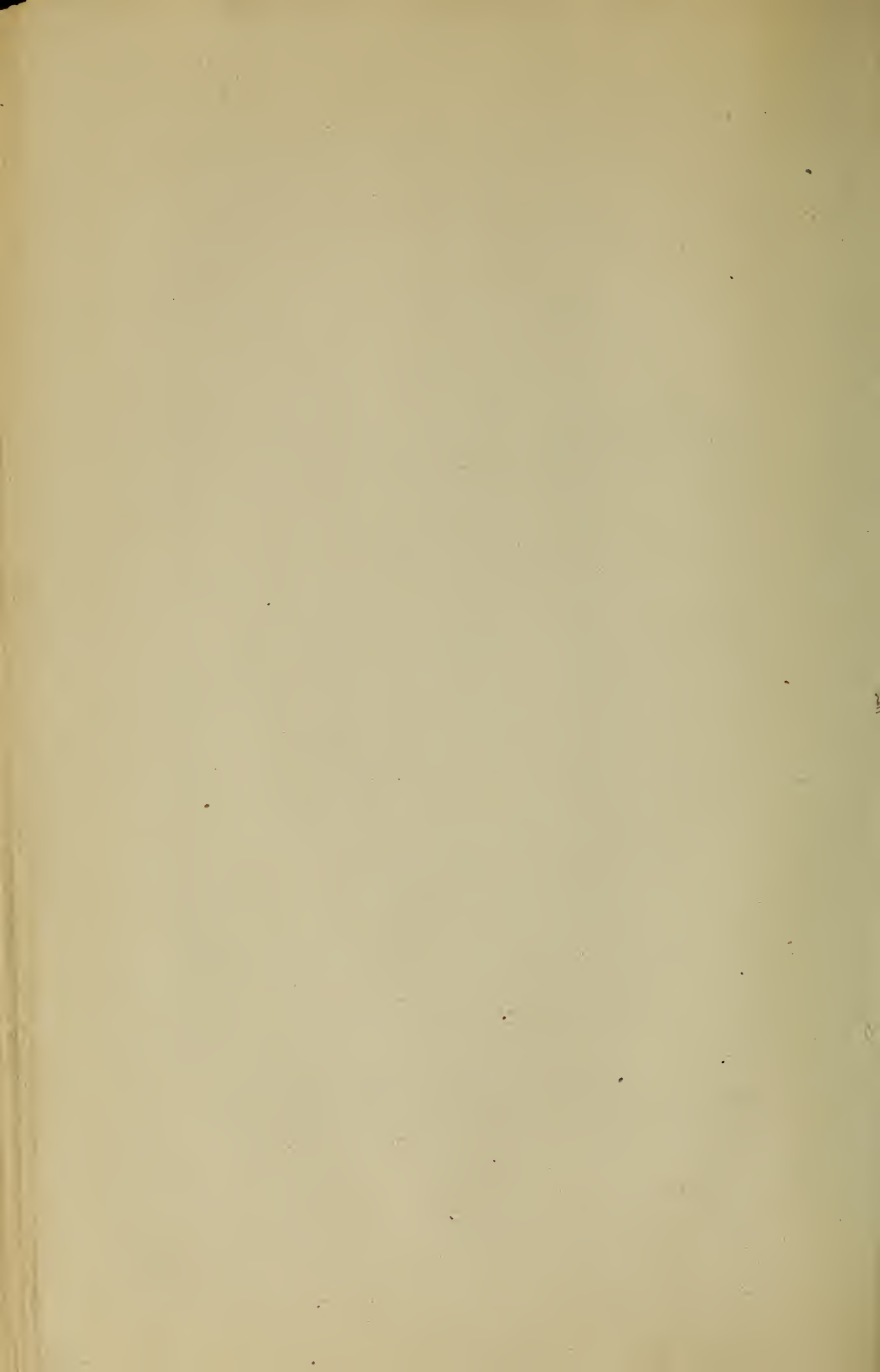
## TEXT BOOKS.

*Showing the Number of Districts using the Text Books named in five leading branches.*

COUNTIES.	READING.		ARITHMETIC.		GRAMMAR.		GEOGRAPHY.		HISTORY.							
	Independent.	McGuffey.	Appleton.	Peck.	Ray.	White	Clark.	Greene.	Harvey.	Swinton.	Montcith.	Eclectic.	Guyot.	Barnes.	Venable.	Ridpath.
Arapahoe . . . . .	16	3		20	2	5	13	6	4	4	15	11	1	13	3	
Bent . . . . .		2			3	5			4	2	1	5			4	
Boulder . . . . .	46			46			32		2	1	39			29		1
Chaffee . . . . .	8				2				4		6					
Clear Creek . . . . .	4			6	2		6			3	6		1	5		
Conchos . . . . .	1		1	1					6		1		1	1		1
Costilla . . . . .	7								6		1		1	1		
Custer . . . . .	6			3		4					9					
Douglas . . . . .	21			3	5	2	20	2	5		5	2	1	2		
Elbert . . . . .	21			21			16		3	3	21			21		
El Paso . . . . .	11	4		4	4	2	5			4	3	3		4		
Fremont . . . . .	20	2		12	12	1	15	1	1	1	22			12		
Gilpin . . . . .	2	2			7	10	2		8	1	6	6		2	3	
Grand . . . . .	4			4	1		5		1	1	4	1		5		
Gunnison . . . . .																
Hinsdale . . . . .				1						1		1		1		
Huerfano . . . . .																
Jefferson . . . . .	3	2		2	4		3				3					
Lake . . . . .	27			27			27				27			27		
La Plata . . . . .	7				7	1			7					7		
Larimer . . . . .	7			7	1		3		1		7			4		
Las Animas . . . . .	16		5	19	2		17				18			10		
Ouray . . . . .	19			19							19					
Park . . . . .	2	2		2	2		3				4			2	1	
Pueblo . . . . .														2		
Rio Grande . . . . .	10	3		2	14		5	1	2	3	12		2	6		
Routt . . . . .													6			
Saguache . . . . .																
San Juan . . . . .																
Summit . . . . .				1	2		2							1		
Weld . . . . .	3															
Total . . . . .	266	32	10	222	70	32	189	18	47	26	246	40	14	161	11	2

This list is not complete, but shows the books in most common use.





THIRD

BIENNIAL REPORT

—OF THE—

Superintendent of Public Instruction

—OF THE—

STATE OF COLORADO.

—FOR THE—

YEARS ENDING AUGUST 31, 1881, AND AUGUST 31, 1882.

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PUBLISHED BY AUTHORITY.

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DENVER, COLO.:  
TIMES: PUBLIC PRINTER.  
1883.



DEPARTMENT OF PUBLIC INSTRUCTION,  
DENVER, COLO., DEC., 10, 1882.

*To His Excellency; FREDERICK W. PITKIN, Governor of  
the State of Colorado.*

SIR: In accordance with the law I have the honor to transmit herewith to you the Third Biennial Report of the Superintendent of Public Instruction for the two years beginning September 1, 1880, and ending August 31, 1882.

Very Respectfully,

LEONIDAS S. CORNELL,  
*Supt. of Public Instruction.*





STATE BOARD OF EDUCATION.

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1881 TO 1883.

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LEONIDAS S. CORNELL, —  
*Superintendent of Public Instruction.*

NORMAN H. MELDRUM,  
*Secretary of State.*

CHARLES H. TOLL,  
*Attorney General.*

---

1883 TO 1885.

---

JOSEPH C. SHATTUCK,  
*Superintendent of Public Instruction.*

MELVIN EDWARDS,  
*Secretary of State.*

DAVID F. URMY,  
*Attorney General.*

THE [illegible] [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

TABLE SHOWING INCREASE ETC., FOR THE PAST TWO YEARS.

	1880.	1881.	1882.	Increase for the last year.	Increase for the last two years.
No. School Districts . . . . .	414	454	511	57	97
No. Teachers employed . . . . .	678	801	900	99	222
No. School houses . . . . .	292	314	370	56	78
No. Sittings . . . . .	16,560	19,486	26,470	6,984	9,910
School Population . . . . .	35,566	40,804	49,208	8,408	13,642
Enrollment . . . . .	22,119	26,000	31,738	5,738	9,619
Average Daily attendance . . . . .	12,618	14,649	18,488	3,839	5,870
Teachers Examined . . . . .	484	593	709	106	225
Value of School Property . . . . .	\$682,410 00	\$977,213 00	\$1,235,491 00	\$248,278 00	\$563,081 00
Total receipts, including bal. in hands of Dist. or Co. treas . . . . .	\$52,580 00	\$708,516 00	\$708,092 00	\$59,516 00	\$245,452 00
Balance on hand . . . . .	\$127,053 85	\$151,365 57	\$106,613 70		
Expenditure per Capita of School Population . . . . .	\$11 07	\$13 64	\$13 44		
Volumes in Libraries . . . . .	3,642	5,087	6,471	643	2,088
No. persons who cannot read or write . . . . .					



## GROWTH OF THE SCHOOL WORK.

---

The large increase in the population of the State during the past two years, and the establishment of new communities in the hitherto unsettled portions of the State, have occasioned the organization of many new schools, and the necessity of increased facilities, in order to accommodate the growth in those schools previously organized.

The biennial period now closing may therefore be said to be one in which the organization of school districts and the building, enlarging and furnishing of school-houses were important features. During this time about one hundred districts have been organized, and almost as many school-houses have been erected.

### QUALITY OF THE SCHOOLS.

There is often danger of forgetting to some extent the quality of our schools during what may be termed the organizing or growing period, more attention being given to the securing of school privileges than to the quality of the school. By quality is meant the ability of a school to assist the child in its development physically, intellectually and morally; that school being best which does most for the child in these respects. The purpose of the school should be to develop the qualities of good character as well as good scholarship; indeed, our schools should aid in producing that which we most need, viz; citizens possessing the genuine qualities of manhood, men and women of worth, rich in the elements of usefulness and virtue.

The standard of measurement for the quality of a school is not found alone in its ability to produce intellectual strength, while the substantial qualities that make

the man or woman are forgotten ; but the true test is the power of the school to aid the pupil to think right and to do right.

While our schools are not yet up to the standard of perfection desired, yet there seems to have been a steady improvement in the quality, as well as increase in number. The question of quality is one of the utmost importance to our schools, and should lead to the greatest care upon the part of those who are responsible.

Care in the building and furnishing of school houses, and especially in the selection and employment of teachers, is very essential in order to secure the best results, for the quality of the work will depend largely upon the quality of the teacher. Therefore, officers upon whom these responsibilities are laid, should study to know the qualities of an efficient teacher and a good school.

#### OUR SCHOOL SYSTEM.

It is said by many, and truly, that Colorado has a most excellent public school system. In this respect we feel equal to any State in the Union ; but a good system will not produce the desired result, unless it be well worked. The virtue of a school system, or any other system of work, lies in its adaptability to secure the end sought.

The virtue of our public school system lies in its possessing the best possible provisions for the free education of the youth ; but it is mere theoretical virtue, it is latent virtue, until it is put into effective operation by being vigorously and efficiently worked in all of its departments.

The full benefits of the public school system can only be secured to the State by having every department properly filled and the duties faithfully executed. There is a work to be done in each official capacity that cannot be omitted, nor poorly done, without injury to the school or schools involved.

It is very fortunate for the school interests of the State, that from the earliest settlement to the present a large per cent of the inhabitants have been persons who

have enjoyed liberal educational advantages in the best educational centers of the East, and not a few persons of eminent scholarly ability and large experience in the school work, have been mingled here and there in the various communities of the State. Our schools and our school system, as we find them to-day, with whatever virtues or other commendable features they possess, reflect the character and intelligence of the people by whom they have been organized and guarded.

The public schools are a very good index to the people who organize and control them.

With an energetic, moral and intelligent people, and an excellent school system, we have only to execute faithfully and efficiently to realize grand possibilities.

The results of a good school system, well worked by an intelligent people, cannot fail to be replete with satisfaction. In order to illustrate the school work more clearly, below is given a

## Synopsis of the Public School System of Colorado.

---

### OFFICERS.

Superintendent of Public Instruction.

State Board of Education.

Board of Examiners.

County Superintendents.

District School Boards.

### DISTRICT SCHOOLS.

Ungraded Schools.

Graded Schools, with High School Course.

## STATE INSTITUTIONS.

University, Boulder.  
 School of Mines, Golden.  
 Agricultural College, Fort Collins.  
 Mute and Blind Institute, Colorado Springs.  
 Industrial School, Golden.

## ASSOCIATIONS.

State Teachers' Association. Meets annually.  
 County Teachers' Association.

## SCHOOL AGE.

Between six and twenty-one. Attendance voluntary.

## SCHOOL YEAR.

Begins September 1, ends August 31.

## SUPERINTENDENT OF PUBLIC INSTRUCTION.

Elected by the people for two years. Has general supervision of the public schools. Collects and tabulates the school statistics of the State; apportions the State school fund to the counties; gives information to school officers upon construction of school law; prepares and furnishes blanks for use of school officers; also prepares questions for the regular county examinations; visits annually such counties as most need his personal attendance, inspecting schools and making public addresses; is President of the State Board of Education and a member of the State Board of Land Commissioners; makes biennial report to the Governor, in December previous to each session of the Legislature; causes school law to be published and distributed in pamphlet form; is *ex officio* State Librarian.

## STATE BOARD OF EDUCATION.

Consists of Superintendent of Public Instruction, Secretary of State and Attorney-General.



Issues State diplomas to such teachers as may pass examination, after having taught successfully in the State for two years; tries appeals from the decision of County Superintendents, but cannot render a judgment for money.

#### BOARD OF EXAMINERS.

Consists of Superintendent of Public Instruction, the Presidents of the State University, State School of Mines and State Agricultural College.

This board fixes the extent, conditions and other necessary arrangements of examinations for State diplomas.

#### COUNTY SUPERINTENDENTS OF SCHOOLS.

Elected by the people for two years. Compensation five dollars per day and ten cents for each mile necessarily traveled, but such compensation may not exceed eight hundred dollars in one year; holds quarterly examinations for teachers and grants certificates to successful applicants; apportions the county school fund to the districts; visits each district at least once each quarter while school is in session, for the purpose of inspecting the schools, advising with teachers and school officers, and examining the books and accounts of the latter, to see if the same are properly kept, and the district funds accounted for; receives reports from district secretaries and makes report annually to Superintendent of Public Instruction; hears appeals from decisions of District Boards; supplies districts and teachers with copies of the school law and all needed blanks; is Land Commissioner of the county.

#### DISTRICT SCHOOL BOARDS.

In districts of the first class: *i. e.*, those which have a school population of more than 1,000, the District Board is composed of six directors, two of whom are elected annually on the first Monday in May, and hold office three years. They elect one of their number president, a secretary who may be a member of the Board,

and a treasurer who may not be a member of the Board. In all other districts, the Board consists of three members, term three years, one elected each year. These District Boards are the executive officers of the districts, which are bodies corporate, created by law.

The directors are custodians of the district property of all kinds; they employ and discharge teachers and laborers and fix the salaries of the same; make rules for the government of the schools, and prescribe the course of study and the text books; suspend or expel the pupils; disburse all school money; keep district records; take school census; report annually to County Superintendent; enforce the rules and regulations of the Superintendent of Public Instruction and in general do all things necessary to carry on the schools.

In districts with a school population of 350 or more, the directors fix the amount of the special tax levy for school purposes; in smaller districts, if more than two mills is required, the question is submitted to a vote of the people. Districts of the first and second class may also levy a tax of one-tenth of a mill for library purposes.

The Constitution of the State provides, "That no person shall be denied the right to vote at any school district election, or to hold any school district office on account of sex."

#### SCHOOLS.

No district is entitled to any portion of the State or county funds unless it maintains a school, taught by a licensed teacher for at least 60 days in each year. In the country districts, schools are maintained from 60 to 120 days, sometimes prolonged even to 200 days. In cities and towns the schools are from 120 (in a few) to 200 days in length; those in which is enrolled a majority of the pupils of graded schools, are in session at least 190 days, while those in which is enrolled a majority of the pupils of ungraded schools, are in session about 100 days.

All the graded schools have a High School course open to all, while Denver is the only place sufficiently populous as yet to require a High School with a full and entirely distinct faculty.

## SCHOOL REVENUE.

The Public School revenue of Colorado is derived almost exclusively from taxation. In common with other new Western States, she has a land grant of sections 16 and 36 in each surveyed township, but so large a portion of these fall upon arid lands that the grant is of little aid to our school fund. The Statute provides for the annual levy of a county tax for school purposes of not less than two nor more than five mills; this, with the proceeds of penal fines, constitutes the county school fund.

To this is added whatever may be received from the State fund, which, during the past two years, has amounted to eighty-five cents per capita of the school population.

## STATE DEPARTMENT.

## SCHOOL VISITATION.

The importance of visiting and inspecting schools in the different counties of the State, "for the purpose of awakening and guiding public sentiment in relation to the practical interests of education," by the Superintendent of Public Instruction, was well understood by the lawmakers when they made this a part of his duty, but it yet remains for such provision to be made as shall give him time to do this work. A very important work may be accomplished by a personal visitation of the schools by the Superintendent, but in order that he may do this successfully, it is necessary that some one be provided to attend to the office work during his absence.

It has been my privilege to visit, briefly, most of the counties of the State during my term of office, and while not permitted to spend as much time in this way as desired, yet it is evident that such visitation was not without its beneficial effects. More of this kind of work would greatly benefit the school interests of the State.

## STATE EXAMINATION.

A State Examination was held by order of the State Board of Examiners. The following notice of which was issued:

## OFFICE OF SUPERINTENDENT OF PUBLIC INSTRUCTION.

DENVER, COLORADO, *November 17th, 1881.*

## STATE EXAMINATION.

A three days' examination for those desiring State Certificates, will be held at the State House, Denver, Colo., beginning Dec. 26, at 9 o'clock a. m., and closing Dec. 28, at 5 o'clock p. m.

Applicants will be examined in the following branches: Arithmetic, Reading, Grammar, Geography, Orthography, U. S. History, Constitution of U. S., Algebra, Geometry, Natural Philosophy, Mental Philosophy, Chemistry, Rhetoric, Botany, Mineralogy and Geology, Political Economy, Astronomy, Zoology, Physiology, Latin, English and American Literature, and Theory and Practice of Teaching. All persons who desire to take the examination will please report to me at an early date.

L. S. CORNELL,

*Supt. of Pub. Instruction.*

Two persons, Robert Casey and F. E. Smith, took this examination and received diplomas, they being the first in the State who have received diplomas on examination. Previous to this, diplomas were granted upon diplomas held from other States, but by the law of 1881, only such as pass an examination and have taught two years in the State can receive State diplomas.

The following is a list of those holding State diplomas in this State:

NAME.	WHEN ISSUED.	HOW ISSUED.	GRADE.
Horace M. Lale . . . . .	Dec. 2, 1878.	On Diploma.	First.
Aaron C. Gove . . . . .	" "	" "	"
Justin E. Dow . . . . .	" "	" "	"
Frank J. Annis . . . . .	" "	" "	"
Isaac C. Dennett . . . . .	" "	" "	"
James H. Baker . . . . .	" "	" "	"
Henry L. Parker . . . . .	" "	" "	"
Henry F. Wegener . . . . .	" "	" "	"
Mary Thomas . . . . .	" "	" "	"
Adele M. Overton . . . . .	" "	" "	"
S. M. Smelgh . . . . .	" "	" "	Second.
Adele B. Clark . . . . .	" "	" "	"
Kate Wheelock . . . . .	" "	" "	"
Ira Davis . . . . .	Sept. 15, 1879.	" "	First.
Ellen J. Merritt . . . . .	" "	" "	Second.
Albert E. Chase . . . . .	" "	" "	First.
Fred. E. Smith . . . . .	July 22, 1882.	On Examination.	"
Robert Casey . . . . .	" "	" "	"

## UNIFORMITY IN THE SCHOOL WORK.

Uniformity in the work of the schools of various grades is a matter of much importance and a condition greatly needed.

## DEFINITE WORK IN OUR UNGRADED OR COUNTRY SCHOOLS.

Our country schools without any definite course of study are too much like accommodation trains that take persons on and off without reference to time or station.

It is evident that if our ungraded schools accomplish the desired work there must be presented to them a definite course of study, something to be completed, and when completed something given to the pupil in form of a diploma or certificate to show that the work has been done. This course should be uniform. So, too, this uniformity should exist in graded and high school courses. We need a system of instruction so uniform that when a pupil goes from one school to another of like grade, the teacher will know just where to place him.

Our High Schools should be so conducted as to fit their graduates for entering the State University.

The State has furnished these higher institutions of learning, the State University, School of Mines and Agricultural College, and our schools below should become feeders to these seats of learning or they cannot prosper as they should. Michigan has given us an example, that it will be wise for us to follow as far as possible, in arranging a uniform course for its High Schools that fits the graduate for the State University.

Uniformity in Text Books can only be had through the agency of School Boards. Counties might secure uniformity if a convention of the members of the School Boards of a county would agree upon a class of Text Books to be used in all the schools, and then see that they were introduced.

Being impressed that something should be done to encourage uniformity in the school work of the State, I issued the following call for an educational convention:

## OFFICE OF SUPERINTENDENT OF PUBLIC INSTRUCTION.

DENVER, COLO., June 10, 1882.

DEAR SIR:

An Educational Convention will be held at Denver, June 17th, to begin at 9 o'clock a. m.

The purpose of this convention is to consider the following subjects, viz.:

1. The necessity of a uniform course of study in our High Schools.
2. Necessity of a uniform course in our graded schools.
3. Necessity of a definite and uniform course in our ungraded schools.

As these are important subjects, it is hoped that all interested will try to be present. Persons coming to this Convention will call at my office at the State House, where they will be directed to the place of meeting.

Yours truly,

L. S. CORNELL,

*Supt. Pub. Instruction.*

In accordance with this call the Convention assembled, and the results were quite satisfactory. Committees were appointed, which reported courses for the different grades of schools. In publishing these courses it is with the feeling that they are endorsed and recommended by the leading educators of the State.

That the sentiment of the Convention may be better understood, the following resolutions, unanimously passed by the Educators thus assembled, are here inserted:

*Resolved*, That in all towns of sufficient size, where not already existing, we deem it important that a three-years' High School course be established as soon as possible.

*Resolved*, That, so far as practicable, the course of study in the High Schools of the State should meet the requirements for admission to the State University.

*Resolved*, That we recognize the necessity of encouraging a uniform course in the graded schools of the State.

*Resolved*, That it is desirable to have a uniform and definite course of study for our ungraded schools.

*Resolved*. That the State Superintendent be requested to have the final reports of all committees ready, and to cause them to be printed in full in his biennial report to the Governor, and that the reports as then printed be considered adopted by this Convention, subject to any revision that may be made by the teachers assembled in their annual association.

In obedience to the last resolution the courses, as prepared, are here published, with a desire that they may lead to uniformity, and a hope that permanent good to the schools of the State may be the result. These courses are recommended to the consideration of the school officers and teachers of the State.

## COURSE OF STUDY FOR UNGRADED SCHOOLS, EMBRACING SEVEN YEARS' WORK :

### FIRST GRADE.

Reading—Primary reader completed.

The word method to be followed, if possible.

Everything in the book to be thoroughly understood by the pupil. Talk with the class about the lesson at the beginning of each recitation. Read the preceding day's lesson in review, and develop the child's language by the conversation thereon. Give attention to distinct articulation, natural expression, and a correct enunciation of the vowel sounds. Name the Roman and Arabic numerals as they occur in the reading lesson.

Spelling—The words of the reading lesson by letter and by sound. Teach the pupil to study the lesson by copying the words on their slates.

Writing—On slate words from their reading lesson, and short sentences from dictation. Every pupil to be able to write his own name with pencil.

Numbers—Clear perception of numbers from one to ten, develop by means of objects, and at each successive step all possible additions, subtraction, multiplication and divisions of integral numbers, to be learned within each limit as it is reached. Exercises in rapid reckoning and applicate problems. The signs of addition, subtraction, multiplication, division and equality to be learned and their uses understood. Write and read Arabic numerals to 100.

Language—Cultivate the pupil's language by conversation on familiar topics. Encourage the child to talk. See that he has something to talk about before urging him to talk. Endeavor to secure complete sentences and clear statements.

Object Lessons and General Instruction—Size, place, color, time and human body.

Drawing—Simple lines and forms.

Music.

#### SECOND GRADE.

Reading—Second reader completed.

Pupils to be taught the use of all diacritical and punctuation marks in the reading lesson and the meaning of all new words. As in the first grade, particular attention should be paid to articulation and natural expression. Let each reading lesson be thoroughly understood before the final reading.

Spelling—All words in the reading lesson. Sentences from dictation on the slate, observing capitals, punctuation marks, apostrophes, hyphens and quotation marks.

Writing—Daily exercise in copy books prepared for primary departments.

Numbers—Exercises, mental and written, in addition, subtraction, multiplication and division, to result not exceeding fifty. In division, the dividend not to exceed fifty. Notation and numeration, to millions.



Language—Continue first grade work. Write sentences combining given words, ever remembering capitals and punctuation marks.

General Exercises—Geometrical and solid forms.

Music and Drawing.

#### THIRD GRADE.

Reading—Third reader completed. Everything upon the printed pages to be understood.

Spelling—All the words in the reader. Written recitation in spelling four times a week. Oral spelling every day. New and difficult words occurring in any lesson, especially in geography and arithmetic.

Numbers—Learn the processes of addition, subtraction, multiplication and division.

Geography—Prepare the pupil by oral instruction for receiving the text book.

Language—The pupil has no text books. By oral instruction and use of the blackboard an idea of sentences, their different parts and the different kind of words should be developed. Avoid technical terms. Let pupils construct sentences and write lists of the different kinds of words.

Writing—Daily exercises continued.

General Lessons—Some idea of Elementary Botany by object lessons.

Music and Drawing.

#### FOURTH GRADE.

Reading—Fourth reader, including introduction.

Spelling—Written and oral, words from all the text books in the grade.

Arithmetic—Pupils taught a ready use of fractions. Mental exercises parallel of the written work.

Geography—Elementary. Particular attention paid to map-drawing. Draw map of Colorado.

Grammar—Elementary grammar.

General Lessons—Physiology and hygiene.

Music and drawing.

#### FIFTH GRADE.

Reading—Fourth reader completed. Supplementary reading selected by the teacher.

Spelling—Written and oral.

Penmanship—Use copy-books. Daily exercise.

Geography—Finish first third of second book.

Arithmetic—To percentage, especial attention being given to mental work.

Language—Elementary grammar.

Music and drawing.

General lessons in natural science.

#### SIXTH GRADE.

Reading—Fifth reader, with supplementary reading.

Spelling—As in fifth grade, with dictation exercises, paragraphing, etc.

Penmanship—Continued from fifth grade.

Arithmetic—To square root, continuing mental drill in complete or higher.

Geography—Second and third of book.

Language—English grammar.

Music and drawing.

General lessons continued in the natural sciences.

History—United States history.

Declamations and letter writing, with essays.

## SEVENTH GRADE.

Reading—Fifth reader completed.

Spelling—Written and oral.

Writing—Daily exercise.

Arithmetic—Complete or higher arithmetic completed and reviewed. Mental exercises.

Grammar—English grammar completed.

History—United States completed.

Physiology—Short course.

Music and drawing.

Declamations and essays.

## COURSE FOR GRADED SCHOOLS.

## FIRST GRADE.

Reading—Primary reader completed.

The word method to be followed, if possible.

Everything in the book to be thoroughly understood by the pupil. Talk with the class about the lesson at the beginning of each recitation. Read the preceding day's lesson in review, and develop the child's language by the conversation thereon. Give attention to distinct articulation, natural expression, and a correct enunciation of the vowel sounds. Name the Roman and Arabic numerals as they occur in the reading lesson.

Spelling—The words of the reading lesson by letter and by sound. Teach the pupil to study the lesson by copying the words on their slates.

Writing—On slate words from their reading lesson, and short sentences from dictation. Every pupil to be able to write his own name with pencil.

Numbers—Clear perception of numbers from one to ten, developed by means of objects, and at each successive step all possible additions, subtraction, multiplica-

tion and division of integral numbers, to be learned within each limit as it is reached. Exercises in rapid reckoning and applicate problems. The signs of addition, subtraction, multiplication, division and equality to be learned and their uses understood. Write and read Arabic numeral to 100.

Language—Cultivate the pupils' language by conversations on familiar topics. Encourage the child to talk. See that he has something to talk about before urging him to talk. Endeavor to secure complete sentences and clear statements.

Object Lessons and General Instruction—Size, place, color, time and human body.

Drawing—Simple lines and forms.

Music.

#### SECOND GRADE.

Reading—Second Reader completed.

Pupils to be taught the use of all diacritical and punctuation marks in the reading lesson, and the meaning of all new words. As in the first grade, particular attention should be paid to articulation and natural expression. Let each reading lesson be thoroughly understood before the final reading.

Spelling—All words in the reading lesson. Sentences from dictation, on slate, observing capitals punctuation marks, apostrophes, hyphens and quotation marks.

Writing.—Daily exercise in copy books prepared for primary departments.

Numbers—Exercises mental and written, in addition, subtraction, multiplication and division to result not exceeding fifty. In division the dividend not to exceed fifty. Notation and numeration, to millions.

Language—Continue first grade work. Write sentences combining given words, ever remembering capitals and punctuation marks.

General exercises—Geometrical and solid forms.

Music and drawing.

#### THIRD GRADE.

Reading—Third reader completed. Everything upon the printed pages to be understood.

Spelling all the words in the reader. Written recitations in spelling four times a week. Oral spelling every day. New and difficult words occurring in any lesson, especially in geography and arithmetic.

Numbers—Learn the processes of addition, subtraction, multiplication and division.

Geography—Prepare the pupil by oral instruction for receiving the text book.

Language—The pupil has no text books. By oral instruction and use of the black board an idea of sentences, their different parts, and the different kinds of words should be developed. Avoid technical terms. Let pupils construct sentences and write lists of the different kinds of words.

Writing—Daily exercise continued.

General Lessons—Some idea of elementary botany by object lessons.

Music and drawing.

#### FOURTH GRADE.

Reading—Fourth reader, including introduction.

Spelling—Written and oral, words from all the text books in the grade.

Arithmetic—Pupils taught a ready use of fractions. Mental exercises parallel of the written work.

Geography—Elementary. Particular attention paid to map drawing. Draw map of Colorado.

Grammar—Elementary grammar.

General Lessons—Physiology and hygiene.  
 Music and drawing.

FIFTH GRADE.

Reading—Fourth reader completed. Supplementary reading selected by the teacher.

Spelling—Written and oral.

Penmanship—Use copy-books. Daily exercise.

Geography—Finish first third of second book.

Arithmetic—To percentage, especial attention being given to mental work.

Language—Elementary grammar.

Music and drawing.

General lessons in natural science.

SIXTH GRADE.

Reading—Fifth reader, with supplementary reading.

Spelling—As in fifth grade, with dictation exercises, paragraphing, etc.

Penmanship—Continued from fifth grade.

Arithmetic—To percentage in higher or complete, continuing mental drill.

Geography—Second third of the book.

Language—English grammar.

Music and drawing.

General lessons continued.

Declamations once a month.

SEVENTH GRADE.

Reading—Fifth reader completed, with supplementary reading.

Spelling—Written and oral.

Penmanship—Continued from sixth grade.

Arithmetic—To square root ; mental work continued.

Geography—Complete the book.

Language—English grammar.

Music and drawing.

General lessons continued.

#### EIGHTH GRADE.

Reading—Sixth reader or equivalent selections.

Spelling—Continued as in seventh grade.

Penmanship—Continued.

Arithmetic—Completed ; also mental work completed  
and book reviewed.

United States History—First half year.

Physiology—Second half year.

English Grammar continued.

Music and drawing.

General lessons continued.

## HIGH SCHOOL COURSE.

FIRST YEAR . . .	Arithmetic. Algebra.	Physics. Civil Government.	Latin.	English Grammar. Physical Geography
SECOND YEAR . .	Algebra. Geometry.	Rhetoric. English Authors.	Latin.	Physiology. Book Keeping.
THIRD YEAR . . .	Geometry, Botany.	Chemistry. Geology.	Latin.	History. Zoology.

In schools where Latin is omitted, last column to be used.



## STATE INSTITUTIONS.

By an act of the Legislature of 1881, it is made the duty of the Presidents of the various State Institutions to make biennial reports to the Superintendent of Public Instruction. These reports have been made and appear in another part of this report. According to the statements made, these Institutions have enjoyed a good degree of prosperity during the past two years. For further information see the reports of the Presidents.

## PROVISIONS FOR THE BLIND.

There are a number of blind children in the State for whose education something should be done. As yet the State is not prepared to educate its blind at home, but if steps could be taken to either complete the arrangements for their education in the State or to aid them in securing the benefits of an Institution for the Blind in some other State, it would be a step in the right direction.

## SCHOOL WORK IN COUNTIES.

## COUNTY SUPERINTENDENTS.

At the head of the school work in each county stands the County Superintendent.

This office may be made very effective in the school work, but in order to do this its importance and dignity must be recognized. In too many counties it seems to be looked upon as an unimportant office, and the result is, sufficient care is not exercised in selecting men to fill the position.

The small salary allowed County Superintendents has much to do with the notion that the office is unimportant. In many of the counties of the State there is sufficient work to require all of his time; this work should be done, and for doing it the officer should be paid, but as the law now stands, the County Superintendent can only receive eight hundred dollars per year, although he may be required to perform fifteen hundred dollars' worth of work, and in a number of counties he

ought to do this amount of work if the school interests are properly looked after. In counties having twenty-five or thirty school districts there is a continual demand for the services of the Superintendent, and if he holds himself in readiness to attend faithfully to the duties of his office, he has but little time to attend to other business interests.

The provisions of the law allowing five dollars per day and ten cents per mile is sufficient if it were not for the proviso making the limit eight hundred dollars per year. Let the County Superintendent receive five dollars per day and the stipulated mileage for the necessary work done in the school interests of his county and you arrange it so that in counties requiring the whole of his service he shall receive full pay, which is but just.

The quality of the teachers and condition of the schools of a county depend largely upon the County Superintendent.

It is his to know the teacher's scholarship by examination and school-room work by observation.

It is his duty also to supervise the work of school boards in the keeping of accounts and records. As a class the County Superintendents of the State are a careful, earnest class of men, and if other school officers were as faithful in the performance of duty and the guarding of the school interests, many of our schools would be in a better condition.

#### COUNTY EXAMINATIONS.

These are conducted at the county seat on the last Friday of February, May, August and November. No examinations for regular grade certificates are held at any other time.

The Legislature of 1881 made it the duty of the Superintendent of Public Instruction to prepare questions for the use of County Superintendents at their regular quarterly examinations. This had been the custom previously, and proving satisfactory was legalized. That the examination may be better understood, the following

circular of instructions to County Superintendents and a list of questions, used at one of the examinations, are inserted.

OFFICE OF SUPERINTENDENT OF PUBLIC INSTRUCTION,  
DENVER, COLORADO.

*Circular to County Superintendents concerning the Quarterly Examination of Teachers :*

GENTLEMEN :—By virtue of the law I am now required to prepare questions for your use in the quarterly examination of teachers. In sending these questions I desire to make the following suggestions as to their use :

There is work for two days of five or six hours each for the average applicant, and I recommend a two days' session, at least in the more populous counties. Applicants should have time to do themselves justice. Let it be understood by all, that to receive a certificate the applicant *must do the work* at the time and in the manner prescribed for all. If one can do it in half a day, well,—but let it be known that a certificate will *never* be given for a part of the work. Absentees must take the consequence of their own misfortune, however imperative the cause of their absence. This is not given as a rule, but merely the plain statement of a fact.

By dividing the slips you can give out a half day's work at a time, and I urge this plan as much fairer to all than giving the topics singly, as some will gain time in one branch, others in another.

The topics are numbered from one to twelve. For the first day use Nos. 1 to 6 inclusive ; second day, Nos. 7 to 12 inclusive. Take up questions and answers promptly at expiration of each session. If you wish an oral examination, take sufficient time for that and for reading before or after the time allotted to the session.

Do not take a *minute* of the session for general exercises or *talk*, or allow any one else to do so.

Take such *further time* as you wish to satisfy yourself as to the moral character of all applicants, and as to their

experience in and aptitude for the business of teaching, and also time to give such counsel concerning their duties as you may think helpful.

For marking applicants, divide the topics into two groups: First group, Nos. 1, 2, 3, 5, 6, 10, 11 and 12; second group, Nos. 4, 7, 8 and 9. Give certificates as follows:

FIRST GRADE CERTIFICATE.—First group—average 90 per cent.; no branch below 75 per cent.; second group—average 75 per cent.; no branch below 60 per cent.

SECOND GRADE CERTIFICATE.—First group—average 75 per cent.; no branch below 60 per cent.; second group—average 60 per cent.; no branch below 40 per cent.

THIRD GRADE CERTIFICATE.—First group—average 60 per cent.; no branch below 50 per cent.; second group—average 50 per cent.; no branch below 40 per cent.

File and retain all answers, for your own protection. *Number* the applicants, but take no names.

Give each a blank envelope and paper sufficient for the work. Examine and grade all papers by number before opening the envelopes to learn the names. (If you can get a committee of competent persons to examine and grade the papers, it will guard you still further from any charge of unfairness which disappointed applicants are apt to make.)

A high degree of practical success in teaching should be accepted as a sufficient reason for issuing a certificate of a higher grade than is warranted by the percentage upon examination, and inexperience or want of success should lower the grade of the certificate given, while failure as a teacher might be so marked as to make it your duty to refuse a certificate, whatever the percentage obtained.

I earnestly recommend that certificates of the *first* grade be given only to teachers who have earned it by success in the school room as well as at examination. I also recommend the addition of ten to the grade earned on Theory and Practice, for the regular reading of some good educational periodical, or of one or more reliable books upon the subject.

Refuse certificates to applicants of whose moral character you have a reasonable doubt.

Please report to me as soon as convenient after your examination, on the blanks furnished for the purpose, giving the names of all applicants.

Preserve these instructions for future reference.

Take great pains that none of the questions go out of your hands until the end of the quarter.

Discourage private examinations as far as possible—giving, instead, temporary certificates till next public examination.

Respectfully yours,

L. S. CORNELL,

*Supt. of Public Instruction.*

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## QUESTIONS

FOR THE QUARTERLY EXAMINATION OF TEACHERS—FIRST QUARTER, 1882, PREPARED BY SUPERINTENDENT OF PUBLIC INSTRUCTION, DENVER, COLORADO.

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### NOTES TO APPLICANTS.

1. Provide yourself with a lead pencil.
2. Write your name, age, nativity, P. O. address on a slip of paper, and answer the following questions:
  1. How long have you taught, and where?
  2. In what school or schools were you educated?
  3. What educational papers or journals do you read regularly?
 Place them in the envelope, seal it, and put your *Number*, but not your name, on the back.
3. Write your *Number* on each paper.
4. Take a different paper for each branch, write the subject at the head of each paper, and write on but one side of the paper.
5. Number your answers to correspond with the questions, but do not repeat the questions.
6. Read all the questions on a topic before answering any of them.
7. Communication without permission, and looking over the papers of others, will be regarded as failures.
8. Do not take the questions from the room. Any applicant who violates this rule will forfeit all right to a certificate.
9. When possible, abbreviate. Give *short but complete solutions* to arithmetical problems.
10. Omissions will be considered as failures, and, in estimating your rank, the general appearance of the papers as well as the correctness of the answers will be considered.

## 1.—ARITHMETIC.

1. How could you obtain the multiplicand, the multiplier and product being given ?
2. Write the figures : Ninety-six, and eight hundred and seven ten-millionths.
3. The sum of  $11\frac{26}{100}$  and  $1\frac{1}{9}$  is equal to how many times their difference ?
4. Reduce 0.645 of a day to hours, minutes, etc., and change the result into degrees, etc., of longitude.
5. Find the difference in circular measure between Calcutta E. Long.  $88^{\circ} 19' 2''$  and Philadelphia W. Long.  $75^{\circ} 8' 54''$ .
6. If ten men can earn \$360 in greenbacks in 18 days when gold is 15 per cent. above par, how much in greenbacks can 14 men earn in 14 days when gold is at par ?
7. What must be the face of a note for 90 days at 6 per cent. on which I can obtain at a bank \$472.86 ?
8. A and B engage in trade ; A furnishes  $\frac{5}{8}$  of the capital and B  $\frac{3}{8}$  ; at the end of 3 years 4 months they had made a clear profit of \$5,000, which was  $12\frac{1}{2}$  per cent. per annum on the money invested ; how much capital did each furnish ?
9. A post is  $\frac{1}{4}$  of its length in mud,  $\frac{1}{3}$  of its length in water, and 10 feet above water ; what is its length ? (Solve by analysis.)
10. A man bought a farm 198 rods long and 150 rods wide, and agreed to give \$32 per acre how much did the farm cost him ?

## 2.—UNITED STATES HISTORY,

1. What connection had Sir Walter Raleigh with the early history of this country ?
2. What States were last to sign the Constitution ?
3. How many rebellions have occurred in the United States ? (Give the name of each.)
4. Name the last four Chief Justices of the United States, including the present incumbent ?
5. (a) Name the commanders of the " Army of the Potomac."  
(b) Name principal battles fought by each?
6. Name the offices that constitute the President's cabinet ?
7. What was the cause of the French and Indian war ?
8. What was the " Monroe Doctrine ?"
9. When and by whom was the corner-stone of Bunker Hill monument laid ?
10. What does the fifteenth amendment to the Constitution provide ?

## 3.—READING.

1. (a) What is a tonic ? (b) Sub-tonic ? (c) Atonic ? Give example of each ?
2. (a) What is emphasis ? (b) How divided ? (c) Pitch ? (d) How divided ?
3. Illustrate three errors common in articulation ?
4. How many elementary sounds in the English language ?
5. (b) How do you teach a class to read a selection correctly ?  
(b) Do you take as much pains to teach a pupil to read well in a class as you would if he were preparing to read a selection to the public ? Why ?
- 6 to 10. Let a selection be read upon which the candidate shall be marked from one to fifty, according to the judgment of the Superintendent.

## 4.—PHYSIOLOGY.

1. Describe the arrangement and structure of the brain.
  2. Give some of the differences between the bones of a child and those of an old person.
  3. How is sound transmitted to the internal ear?
  4. What are the necessary conditions of ventilation in cold weather?
  5. Name the layers of the skin.
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## 5.—PENMANSHIP.

1. (a) Construct the principles used in the formation of small letters. (b) Capitals.
  2. Name some exercises which are good for the training of the muscles.
  3. Draw the outline of an envelope and address it to some one, as you think it should be.
  4. What do you consider the important points in any efficient method of teaching penmanship?
  5. Name the different movements used in writing.
- 

## 6.—ORTHOGRAPHY.

1. (a) Into how many classes are consonants divided? (b) Name them.
  2. What is a syllable? A word?
  3. What is a prefix? Suffix? Root?
  4. What is the rule for derivatives from words ending in fy?
  5. What is your method of teaching orthography?
  - 6 to 10. Let the Superintendent pronounce ten words for the applicants to write as a test of their spelling.
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## 7.—SCHOOL LAW.

1. Have you studied the School Law of this State?
  2. What are the legal conditions upon which you can be employed to teach in the public schools of this State?
  3. Certificates of how many grades may the County Superintendent issue, and upon what condition.
  4. How many examinations in each year are provided for by law?
  5. (a) What report are teachers required to make to the school board? (b) What is the penalty for failure to do so?
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## 8.—BOTANY.

1. Mention some of the ways in which the seeds of plants are disseminated.
2. From what sources is the nutriment of plants derived, and, in general, what elements come from each?
3. (a) Give an example of a palmate leaf. (b) Featherveined leaf. (c) Compound leaf.
4. (a) Give an example of an exogenous plant. (b) An endogenous.
5. How would you teach botany?

## 9—OTHER SCIENCES.

1. (a) How many kinds of levers are there? (b) Name them.
2. Of what is atmospheric air composed?
3. Name the six mechanical powers.
4. What is combustion?
5. What are plantigrade animals? Give example.
6. (a) To what general class does the whale belong? (b) The bat?
7. (a) What parts of an inhabited room generally contain the greatest quantities of deleterious gases? Why?
8. How does ammonia remove grease spots?
9. Of what is the diamond composed?
10. What kind of rock is granite?

## 10—GRAMMAR.

1. What are the objects to be obtained by the study of Grammar?
2. (a) What distinction do you make between parsing and analysis? (b) Which do you teach first?
3. State the mood, tense and voice of the following verbs: I am struck. He is reading. Dost thou sleep? He will have been thinking. Do not run.
4. Parse the words in italics in the following sentence: *It is difficult to decide what to do under circumstances so unusual as these.*
5. Write a sentence containing a transitive verb with an object, and change the same sentence having the same verb in the passive voice.
6. Analyze the following and parse the words in italic: "One *day* the *prop* of the family, *whose* absence had been the *cause* of much suffering, came *home*, gave his *wife* a heavy purse, and departed as suddenly *as* he came, *none* being *aware* of his intention."
7. Define tense, person, number, case, mood, voice.
8. How do you determine the office of a phrase?
9. (a) How many tenses in the potential mood? (b) Name them.
10. Of what does syntax treat?

## 11—THEORY AND PRACTICE.

1. How often would you have reviews?
2. (a) What attention should be given to physical education in public schools? (b) How do you teach morals?
3. In a common school, what studies do you consider most important?
4. How much time, each day, do you spend in the study of lessons that are to be recited to you?
5. What have you done during the last three months to improve yourself as a teacher?

## 12—GEOGRAPHY.

1. Compare the climate of the Atlantic with that of the Pacific coast of the United States, and give reasons for differences.
2. Bound, give the area, population, principal cities, and exports of Colorado.
3. Why is map drawing a valuable aid in teaching geography?



4. Describe the monsoon of the Indian Ocean, and give its causes and effects.
5. Name five of the largest capital cities of the world, and give the population of each.
6. What determines the width of the zones?
7. (a) How many sections of land in a township? (b) How many acres in a section?
8. Bound the State in which you were born, and locate its capital.
9. What group of islands in the English channel, and to whom do they belong?
10. What is your method of teaching geography?

Of the number who have taken the examination the past year:

226	have received 1st grade certificates,
311	" " 2d " "
182	" " 3d " "

and 107 have been rejected.

Teachers holding first grade certificates should, as a rule, be preferred to those holding certificates of lower grades. The course pursued by a certain School Board in the State in the employment of teachers might be followed with profit by many others. This board offered:

\$75 per month for teachers having 1st grade certificates;

\$60 per month for teachers having 2d grade certificates;

\$45 per month for teachers having 3d grade certificates.

This plan, if generally pursued, would stimulate teachers to qualify themselves more thoroughly for the work of teaching.

#### ANNUAL REPORTS.

One of the most difficult things which the County Superintendents have to do, is to make complete annual reports of the school work of their respective counties. These reports are often delayed beyond the time fixed by law, and when received are frequently very imperfect. It is not an unusual thing to charge the delay and incompleteness to District School Boards.

In order to encourage the school work and to prepare for these reports in time, the following letters were issued, one to County Superintendents and the other to District Secretaries:

## OFFICE OF SUPERINTENDENT OF PUBLIC INSTRUCTION.

DENVER, COLO., *January 30, 1882.**Superintendent of Schools*—————*County:*

DEAR SIR: We are just entering upon another year in the school work, and there is much to be done to make our schools what they ought to be, and no one can do more to make the schools of your county successful than yourself. The past year has been one of rapid growth in the Department of Public Schools in this State, and it is very desirable that our schools advance in quality as well as in number. It will, therefore, be necessary for you to guard well the schools under your care. Although there may be but few schools in your county, let them be good ones. Many of the County Superintendents have just entered upon the duties of the office for the first time, and you may be one of them. Acquaint yourself well with your duties and strive to do them well, for "what is worth doing is worth doing well." One difficulty has been to obtain from some County Superintendents, full and complete "Annual Reports." This defect may be remedied, by seeing that district boards keep their records correctly and in full, and also by keeping the records in your office in good shape. Examine the "Annual Report" required from your office, and note the items; this will aid you very much in the inspection of the district records, and when the time comes you will have the material at hand for your "Report." I speak of this matter of "Annual Reports" *now*, because many Superintendents have been far behind in sending them; caused in many instances by a failure of districts to send in their reports on time.

Believing that you will do your duty, and hoping that the schools of your county may prosper under your administration, I remain,

Yours truly,

L. S. CORNELL,

*Supt. Pub. Inst.*

OFFICE OF SUPERINTENDENT PUBLIC INSTRUCTION,  
DENVER, COLO., *March 13, 1882.*

*To the Secretaries of School Districts:*

Will you permit me to urge upon you the importance of keeping the records of your district in good shape, and requiring teachers to make their reports as provided by law? If you do this it will be an easy matter for you to make a correct report of the affairs of your district at the end of the year. County Superintendents sometimes complain that, owing to the incompleteness of the reports of Secretaries, it is impossible for them to make correct and satisfactory annual reports of the school work of their counties. By promptness and care in these matters you can greatly aid County Superintendents, and save them a great deal of unnecessary trouble and perplexity. It is true that this work, in most cases, is done without pay, yet I believe you are willing to do it well for the sake of the cause of education, for I believe that you, with every other citizen of Colorado, are justly proud of our Public Schools.

Respectfully yours,

L. S. CORNELL,

*Supt. Pub. Inst.*

TEACHERS.

The State is well supplied with a good class of teachers. So many teachers of experience come to us from the East that with a little time and care most of our schools can be supplied with teachers of ability and experience. It is not an uncommon thing to find graduates from many of the best colleges of the East teaching in the country schools or the ungraded schools of mining camps. A great many letters of inquiry are received by the Superintendent of Public Instruction concerning the schools. In answer to those inquiries the following letter was prepared:

OFFICE OF SUPERINTENDENT PUBLIC INSTRUCTION,  
DENVER, COLORADO, 1882.

DEAR SIR:—Yours at hand. It is difficult for a teacher to obtain a situation in Colorado schools without

personal application. School boards prefer to see teachers before employing them. If you desire to teach in this State, come and take your chances with others of your profession. *First-class teachers* will find employment sooner or later. Ungraded schools pay from \$30 to \$60 per month; graded, from \$50 to \$150. Board from \$12 to \$25 per month. Four examinations in each county in each year, viz.: Last Fridays in February, May, August and November; same in all counties. Branches in examination are: Arithmetic, United States History, Reading, Physiology, Orthography, Penmanship, School Law, Botany, Natural Sciences, Grammar, Theory and Practice and Geography. Three grades of certificates are given, depending on the per cent. of questions answered. School year begins September 1st and ends August 31st. Graded schools usually employ teachers in June; ungraded schools when they need them. You need not come expecting a scarcity of teachers, for there are many here.

Yours truly,

L. S. CORNELL,

*Supt. Pub. Inst.*

It is proper to add here that teachers are not employed in the schools of Denver until they have passed the required examination.

Until recently the schools of the State have furnished but few teachers, but now the teachers' ranks, to quite an extent, are being filled by those who go out from our higher schools, and this is creating a greater necessity for

#### COUNTY INSTITUTES,

where the teachers of a county may receive training in the methods of teaching. A point has been reached in the school work of Colorado where the Teachers' Institute is a necessity.

A Teachers' Institute of not less than two weeks annually in each county should be provided for and made a duty by law, at the next session of the Legislature.

## SCHOOL HOUSES.

A large number of school houses have been erected in the State in the years 1881 and 1882. Many of these buildings have been erected at a large cost. In the construction of school buildings, School Boards cannot be too careful in providing for the comfort and safety of the pupil. How best to supply the school-room with air, light, heat and seats, are questions that can only be settled by a careful study of the most improved methods.

## SCHOOL LIBRARIES.

A library in connection with the public school is a very important auxiliary. In order to provide for such libraries the Legislature of 1881 passed an act enabling District Boards, in districts of the first or second class, to order the levy of not to exceed one-tenth of one mill, the proceeds of which are to be used in the purchase of books for a library.

By availing themselves of this provision, School Boards may greatly aid the work of the public school.

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Remarks of County Superintendents Regarding the School Work  
in their Respective Counties.

## ARAPAHOE COUNTY.

JOHN L. FETZER, SUPERINTENDENT.

HON. L. S. CORNELL,

*Superintendent of Public Instruction,*

SIR:—I have the honor to supplement my report of October 3d, 1882, with a few remarks in explanation of the same, and in relation further to the schools of Arapahoe County.

The amount of money received from the State during the year was \$4,288.53; from the County general

fund, including proceeds from estrays and penal fund, was \$68,585.27, making a total of \$72,873.80. This money was apportioned monthly, as collected by the County Treasurer, to the several school districts, and has been judiciously expended. The number of children of school age in the county, for the year 1881-2, was 9,852. The rate *per capita* was accordingly \$7.41. For the year 1882-3 the tax for general school fund is three mills and the valuation of property in the county is \$34,571,000. The school population is 12,046. The apportionment, *per capita*, for this year will approximate \$9. All of the districts except four have levied a special tax of from two to seventeen and a half mills. The ratio of bonded indebtedness to valuation of property in the county is \$6 to the thousand—very small, indeed, when the value of our school property is considered.

At this writing there are forty-three public school buildings, which, with lots, furniture and appliances, may safely be estimated at a value of \$700,000. During the year District No. 1 erected three school houses, District No. 2 erected one and has one under way; Districts Nos. 8, 16 and 18 erected one each, and District No. 17 has one under way. All of the new structures are brick and stone, except one in District No. 1. The schools in the city have been full to so great an extent that only half-day sessions in most of the primary grades could be held. The School Boards have, however, met, as occasion demanded, every apparent hindrance, and made just provision for all.

In this day of refinement the disposition of the people to add new beauties and attractions to the school house has kept pace with their zeal and enterprise in other directions. Every new school house has, apparently, some improvement—the furniture is better, the apparatus more to the purpose, and all the efforts of teacher and school officer culminate in the grand object of making children fond of the school, its work and its influences. Nor have we it seems, yet come to a halting place. The æsthetes come forward and say the walls of the school room should be studded with pictures, the ceiling frescoed, the floors carpeted and the grounds beautified with grass plats and flowers. The architect

has a new plan for a building, the inventor an improved "scheme" for heating and ventilation, the publisher better text-books and charts than ever used before. All these and other influences cannot help making changes in our school work. The question is asked, "Where children spend so much of their time in devotion to their studies and exercises, why not make their rooms as comfortable and pleasant as home?" These prospective changes may appear extravagant now but who shall say the next or second generation after us shall not enjoy many of them? We are a plastic and somewhat capricious people. We push onward and grow better. How astounding would be the idea that the youth of to-day should be schooled the same as the youth were three or four generations ago! Then let us not look with dread upon the æsthetes.

Our school system, though weak in many places, is strongly American. It has been what the sentiment of each decade has made it, never behind, and seldom the victim of unwise innovations. Unlike the German, where compulsion, though wise in itself, yet raises the question of lacking interest in the young; unlike the French, where a sort of governmental patrol awes more than instructs; unlike the English, where wealth and caste are perpetual barriers to the general popularity of common schools, the American school is indeed free, popular and liberal, supported with pride by the people, and enjoyed with zeal by the young. The high order of our schools is attributable as much to the ambition and intelligence of the youthful material as to the enterprise of adults. For the former, early appreciating the splendid opportunities before them, and learning soon to abhor ignorance, throw into their school work more voluntary effort, more ingenuity, greater competition and strife for honors and excellence than the children of any other nation. The fruits attained are theirs and ours. And having gathered all the sheaves in an adopted course of study, ask in language plainer than words for a more extended field into the technics and more thorough gleaning in the rudiments. The request is granted, and thus our schools go forward, never backward.

As a class instructing by example, and working for dollars and cents, school teachers stand peers of the members of any calling in the conscientious discharge of duty. They are a factor in our civilization whose value and influence can not be estimated. The philosophy of their lives is seen in the fact that their devotion to their profession is not entirely for pay. None of them have even accumulated out of their salaries a fortune. A mere competency is too often at the expense of health. The nerve force expended necessarily in governing and teaching a school of from thirty to seventy pupils, and daily for several years, is trying, and sometimes ruinous to the best constitution. When worn out with constant toil for the good of mankind it becomes necessary to make their places vacant for young blood and better nerve; they retire from the scene to seek vocations more healthful. But the education of teachers in the principles of the conservation and recuperation of energy in school work will redound to the benefit of schools and a longer period of health and life to teachers. Those who study and practice them not, may have to abandon their calling in the prime of usefulness.

The name and life of teachers should stand sacred against the foul mouth of slander. It is their teachings more than that of any other element that have made this nation practically moral. They never organize for harm or a doubtful good. If some of them are not active in teaching the virtues, none of them instruct in or encourage the wrong. They do their best to discipline pupils to duty, and the parent who says his child learns all of his mischief at school, would profit by the news if he would see thereby the real lessons his child needs, and administer accordingly.

Our statutes provide for the education of children, if they will only attend school. What remedy is to be applied to those who never go; what offer is to be made to induce, or what penalty is to be threatened to compel their attendance at school a certain number of days in the year, is a question, perhaps, too grave for the Colorado politician of to-day. No teacher, no school officer, is honored with the noble task of looking after the education of those who are unwilling, and, it may be, unable



to attend school. The end in view can probably better be reached by semi-missionary, semi-official efforts than by a compulsory law.

I have lost no occasion in joining with teacher and director in their enthusiasm and interest in the school. Frequent visitations by parent, director and superintendent are profitable to any school that receives them. A superintendent inquiring into the progress of classes, noting the methods of teachers, stimulating both as far as he is able, performs, I trust, one of the most important of his duties. To supervise well, one must be free from Utopian dreams and idle, revolutionary theories, and enter upon the work with courage, wisely endeavoring with others to build up with details a harmonious whole.

JOHN L. FETZER.

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BENT COUNTY.

JOHN A. MURPHY, SUPERINTENDENT.

This report closes a very prosperous year for the schools of Bent County, the people manifesting considerable interest and pride in the building and furnishing school houses for the benefit of their Districts. Eight Districts out of ten are provided with suitable buildings. The school population has increased 28 per cent. since last year's report, while the attendance has increased 52 per cent. The corps of teachers employed reflect credit upon the trustees of the several districts, showing a thorough appreciation of capability and moral worth in their selection.

Respectfully yours,  
JNO. A. MURPHY.

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CONEJOS COUNTY.

D. W. WILLIAMS, SUPERINTENDENT.

The schools of the county are decidedly on the improve.

We are getting a better class of teachers, with better organizations, and the majority of district officers are men who are determined to make the most possible out of the public schools of the county.

There are three new school houses in process of erection and others contemplated. Districts are organized over the county wherever needed except in two Mexican settlements, and they are now beginning to take some interest in relation to the matter. For a mixed population such as ours, we are doing very good educational work.

Yours truly,

D. W. WILLIAMS.

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ELBERT COUNTY.

B. C. KILLIN, SUPERINTENDENT.

The position of a State or County is determined by the education of the masses.

Universal education is a special birthright of the American people. The question, then, before us is, how may we best utilize this inestimable privilege?

Colorado's far-seeing statesmen have given us a noble educational system—the peer of any in the Union. Our city schools and our State University are unsurpassed. Our teachers are carefully selected from those who come among us for health, pleasure or profit. They here find salubrity of climate, enterprising people and liberal salaries

But there is a serious difficulty encountered in maintaining thorough school organizations in the rural districts. The area of productive lands is very limited; so much so, that to form a school district comprising ten families requires territory frequently ten miles wide by twenty miles long. Several in Elbert County are far larger than that. The great difficulty then is the location of the school house or school houses. Their apportionment of the general fund, with an additional special tax of two mills, will afford from five to seven months of school in one place. The experiment of dividing this amount of money between two, three and even four different points or *families* in the district, has unquestionably proven a failure. Nay, worse; it is fostering an evil that is surely disrupting our school organizations; because those who desire to educate their children will surely move away, while on the

other hand, those who are satisfied with such an impartial distribution of the funds, naturally care little for the education of their children. Their carelessness is soon imbibed by the children, and they remain away from school at their option, or openly refuse to attend.

The only practical plan by which this evil can be remedied has been suggested to the directors of district No. 8. As yet it has not been acted upon, or very seriously considered. The plan is this: Place the school house in some central location, taking care to have water and fuel convenient. Urge those farthest away to move within comfortable walking distance of the school house. As an inducement for them to do this, guarantee that but one term shall be held each year, beginning, say September 1st, and continuing as long as desirable, or the funds permit. Then secure the services of a good teacher and pay him a liberal salary.

There is notably a greater school interest developing throughout the county. While the expenditures have been but little greater than in 1881, the amount of school has been increased twelve per cent.

At the town of Elbert, on the Denver & New Orleans Railroad, the citizens have recently voted bonds to the amount of \$4,000 for the purpose of erecting a two-story brick school building, size 50x50 feet. I have been informed by the school board that Gov. S. H. Elbert has promised to furnish, gratuitously, a suitable school library. The building site is located and a portion of the material already purchased.

It is important that the building be pushed to completion as speedily as possible, as the building now used is altogether inadequate.

This district contains 76 persons of school age. One year ago it contained 15.

The citizens of district No. 12 completed their building a year ago, at a cost of \$750. It is a beautiful emblem of frontier civilization and western enterprise.

District No. 4, one of the earliest and most populous districts in the county, became almost wholly depopulated, and in consequence was on June 30, 1882, annexed to districts Nos. 3 and 11.

There is some dissatisfaction with this clause in the school law empowering the board of directors in districts of the 3d class to levy a special tax of two mills upon the taxable property of the district without a vote of the taxpayers.

Very respectfully yours,

B. C. KELLY,  
Supt. Elbert County.

#### GRAND COUNTY.

JOHN BARRETT, SUPERINTENDENT.

Hon. L. B. CAMPBELL,

State Superintendent of Public Instruction, Denver,  
Colorado.

DEAR SIR:—I have the pleasure to herewith send you my annual report for the school year ending August 1st, 1892.

I regret exceedingly that I was unable to send it on time, or even sooner than this, but our country and distance are large, distances great and facilities next to nil. The District Secretaries, in every instance, have been careful and pains-taking, but it seemed impossible to get rid of errors entirely, and the righting of these has taken time and trouble. Our County Assessor has never made an assessment of the taxable property in each School District, but we have the sum total for the county, and with our knowledge of the law in this respect, we have made a careful approximation, and if not exactly correct, it will be found very nearly so. With this exception, I believe my report will be found correct. With regard to the School Law of the State: In the few minutes allowed me before the closing of the month, I haven't time to particularize, but during the past year, in my examination of this subject, I have frequently found passages which it were better if they did not exist at all, and many sections a revision of which would aid materially the educational interest. I would particularly express and respectfully advise a most careful revision of this entire subject by the incoming Legislature.

I take the leave to be, Dear Sir,

Yours most truly,

JOHN BARRETT,

County Supt. of Schools.

## HINSDALE COUNTY.

CHARLES MCDUGAL, SUPERINTENDENT.

All of the schools in Hinsdale County, except that in Lake City, are very small and until last winter had no schools.

In District No. 3 they had a four months' school, and a very good one, but small. By continual prompting we have succeeded in keeping this organization intact, but with all that has been done no annual report has reached me at this date.

A summer term has been taught in District No. 2 for three months, fifty-four days of which were in the school year ending August 31, 1882, and the remainder during the present year.

Our school in District No. 1 was in good hands last year, but unfortunately for its success, about the middle of the term a foolish excitement was created concerning the safety of the school building; because of this nearly one-half of the scholars refused to attend.

CHAS. MCDUGAL,  
*Superintendent.*

## PARK COUNTY.

W. L. BAILEY, SUPERINTENDENT.

There are seven schools now in session in the county. Four of the teachers are working under temporary certificates, the others hold first and second grade. The teachers of our county during the past year are educated and refined ladies and gentlemen. I am proud to say this, that they have surpassed my expectations. I think our patrons are more interested in the schools than formerly. Am still hopeful that our schools will accomplish great good. With an earnest wish for the continued rapid advancement of the educational interests of the State,

I remain, yours truly,

W. L. BAILEY, JR.

## RIO GRANDE COUNTY.

B. B. COOPER, SUPERINTENDENT.

I desire to inform you that more interest has been manifested in the public schools of this county during the past year than ever before. Two new districts have been organized and the schools are running in good shape at present.

W. H. COCHRAN,  
*Deputy Superintendent.*

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## PITKIN COUNTY.

M. T. CONNAUGHTON, SUPERINTENDENT.

The schools of this county are all new, and therefore in a crude state, and have but little at present to report.

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## SAGUACHE COUNTY.

CHAS. S. CORNELIUS, SUPERINTENDENT.

A marked improvement has been perceptible in the educational work during the past year.

There has been an increase in the school population of about 15 per cent.

Teachers in general are doing good work. Directors are doing more to promote the interests of education in their districts than heretofore, by securing much needed supplies for teachers, and by keeping accounts and records in proper order. The patrons generally realize the need of schools of longer duration, and as a result the terms are made longer.

In some instances persons are elected as secretaries whose qualifications are inadequate, and some errors result therefrom.

Districts increase with the population, and only one district has been discontinued on account of failure to maintain a school. Two districts have been united into one, and two new ones organized since last report.

CHAS. B. PHILLIPS,  
*Deputy Superintendent.*

## SAN JUAN COUNTY.

ROBT. H. BROWN, SUPERINTENDENT.

I report from this county only one district, as the second one has not completed its organization at the close of the school year. It has since completed its organization and is now in full force.

ROBT. H. BROWN.

## SUMMIT COUNTY.

J. F. COFFMAN, SUPERINTENDENT.

Three new districts have been organized within the last five months, and none of them as yet have drawn any public money. District No. 9 has just begun school, hence no record of this appears in the report except the census.

A new school house has been built in Breckenridge within the last four weeks, at a cost of about \$5,000. A report of this will not appear until next year. A new log school house has been built at Lincoln, and they had an excellent school in it for three months. A new district has recently been organized, and a school house built about twelve miles from Red Cliff. The interest in school matters in this county is increasing, and there is room for much more.

Respectfully,

J. T. COFFMAN.

This completes the remarks of County Superintendents touching the general school work. Quite a number of County Superintendents appended no remarks, while a number of others merely gave explanations of the causes of delay and imperfections in their reports. If these remarks were published they would show the difficulties which Superintendents experience in collecting the facts for their annual reports,—most of their trouble growing out of neglect on the part of school boards.

## STATE LIBRARY.

The State library has been of but little use to the public during the past two years. Previous to this time Orson Brooks had looked after the library without remuneration, but when the library was moved to the present building it was not convenient for him to continue his care over it, and, as a result, has been closed. A few of the books were placed on shelves, but the most of them are piled up on the floors of the rooms set apart for library purposes.

The library can never become valuable without the expenditure of considerable money in the purchase of books. Then an appropriation should be made to fit it up in good shape and employ some one to look after it in the capacity of Assistant Librarian. The law provides for an Assistant Librarian, but no appropriation has ever been made for the payment of such an officer.

The following is a report of the volumes in library :

Number volumes reported by Orson Brooks January 1st, 1881 . . . . .	6,720
Number received from January 1st, 1881, to December 10th 1882 . . . . .	387
Total number of volumes in library . . . . .	<u>7,107</u>

## STATE SCHOOL FUND.

The permanent school fund of the State now amounts to \$75,200.37, making an increase for the past two years of about \$40,000. By a legal provision, this fund is to be invested in interest-bearing State or United States securities. From interest thus received and from rental of school lands the State has derived the following

## PUBLIC SCHOOL INCOME FUND:

For the year 1881 . . . . .	\$14,443.27
For the year 1882 . . . . .	17,953.76
Total . . . . .	<u>\$32,397.03</u>

There has been deducted from the above amount for blanks furnished school officers in the several counties:

For 1881 . . . . .	\$873.31
For 1882 . . . . .	919.04
Total . . . . .	<u>\$1,792.35</u>



The balance has been distributed to the several counties of the State according to the school population, as required by law.

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LETTER FROM J. D. PHILBRICK.

It is with pleasure that I insert the following letter from Dr. Philbrick, one of America's eminent and experienced educators. He having visited our State last spring and to some extent inspected our schools, I was anxious to know what impression they had made on an educator from Boston; therefore I wrote him, and the reply is given below, and will be read with much satisfaction by all who have an interest in the school work in Colorado:

DANVERS, MASS., Dec. 8th, 1882.

HON. L. S. CORNELL,

*Supt. Public Instruction of Colorado.*

DEAR SIR:—I have the honor to acknowledge the receipt of your letter expressing a desire for my opinion of the schools and school work in Colorado as they impressed me, to embody in your forthcoming report.

I am happy to gratify you in this matter, for I persuade myself that so to do is to act in the interests of the cause of education.

What I know of Colorado schools from actual inspection is mostly limited to the city of Denver. In other localities I only saw some exceptionally interesting specimens of school houses, such as the substantial stone edifice at Central, the pioneer graded school in the State, in which I was gratified to find a flourishing library; the new brick building at Golden, with its liberal-sized school rooms; and the marvelous phenomenon in school house building which I had the good fortune to see at the young city of Durango, the metropolis of the San Juan country, four hundred and fifty miles from the capital. Here, in a town whose most ancient dwelling could claim an antiquity of only eighteen months, I found a large, substantial, commodious and elegant twelve-thousand-dollar brick school house, which was

occupied by a thoroughly organized graded school, instructed by experienced and capable teachers. Its photograph, taken with groups of pupils and citizens, some of the latter in picturesque costumes, adorns the mantel of my library.

In the latter part of April I made a thorough inspection of the school system of Denver, especially the division constituting the First District, which comprises the bulk of the schools. In the first place, the school houses were visited while occupied by the pupils, and their qualities, mechanical, economic, hygienic and pedagogical, noted in detail, "from turret to foundation stone." Mr. Supt. Gove then, with documents in hand, went over to me, at great length, the organization and practical management of the system with respect to administration, supervision, instruction and discipline. Thus instructed, I applied myself to the inspection and examination of the classes in the school rooms, beginning with the lowest primary and ending with the graduating class of the High School in hands of Mr. Principal Baker. In this survey I observed carefully the methods of teachers, the proficiency of the pupils and the spirit in which teachers and pupils were working for the ends in view. Finally, I had the privilege of meeting the teachers in a body, and of conversing with a considerable number of them.

In the progress of this study of the system, I could not but be impressed with the accumulating evidence of its efficiency and excellence. The result may be summed up by saying that I found the Denver school system to be admirable in all respects. Although its origin dates back scarcely more than a decade, its development has been so wisely and energetically conducted that already it fairly belongs to the front rank of city systems. It is pretty safe to say that the creation of a system of schools on so large a scale, of such exceptional merits, and in so brief a space of time, is a phenomenon to which the history of education affords no parallel.

The school houses of Denver reflect the highest credit upon the school officials who are responsible for the plans, and the liberality of the citizens in furnishing the

fund for their erection. These are all handsome and substantial structures, well located on lots of ample dimensions. As to cost they are truly models of a wise economy. Every school room is first-class in every respect. The corridors and stairs present some original features of no little merit. The American school house, which the French Commission to our Centennial considered our best model, has school rooms of the first order, but the corridors are dark and badly ventilated, and the stairs are unsatisfactory. It is only just to say that Denver has been more successful in remedying these defects so general in our school architecture than any other city that I have visited, and I know of no city that has better accommodations for all its schools.

The High School house is a fine edifice, tastefully designed and first-class in material and workmanship; and in my judgment the Board of Education acted wisely in projecting a grand structure to meet the wants of the city in no distant future, while undertaking to build only one wing of it to satisfy the present demand for accommodation.

Good school houses are certainly important, but good school houses do not insure good schools. The teacher makes the school; and I must say that I was even more impressed with the character of the teachers of Denver than with that of the school buildings. How to get good teachers and to keep them is at once the most difficult and the most important problem in the whole range of school economy. And it is but just to the members of the Denver Board of Education to say that they have grappled with the problem more successfully than any other School Board within my knowledge. I found by examining into the matter that the happy results attained in this direction were due largely, and perhaps chiefly to the rational mode of examination adopted and the plan of appointments, by which favoritism is absolutely excluded, and the choice is determined by merit alone.

The test of the teacher is in his teaching and handling of his classes. By this criterion I formed my opinion of the Denver teachers. One spirit seemed to animate the whole body. I like uniformity in a system of schools

but I want it to be a uniformity of excellence. There I found it in a remarkable degree. Believing moderation to be the sum of all wisdom I was peculiarly pleased to notice the absence of all exaggeration both in manner and method. What a feat in school keeping to hit the golden mean, in nothing over-doing and in nothing under-doing.

These schools pleasantly reminded me of a certain grammar school in Boston which I used to visit with much satisfaction, because it was, taken as a whole from top to bottom, freest both from excess and deficiencies. You could not say that one branch was taught better than another. There was no piling up of agony on spelling, no crowding the mourners on baby compositions, no getting up of booms on a hundred per cent. of attendance. In going through the Denver schools I did not have to make note of a single injurious or disagreeable excess, or any marked deficiency either in conducting the processes of the school rooms or in the results. With such teachers, under such supervision, there could be only good teaching; and, as the result, satisfactory proficiency on the part of the scholars.

The supervision referred to is that of the superintendent, who seems to have been born with a genius for the business. His chief merit, in my view, is found in the good judgment and discrimination with which he has selected and combined in the Denver schools the best things known in the sphere of school matters. In him the teachers and pupils daily witness a devotion to the interests of the schools which cannot but stimulate their co-operating efforts.

Denver, then, has good reason to be proud of her public schools, and private schools will not easily flourish beside them, and may she not cease to remember that "the first people is that which has the best schools; if it is not so to-day it will be so to-morrow."

And now, how is this school phenomenon to be accounted for? Why is the school system of this young metropolis of the New West so much superior to the systems in many of the cities in older communities which I could mention?

The immediate cause is to be found, no doubt, in the character of the Board of Education. It is a small body with few and small committees; and thus the responsibility is concentrated instead of being diffused. Every member is eminently fit for such an office, having not only the requisite intelligence and sound judgment, but also the requisite public spirit and self-sacrificing devotion to the public interest. I am told that such has been the character of the board from the first. But it may be asked, how does it happen that Denver should be more fortunate in this respect than cities in general? This appears to be the result of two causes; first, the mode of electing the members, and secondly, the active interest taken in the election by the best citizens without regard to politics. If this policy is continued, the schools will, without doubt, maintain and even advance their present high standing,

Your obedient servant,

JOHN D. PHILBRICK.

TABLE 1.—COUNTY SUPERINTENDENTS OF SCHOOLS.  
TERMS EXPIRE JANUARY, 1884.

COUNTIES.	NAME.	POST OFFICE.
Arapahoe . . . . .	John L. Fetzer . . . . .	Denver.
Bent . . . . .	John A. Murphy . . . . .	West Las Animas.
Boulder . . . . .	A. L. Gravelle . . . . .	Boulder.
Chaffee . . . . .	Joseph Hollister . . . . .	Centerville.
Clear Creek . . . . .	A. L. Rich . . . . .	Georgetown.
Conejos . . . . .	D. W. Williams . . . . .	Conejos.
Costilla . . . . .	Joseph Kugler . . . . .	San Luis.
Custer . . . . .	F. G. Hagan . . . . .	Silver Cliff.
Dolores . . . . .	Van R. Elliott . . . . .	Rico.
Douglass . . . . .	Robert N. Hancock . . . . .	Castle Rock.
Elbert . . . . .	B. C. Killin . . . . .	Middle Kiowa.
El Paso . . . . .	B. A. P. Eaton . . . . .	Colorado Springs.
Fremont . . . . .	Geo. E. Dudley . . . . .	Canon City.
Gilpin . . . . .	Rev. W. E. Hamilton . . . . .	Central.
Grand . . . . .	John Barbee . . . . .	Grand Lake.
Gunnison . . . . .	Geo. B. Spratt . . . . .	Gunnison.
Hinsdale . . . . .	Charles McDougal . . . . .	Lake City.
Huerfano . . . . .	A. H. Quillan . . . . .	Walsenburg.
Jefferson . . . . .	Rev. T. L. Bellam . . . . .	Golden.
Lake . . . . .	Dr. J. J. Crook . . . . .	Leadville.
La Plata . . . . .	Rev. C. M. Hoge . . . . .	Durango.
Larimer . . . . .	Rev. W. H. McCreary . . . . .	Loveland.
Las Animas . . . . .	J. W. Douthitt . . . . .	Trinidad.
Ouray . . . . .	W. W. Rowan . . . . .	Ouray.
Park . . . . .	Wm. L. Bailey, Jr. . . . .	Fairplay.
Pitkin . . . . .	M. T. Connaughton . . . . .	Aspen.
Pueblo . . . . .	Dr. A. Y. Hull . . . . .	Pueblo.
Rio Grande . . . . .	W. H. Cochran . . . . .	Del Norte.
Routt . . . . .	S. D. N. Bennett . . . . .	Hahn's Peak.
Saguache . . . . .	Charles B. Phillips . . . . .	Saguache.
San Juan . . . . .	Dr. Robt. H. Brown . . . . .	Silverton.
Summit . . . . .	Rev. J. H. Coffman . . . . .	Breckenridge.
Weld . . . . .	Rev. A. K. Packard . . . . .	Greeley.

TABLE II.

COUNTIES.	1981.							1982.						
	CERTIFICATES ISSUED.							CERTIFICATES ISSUED.						
	First Grade.		Second Grade.		Third Grade.		Total.	First Grade.		Second Grade.		Third Grade.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.		Male.	Female.	Male.	Female.	Male.	Female.	
Arapahoe . . . . .	7	12	4	13	6	24	66	8	18	4	20	1	3	54
Bent . . . . .	1	9	2	3	3	6	14	1	1	3	4	5	3	17
Boulder . . . . .	19	19	7	13	6	15	69	2	6	10	22	6	7	53
Chauffee . . . . .	1	5	5	5	2	2	18	3	10	2	8	1	2	26
Clear Creek . . . . .	4	2	1	6	2	12	27	3	6	6	7	1	10	27
Conejos . . . . .			2	1		2	5	2	2	2	2	2	1	8
Costilla . . . . .		1	1	1	6		9	1	1	1	2	4	8	15
Custer . . . . .		3		6	1	1	11	3	4	1	6	1	5	20
Dolores . . . . .	1			1			2							3
Douglas . . . . .	1	3	3	10	2	2	21	4	2	3	6		5	20
Elbert . . . . .	1	4	3	3	1	1	13		1	3			4	8
El Paso . . . . .	2	6	1	5	9	4	27	2	4	1	7	5	3	20
Fremont . . . . .	1	2	4	6	3	5	21	3	7	7	10		5	27
Gilpin . . . . .	2	4	1	7		12	26	1	4	1	10	1	1	18
Grand . . . . .			1	1	1		3		1	3			4	8
Gunnison . . . . .	2	1	1	1	1		6	2	2	5	11	3	9	32
Hinsdale . . . . .		1	1	1			2		2		2	1		5
Huerfano . . . . .	2	2	1	2	3	1	9		2	1	1	1	2	7
Jefferson . . . . .		5	7	8	5	14	39	3	4	9	11	2	9	38
Lake . . . . .		3	6	18	2	5	34	4	25	6	25		17	77
La Plata . . . . .	3	3	3	2	2	2	15	5	7		2			14
Larimer . . . . .	4	1	10	13	2	14	44	1	7	7	11	2	17	38
Las Animas . . . . .	5	8	2	1	6	4	26	4	2	2	3	5	2	18
Ouray . . . . .	1		2		2		5		1	1	2			4
Park . . . . .	1	2	1	6	1	4	15	2	2	1	4	3		12
Pitkin . . . . .	2	2		2			6					1	1	4
Pueblo . . . . .								4	20	2	22	4	5	57
Rio Grande . . . . .	1		1	1		4	7	2	2	2		2	2	6
Routt . . . . .														
Saguache . . . . .		3	1	8	1		13	1	1	3	5	1	4	15
San Juan . . . . .					1	1	2		2		1			3
Summit . . . . .					2	7	10	2	2	2	1			7
Weld . . . . .	1		3	9	4	11	28	7	9	4	17	2	9	48
Total . . . . .	51	92	73	153	71	153	593	69	147	87	224	51	137	709





STATE SUPERINTENDENT'S REPORT.

TABLE IV.—ENROLLMENT AND ATTENDANCE.

COUNTIES.	PUPILS.						PERCENTAGES.				County School Tax Levy.			
	1882.			1881.			1881.	1882.			1881	1882		
	Enrolled in Graded Schools.	Enrolled in Ungraded Schools.	Under 16 Enrolled in Public Schools.	Over 16 Enrolled in Public Schools.	Average Daily Attendance.	Enrolled in Graded Schools.	Enrolled in Ungraded Schools.	Average Daily Attendance.	Enrollment on Whole No.	Daily Attendance on Enrollment.	Enrollment on Whole No.	Daily Attendance on Enrollment.	Mills.	Mills.
Arapahoe . . .	6697	590	6088	599	4377	5408	614	3530	61	58	60	60	3	3
Bent . . . . .	126	134	293	17	213	117	133	140	69	56	67	68	2	2
Boulder . . . .	955	1428	2235	148	1453	625	1375	1242	73	62	79	61	31 <sup>10</sup>	3
Chaffee . . . .	103	819	854	68	457	182	556	569	63	67	59	49	5	5
Clear Creek . .	722	459	1100	81	830	813	258	556	70	52	73	70	11	21 <sup>10</sup>
Conejos . . . .	150	400	497	53	329	246	172	41	70	44	59	59	*2	*2
Costilla . . . .	370	370	312	58	231	697	513	75	73	41	62	62	*2	*2
Custer . . . . .	610	370	837	143	365	371	649	508	77	49	76	37	5	*2
Dolores . . . .	24	24	24	16	16	28	21	75	75	30	66	2	*2	*2
Douglas . . . .	451	404	47	242	42	459	256	78	55	78	53	*2	3	3
Elbert . . . . .	247	186	61	157	229	119	69	52	69	63	63	3	3	3
El Paso . . . .	811	1026	1551	286	942	780	603	795	72	57	89	51	2	2
Fremont . . . .	423	851	1172	102	630	365	640	544	76	54	86	49	2	2
Gilpin . . . . .	1011	182	1157	36	691	1016	127	654	80	57	75	57	2	2
Grand . . . . .	58	59	42	42	18	10	18	55	30	71	*2	*2	*2	*2
Gunnison . . . .	230	441	580	91	334	154	25	29	16	46	49	*2	5	5
Hinsdale . . . .	139	135	4	134	124	40	37	32	62	96	*4	*4	5	5
Huerfano . . . .	616	735	1171	186	794	648	563	740	65	61	70	58	3	3
Lake . . . . .	1736	229	1909	56	1887	1219	181	884	85	63	75	36	3	*2
La Plata . . . .	223	503	639	87	434	353	243	62	68	94	59	5	2	2
Larimer . . . .	571	422	651	412	647	466	522	724	68	73	60	61	*2	4
Las Animas . . .	441	856	1208	89	636	1228	645	42	52	42	49	*2	2	2
Ouray . . . . .	109	96	13	73	114	81	69	71	50	67	2	2	2	2
Park . . . . .	88	572	506	154	298	344	114	60	33	99	45	2	2	2
Pitkin . . . . .	104	101	3	3	624	196	3	9	41	47	83	32	4	*2
Pueblo . . . . .	1668	455	1745	378	675	624	196	3	9	41	47	83	2	*2
Rio Grande . . .	200	112	286	16	185	194	82	158	58	57	58	59	2	*2
Routt . . . . .	112	329	352	89	270	281	215	44	76	61	61	2	2	2
Saguache . . . .	294	245	19	167	163	100	36	17	66	67	*2	*2	5	5
San Juan . . . .	294	245	19	167	163	100	36	17	66	67	*2	*2	3	3
Summit . . . . .	436	1009	1319	126	949	370	830	748	80	62	78	65	4	61 <sup>10</sup>
Weld . . . . .	17920	13809	28322	3416	18488	13198	12802	14649	..	..	..	..	..	..

\*No report, but not less than 2 mills.



TABLE VI.—SCHOOL HOUSES AND AVERAGE COST PER PUPIL.

COUNTIES.	No of Districts.		1881.			1882.			1881.			1882.		
	1881.	1882.	Value- tion in dollars.	Sittings in Libry.	Vols. in Libry.	Numbr of school houses.	Value- tion in dollars.	Sittings in Libry.	Vols. in Libry.	AV'g cost per pupl per mth in graded schools.	AV'g cost per pupl per mth in ungr ded schools.	AV's cost per AV'g cost per pupl per mth pupl per mth in graded in ungraded schools.	AV's cost per AV'g cost per pupl per mth pupl per mth in graded in ungraded schools.	
Arapahoe . . .	28	29	482,044	4610	2000	40	51,630	5772	2103	\$2 51	\$3 36	\$2 20	\$3 47	
Bentl. . . . .	9	10	6,775	252	93	7	9,072	338	..	2 44	5 07	2 18	4 26	
Boulder . . . .	46	46	45,982	2056	550	39	57,602	2294	550	1 45	2 04	1 66	2 53	
Chaffee . . . .	15	17	10,775	300	..	10	35,180	820	..	1 68	2 10	1 50	2 70	
Clear Creek . .	10	10	3,2710	859	17	10	34,486	870	..	..	1 77	4 25	1 33	
Comchos . . . .	8	12	9,053	..	..	3	9,940	290	133	..	..	..	3 00	
Costilla . . . .	9	9	..	..	..	4	680	235	52	..	..	2 23	1 70	
Custer . . . . .	17	19	81,50	794	..	12	105,50	525	..	1 00	1 79	..	7 28	
Dolores . . . . .	1	1	..	..	..	1	17,50	50	..	..	3 25	..	2 67	
Douglas . . . .	20	20	10,098	536	..	15	10,125	531	..	..	3 31	..	3 10	
Elbert . . . . .	12	11	5,966	265	..	11	5,714	285	..	..	3 69	..	4 58	
El Paso . . . . .	25	28	46,590	1217	452	23	48,450	1191	463	2 45	2 97	2 38	1 35	
Fremont . . . .	18	21	26,695	927	..	18	149,30	950	50	1 41	1 95	2 80	3 18	
Gilpin . . . . .	7	8	36,225	790	1500	7	48,330	917	1676	2 85	5 10	..	4 28	
Grand . . . . .	3	7	..	..	..	1	300	40	..	..	..	..	2 84	
Hammison . . . .	8	17	..	..	..	9	15,275	550	100	..	..	1 55	8 15	
Hinsdale . . . .	3	3	18,528	..	..	1	300,000	200	..	..	..	..	1 40	
Huerfano . . . .	17	20	885	200	..	8	463	360	..	..	..	..	3 25	
Jefferson . . . .	30	31	36,225	1230	110	26	429,30	1338	100	1 59	3 00	2 00	3 12	
Lake . . . . .	8	8	118,000	1570	..	12	155,000	1620	..	4 44	2 46	2 26	3 07	
La Plata . . . .	10	14	1,325	195	..	10	17,425	723	..	..	..	3 75	..	
Larimer . . . . .	22	26	26,690	1188	..	21	38,310	867	18	1 30	1 59	..	..	
Las Animas . . .	23	22	29,85	951	..	8	22,000	2000	..	..	..	3 40	2 50	
Ouray . . . . .	5	4	21,30	120	..	2	12,000	00	..	..	2 33	..	3 21	
Park . . . . .	12	16	943	192	..	11	8,000	220	..	..	..	1 44	2 97	
Pitkin . . . . .	3	3	..	..	..	6	5687	0	..	..	..	..	2 45	
Pueblo . . . . .	30	30	..	..	98	6	229,30	781	135	2 82	2 57	2 01	1 31	
Rio Grande . . .	5	7	21,000	320	..	5	125,000	385	..	2 00	5 50	4 02	2 20	
Routt . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	
Sagache . . . . .	13	14	6240	241	..	13	4505	454	..	..	4 29	1 37	1 05	
San Juan . . . .	1	1	25,000	50	..	1	4500	50	..	..	..	..	..	
San Juan . . . .	10	10	1025	50	..	4	2500	208	..	..	3 84	..	2 42	
Summit . . . . .	7	30	46880	1243	230	3	52854	1496	283	3 85	3 16	..	2 47	
Weld . . . . .	3	36	..	..	..	..	..	..	..	..	..	..	..	
Total . . . . .	454	511	977,213	19,486	5034	370	12,351,91	26,470	5680	2 42	2 87	2 36	3 03	

TABLE VII.—FINANCIAL STATEMENT FOR 1881.

COUNTIES.	RECEIPTS.							EXPENDITURES.						
	Balance on hand Sep. 1st, 1880.	Amount rec'd from general fund.	Amount rec'd from special fund.	Amount rec'd from building fund.	Amount rec'd from all other sources.	Total Receipts.	Teachers' wages.	Current Expense.	Sites, buildings, furniture, etc.	Tempor'y loans paid.	Total Expenditures.	Balance in hands Co. Tr'y., Aug. 31st, 1881.		
Arapahoe . . . . .	\$ 4301 28	\$ 62635 29	\$ 102338 48	\$ 102073 25	\$ 987 75	\$ 111165 65	\$ 65333 77	\$ 16,886 17	\$ 115757 84	\$ 25564 70	\$ 223142 48	\$ 5722 57		
Bent . . . . .	2885 45	5138 30	1500 00	9630 46	3430 03	3430 03	3430 03	650 43	1076 20	364	5720 75	3909 71		
Boulder . . . . .	4793 13	13473 77	8221 02	2035 61	442 24	28765 36	16586 36	3556 78	3420 69	1042 07	32203 90	35359 57		
Chaffee . . . . .	3643 13	10601 12	1388 47	44 35	100 00	15777 76	10221 65	2447 54	177 42		43449 61	2831 15		
Clear Creek . . . . .	191 61	1149 82	620 80	6500 00		8452 93	369 00	654 21	650 00		7532 21	929 72		
Conejos . . . . .	1791 65	2014 83	89 78		500 00	4306 26	1638 00	65 03	356 20		2008 20	2218 06		
Costilla . . . . .	3067 48	4125 48	2023 23	386 11	1015 77	10618 07	5237 15	813 88	4328 81		10018 07			
Custer . . . . .		61 90	285 24		5 00	352 14	202 30	124 84	356 20					
Delores . . . . .		4499 23	2405 70		174 38	8862 25	3935 62	164 61	576 92		32 14			
Douglas . . . . .	1732 94		4 99		107 88	5269 54	3632 31	494 88	66 54		5738 93	3703 32		
Elbert . . . . .	3215 59	1041 17	4 99	283 48	553 20	16845 70	11532 68	7355 96	3040 26		5269 54			
El Paso . . . . .	2139 53	8884 66	4981 92	1029 66	1339 27	13837 37	6438 20	1800 42	2300 93		16845 79	1426 23		
Fremont . . . . .	2025 50	6117 50	3325 44		5731 13	18387 49	11023 00	1800 42			15784 35	2063 14		
Gilpin . . . . .	2783 44	4418 01	5454 91		160 00	807 18	8255 91	6 35			1754 35	242 09		
Grand . . . . .	40 00	300 00			9217 18	907 18	8463 43				8403 45	553 73		
Gunnison . . . . .	13310 62	4613 60			2991 23	20218 45	1531 68	17968 09			20759 77	158 68		
Huerfano . . . . .	1847 76	2731 05	540 04	131 41	1030 15	2555 25	2492 38	297 71			2891 11	2304 09		
Jefferson . . . . .	1917 96	7686 77	7667 73	994 22	1030 15	28371 23	17901 82	2792 54	7739 35	2134 31	24418 02	4153 48		
Lake . . . . .	4163 96	12407 67	3605 00	28943 57	400 00	49319 20	17310 43	1954 66	26486 60	269 85	46010 99	3508 21		
La Plata . . . . .	339 46	3820 11	105 00	3253 08	1533 07	4945 74	3202 35	714 82	781 74	196 83	4925 75	3384 15		
Larimer . . . . .	4284 22	6788 66	2852 84	3255 00	259 62	20272 34	6638 30	1527 55	6637 10	1785 24	16888 19	13674 35		
Las Animas . . . . .	4914 48	12335 90	8932 30	3957 02	39 96	29328 44	8381 54	1479 09	4289 87	1304 59	15655 09	558 58		
Ouray . . . . .	2 50	423 68	1303 26		613 97	2143 13	977 00	64 30	816 25	3 00	1860 55	749 29		
Park . . . . .	593 06	3171 83	220 99		20 75	4212 63	3040 02	20 84	196 48		3263 34	749 29		
Pitkin . . . . .														
Pueblo . . . . .	2893 74	11441 22	5469 55	7449 62	6749 13	32093 26	19044 00	2394 78	17783 50	5701 66	36824 54	12668 72		
Rio Grande . . . . .	21 69	795 73	1420 00	482 88	16 00	4647 70	2096 35	761 00	481 60		3338 85	1308 85		
Routt . . . . .														
Saguache . . . . .	2568 51	2663 30	922 24		351 30	6465 85	3964 91	505 94	285 57	448 67	4275 09	2190 76		
San Juan . . . . .	177 07	1975 03	43 08	485 59	203 00	2887 57	650 00	374 85	1037 05	205 00	2216 90	679 67		
San Luis . . . . .	77 71	353 90	470 32	41 20	348 00	1441 31	1004 38	276 75	155 03		1456 13	5 18		
Seminole . . . . .	6321 93	13184 47	6352 46	1057 29	2505 88	29121 73	13033 34	3480 45	1353 63	3786 78	21654 17	7467 56		
Total . . . . .	\$ 117149 99	\$ 208844 86	\$ 68926 73	\$ 59177 35	\$ 51417 20	\$ 708516 13	\$ 240384 48	\$ 49828 75	\$ 219336 15	\$ 47601 18	\$ 557150 56	\$ 151365 57		

STATE SUPERINTENDENT'S REPORT.

TABLE VIII—FINANCIAL STATEMENT FOR 1882.

COUNTIES.	RECEIPTS.					EXPENDITURES.					Balance in hands of Co. Treas. Aug 31, 82.
	Amount Rec'd fr'm General Fund.	Amount Rec'd fr'm Special Fund.	Amount Rec'd fr'm Building Fund.	Amount Rec'd fr'm all other sources.	Total Receipts.	Teachers' Wages.	Current Expense.	Sites, Buildings, Furniture, Etc.	Temporary Loans Paid.	Total Expenditures.	
Arapahoe,	\$ 79421 72	\$114960 56	586 30	\$ 85174 17	\$271142 75	\$ 80506 82	\$27370 28	\$155683 30	\$ 7582 37	\$271142 75	\$ 18954 59
Bear,	5857 59	65 66	1537 31	356 03	7816 59	4984 46	1056 47	1054 66	121 00	7816 59	4402 53
Boulder,	17497 76	5307 45	2725 34	14878 94	40429 49	17593 81	40429 49	16159 08	3957 11	40429 49	14771 82
Chattce,	7582 43	6455 61	94 61	754 95	14886 70	6057 93	2764 57	14886 70	1100 45	14886 70	6657 93
Clear Creek,	8548 60	1528 14	643 55	4389 14	15109 43	10519 78	3722 05	1118 10	199 50	15109 43	343 45
Conjcos,	5989 29	4792 62	.....	46 30	10828 21	4528 69	1848 82	4450 70	.....	10828 21	3548 48
Costilla,	.....	.....	.....	2402 97	2402 97	1762 95	389 75	250 27	.....	2402 97	2976 40
Custer,	5903 11	3526 51	2338 29	539 92	12307 83	7163 02	1389 22	2118 09	1637 50	12307 83	504 21
Dolores,	1244 12	78 75	.....	828 83	2151 70	616 45	246 72	1258 53	.....	2151 70	181 67
Douglas,	3960 56	1122 57	88 60	122 67	5294 35	4517 33	262 68	422 49	151 85	5294 35	2636 45
Elbert,	3906 92	576 39	482 93	130 40	5006 64	3740 50	357 83	998 31	.....	5006 64	4084 09
El Paso,	10003 59	6204 43	595 37	2596 42	19309 81	13835 36	2194 57	2244 43	.....	19309 81	5749 07
Fremont,	5427 11	4952 53	575 63	2846 82	12902 09	8074 81	1223 83	1493 12	2168 33	12902 09	1462 62
Gilpin,	4375 22	1692 54	11877 23	1777 92	19722 89	13371 45	3394 93	2957 41	.....	19722 89	389 89
Grand,	.....	.....	.....	867 63	867 63	694 00	173 63	.....	.....	867 63	524 22
Gunnison,	.....	.....	.....	8188 45	8188 45	8188 45	.....	.....	.....	8188 45	1106 08
Hinsdale,	7413 52	532 88	.....	4135 10	12081 59	1691 75	938 85	5370 19	4080 80	12081 59	936 24
Huerfano,	3845 38	560 06	40 65	488 10	4934 28	4249 25	225 24	459 79	.....	4934 28	784 44
Jefferson,	9401 29	7052 98	224 35	7393 01	24971 63	12645 75	2097 75	2967 94	7260 19	24971 63	2231 13
Lake,	26479 96	.....	.....	26479 96	24669 52	24669 52	1774 64	26 80	.....	26479 96	1128 37
La Plata,	2309 41	2414 86	.....	4360 80	9076 07	3586 87	765 12	4674 08	.....	9076 07	227 76
Larimer,	7068 98	3773 98	440 18	5782 40	17005 54	9638 80	2691 66	4041 40	633 68	17005 54	2404 72
Las Animas,	5721 41	949 27	315 90	6244 44	13231 02	9454 70	3776 32	.....	.....	13231 02	7755 36
Ouray,	.....	884 67	.....	592 52	1477 10	1169 50	259 55	48 14	.....	1477 10	85 72
Park,	1471 74	1489 33	471 83	1664 70	3907 60	3905 60	470 05	1532 04	.....	5097 69	480 37
Pitkin,	408 06	.....	.....	5937 02	1540 15	1600 00	688 23	5687 00	.....	7975 23	8489 97
Pueblo,	16518 19	4097 87	6836 61	22351 85	49786 52	17366 17	6027 50	22936 91	3455 94	49786 52	1675 30
Rio Grande,	1545 54	3313 08	355 73	375 65	5509 90	3220 00	954 20	1216 00	.....	5509 90	1675 30
Routt,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saguache,	2625 42	1075 93	234 00	670 97	4605 42	3108 17	451 79	602 50	352 96	4605 42	1997 32
San Juan,	2171 20	.....	.....	2171 20	800 00	800 00	.....	1200 00	.....	2171 20	747 90
Summit,	963 42	500 00	147 20	368 59	1979 21	1394 47	295 74	75 02	214 00	1979 21	163 94
Weld,	16139 15	3816 88	559 93	6019 99	26526 95	15961 20	5066 21	4985 32	514 22	26526 95	9817 66
Total,	\$54803 69	\$181708 45	\$ 37018 56	\$167883 23	\$661418 93	\$300127 54	\$274240 28	\$ 52595 76	\$ 34455 35	\$661418 93	\$106613 70

TABLE IX.—FINANCIAL SUMMARY, 1881.

	Receipts.	Expenditures.
Balance on hand September 1st, 1880 . . . . .	\$117,149 99	
Amount received from General Fund . . . . .	208,844 86	
“ “ “ Special Fund . . . . .	168,926 73	
“ “ “ Building Fund . . . . .	159,177 35	
“ “ “ all other sources . . . . .	54,417 20	
Total receipts . . . . .	\$708,516 13	
Teachers' Wages . . . . .		\$240,384 48
Current Expense . . . . .		49,828 75
Sites, Buildings, Furniture, etc. . . . .		219,336 15
Temporary loans paid . . . . .		47,601 18
Total expenditures . . . . .		\$557,150 56
Balance in hands of County Treasurer Aug. 31st, 1881 . . . . .		151,365 57
Totals . . . . .	\$708,516 13	\$708,516 13

TABLE X.—FINANCIAL SUMMARY, 1882.

	Receipts.	Expenditures.
Amount received from General Fund . . . . .	\$254,803 69	
“ “ “ Special Fund . . . . .	161,708 45	
“ “ “ Building Fund . . . . .	37,018 56	
“ “ “ all other sources . . . . .	137,888 23	
Total receipts . . . . .	\$661,418 93	
Teachers' Wages . . . . .		\$300,127 54
Current Expense . . . . .		274,240 28
Sites, Buildings, Furniture, etc. . . . .		52,555 76
Temporary Loans paid . . . . .		34,455 35
Total Expenditures . . . . .		\$661,418 93
Balance in hands of County Treasurer Aug. 31st, 1882 . . . . .	\$106,613 70	\$106,613 70
Totals . . . . .	\$768,032 63	\$768,032 63

TABLE XI.—APPORTIONMENT OF PUBLIC SCHOOL INCOME FUND.

COUNTIES.	Jan. 1881, 12 2-10 cts. per Capita			July 1881, 28 8-10 cts. per Capita			Jan. 1882, 13 cts. per Capita.			July, 1882, 31 cts. per Capita		
	Amount Appor- tioned.	Deducted for Blanks.	Balance Certif'd to Auditor.	Amount Appor- tioned.	Deducted for Blanks.	Balance Certif'd to Auditor.	Amount Appor- tioned.	Deducted for Blanks.	Balance Certif'd to Auditor.	Amount Appor- tioned.	Deducted for Blanks.	Balance Certif'd to Auditor.
Arapahoe	\$943 61	\$14 00	\$929 61	\$2,227 67	97 05	\$2,130 62	\$1,275 73	\$27 95	\$1,247 78	\$3,041 72	\$3,046 62	\$1 70
Bent	41 19	5 50	35 69	2,227 67	97 05	2,130 62	84 00	13 43	70 57	111 60	16 00	95 60
Boulder	331 59	38 35	293 24	782 78	6 00	776 78	732 28	64 39	727 89	852 50	32 00	820 50
Chaffee	106 14	2 85	103 29	250 56	0 20	250 36	241 35	6 50	234 85	359 60	36 10	323 50
Clear Creek	168 36	9 95	158 41	307 44	46 50	260 94	350 94	15 55	245 39	468 10	16 58	451 52
Comelos	42 70	1 20	41 50	100 80	14 16	86 64	77 61	3 10	74 51	185 07	42 90	142 17
Costilla	100 55	4 35	96 20	258 62	5 85	252 77	252 77	110 60	142 17	285 20	4 10	281 10
Custer	143 10	62 63	80 47	349 65	35 08	314 57	314 55	172 12	142 43	457 69	4 10	453 59
+Dolores	77 83	13 92	63 91	183 74	13 65	170 09	170 00	4 81	165 19	411 44	6 67	404 77
Douglas	40 97	5 65	35 32	110 88	9 20	101 68	101 68	43 29	58 39	181 97	1 70	180 27
Elbert	237 53	11 20	226 33	506 73	15 00	491 73	545 13	39 70	531 43	103 53	1 70	101 83
Fremont	133 58	10 38	123 20	315 93	12 35	303 58	303 56	170 56	132 99	591 79	49 40	542 39
Golden	174 56	20 00	154 56	412 12	8 41	403 71	403 71	185 64	218 07	442 68	6 24	436 44
Graham	5 01	5 01	0 00	13 24	1 41	11 83	11 83	13 13	2 79	31 31	30 25	1 06
Gunnison	35 02	4 88	30 14	84 09	7 55	76 54	76 54	66 95	9 61	159 05	19 56	139 49
Huerfano	37 69	1 20	36 49	88 99	2 10	86 89	86 89	43 03	43 86	102 01	1 70	100 31
Jefferson	150 91	1 20	149 71	356 25	11 05	345 20	345 20	187 20	158 00	446 40	1 70	444 70
Lake	216 00	12 52	203 48	511 48	31 56	479 92	479 92	211 02	268 90	744 82	31 20	713 62
La Plata	229 72	28 98	200 74	542 30	11 85	530 45	530 45	211 77	318 68	853 12	20 08	833 04
Larimer	30 62	4 97	25 65	72 28	54 84	17 44	17 44	73 32	19 55	174 84	5 38	169 46
Larimer	147 37	11 61	135 76	347 90	16 37	331 53	331 53	187 20	144 33	446 40	23 75	422 65
Las Animas	327 57	43 30	284 27	773 28	15 71	757 57	757 57	383 24	374 33	913 88	60	853 88
Ouray	25 49	4 18	21 31	65 19	16 75	48 44	48 44	21 45	26 99	111 15	39 35	71 80
*Park	174 58	10 65	163 93	412 12	16 35	395 77	395 77	262 47	133 30	628 07	25 81	602 26
+Pitkin	53 02	3 65	49 37	127 29	4 20	123 09	123 09	60 97	62 12	145 39	1 32	144 07
Rio Grande	57 95	6 08	51 87	136 80	9 75	127 05	127 05	89 94	37 11	197 78	38 90	158 88
+Route	7 07	1 70	5 37	16 70	1 41	15 29	15 29	7 02	8 27	16 74	6 44	10 30
Saguache	48 02	7 60	40 42	115 48	24 20	91 28	91 28	58 76	32 52	149 12	21 69	127 43
Summit	186 05	3 76	182 29	439 20	21 50	417 70	417 70	204 49	213 21	487 63	4 22	483 41
Weld	4,297 72	\$372 10	\$3,925 62	\$10,145 55	\$501 21	\$9,644 34	\$9,644 34	\$5,304 52	\$4,339 82	\$12,649 24	\$489 21	\$12,160 03
Total												

\*No report. †No organization.

# STATE UNIVERSITY.

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## BOARD OF REGENTS.

	Term Expires.
JUNIUS BERKLEY . . . . .	1885.
HORACE M. HALE . . . . .	1885.
MAX HERMAN . . . . .	1887.
JOS. C. SHATTUCK . . . . .	1887.
JAMES RICE . . . . .	1889.
LEONIDAS S. CORNELL . . . . .	1889.

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## REPORT OF THE PRESIDENT OF THE STATE UNIVERSITY.

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HON. L. S. CORNELL,

*State Superintendent of Public Instruction.*

DEAR SIR: In accordance with the provisions of the Act establishing the University of Colorado, I herewith submit this my third biennial report.

In order that you, and more particularly the citizens of the State, may more fully understand whether or not the plan proposed by the founders of this higher institution of learning is or has been carried out in accordance with the spirit and letter of the law, I quote section twelve of the law providing for the government and support of the University, which is as follows:

“The University shall include a Classical, Philosophical, Normal, Scientific, Law, and such other departments,



with such courses of instruction and elective studies as the Board of Regents may determine, and a department of the Physical Sciences. The Board shall have authority to confer such degrees and grant such diplomas as are usually conferred and granted by other universities. And the Board of Regents is hereby authorized and required to establish a Preparatory department, which shall be under control of said Board of Regents, as are the other departments of the University. Nothing in this section shall be so construed as to require the Regents to establish the several departments other than the Normal and Preparatory, as herein provided, until such time as in their judgment the wants and necessities of the people require."

In accordance with the provisions of this section of the act, the Board in September, 1877, opened a preparatory and a normal department.

September, 1878, eight pupils applied for admission to the Classical and seven to the Scientific course of the University proper.

The Board, in consideration of these applications, "in their judgment," believed that "the wants and necessities of the people demanded such departments and such courses of study," established the Classical and the Scientific departments; since which time classes have been organized and conducted in the Normal and Preparatory departments and in the Classical and Scientific courses of the University proper.

In addition to the above, provisions have been made for elective courses of study to be pursued by students not wishing to take a full course in any of the regular courses.

So far, Chemistry and Assaying have been the only special or elective studies pursued.

Three pupils have completed the Normal course—two are now teaching in the State; one is pursuing a college course, and is now in the Sophomore class. Twelve have taken a partial course, and have taught or are now teaching in the State with more than ordinary success.

Nineteen have completed a Preparatory course, of which number a majority propose to continue their studies and take a full collegiate course.

Six young men having completed the full Classical (four years) course were graduated June 10, 1882.

I append the names of the first or pioneer class with the title of the oration of each.

Henry H. Drum . . . . . "Civil Service."  
 Oscar E. Jackson . . . . . "Growth of Popular Government."  
 James I. McFarland . . . . . "Problem of Life."  
 John J. Mellett . . . . . "Tendency of Modern Politics."  
 Harold D. Thompson . . . . . "How Much Heat."  
 Richard H. Whiteley, "The Poet Laureate of America."

From the above it appears that the University has, so far as practicable and with the limited means furnished been doing the work contemplated by its founders.

#### CHARACTER OF WORK DONE.

As to the character of the work done, I respectfully refer to the report of a committee of five eminent scholars, appointed by the Board to examine and report upon the work of the University. The following is a brief extract:

"In the languages, passages from Thucydides and Herodotus in Greek, from Cæsar, Cicero and Horace in the Latin, and from several distinguished authors in French and German were translated and analyzed.

"As to Greek and Latin, the pupils evinced that they had studied with diligence and were instructed with great care and scholarly skill.

"In French and German your committee were specially pleased with the acquirements of the students, and above all the highest class in German deserves honorable mention.

"The classes examined in Algebra, Geometry, Trigonometry and Differential Calculus evinced full evidence of thorough training, solving problems with alacrity and evincing full comprehension of their work."

Regarding these facts, it appears that not only has the original plan contemplated by the people in establishing the University been carried out and scrupulously adhered to, but the work has been reasonably well, and conscientiously performed.

No claim is set up that perfection has been attained, yet I do wish to emphasize the fact that, as compared with other institutions of the country of like grade, scope and age, the University of Colorado will bear a most favorable comparison, and that those knowing most about the work done will be most ready to give such testimony.

The unfavorable, or perhaps unfriendly legislation of the last session of the General Assembly relating to the University, in refusing to grant a much needed appropriation, affected the institution unfavorably in two ways; first, in depriving it of needed facilities for carrying on the legitimate work; and second it gave and left the impression that the State University was not to receive the fostering care of the people of the State, and those who contemplated educating their children or wards, hesitated about patronizing a school that might fail to afford the necessary means for accomplishing the best results.

## STATISTICS.

Whole number of pupils in attendance . . . . .	113
Males . . . . .	70
Females . . . . .	43
College classes . . . . .	18
Preparatory school . . . . .	72
Normal " . . . . .	17
Special students . . . . .	6
Counties of Colorado represented . . . . .	11
Other states . . . . .	4

## STUDIES PURSUED.

Greek 12, Latin 49, German 34, French 15, Calculus 8, Trigonometry and Surveying 12, Geometry 17, Mechanical Drawing 6, Algebra 25, Arithmetic 17, Psychology 7, Logic 7, Constitutional Law 7, Geology 7,

Chemistry 28, Assaying 18, Botany 19, English Literature 12, English Grammar 25, Geography, Physical and Descriptive 27, History 26, Physiology 13.

## ATTENDANCE BY TERMS.

1881.		1882.	
First Term . . . . .	54	First Term . . . . .	72
Second Term . . . . .	67	Second Term . . . . .	73
Third Term . . . . .	60	Third Term . . . . .	84

## FINANCIAL REPORT.

From September 30th, 1880, to October 1st, 1882, orders have been issued on the treasurer for the amounts and purposes as follows:

Regents . . . . .	\$ 781 50
Teachers . . . . .	20,395 00
Janitor . . . . .	1,321 05
Fuel . . . . .	1,368 60
Furniture . . . . .	358 90
Laboratory . . . . .	639 05
Library . . . . .	333 80
Building and grounds . . . . .	2,723 73
Stationery . . . . .	320 53
Sundries . . . . .	1,823 55
Total . . . . .	\$29,965 71

The following are the names and titles of the present instructors, with the salary of each:

Joseph A. Sewall, LL.D., President and Professor of Chemistry and Metallurgy . . . . .	\$3,600
Isaac Dennett, A. M., Professor of Ancient Languages . . . . .	2,000
Paul H. Hanus, A. B., Professor of Mathematics . . . . .	1,900
Mary Rippon, Professor of Modern Languages . . . . .	1,400
Irving J. McFarland, A. B., Assistant in Preparatory School . . . . .	1,200
Winthrop E. Scarritt, A. B., Professor of English Literature and Philosophy . . . . .	1,200
Evens W. Thomas, Principal of Normal School . . . . .	1,200

## DEPARTMENT AND DISCIPLINE.

The relation between pupils and teachers has been for the most part all that could be asked. The disposition on the part of the pupils to maintain order and co-operate with the faculty, has been uniformly cordial. Few cases of discipline have occurred. Three young men were suspended. One of this number has been reinstated by the Board.

The instructors in the several departments have been thoroughly and conscientiously devoted to their work, and what has been lacking in means has in a large measure been made up by application and industry.

#### LIBRARY AND APPARATUS.

Three hundred dollars' worth of books has been added to the Library—\$200 coming from the Buckingham fund, and \$100 from the State fund.

A spherical black-board, one celestial and one terrestrial globe, and about \$100 worth of maps and charts have been furnished during the year.

Most excellent work has been done by students in the chemical laboratory. In addition to the regular course of qualitative analysis, more than 1,200 assays of gold and silver have been made, 150 determinations of iron, 76 of copper and 90 of lead, besides some very skillful and accurate determinations of cobalt, nickel, tin and tellurium.

#### HEALTH.

The healthfulness of the pupils has been most remarkable. Of more than three hundred students who have been connected with the school since the opening, in 1877, not one has died, and but one case of severe sickness has occurred.

This general healthfulness may be largely attributed to pure air, pure water and to the good habits of our pupils.

#### NEEDS OF THE UNIVERSITY.

While the present annual income is sufficient for the current expenses, a special appropriation is much needed that the University may do well the work anticipated by its founders. What is specially needed is a dormitory for the accommodation of students from abroad, and for making additions to the library and laboratories.

We can but hope that the General Assembly will see fit to make a liberal appropriation for these purposes;

not because other institutions in other localities are cared for, but because it is the highest wisdom, the bounden duty of the State to care well for its chief educational institution.

As a conclusion to this report I know of nothing more fitting than the following, from the pen of the late lamented Regent Ebert :

“Universities are the pillars of civilization, they are the nurseries of progress. The student comes here, through his studies, in immediate contact with the best thought of the best minds the human race has produced from the remotest ages of antiquity to the most modern times.

“The solution of the highest problems of science, society and humanity in general are constantly held before his mind, and thereby an elevating influence is exerted upon his whole mental constitution.

“When returning into the spheres of practical life, whatever they may be, he will not only benefit these directly through the application of his acquired knowledge, but will form that element in society from which the impulse of assistance for the promotion of any useful, refining and ennobling project emanates. Thus, universities furnish the spiritualistic leaven for the great masses who would soon, in consequence of their materialistic tendencies, become stagnate and be the prey of ignorance, poverty and despotism.

“Let us hope that our State University can soon be made what it ought to be, the main distributing point of knowledge and nursery of true progress.”

In conclusion, I would say that I believe the work of the Colorado State University was never better adjusted nor more thoroughly and successfully prosecuted than it is at present. We should be glad to have our friends—and our enemies—come and visit us, and inspect our work. We do not think it is perfect; but we desire that it should be justly estimated, and judged with a full knowledge of what we are doing.

All our rooms are open at all times to friends and foes alike. We are working for the State, and we have nothing to conceal. If any one wishes to know what we are doing, let him come and see. He shall be welcomed, and shall have full opportunity given him to judge.

For full particulars relating to names and residence of students and courses of study, I refer you to the accompanying catalogue.

Respectfully submitted,

JOSEPH A. SEWALL,

President.

Boulder, Colorado, September 30, 1882.

TREASURER'S REPORT.

Statement of receipts and disbursements of C. G. Buckingham, Treasurer of the University of Colorado from February 3d, 1881, to October 1st, 1882:

RECEIPTS.

received from J. A. Cooper, former treasurer . . . . .	\$ 1,535.34
“ “ State Treasurer of Colorado . . . . .	28,300.00
“ “ J. A. Sewall, President (sundries) . . . . .	96.00
Balance due Treasurer . . . . .	34.97
	<hr/>
	\$29,966.31

DISBURSEMENTS.

Paid out as per vouchers . . . . .	\$29,966.31
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Boulder, Dec. 1, 1882.

# STATE SCHOOL OF MINES.

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## REPORT OF THE PRESIDENT.

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*To the Superintendent of Public Instruction of the State of Colorado :*

SIR: I have the honor herewith to submit the following biennial report :

The School of Mines, established and supported by the State of Colorado to promote the interests of that great industry upon which her existence and prominence among the States of the Union depend, aims to combine theoretical instruction with practical training in those sciences which, when thoroughly understood and properly applied, will develop in a systematic and economic manner the mineral resources of the State. This general aim has been held steadily in view by both trustees and faculty in all their plans and work. Special investigations and scientific research to ascertain the extent and value of the mineral resources of Colorado, as well as the products of economic geology, are conducted by the faculty so far as time and opportunity allow.

In its regular courses of instruction, the School of Mines aims to prepare its graduates to understand the nature of the work they will be called to do, to know the capabilities of Colorado as a mineral producing region, and to be ready to meet those emergencies which necessarily arise in the experience of every practical miner and metallurgist. With this end in view, a candidate



for a degree is required to possess a knowledge of the higher mathematics, both pure and applied, so far as he will be called upon to use them; also a thorough knowledge of free-hand and mechanical drawing, and of surveying and engineering, especially in connection with practical mining. He must have a theoretical and experimental knowledge of chemistry in its various departments, including qualitative and quantitative analysis, blow-pipe analysis and assaying, as well as the most thorough instruction in metallurgy, with observation and study of the different kinds of reduction works to be found throughout the State; such observation being taken under the immediate supervision of the professor in that department. A knowledge of the main geological features of the State, with a detailed examination of those regions which are readily accessible, in company with the professor of geology, and occasional visits to some of the most important mines and mining camps are also demanded, as well as a digest of mining law, and such a familiarity with French and German as will enable him to read scientific works in both languages. Besides this, during his course of study, the student is required to make independent observations upon special subjects in the mining or metallurgical industry, giving detailed plans and estimates of cost of construction, purchase and operation of whatever works may be necessary, including cost of material, labor, transportation, etc., and showing at what per cent. of profit or loss his estimated works would be conducted under the assumed conditions. During his course of study these memoirs evince his greater or less knowledge of the subject treated, and the thesis required upon graduation must give satisfactory evidence that he has acquired the requisite knowledge and judgment to conduct such works on a practical scale, with economy and profit. The data upon which these memoirs and theses are based are obtained by visits to corresponding works in actual operation, and by practical work in positions connected with mining or metallurgy, the students being always able to secure such positions during the summer vacations.

By reference to the statistical table appended to this report, it will be noticed that a large number of those at-

tending the school thus far have been special students pursuing only a partial course. They remain at the institution for periods ranging from about three months to two or three years. Many of them are owners of mining property or reduction works, in some cases employing a large amount of capital.

The statistical table furnishes other information which will be of great value in forming an estimate of the work and progress of the institution. It will be seen that the number of students in attendance during the present term is more than double that of the fall of 1880; also that the number pursuing the regular courses is steadily increasing. In respect to ability and preparation for their work, it may be added that a corresponding improvement has been manifested. We believe that the grade of students at the School of Mines, of the State of Colorado, will compare favorably with that of those attending any of the higher technical schools in our country.

The large number of students who, after graduating at such institutions as Harvard University, U. S. Naval Academy, etc., are pursuing regular courses at this institution, speaks well for the work they are fitted to do, the rank they will be prepared to take in practical mining and metallurgy after completing their studies here, and also furnishes no small evidence of the reputation the institution has already acquired.

The table shows that the patronage of the school is quite generally distributed among the different counties of the State, especially those in which are located the leading mining districts. Other important facts will be readily seen, and need not be referred to here.

In the summer of 1880, the Board of Trustees, without having received any special appropriation, were enabled by the strictest economy to erect a new building in town, out of the funds received by the regular State tax, the ground having been donated by the citizens of Golden. The necessity for such a building will be seen by reference to the biennial report of 1880.

Unfortunately the State funds, though enabling them to build so as to meet the immediate wants of the institution, were inadequate to provide for the rapid and unexpected growth which followed.

The result has been that the board have already found themselves compelled either to continue the school without sufficient room for any department of work, or to make an addition to the building equal to the present requirements.

They considered that the interests of the institution and the State demanded that they should pursue the latter course. It was thought prudent also to provide for at least a few years of growth, so that the necessity of farther building would not again be so suddenly thrust upon them. Such an addition was accordingly determined upon and is now approaching completion.

Some of the limitations which have necessitated the erection of the addition, are the following:

1. The laboratory was provided with desk room for only thirty students, while the number to be accommodated at one and the same time has been considerably greater.

2. The number of furnaces in the assay department has been scarcely sufficient for the use of more than one-half of those wishing to work there.

3. There being a great lack of lecture and recitation rooms, it has been necessary for two or three classes, in session at the same time, to occupy different parts of the large lecture hall, thus greatly disturbing one another.

4. There was no dark room for spectroscopic analysis, no library room, and no place for the rapidly increasing mineral and geological collections. The school, by lack of the above conveniences, is so circumscribed in its work that it has become an urgent necessity that the addition to the building be fitted up for immediate use, if the requirements of the school, with its rapidly increasing patronage, are to be fully met. The addition now nearly completed, when thoroughly furnished, will

accommodate sixty students in the laboratory for qualitative analysis and experimental chemistry, twenty in the quantitative laboratory and forty-five in the assay laboratory. Further, there is a small private laboratory for scientific research and special chemical work, a dark room for spectroscopic analysis, a good physical laboratory and lecture room with facilities for photographic work, chemical and assay balance rooms, a room for metallurgical lectures and collections of models, and special rooms for mechanical and free-hand drawing. The public hall and museum is also considerably enlarged. In the basement there are supply and store rooms, and a furnace room. There are also preparation and furnace rooms for the assay department, with ample provision for both wind and muffle furnaces. A few changes have been made in the corps of instruction, which at present is constituted as follows:

## FACULTY.

ALBERT C. HALE, A. M., E. M., Ph. D., President,  
Professor of Chemistry and Assaying.  
Salary, \$2,500.

MILTON MOSS, E. M., Ph. D.,  
Professor of Mineralogy and Metallurgy.  
Salary, \$1,800.

ARTHUR LAKES,  
Professor of Geology and Drawing.  
Salary, \$80 per month.

MAGNUS C. IHLENG, E. M., C. E., Ph. D.,  
Professor of Physics, Mathematics and Engineering.  
Salary, \$1,500.

GEORGE S. MACKENZIE, Ph. D.,  
Laboratory Instructor.  
Salary, \$50 per month.

ERI P. RICE,  
Secretary and Assistant in Chemistry.

CARLTON H. HAND,  
Assistant in Assaying.  
Salary, \$40 per month.

HARRY C. CARNEY, A. B.,  
Assistant in Mathematics.  
Salary, \$40 per month.

## EXPENDITURES.

Nov. 9, 1880. Balance overdrft . . . . .	\$	843 55
Outstanding warrants paid to October, 1882 . . . . .		35,047 76
		<u>\$35,891 31</u>

## RECEIPTS.

Received of State Treasurer, and James T. Smith, Secretary, from November 13, 1880, to October 12, 1882 . . . . .	\$30,435 20
Balance . . . . .	5,456 11
	<hr/>
	\$35,891 31
Balance overdraft . . . . .	\$5,456 11
Warrants drawn and outstanding . . . . .	4,007 25
	<hr/>
	\$9,463 36

The biennial report of the Secretary of the State School of Mines, ending November 1st, 1882, contains a full statement of receipts, expenditures, property on hand, also building report of the new addition, which is as follows:

1881. Warrants drawn on State Auditor . . . . .	\$12,388 00
“ Received from pupils for supplies . . . . .	1,163 05
“ “ “ Assays . . . . .	37 50
“ Return premiums on fire insurance . . . . .	100 00
	<hr/>
	\$13,688 55
1882. Warrants drawn on State Auditor . . . . .	\$15,800 00
“ Received from pupils for supplies . . . . .	903 60
“ “ “ Assays . . . . .	43 05
	<hr/>
	\$16,746 65
“ Nov. 1. Overdraft on Treasurer . . . . .	9,463 36
	<hr/>
	\$39,898 56

Warrants drawn on Treasurer for disbursement, as follows:

## CURRENT EXPENSES OF THE SCHOOL.

Salaries, 1881 . . . . .	\$ 5,293 96
Salaries, 1882 . . . . .	6,526 64
	<hr/>
	\$11,820 60
Chemicals, supplies and fuel, 1881 . . . . .	\$ 2,380 95
Chemicals, supplies and fuel, 1882 . . . . .	1,974 88
	<hr/>
	4,355 83
Stationery, 1881-2 . . . . .	266 94
Printing and advertising, 1881 . . . . .	\$ 885 55
Printing and advertising, 1882 . . . . .	1,250 75
	<hr/>
	2,136 30
Sundry and incidental expenses, 1881 . . . . .	\$ 1,833 46
Sundry and incidental expenses, 1882 . . . . .	813 63
	<hr/>
	2,647 09
	<hr/>
Total running expenses for two years . . . . .	\$21,226 76

## BUILDING AND GROUNDS.

Completion of old building, 1881 . . . . .	\$ 793 14
Fencing and improving grounds . . . . .	1,000 00
Contractor on account of new building . . . . .	7,947 00
Superintendent and plans new building . . . . .	554 00
	-----\$10,299 14

## FURNITURE AND FIXTURES.

Mineral cases, 1881 . . . . .	\$ 554 40
Laboratory, desks and seats, 1881 . . . . .	344 70
Assaying and distilling furnaces, 1881 . . . . .	236 70
Sundry work and fitting up, 1881 . . . . .	402 07
Gas machine and fixtures, 1882 . . . . .	840 00
Sundry fixtures, 1882 . . . . .	223 91
	-----\$ 2,601 78
Chemicals and supplies on hand per inventory, 1882 . . . . .	200 00
Apparatus on hand per inventory, 1881 . . . . .	\$ 802 72
Apparatus on hand per inventory, 1882 . . . . .	2,077 28
	-----\$ 2,880 00
Library, reference books per inventory, 1882 . . . . .	455 10
	-----
Total outlay for years 1881-2 . . . . .	\$37,662 78
Overdraft on Treasurer, per report Nov. 1880 . . . . .	2,235 78
	-----\$39,898 56

Correct as it appears from the records of the State  
School of Mines. JAMES T. SMITH, Secretary,

## SUMMARY OF REPORTS SINCE DECEMBER, 1878.

1878	December.	Balance in hands of Treasurer,	\$ 519 84
1880	November.	Received from State Treasurer,	
		per report . . . . .	\$ 14,600 00
1882	"	Received from State Treasurer,	
		per report . . . . .	28,188 00
			-----\$ 42,788 00
1880	"	Received from assays and stu-	
		dents, per report . . . . .	\$ 895 70
1882	"	Received from assays and stu-	
		dents, per report . . . . .	2,247 20
			-----\$ 3,142 90
1882	"	Overdraft on treasury . . . . .	9,463 36
			-----
			\$55,914 10
Nov.	1880.	Current expenses of school, per report,	\$ 5,847 21
"	1882.	" " " " " "	21,226 76
			-----\$27,073 97
"	1880.	Cost of old building complete,	
		per report . . . . .	\$12,498 34
"	1882.	Paid on account of new build-	
		ing . . . . .	8,501 00
			-----\$20,999 34

"	1880.	Paid on furniture and fixtures . . . . .	\$ 1,384 01	
"	1882.	Paid on furniture and fixtures . . . . .	2,601 78	
				<u>3,985 79</u>
"	1880.	Paid on apparatus . . . . .	\$ 100 00	
"	1882.	" " . . . . .	2,880 00	
				<u>2,980 00</u>
"	1880.	Paid on library . . . . .	\$ 219 90	
"	1882.	" " . . . . .	455 10	
				<u>675 00</u>
"	"	Paid on chemicals and supplies on hand, per report.	\$ 200 00	
				<u>\$28,840 13</u>
				<u>\$55,914 10</u>

## BUILDING REPORT, NOVEMBER, 1882.

Contract cost of addition to building now being erected . . . . .	\$14,500 00
Amount required to furnish and equip the same for use . . . . .	7,500 00
Total cost . . . . .	\$22,000 00
Amount appropriated for a building fund, paid and to be paid out of revenue of school for 1882-83 . . . . .	12,000 00
Balance . . . . .	*10,000 00

The considerable increase in the current expenses of the Institution will be readily understood by bearing in mind its rapidly growing patronage, together with the fact that at the time of the last biennial report there were students in only the first two years of the regular courses, while now, on account of the advancement of the regular students, all the branches of the curriculum are required to be taught, thus necessitating a greater outlay for the increased faculty and for the additional instruments and apparatus used in practical work and experimental illustration.

Additions to the Library have been made during the past two years, to the amount of \$445. The books have been carefully selected with reference to their scientific value and their special utility in such a technical Institution. Apparatus and instruments have been purchased

\*Deficiency of resources to complete and furnish building fully for use as needed for the School.

to the amount of \$2,880, those of superior manufacture and accuracy having been added, as the wants of the Institution most urgently demanded.

Occasional donations from public-spirited individuals interested in the welfare of the Institution, have from time to time materially increased our equipment. We would here mention our indebtedness to Mr. Henry A. Vezin, of Leadville; to Messrs. Keyes and Arents and to Messrs. J. B. Grant & Co.; to Mr. O. V. Morgan, of the Battersea works; to Capt. E. L. Berthoud, and to various parties connected with the National Mining and Industrial Exposition, as well as to many others in the mining camps throughout the State for valuable instruments, metallurgical models, apparatus, books and mineral collections; also to the Hon. H. M. Teller for the regular receipt of reports and documents from the Department of the Interior of the United States Government.

The Board of Trustees are of the opinion that the deficiency of the \$10,000 can be made up out of the ordinary revenues of the school before the 1st day of July, 1885. If, however, a special appropriation of that amount were made at once, it would leave the Board at liberty to apply the entire revenue to the efficient management of the school. This could be done to the great advantage of the institution. We are aware, however, that unusual demands will be made upon the State treasury at the approaching session of the Legislature, and we do not, therefore, urge such an appropriation in favor of the school as a necessity. The school can get on without it. But we suggest it as very desirable to enable the Board to give to the institution that development and degree of efficiency which will make it answer the demands upon it.

Respectfully,

FRED. STEINHAUER,

*President State School of Mines.*



## STATISTICAL TABLE—1880-81.

Number of students during Fall Term, 1880 . . . . .	30
Number of students during Winter Term, 1881 . . . . .	42
Number of students during Spring Term, 1881 . . . . .	33
<hr/>	
Number pursuing the Mining Engineering Course . . . . .	10
Number pursuing the Civil Engineering Course . . . . .	1
Number pursuing the Metallurgical Course . . . . .	1
<hr/>	
Number in Regular Courses . . . . .	12
Number in Special Courses . . . . .	49
<hr/>	
Total number of students during the year . . . . .	61
<hr/>	
Number who had experience in mining previous to entering the school . . . . .	34
Number who had experience in surveying previous to entering the school . . . . .	9
<hr/>	
Total . . . . .	43

## STUDENTS FROM COLORADO BY COUNTIES.

Arapahoe . . . . .	7	Lake . . . . .	4
Boulder . . . . .	5	Ouray . . . . .	1
Clear Creek . . . . .	3	Park . . . . .	1
El Paso . . . . .	2	Rio Grande . . . . .	1
Gilpin . . . . .	3	San Juan . . . . .	1
Gunnison . . . . .	3	Summit . . . . .	3
Jefferson . . . . .	19		
<hr/>			
Number of Counties represented . . . . .	13		
“ “ students from Colorado . . . . .	53		

## STUDENTS FROM OTHER STATES AND TERRITORIES.

New York . . . . .	2	Texas . . . . .	1
Massachusetts . . . . .	1	Dakota . . . . .	1
Pennsylvania . . . . .	1	Montana . . . . .	1
Missouri . . . . .	1	Total . . . . .	8

## 1881-2.

Number of students during Fall Term, 1881 . . . . .	40
Number of students during Winter Term, 1882 . . . . .	62
Number of students during Spring Term, 1882 . . . . .	66
<hr/>	
Number pursuing the Mining Engineering Course . . . . .	13
Number pursuing the Civil Engineering Course . . . . .	3
Number pursuing the Metallurgical Course . . . . .	3
<hr/>	
Number in Regular Courses . . . . .	19
Number in Special Courses . . . . .	75
<hr/>	
Total number of students during the year . . . . .	94
<hr/>	
Number who had experience in mining previous to entering the school . . . . .	41
Number who had experience in surveying previous to entering the school . . . . .	14
<hr/>	
Total . . . . .	55

## STUDENTS FROM COLORADO BY COUNTIES.

Arapahoe . . . . .	13	Jefferson . . . . .	41
Boulder . . . . .	2	Lake . . . . .	2
Chaffee . . . . .	1	Larimer . . . . .	1
Clear Creek . . . . .	4	Park . . . . .	2
Conejos . . . . .	1	Pueblo . . . . .	1
Costilla . . . . .	2	Rio Grande . . . . .	1
El Paso . . . . .	2	Summit . . . . .	6
Fremont . . . . .	1	La Plata . . . . .	1
Gilpin . . . . .	2		
Number of counties represented . . . . .		17	
" " students from Colorado . . . . .		83	

## STUDENTS FROM OTHER STATES AND TERRITORIES.

New York . . . . .	2	Dakota . . . . .	2
Massachusetts . . . . .	1	New Mexico . . . . .	1
Ohio . . . . .	2	England . . . . .	1
Illinois . . . . .	1		—
Nebraska . . . . .	1	Total . . . . .	11

## FALL TERM—1882.

Number of students during the term . . . . .	75
Number pursuing the Mining Engineering Course . . . . .	20
Number pursuing the Civil Engineering Course . . . . .	3
Number pursuing the Metallurgical Course . . . . .	3
<hr/>	
Number in Regular Courses . . . . .	26
Number in Special Courses . . . . .	50
Total number of students during the Term . . . . .	76
<hr/>	
Number who had experience in mining previous to entering the school . . . . .	20
Number who had experience in surveying previous to entering the school . . . . .	8
Total . . . . .	28

## STUDENTS FROM COLORADO BY COUNTIES.

Arapahoe . . . . .	9	Lake . . . . .	1
Chaffee . . . . .	1	Larimer . . . . .	1
Clear Creek . . . . .	6	Las Animas . . . . .	1
El Paso . . . . .	3	Rio Grande . . . . .	1
Gilpin . . . . .	3	San Juan . . . . .	1
Jefferson . . . . .	40	Summit . . . . .	1
Number of counties represented . . . . .		12	
" " students from Colorado . . . . .		68	

## STUDENTS FROM OTHER STATES AND TERRITORIES.

New York . . . . .	1	New Mexico . . . . .	1
Illinois . . . . .	3	Dakota . . . . .	1
Wisconsin . . . . .	1		—
Michigan . . . . .	1	Total . . . . .	8

Number of graduates of other technical institutions and colleges pursuing studies at the State School of Mines, 1880-1 . . . . .	11
1881-2 . . . . .	14
Aggregate for the two years . . . . .	25

List of institutions from which the above students graduated:

Harvard University.  
 University of Heidelberg, Germany.  
 Michigan University.  
 University of Pennsylvania.  
 Columbia College School of Mines.  
 University of Vermont.  
 Indiana University.  
 Kentucky University.  
 Union College.  
 Lafayette College.  
 United States Naval Academy.  
 McKendrie University.  
 Notre Dame University.  
 Tufts College.  
 Bellevue Hospital.  
 Pennsylvania Normal College.  
 Ampleford College, England.

Number during the two years, not graduates, who have studied at other technical schools and colleges . . . . . 25

List of institutions in which the above students studied previous to entering the School of Mines:

Cornell University.  
 Yale College.  
 University of Zurich, Switzerland.  
 School of Mines, Frieberg, Germany.  
 Brown University.  
 University of Chicago.  
 Rensselaer Polytechnic Institute.

University of Kansas.  
Purdue University.  
University of North Carolina.  
Illinois Normal University.  
Albermarle College, England.  
Rugby, England.  
Union College.  
Beloit College.  
Iowa Central University.  
Fayette College.  
Asbury College.  
Wabash College.  
Sacketts College.  
Seaton Hall College.  
Colorado College.  
Bracketts College.  
Washburn College.

# STATE AGRICULTURAL COLLEGE.

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## REPORT OF THE PRESIDENT.

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STATE DEPARTMENT, DENVER, COLORADO.

*To the State Superintendent of Public Instructions :*

SIR:—In accordance with the provisions of the act of the General Assembly of the State of Colorado, approved February 11, 1881, I hereby submit the biennial report of the State Agricultural College of the State of Colorado.

At the time when this report opens the College had been in operation but *four* college terms, and hence could not be said to have advanced very far in its legitimate work. The students who presented themselves at the door of the College were poorly prepared to take the prescribed course of study. On account of this the "Introductory" or "Preparatory" year was retained to fill a much needed want.

### COURSE OF INSTRUCTION.

The branches taught in the preparatory year were: Higher Arithmetic, Elocution, Geography, English Analysis, Word Analysis, United States History and Elementary Algebra.

### FRESHMAN YEAR.

Algebra, Elementary Rhetoric, Natural Philosophy, Advanced Rhetoric, Drawing (one term), Geometry, Botany and Outlines of History.

## SOPHOMORE YEAR.

Geometry, Elementary Chemistry, Organic and Analytic Chemistry, Botany, English Literature, Trigonometry and Surveying, Mechanics (theoretical) and Zoology.

## JUNIOR YEAR.

Mechanics (theoretical), Anatomy and Physiology, Agricultural Chemistry, Geology, Chemical Physics, United States Constitution, Horticulture, Political Economy and Meteorology.

## SENIOR YEAR.

Psychology, Comparative Anatomy and Veterinary Science, Mechanical Engineering, Logic, Food Stuffs, Microscopy, Stock-Breeding, Moral Science, Household Economy, Philosophy of History and Entomology.

This course of study, together with the manual labor of two hours a day, remained until August 1, 1882, when at a meeting of the State Board of Agriculture a few days previous it was decided to reorganize the College—to change the curriculum of study in part, to introduce military drill and to enlarge the field of labor so as to make it more instructional and to have less of manual labor performed for the sake of the labor only. To this end the labor of the College was divided into two classes; to the first class belonging labor in mechanic shop, chemical laboratory, and practice in the field in surveying and engineering; to the second class, all labor on farm and garden or in green house and which does not require so much instruction or skill. The former not to be paid for, while the latter is labor for which wages varying from seven to ten cents per hour is paid.

The present course of labor and instruction is as follows:

## COURSE OF STUDY.

PREPARATORY YEAR.			
1st Term.	Arithmetic.	U. S. History, { 20 weeks, " " " }	English Analysis, " " " "
2d "	"	Elocution, { 16 weeks, " " " }	" " " "
3d "	Elementary Algebra,	" " "	Word " " "
*Labor, 2 hours daily.			
FRESHMAN YEAR.			
1st Term.	Algebra,	El. Rhetoric,	Agriculture Lectures,
2d "	Geometry,	Book-keeping,	Botany,
3d "	Higher Algebra,	History (Ancient),	"
SOPHOMORE YEAR.			
1st Term.	Geometry, completed,	History (Con),	El. Chemistry,
2d "	Trigonometry, { Surveying,	English Literature,	Organic Chemistry, Biologic Analyses,
3d "	Physics,	" "	Zoology,
Field Surveys & Levels.			
JUNIOR YEAR.			
1st Term.	Physics,	Rhetoric,	Agricultural Chem.,
2d "	Chemical Physics,	Floriculture,	" " "
3d "	Meteorology.	Horticulture,	Entomology,
Labor, two hours.			
SENIOR YEAR.			
1st Term.	Botany.	Stock-breeding, 10 weeks, Food Stuffs, 5 weeks.	Veterinary Science,
2d "	Astronomy,	Household Economy,	" " "
3d "	Moral Science,	Landscap Gardenling,	U. S. Constitution,
Political Economy,			
Mechanics, two hours Shop Practice.			

\*Labor on Farm and garden when not otherwise specified.

## ATTENDANCE.

The table below will show the attendance by terms, by years, the proportion of students of each sex and the totals:

ATTENDANCE.	1881.			1882.		
	Male.	Fem.	Total.	Male.	Fem.	Total.
First Term . . . . .	19	15	34	43	24	67
Second Term . . . . .	17	13	30	15	14	29
Third Term . . . . .	27	26	53	34	23	57
Total . . . . .	63	54	117	92	61	153

Total enrollment for 1881 (students named once) . . . . . 62  
 Total enrollment for 1882 . . . . . 94

The gain in one year has been over 50 per cent., notwithstanding many drawbacks, among which is a change of administration this present year (1882). The attendance at present is greater than in any previous fall term, and the students are better classified than ever before under the new arrangement of studies. As a proof of this, we present our classification: Juniors, 5; Sophomores, 12; Freshmen, 16; Specials, 6; Preparatory Students, 16. Total, 55. Heretofore, the tendency has been toward selecting special studies; now, the students seem more inclined to take a regular and more extended course of study.

## FACULTY.

At the close of the year 1880, Prof. F. J. Annis resigned the chair of chemistry and mathematics, and Mr. Wm. Rist was instructor in mathematics during the first term of 1881. Prof. Charles F. Davis was then elected to fill vacancy caused by resignation of Prof. Annis, and he began his labor April 1, 1881.

Mrs. A. E. Blount was elected superintendent of floral department January 5, 1881. By expiration of term of office, Mr. H. Stratton ceased to be secretary and member of State Board February 23, 1881, and Mr. P. M. Hinman was elected to fill the office for two years. He was also elected farm manager and superintendent.



Mrs. P. M. Hinman was engaged as additional instructor in geography, arithmetic and U. S. History, from September, 1881, to July, 1882. Pres. E. E. Edwards resigned April 1, 1882, and Prof. A. E. Blount as senior professor, according to law, acted president until August 1, 1882, when the present incumbent took charge of the college.

The faculty was augmented by the addition of a professor of drawing and mechanics in July. He began his duties on August 15, 1882.

In February, 1882, Mr. J. S. Tibbits was engaged as superintendent of horticultural department, and continued his work until November 1, 1882.

The present faculty, with the salary which each receives, is represented in the annexed table :

President C. L. Ingersoll, M. S., Professor of Botany and Agriculture . . . . .	\$2,500
A. E. Blount, A. M., Professor of Chemistry and Physics . . . . .	1,600
C. F. Davis, B. S., Professor of Mechanics and Drawing . . . . .	1,200
F. H. Williams, M. E. . . . .	1,000
Secretary Board and Faculty; Farm Superintendent; P. M. Hinman . . . . .	1,200
Superintendent Floral Department, Mrs. A. E. Blount . . . . .	200
Superintendent Horticultural Department . . . . .	500
Matron Ladies' Dormitory, Mrs. C. L. Ingersoll . . . . .	400
Total . . . . .	\$8,600

#### BUILDINGS AND APPLIANCES.

The college is situated just at the city limits of Fort Collins, Colorado, on a farm of 240 acres of land, which has been quite largely brought under cultivation during the present year. It is equipped with implements for general farming, some cattle (one pure Jersey cow among them), and has produced the past year a fine crop of wheat, averaging 30 bushels per acre.

The experimental department, under the management of Prof. Blount, has been a pronounced success, especially with the cereals; and his magnificent exhibition from this department was at once the wonder and admiration of every one at the Denver Exposition and the State Fair. It won first honors, to which it was justly entitled.

The small greenhouse, constructed this year (1882), has aided much in the work in the floral department, which made an excellent show of flowers on the grounds. The nursery, small fruit and vegetable gardens were a credit to the institution.

In September 1882 a mechanic shop was started, and regular instruction commenced on the Russian system, which involves the construction of a series of models which involve a series of principles—these proceeding from the simple to the more complex and difficult.

These principles do not constitute a trade, but on those principles which underlie all the arts and trades, and give skilled training to the hand.

In accordance with this plan the college fitted up two rooms, in one of which could be accommodated eight students at benches in wood work, and six students in bench work in iron, such as filing, chipping, etc. In the other room is a portable forge and anvil, where two more students are accommodated. In the aggregate, we may have sixteen students laboring and receiving instruction in shop practice. Every place was immediately filled at the completion of the shop, and did we but have the room, as many more would take the course.

The chemical laboratory is placed in a small building (the oldest on the college grounds), which this year has been fitted up for analytic work. It has tables and hoods for six students, and also table and apparatus including assay furnace for the use of the Professor. Every place in this laboratory was filled at once at the opening of the term (Sept. 1st, 1882.)

The appropriation of \$5,000 was expended for dormitory. This building was constructed in 1881, and cost \$6,000, thus consuming the appropriation and \$1,000 from the proceeds of the one-fifth mill tax for that year. The building will accommodate thirty students, or family in charge, and twenty-five students, together with rooms for employes in kitchen, etc. It is a plain building, and very substantially and economically built. It could not be duplicated for the same amount of money.

This present year there has been built a building to be used temporarily as a barn; but its proposed use in the near future is as a mechanic shop. It is built of brick—has basement and upper story, and cost \$1,500, which was paid from the one-fifth mill tax.

The main building is well adapted to the use and needs of the college, but will soon be too small for our increasing classes and work. Material has been purchased and placed in it for illustrating some of the sciences, more especially that of Anatomy and Physiology. The library has also received respectable additions during this year from various sources, and has been placed in a room on the first floor, fitted up with neat cases for the books.

The school has opened the school year of 1882-3 in a very prosperous condition, and the changes made and the new departures inaugurated seem to meet with the warmest approval from a large majority of those who visit it and know of its work. The intention of the State Board of Agriculture now is to make of this college a most thorough industrial and scientific school, not only in name, but in fact; and to this end the more distinctive features of the course are to be advanced, while not forgetting to give a good English education, which must ever be one of the chief pillars of a good industrial education.

C. L. INGERSOLL,

*President.*

# MUTE AND BLIND INSTITUTE.

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## REPORT OF THE PRINCIPAL.

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*To the Superintendent of Public Instruction:*

SIR:—In compliance with law I herewith submit the following report of the Colorado Institute for the education of the mute and the blind.

The Institute is divided into two departments—the educational and domestic.

### THE EDUCATIONAL DEPARTMENT.

This is in charge of a principal, assisted by two teachers, whose duty it is to attend to the intellectual training of the pupils. There have been several changes in the office of principal during the past two years; the present incumbent was appointed last September. The persons employed in this department, with the salary of each, are:

P. W. Downing, Principal . . . . .	\$1,500 per annum.
H. M. Harbert, Teacher . . . . .	1,200 per annum.
Emma C. Cox, Teacher . . . . .	500 per annum.

### ATTENDANCE.

The number of pupils in attendance during the years 1881-82 has been forty-nine, at present we have forty-two; several others are expected shortly.

## CLASSES.

The pupils are divided into three classes; these are graded according to the intelligence and standing of the pupils, and are taught five hours each day of the week except Saturday and Sunday. Six evenings of the week are devoted to study, under the supervision of a teacher. The classes are as follows:

*First Class*—P. W. Downing, Teacher.

## TEXT BOOKS.

Higginson's Young Folks' History of the United States.

Goodrich's Child's History of the United States.

Story of the Gospel.

Hart's First Lessons in Composition.

Monteith's Primary Geography.

Robinson's Rudiments of Written Arithmetic.

Original Composition and Letter Writing.

Penmanship.

*Second Class*—H. M. Harbert, Teacher.

## TEXT BOOKS AND SUBJECTS TAUGHT.

Latham's First Lessons for Deaf Mutes.

Latham's Primary Reader for Deaf Mutes.

Monteith's Primary Geography.

Robinson's First Lessons in Arithmetic.

Peet's Scripture Lessons.

Writing from actions.

Original Composition and Letter Writing.

Penmanship.

*Third Class*—Emma Cox, Teacher.

Latham's First Lessons for Deaf Mutes.

Writing from Actions.

Simple Addition and Subtraction.

Penmanship.

## THE DOMESTIC DEPARTMENT.

This is in charge of a superintendent and matron, who take care of the buildings and grounds, see to the physical training of the pupils, attend to the purchasing of the necessary supplies, and have general oversight of the pupils out of school.

When not in school, several of the boys and girls are employed in the printing office; this is in charge of Mr. Harbert, one of the teachers. The girls are taught dress-making, fancy work and general housework, under the direction of the matron. The officers of this department are Mr. and Mrs. J. R. Kennedy.

I suggest that the superintendent of public instruction recommend to the legislature that the law relating to the duties of district secretaries be amended; that they shall be required to report to the county superintendent the *names* and *addresses* of all uneducated deaf mutes and blind in their respective districts, and that the county superintendents report the same, if there are any, to the state superintendent.

P. W. DOWNING,

*Principal.*

# STATE INDUSTRIAL SCHOOL.

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## FIRST BIENNIAL REPORT.

OF THE BOARD OF CONTROL AND SUP'T OF

## THE COLORADO STATE INDUSTRIAL SCHOOL.

FOR 1881 AND 1882.

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### BOARD OF CONTROL AND OFFICERS.

*President*, Hon. A. L. Emigh, of Fort Collins, Larimer County.

*Secretary*, Hon. J. F. Gardner, of Frankstown, Douglas County.

*Treasurer*, S. W. Fisher, Esq., of Golden, Jefferson County.

*Treasurer, ex officio*, Hon. W. C. Sanders.

*Superintendent*, William C. Sampson.

*Matron*, Rachel B. Sampson.

### ASSISTANT OFFICERS.

T. C. Cunningham, teacher and in charge of carpenter and shoe force.

G. M. Lanning, family manager, teacher and force work.

Edward Lewis, teacher and force work.

A. W. Extrom, night watch and garden force.

R. D. Johnson, night watch, baker and in charge of sweeping force.

Mollie K. Lanning, in charge of laundry force.

Josephine Anis, in charge of tailor shop force.

Elizabeth Peterson, in charge of kitchen and dining-room force.

## FIRST BIENNIAL REPORT.

TO THE HONORABLE LEONIDAS S. CORNELL,

*State Superintendent of Public Instruction:*

The board of control of the Colorado State Industrial school, in conformity with the provision of the act of their incorporation, approved by His Excellency, Governor Frederick W. Pitkin, February 12, 1881, respectfully report:

That the number of children received into the School since its opening in July, 1881, is . . . . . 80  
There have been apprenticed and discharged during the same time . . . . . 5

Letting the number now in school . . . . . 75

The receipts for the same term have been as follows:

From State Auditor, Hon. Joseph A. Davis . . . . .	\$20,000 00
From sale of old material and boys' work . . . . .	36 15
From materials and work furnished officers . . . . .	3 25

Total . . . . . \$20,039 40

The superintendent's report gives a detailed account and classification of expenditures, and shows the amount of \$24,879.25 spent.

By the receipts as shown above, a difference of \$4,840.85 appears, which is explained as follows:

This being our first term, was, in fact, an experimental one. The number of pupils has far exceeded that contemplated, and the expense has, in consequence, been in excess of the appropriation. During the whole term there has been a pressure to obtain admission for many more pupils than we could possibly accommodate. Yet to prevent hardships to those sentenced, it was deemed that public necessity require us to extend the benefits of the school to its utmost capacity to that large class of children who, through its influence, are to be made good citizens of our noble State. The necessary advance of money has been made by F. E. Everett, Esq., banker, of Golden, on the security of a joint note given by his Excellency, Governor Frederick W. Pitkin, and fifty-two earnest friends of the school.



Our experience has shown the need of this institution, and we ask a liberal appropriation to enable it to fully meet the important want it has been established to serve.

The superintendent and matron have used every economy in expenditures, permitted nothing to be wasted, nor has an unnecessary expense been incurred.

The school is in thorough discipline, energy and good management is shown in its every department.

An important object is to teach trades that will educate the pupil in the use of tools, and aid by his earnings in his own support. To this end ample shop-rooms are asked for, and a reasonable capital to establish desirable business, procure machinery and stock necessary to properly carry on proposed manufacturing.

The last General Assembly appropriated \$5,000 for building purposes, but no special appropriation for indispensable improvements, such as fences and sheds, nor for furniture, stoves, furnaces, tools, wagons, harness, horses, cows, and to obtain a necessary supply of water; these expenses, which have cost us \$4,956.97, had to be taken out of the general fund.

The report of the superintendent will show many valuable and interesting particulars which cannot be repeated here, and we hope it will be fully read and examined.

Within the coming two years this school will be required to care for two hundred and fifty boys and sixty girls.

Additional accommodations will be needed, as follows: A large dining room for boys.

A dining room for officers.

A roomy kitchen and convenient bake-house.

School and recitation rooms that can also be used for Sunday-school and chapel services.

Rooms for sixteen officers and teachers.

Four family or cottage buildings with sitting-rooms, closets and dormitories for fifty boys each.

Four large work-shops for different industries.

#### THE GIRLS' SCHOOL

Will require to be classed in two families from the first, and will need kitchen and store-room, laundry, dining-rooms, sewing-room, dormitories and school-room.

We propose to unite the whole in four buildings, as follows:

##### BUILDING NO. 1.

Will combine a large kitchen and convenient bake-house, with closets, and pantries, in basement.

First floor—A boys' dining room, officers' dining-room, and pantries.

Second floor—Boys family rooms for two families, and rooms for eight officers.

Third story—Will contain the family dormitories.

##### BUILDING NO. 2.

Will have on first floor—Boys family rooms for two families, and rooms for eight officers. On second floor, one large school and chapel room and four recitation rooms; and on third floor two dormitories. This building will have a tower for stairways and water tank.

##### BUILDING NO. 3.

Will have on first floor two large shops; on second floor the same, and on third floor, ample storage lofts. The three buildings will be of same size—each thirty-eight by ninety feet.

##### BUILDING NO. 4.

For girls' use. Its size will be thirty-eight by sixty feet; three stories and basement.

The basement story will contain—kitchen, pantry, and laundry, with drying closets, wash-tubs, etc.

First story—Dining room for girls; dining room for officers; sewing and reception rooms; all supplied with convenient closets.

Second story—School room; two recitation rooms, and rooms for four officers.

Third story—Dormitories for both families.

The estimated cost of the whole is fifty thousand dollars.

The cost of furnishing the new building with beds, bedding, furniture, desks, tables, chairs, heating apparatus, and furnishing officers' rooms, will be eight thousand dollars, for which we would ask a separate appropriation.

Horses, wagons and harness will be required for our enlarged work, and more cows are needed. To supply these, one thousand dollars will be necessary.

At present the State owns but five acres on the site of the school and fifteen more will be required. They can be had for one thousand dollars.

#### A PER CAPITA

Appropriation of forty-five cents per day for each pupil in the school, will defray all the ordinary expenses, such as food, clothing, officers' salaries, fuel, lights, ordinary repairs, keeping stock, drugs, medical attendance and postage.

The sum of six thousand dollars will be necessary to support the school until May 1st, 1883—six months. We hope, also, that a special appropriation bill will be passed to provide for the sum already advanced to meet deficiency.

Our thanks are due His Excellency, Governor Frederick W. Pitkin, for co-operation, sympathy, and interest in the work.

This report is respectfully submitted.

A. L. EMIGH,  
J. F. GARDNER, } Board of Control.  
S. W. FISHER.

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SUPERINTENDENT'S REPORT.

*For the Biennial Term Ending November 10, 1882.*

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*To the Board of Control :*

GENTLEMEN:—By your invitation and authority I took charge of the school June 1st, 1881.

The property then consisted of five acres of rough, unfenced land, very beautifully situated about one mile from the city of Golden, and one two-storied and attic brick building, size thirty by forty feet, requiring repairing and adapting to the uses of the school.

Plans were immediately made for the required work, and the contract awarded to builder George H. Kimball, by which the old building was altered and thoroughly repaired, and a new wing added—size thirty by forty feet—two stories, the whole making a convenient and well arranged building, sufficiently large to accommodate forty pupils.

By July 11th the work had so far progressed that we were able to receive our first pupils—three boys from Custer county. The school was formally opened by your Honorable Board for the reception of pupils July 16th, 1881, though the building was not completed until August 10th.

As completed, the building is divided on the first floor into a square hall, reception room, Superintendent's office, officers' dining-room, kitchen, boys' dining-room and two small bed-rooms for officers. On the second floor

four rooms for officers, and in new wing one large school room, size twenty-eight by thirty-four feet. The attic story, three rooms, is used for boys' dormitory.

All rooms are well lighted by ample windows, ventilated, and provided with convenient closets.

The grounds have been largely improved and graded surface-rocks and stones removed; a good carriageway made; paved walks laid; one hundred and five shade-trees planted—all growing finely—and the whole enclosed by a five-foot picket fence (four-foot pickets; bottom-board one foot); a sewer, mostly of eight-inch tile, two hundred and thirty feet long, has been laid from the kitchen; a ditch one hundred and eighty feet long, four feet wide and four feet deep, has been dug, and filled with loose rocks to drain the grounds on the east side of the house.

Two wells were found on the premises, both foul, and neither stoned nor curbed. They have been cleaned. The west one well stoned from bottom up, thirty-eight feet; the east well is sixty-two feet deep, the last thirty feet of which is in solid rock. A curb of two-inch plank has been put in from rock to surface, and durable platforms cover both. A strong iron pump of the Douglas patent has been placed in the east well; buckets are used in the west well.

These wells were found to furnish about forty gallons of water daily, not nearly sufficient for the wants of the family, so a much larger supply had to be found. Our explorations resulted in developing a spring on South Table mountain, and about 4,300 feet distant from the school. This was thoroughly opened, a well fifteen feet deep sunk in the rock as a reservoir and the whole well secured and covered. From this a one-and-a-quarter and a one-inch galvanized iron pipe was laid at an average depth of three feet to carry the water to the school. Two months persistent labor of the whole school in this has proved an eminent success. From this spring we have about two thousand gallons per day of the purest water.

For nine months the boys' dining-room was also used for laundry and store-room purposes. The rapid

growth of the school made it necessary to provide other rooms for their use. A one-and-a-half story brick building with substantial stone foundation and cellar, size sixteen by twenty feet, was accordingly erected. The cellar gives us a useful store-room, the first floor a convenient though small laundry, and the half story above is used as a tailor-shop and sewing-room. A small one-storied brick house, size fifteen by twenty feet, has been built as rooms for the watchman and a teacher. The stone used in these buildings was taken from our own premises, and most of the brick used was saved from the ruins of two buildings that had stood on the grounds.

On one side of a small hill we have dug and built a root cellar, size thirteen by fifteen feet, perfectly frost-proof and ventilated. On the opposite side a pig-pen, size fourteen by fifteen feet, with good shingle roof well painted, has been placed.

Ample shed houses have been built. For coal and wood, size twelve by eighteen feet; for cows, size eleven by fourteen feet six inches; for carpenter and shoe shop, size ten by forty feet six inches; for wagons, twelve by twelve feet six inches; for chickens, seven by sixteen and one-half feet; for boys' privy with enclosed yard, ten by forty feet six inches; and a smaller privy, four feet six inches by six feet six inches; both privys have vaults ten feet deep, securely stoned. All the sheds are covered with well painted shingle roofs.

Except the aid of a mason, all the improvements and work has been done by the boys, under direction and with the help of their regular officers.

The pupils take great pleasure in the improvements that have been made, largely because they have taken such an active part in making them.

A well-planned barn and stable, size twenty by twenty-four feet, with hay-loft, having a boys' wash-room in north end, size seven by twenty feet, was built under the original contract.

#### GARDEN.

During the past season we have raised in our garden peas, beans, radishes, lettuce, beets, horse radish, carrots, parsnips, cabbage and tomatoes.

A garden plot of about two acres is being deeply dug with pick and shovel, well pulverized and prepared, as the garden of the future.

#### STOCK.

Our stock consists of one good horse, two good milch cows and five pigs; ten old and thirty-seven young chickens.

#### FURNITURE.

The boys' dining-room is furnished with small tables, each to seat six boys, one of whom acts as head of the table, and waits on the others.

The school-room is provided with most approved desks and seats. The dormitories are furnished with iron-framed spring-bottomed bedsteads, excelled by none.

Officers' rooms are carpeted and fitted with bedstead, stand, bureau, table and chairs. To all windows shades are placed, and every effort has been made to give the whole a home-like appearance and air, rather than to make it a place of restraint.

#### INCREASING NUMBERS.

Very early in the history of the school it became apparent that the number of pupils and consequent expense of the school would exceed the means provided by its founders.

#### SHERIFFS NOTIFIED.

The sheriffs of the several counties of the State were notified early in March last that the school was full and no more pupils could be received except in specially agreed cases. Still it frequently appeared necessary to admit new pupils. In some instances they were brought here without notice from long distances, the committing judge and the officers bringing the children, not being aware that the school was already crowded. In some instances, boys were found confined in prison, under sentence to the school, and as such confinement, if long continued, would work harm to the confined, such cases were sent for and admitted.

## MONEY REQUIRED.

It became necessary, in July last, to provide more money for the regular work of the school. S. W. Fisher, Esq., Treasurer of the Board of Control, waited on His Excellency, Governor Frederick W. Pitkin, to advise a way out of the difficulty. The law is mandatory that the Board of Control shall not incur debt, but our noble Governor would not entertain the thought that this great State should appear to do injustice and wrong to its wards by turning them loose to be again subject to the evil influences that had caused their being placed under its protective care.

Through the generosity of the Governor and a number of his friends, a note was given by which they made themselves personally responsible for the amount necessary to support the school until legislative action could be had.

## GIRLS.

Accommodations not having been provided for a girls' school, but one was received, and she, after a short stay with us, was provided for in the family of S. W. Fisher, Esq.

## EXHIBIT NO. 1.

Showing the number of children received each month since the establishment of the school:

1881.			1882.		
July,	Boys, 11, Girls, 1 . . . . .	12	April,	Boys, . . . . .	3
August,	" . . . . .	8	May,	" . . . . .	1
September,	" . . . . .	4	June,	" . . . . .	2
October,	" . . . . .	5	July,	" . . . . .	3
November,	" . . . . .	7	August,	" . . . . .	5
December,	" . . . . .	10	September,	" . . . . .	4
1882.			October,	" . . . . .	3
January,	Boys, . . . . .	3	November,	" . . . . .	0
February,	" . . . . .	3			
March,	" . . . . .	7	Total . . . . .		80
	Average per month . . . . .	5.			1

Our number would have been more than double had we been able to receive them.



## EXHIBIT NO. 2.

Showing the time for which pupils have been committed :

For 9 months . . . . .	4	For 4 years . . . . .	2
" 1 year . . . . .	4	" 5 " . . . . .	7
" 1½ years . . . . .	1	" 7 " . . . . .	1
" 2 " . . . . .	8	During minority . . . . .	40
" 3 " . . . . .	12		
" 3½ " . . . . .	1	Total . . . . .	80

## EXHIBIT NO. 3.

Showing the nativity of children :

Colorado . . . . .	17	Germany . . . . .	2
Illinois . . . . .	8	New Mexico . . . . .	2
Kansas . . . . .	8	Vermont . . . . .	1
Pennsylvania . . . . .	5	New Jersey . . . . .	1
Missouri . . . . .	5	Indiana . . . . .	1
Ohio . . . . .	5	Wisconsin . . . . .	1
Iowa . . . . .	4	Texas . . . . .	1
New York . . . . .	3	Denmark . . . . .	1
Kentucky . . . . .	3	Sweden . . . . .	1
Nebraska . . . . .	3	Wales . . . . .	1
Massachusetts . . . . .	2	Ireland . . . . .	1
Louisiana . . . . .	2		
Michigan . . . . .	2	Total . . . . .	80

## EXHIBIT NO. 4.

Showing nativity of parents :

United States . . . . .	53	Scotland . . . . .	1
England . . . . .	8	Wales . . . . .	1
Ireland . . . . .	7	Canada . . . . .	1
Germany . . . . .	5	Mexico . . . . .	1
Sweden . . . . .	2		
Denmark . . . . .	1	Total . . . . .	80

## EXHIBIT NO. 5.

Showing from what counties children have been received :

Arapahoe . . . . .	20	Chaffee . . . . .	2
Lake . . . . .	14	Summit . . . . .	1
Custer . . . . .	11	Costilla . . . . .	1
Gilpin . . . . .	5	Huerfano . . . . .	1
Clear Creek . . . . .	4	Gunnison . . . . .	1
Boulder . . . . .	4	Fremont . . . . .	1
Pueblo . . . . .	4	San Juan . . . . .	1
El Paso . . . . .	4	Bent . . . . .	1
Larimer . . . . .	3		
Jefferson . . . . .	2	Total . . . . .	80

## EXHIBIT NO. 6.

## Showing ages of children when committed:

7 years old . . . . .	2	13 years old . . . . .	6
8 " " . . . . .	8	14 " " . . . . .	14
9 " " . . . . .	6	15 " " . . . . .	15
10 " " . . . . .	6	16 " " . . . . .	4
11 " " . . . . .	9		
12 " " . . . . .	10	Total . . . . .	80

## EXHIBIT NO. 7.

## Showing on what complaints children were committed:

Incorrigibility . . . . .	48	Forgery . . . . .	2
Petty Larceny . . . . .	18	Grand Larceny . . . . .	1
Vagrancy . . . . .	8		
Stealing horses . . . . .	3	Total . . . . .	80

## EXHIBIT NO. 8.

## Showing by whom complaints preferred:

On complaint of parents . . . . .	39
On complaint of other parties . . . . .	41
Total . . . . .	80

## EXHIBIT NO. 9.

## Showing education of children when admitted:

## READING.

Did not know the alphabet . . . . .	27
Could read a little in First Reader . . . . .	16
Had read in Second Reader . . . . .	24
" " " Third " . . . . .	13
Total . . . . .	80

## WRITING.

Could not write . . . . .	52
Could write . . . . .	28
Total . . . . .	80

## ARITHMETIC.

Knew nothing about arithmetic . . . . .	50
Had worked in addition . . . . .	19
" " " subtraction . . . . .	1
" " " multiplication . . . . .	4
" " " division . . . . .	4
" " " common fractions . . . . .	2
Total . . . . .	80

## EXHIBIT NO. 10.

Showing previous social condition and habits of the children :

Both parents living . . . . .	38
"    "    dead . . . . .	9
Father dead . . . . .	21
Mother " . . . . .	12
Total . . . . .	80
Parents separated . . . . .	8
Parents owning their own homes . . . . .	31
Having no other property than household goods . . . . .	36
Children that were without homes . . . . .	13
Total . . . . .	80
Attended school regularly . . . . .	4
"    "    irregularly or not at all . . . . .	76
Total . . . . .	80
Were habitually idle . . . . .	53
"    regularly employed . . . . .	9
"    employed irregularly . . . . .	9
"    truants from home . . . . .	9
Total . . . . .	80
Had been under arrest previous to being sent here . . . . .	12
Had been inmates of other institutions . . . . .	2

## EXHIBIT NO. 11.

Showing in what grade pupils entered, promotion and present strength of each class entered :

Pupils entered "A" grade . . . . .	41
"    "    "B" " . . . . .	29
"    "    "C" " . . . . .	10
Total . . . . .	80

## PROMOTIONS.

Pupils promoted from "A" to "B" grade . . . . .	34
"    "    "    "B" to "C" " . . . . .	32
"    "    "    "C" to "D" " . . . . .	25
Total . . . . .	91

## PRESENT NUMBER IN EACH GRADE.

"A" grade . . . . .	7	"D" grade . . . . .	27
"B" " . . . . .	29		
"C" " . . . . .	17	Total . . . . .	80

## EXHIBIT NO. 12.

## Warrants drawn on State Treasurer, W. C. Sanders:

No.	TO WHOM DRAWN.	ON WHAT ACCOUNT.	AMOUNT.
1.	A. L. Emigh.....	Expenses attending meeting of Board.....	\$ 26 70
2.	S. W. Fisher.....	Expenses for visiting Eastern schools.....	213 00
3.	J. F. Gardner.....	Expenses attending meeting of Board.....	32 25
4.	Paul Lanius & Co.....	Hardware, stoves and tools.....	238 55
5.	J. C. Davidson.....	Furniture.....	38 70
6.	E. L. Berthoud.....	Insurance.....	41 60
7.	A. L. Emigh.....	Expenses attending meeting of Board.....	18 00
8.	William C. Sanders.....	School Seal.....	10 00
9.	H. N. Sales.....	Drawing legal papers.....	5 00
9½.	J. F. Gardner.....	Expenses attending meeting of Board.....	19 80
10.	Lake & Covey.....	Horse and Livery.....	165 00
11.	A. J. Smith.....	One cow.....	40 00
12.	W. G. Smith.....	Printing and stationery.....	8 50
13.	F. H. Taft & Co.....	Dry goods.....	105 03
14.	G. H. Kimball.....	Payment on contract.....	1,000 00
15.	J. T. King.....	Blank books and stationery.....	51 55
16.	J. F. Gardner.....	Expenses attending meeting of Board.....	22 30
17.	A. L. Emigh.....	Expenses attending meeting of Board.....	18 40
18.	W. B. Sarell.....	Services as night watch.....	32 00
19.	S. W. Fisher.....	Services as purchasing agent.....	25 00
20.	A. A. Tuttle.....	Set of Harness.....	35 00
21.	Louis Doll.....	Desks and furniture.....	46 00
22.	Louis Doll.....	Desks and office table.....	28 00
23.	A. Candee.....	Groceries and dishes.....	163 91
24.	Seth Lake.....	Board, Sup't and family.....	82 50
25.	E. L. Berthoud.....	Surveying lot.....	10 50
26.	James A. McGee.....	Castors and clock.....	20 00
27.	J. M. Manahan.....	School furniture.....	348 00
28.	Fisher & Smith.....	Wagon and feed.....	137 73
29.	Paul Lanius & Co.....	Hardware and pump.....	183 30
30.	J. G. Schall.....	Books and stationery.....	35 25
31.	F. H. Taft & Co.....	Dry goods and carpets.....	466 61
32.	J. C. Davidson.....	Furniture.....	315 05
33.	W. B. Sarell.....	Services as night watch.....	12 00
34.	William C. Sampson.....	Salary, Superintendent.....	151 00
35.	R. B. Sampson.....	Salary, Matron.....	50 00
36.	R. M. Pease and Wife.....	Services as hostler and cook.....	74 00
37.	Denver Publishing Company.....	Book of orders.....	17 50
38.	S. W. Fisher.....	Services as purchasing agent.....	50 00
39.	G. H. Kimball.....	Payment on contract.....	2,000 00
40.	W. G. Smith.....	Bill of books and printing.....	195 50
41.	Davis & Henderson.....	Drugs and sundries.....	2 05
42.	E. T. Osborne.....	Meat and vegetables.....	9 25
43.	A. L. Emigh.....	Expenses attending meeting of Board.....	22 00

No.	TO WHOM DRAWN.	ON WHAT ACCOUNT.	AMOUNT.
44.	J. F. Gardner .....	Expenses attending meeting of Board.....	\$ 19 60
45.	J. C. Davidson .....	Furniture.....	445 17
46.	S. W. Fisher .....	Hay, feed and fence posts.....	78 39
47.	Golden Wood & Iron Works...	Iron boiler.....	16 20
48.	I. B. Stebbins & Son.....	Drugs and groceries.....	33 85
49.	Davis & Henderson .....	Oils.....	24 55
50.	E. J. Heatley.....	Groceries .....	36 26
51.	Wolfe Londoner.....	Bbl. New Orleans molasses.....	36 80
52.	J. G. Schall .....	School books and requisites.....	54 45
53.	A. Candee.....	Groceries and Crockery.....	243 80
54.	F. H. Taft & Co.....	Dry goods and carpets.....	295 62
55.	E. T. Osborne.....	Meat and vegetables.....	72 44
56.	O. F. Barber.....	Flour and feed.....	68 15
57.	Nichols & Smith.....	Shoes.....	62 00
58.	James M. Morris.....	Lumber.....	328 00
59.	W. G. Smith.....	Bill of printing.....	5 00
60.	Jobes & Snyder.....	Lumber.....	1 20
61.	Paul Lanius & Co.....	Hardware.....	347 06
62.	William C. Sampson.....	Cash advanced, sundry acc'ts.....	123 16
63.	E. Smith & Co.....	Crockery.....	2 25
64.	William C. Sampson.....	Salary Superintendent.....	150 00
65.	R. B. Sampson.....	Salary Matron.....	50 00
66.	N. B. Webb.....	" teacher and foreman.....	70 00
67.	C. P. Butler.....	" housefather and foreman.....	59 36
68.	Cora P. Butler.....	" laundress.....	29 68
69.	C. E. Stahl.....	" night watch and carpenter.....	48 38
70.	John E. Cosgrove.....	" night watch and baker.....	36 77
71.	Clara B. Bowers.....	" kitchen and dining rooms.....	24 84
72.	Lydia Jenkins.....	" tailoress.....	14 66
73.	G. H. Kimball.....	Repairs and building.....	767 57
74.	G. H. Kimball.....	Balance of contract.....	194 00
75.	S. W. Fisher .....	Services as purchasing agent.....	50 00
76.	W. H. Curry.....	Mason work and repairs.....	7 50
77.	J. M. Johnson, Jr.....	Returning runaway boys.....	60 00
78.	Thomas Ward.....	Felt hats for boys.....	22 50
79.	Golden Brick & Coal Co.....	Lump coal.....	25 93
80.	J. F. Gardner .....	Expenses attending meeting of Board.....	17 80
81.	A. L. Emligh .....	Expenses attending meeting of Board.....	15 00
82.	Wm. C. Sampson.....	Salary superintendent.....	225 00
83.	R. B. Sampson.....	" matron.....	75 00
84.	N. B. Webb .....	" teacher and foreman.....	105 00
85.	G. M. Lanning.....	" housefather and foreman.....	29 68
86.	C. E. Stahl.....	" night watch and carpenter.....	90 00
87.	Thomas C. Cunningham.....	" night watch and baker.....	60 00
88.	Mollie K. Lanning.....	Salary Laundress.....	14 87
89.	Lydia Jenkins.....	" Tailoress.....	60 00
90.	Luey S. Babcock.....	" Kitchen and dining rooms.....	46 10
91.	Wm. C. Sampson.....	Cash advanced, sundry accounts .....	253 65
92.	S. W. Fisher .....	" " C. P. Butler's salary.....	106 00
93.	A. Candee.....	Groceries and crockery.....	331 85
94.	Thomas Ward.....	Blankets and suspenders .....	46 50
95.	Elmus, Smith & Co.....	Crockery.....	11 40

No.	TO WHOM DRAWN.	ON WHAT ACCOUNT.	AMOUNT.
96.	S. W. Fisher.....	Grain, hay and feed.....	\$ 71 31
97.	E. J. Heatley .....	Groceries.....	40 11
98.	C. E. Stahl.....	Repairing shoes.....	3 85
99.	I. B. Stebbins & Son.....	Drugs and groceries.....	44 55
100.	O. F. Barber.....	Flour and feed .....	106 77
101.	J. G. Hartzell.....	Potatoes.....	81 83
102.	Davis & Brothers.....	Drugs and oils.....	31 81
103.	Golden Brick & Coal Co.....	Lump coal.....	79 59
104.	J. G. Schall.....	School books and stationery.....	41 46
105.	J. G. Smith.....	Printing and stationery.....	24 30
106.	Paul Lanus & Co.....	Tools, hardware and pipe .....	1,243 05
107.	Joseph P. Bailey.....	Bolster wagon.....	63 00
108.	A. A. Tuttle.....	Cement.....	20 00
109.	J. E. Benjamin.....	Lime and cement .....	13 00
110.	Golden Wood & Iron Works..	Furnace castings.....	11 50
111.	Berthoud & Bellam.....	Insurance.....	333 50
112.	Fowler & Taylor.....	Blacksmithing .....	23 25
113.	James M. Morris.....	Lumber.....	128 11
114.	J. C. Davidson.....	Furniture.....	137 50
115.	Cambria Tile and Brick Co..	Red brick.....	55 50
116.	Robert Strain.....	Beef.....	8 16
117.	James A. McGee.....	Tableware.....	21 00
118.	Nichols & Smith.....	Shoes.....	31 25
119.	Fritz Claus.....	Hay .....	53 98
120.	Crisman & Binder.....	Hay and fuel.....	3 16
121.	A. L. Emigh .....	Expenses attending meeting of Board.....	22 00
122.	J. F. Gardner.....	Expenses attending meeting of Board.....	11 75
123.	S. W. Fisher .....	Services as purchasing agent.....	75 00
124.	F. H. Taft & Co.....	Dry goods.....	499 99
125.	E. T. Osborn.....	Meat and vegetables.....	132 48
126.	Wm. C. Sampson.....	Salary Superintendent.....	225 00
127.	R. B. Sampson.....	Matron.....	75 00
128.	N. B. Webb .....	Teacher and foreman.....	105 00
129.	Not drawn.		
133.	C. E. Stahl.....	Salary watchman and carpenter...	90 00
131.	T. C. Cunningham.....	" " " baker.....	90 00
132.	Lydia Jenklas .....	" Kitchen and dining-room...	60 00
133.	M. M. Giltner.....	" Tailoress .....	30 38
134.	M. M. Epting.....	" Laundress.....	20 71
135.	Wm. C. Sampson.....	Cash advanced, sundry accounts...	370 74
136.	Dr. A. Perkins .....	Surgical attendance.....	2 00
137.	F. H. Taft & Co.....	Dry goods and shoes.....	97 09
138.	A. Candee.....	Groceries and crockery.....	385 73
139.	Joseph Zillgen.....	Pork and lard.....	102 00
140.	N. Ruden.....	Potatoes.....	36 00
141.	E. J. Heatley .....	Groceries.....	82 14
142.	Elmus, Smith & Co.....	Groceries .....	4 87
143.	I. B. Stebbins & Son.....	Drugs and groceries.....	36 53
144.	O. F. Barber.....	Flour and feed.....	167 15
145.	Not drawn.		
146.	Fowler & Taylor.....	Blacksmithing .....	17 93
147.	C. E. Stahl.....	Repairing shoes.....	9 90
148.	Paul Lanus & Co.....	Hardware .....	62 00

No.	TO WHOM DRAWN.	ON WHAT ACCOUNT.	AMOUNT.
149.	J. G. Schall.....	Books and stationery.....	\$ 24 70
150.	Golden Brick and Coal Co....	Lump coal.....	34 15
151.	J. E. Benjamin.....	Lime.....	60 10
152.	J. M. Johnson, Jr.....	Fees, returning runaway boys.....	200 00
153.	Cambria Brick and Tile Works.....	Brick.....	52 75
154.	Jobes & Snyder.....	Lumber.....	152 35
155.	A. A. Tuttle.....	Bell and fixtures.....	45 90
156.	James M. Morris.....	Lumber.....	147 40
157.	S. W. Fisher.....	Feed and potatoes.....	50 00
158.	S. W. Fisher.....	Care of Katie Robinson.....	25 00
159.	A. L. Emligh.....	Expenses attending meeting of Board.....	12 00
160.	Fred Claus.....	Hay.....	46 75
161.	E. T. Osborne.....	Meat and vegetables.....	138 10
162.	G. M. Lanning.....	Salary, housefather and foreman.	32 22
	March 15, Total.....		\$18,457 49

The unexpended balance on June 21st was drawn from Hon. William C. Sanders, State Treasurer, and deposited with F. E. Everett, banker at Golden, amount \$1,542.51, and the remainder of the warrants are all drawn on F. E. Everett.

No.	TO WHOM DRAWN.	ON WHAT ACCOUNT.	AMOUNT
163.	F. H. Taft & Co.....	Dry Goods.....	\$ 378 31
164.	A. Candee.....	Groceries and crockery.....	402 95
165.	E. J. Heatley.....	Groceries.....	203 74
166.	I. B. Stebbins & Son.....	Drugs, paints and oils.....	72 27
167.	O. F. Barber.....	Flour and feed.....	247 05
168.	Joseph Zilligen.....	Lard and pork.....	44 91
169.	E. T. Osborne.....	Beef and vegetables.....	203 81
170.	N. Ruden.....	Butter and potatoes.....	90 00
171.	S. W. Fisher.....	Hay and feed.....	106 66
172.	J. G. Schall.....	Books and stationery.....	25 60
173.	Paul Lanus & Co.....	Hardware.....	112 70
174.	Fowler & Taylor.....	Blacksmithing.....	34 05
175.	James M. Morris.....	Lumber.....	124 68
176.	J. E. Benjamin.....	Lime.....	3 10
177.	Hax, Gartner & Co.....	Mitchell's Outline Maps.....	20 00
178.	Thos. Ward.....	Suspenders.....	3 50
179.	S. R. Haywood & Co.....	Shoes.....	31 20
180.	J. C. Davidson.....	Furniture.....	34 80
181.	Wm. Medell.....	Kalsomning.....	30 00
182.	J. C. Remington.....	Blacksmithing.....	2 77
183.	A. A. Tuttle.....	Hardware.....	4 35
184.	Dr. James Kelly.....	Drugs and oils.....	23 25
185.	A. S. Harris.....	Repairing plaster.....	6 00
186.	Dr. W. H. Davis.....	Medical services.....	2 00
187.	Dr. T. Slater.....	Medical services.....	2 00
188.	Dr. A. Perkins.....	Medical services.....	4 00
189.	Wm. C. Sampson.....	Cash advanced, sundry acc'ts.....	323 67
190.	Wm. C. Sampson.....	Salary, Superintendent.....	225 00

No.	TO WHOM DRAWN.	ON WHAT ACCOUNT.	AMOUNT.
191.	R. B. Sampson.....	Salary, Matron.....	75 00
192.	G. M. Lanning.....	Salary, house father and fore- man.....	120 00
193.	T. C. Cunningham.....	Salary, teacher and foreman....	100 00
194.	R. D. Johnson.....	" watchman and fore- man.....	90 00
195.	Lydia Jenkins.....	Salary, kitchen and dining room.....	60 00
196.	M. R. Lanning.....	Salary, laundress.....	40 00
197.	W. C. Hart.....	Shade trees.....	18 75
198.	A. L. Emigh.....	Expenses attending meeting of Board.....	15 80
199.	J. F. Gardner.....	Expenses attending meeting of Board.....	11 40
200.	Golden Brick & Coal Co.....	Lump coal.....	102 95
201.	F. H. Taft & Co.....	Dry goods.....	352 14
202.	N. Ruden.....	Potatoes and butter.....	67 23
203.	Joseph Zilligen.....	Beef.....	100 45
204.	James M. Morris.....	Lumber.....	\$ 67 84
205.	J. E. Benjamin.....	Lime.....	2 00
206.	Wm. C. Sampson.....	Cash advanced, sundry acc'ts....	188 39
207.	Jesse Qualintance & Son.....	Flour and feed.....	45 65
208.	O. F. Barber.....	Flour and bran.....	150 27
209.	E. J. Heatley.....	Groceries and dry goods.....	29 63
210.	Wm. Medell.....	Kalsomining.....	25 00
211.	I. B. Stebbin & Son.....	Paints and glass.....	15 95
212.	J. G. Schall.....	Books and stationery.....	14 85
213.	Thomas Covey.....	Livery hire.....	8 00
214.	J. C. Davidson.....	Furniture.....	140 50
215.	Fowler & Taylor.....	Blacksmithing.....	20 60
216.	J. C. Remington.....	Blacksmithing.....	4 00
217.	Charles Wade.....	Shoes.....	67 20
218.	A. A. Tuttle.....	Hardware.....	3 55
219.	A. Candee.....	Groceries.....	293 17
220.	V. Derwein & Sons.....	Leather and findings.....	21 84
221.	Elmus Smith & Co.....	Groceries.....	40 63
222.	Fred Claus.....	Hay.....	20 40
223.	John Zatzson.....	Potatoes.....	15 80
224.	E. T. Osborne.....	Beef and vegetables.....	43 71
225.	C. H. Case.....	Hay and feed.....	35 41
226.	S. W. Fisher.....	Platform scales.....	20 00
227.	S. W. Fisher.....	Care Kittle Robinson 6 months	25 00
228.	Wm. C. Sampson.....	Salary, Superintendent.....	225 00
229.	R. B. Sampson.....	" matron.....	75 00
230.	G. M. Lanning.....	" house father and fore- man.....	120 00
231.	T. C. Cunningham.....	Salary, teacher and foreman....	105 00
232.	Edward Lewis.....	" teacher and foreman....	97 00
233.	A. W. Extrom.....	" watchman and fore- man.....	90 00
234.	R. D. Johnson.....	Salary, watchman and baker.....	90 00
235.	Mollie K. Lanning.....	" laundress.....	60 00
236.	Josephine Anls.....	" tailloress.....	62 66
237.	Elizabeth Peterson.....	" kitchen and dining room.....	40 00



No.	TO WHOM DRAWS.	ON WHAT ACCOUNT.	AMOUNT.
238.	A. L. Einigh.....	Expenses attending meeting of Board.....	\$ 14 00
239.	G. B. Allen.....	Hay.....	15 75
240.	Dr. James Kelly.....	Drugs and oil.....	48 90
241.	Chas. Peppard.....	Lump coal.....	51 00
242.	Paul Lanus & Co.....	Hardware.....	79 57
Total amount drawn by warrants.....			\$24,879 25

## EXHIBIT NO. 13.

Colorado State Industrial School in account with the Hon. William C. Sanders, State Treasurer and Treasurer *ex officio* of the Board of Control :

1881.	To appropriation.....	\$20,000 00	
	By appropriation.....		\$20,000 00
May 19,	To Auditor's Warrant No. 4,328.....	\$ 1,000 00	
June 1,	" " " " 4,365.....	4,000 00	
July 16,	" " " " 4,562.....	3,000 00	
Oct. 1,	" " " " 4,847.....	5,000 00	
Dec. 23,	" " " " 5,085.....	2,500 00	
1882.	To Auditor's Warrant No. 5,474.....	\$ 3,500 00	
March 17,	" " " " 5,814.....	1,000 00	
June 21,	By cash drawn in warrants Nos. 1 to 132 inclusive, as shown in exhibit No. 12.....		\$18,457 49
	By warrant drawn in favor of F. E. Everett, Esq., banker of Golden.....		1,542 51
		\$20,000 00	\$20,000 00

## EXHIBIT NO. 14.

Colorado State Industrial School in account with F. E. Everett, Esq., banker of Golden :

1881.	To warrant drawn on William C. Sanders, <i>ex officio</i> Treasurer of the Board of Control.....	\$ 1,542 51	
June 21,	By amount of cash drawn in warrants Nos. 163 to 242 inclusive, as shown in Exhibit No. 12.....		\$6,383 36
	Balance overdraft secured by note of Gov. F. W. Pitkin and others.....	4,840 85	
		\$6,383 36	\$6,383 36

## EXHIBIT NO. 15.

To amount of appropriation.....	\$ 20,000 00	
To amount advanced by F. E. Everett.....	4,840 85	
To received from sales and earnings.....	38 40	
By amount expended for school, as shown in detail in Exhibit No. 12.....		\$24,879 25
	\$24,879 25	\$24,879 25

## EXHIBIT NO. 16.

Classified statement of expenditures, showing also the cost of each item *per capita* for the term and *per capita* per day :

## "A" CLASSED AS ORDINARY EXPENSES.

On What Account.	Whole Am't.	Per Capita	
	\$ c	per Term.	per Day.
		\$ c m	c m
Boys' clothing and shoes . . . . .	1,509 03	31 43 3	06 4
Support (provisions) . . . . .	4,116 87	85 78 9	17 5
Postage and telegrams . . . . .	99 35	2 07 0	00 4
Seeds and plants . . . . .	11 19	25 2	00 05
Blacksmithing, horseshoeing, etc. . . . .	69 25	1 44 2	00 3
Fuel and lights . . . . .	412 20	8 58 7	01 7
Expenses of Board of Control . . . . .	511 81	10 66 1	02 2
Miscellaneous expenses . . . . .	338 41	7 05 0	01 4
Hay and grain . . . . .	507 85	10 58 0	02 1
Officers' salaries . . . . .	4,624 43	96 34 0	19 8
Ordinary repairs . . . . .	149 81	3 12 1	00 6
School requisites and stationery . . . . .	182 23	3 79 6	00 77
Drugs and medicines . . . . .	99 45	2 00 9	00 41
Medical attendance . . . . .	17 00	35 4	00 07
Totals . . . . .	12,648 88	173 44 4	53 7

## "B" CLASSED AS PARTLY EXTRAORDINARY EXPENSES.

On What Account.	Whole Am't.	Per Capita	
	\$ c	per Term.	per Day.
		\$ c m	c m
Furnishing goods . . . . .	1,261 35	26 27 5	05 3
Machines, tools and implements . . . . .	344 81	7 60 9	01 5
Printing, blank books and stationery . . . . .	357 17	7 43 0	01 5
Totals . . . . .	1,963 33	41 31 4	08 3

## "C" CLASSED AS EXTRAORDINARY EXPENSES.

On What Account.	Whole Am't.	Per Capita	
	\$ c	per Term.	per Day.
		\$ c m	c m
Building and improvements . . . . .	5,739 36	138 41 5	28 4
Furniture, carpets and shades . . . . .	1,889 51	39 36 4	08 0
Stoves and furnaces . . . . .	557 46	11 61 3	02 5
Wagons and harness . . . . .	214 00	4 45 8	00 9
Insurance . . . . .	357 10	7 43 9	01 5
Horse and cows . . . . .	253 00	5 27 0	01 09
Expenses of introducing water . . . . .	1,256 61	26 17 0	05 03
Totals . . . . .	10,267 04	237 72 9	47 42

## "D" RECEIVED FROM SALES AND BOYS' WORK.

On What Account.	Whole Am't.	Per Capita	
	\$ c	Per Term.	Per Day.
		c m	c m
Sales and earnings . . . . .	38 40	80 0	00 16

## EXHIBIT NO. 17.

Showing work done in tailor and shoe shops:

Mattresses made . . . . .	65	Caps made . . . . .	72
Pillow ticks made . . . . .	59	Rugs made . . . . .	12
Single sheets . . . . .	205	Straw hats banded . . . . .	100
Double sheets made . . . . .	43		
Pillow slips made . . . . .	175	Total pieces made . . . . .	1,714
Aprons made . . . . .	12	Pairs drawers repaired . . . . .	14
Towels made . . . . .	60	Jean Pants repaired . . . . .	515
Shirts made . . . . .	199	Overalls repaired . . . . .	49
Suspenders made . . . . .	42	Pairs socks repaired . . . . .	1,712
Jackets made . . . . .	168	Pairs shoes repaired . . . . .	416
Pairs suspenders made . . . . .	42	Jackets repaired . . . . .	45
Pairs jean pants made . . . . .	199	Shirts repaired . . . . .	1,776
Pairs overalls made . . . . .	134		
Pairs drawers made . . . . .	4	Total pieces repaired . . . . .	4,517
Handkerchiefs made . . . . .	221		

## EXHIBIT NO. 18.

Inventory of property belonging to the Colorado State Industrial school:

Land and fences . . . . .	\$ 1,200 00
Buildings and sheds . . . . .	9,500 00
Furniture and carpets . . . . .	1,900 00
Bedding, towels, crockery and household goods . . . . .	650 00
Water-works, pipe, hydrant and pump . . . . .	1,275 00
Blank books . . . . .	150 00
School books, maps and requisites . . . . .	150 00
Wagons and harness . . . . .	175 00
One horse . . . . .	160 00
Two cows . . . . .	100 00
Five pigs . . . . .	105 00
Hay (2 $\frac{1}{3}$ tons) . . . . .	37 00
Provisions . . . . .	180 00
Boys' clothing, Sunday suits not yet in wear . . . . .	375 00
Boys' clothing in wear . . . . .	275 00
Tools, machines and implements . . . . .	175 00
Shoes (new) . . . . .	30 00
Stoves and furnaces . . . . .	525 00
Drugs and medicines . . . . .	45 00
Total . . . . .	\$17,007 00

## EXHIBIT NO. 19.

The following sums of money have been donated the school by various gentlemen and ladies in list below for foot and base-balls, bats, flags, fire-works, snare drum and Band of Hope requisites:

1881.		1882.	
Dec.	21. F. E. Everett . . . . .	\$ 5 00	July 3. John Shultz . . . . . \$ 1 00
1882.			" 3. Aaron Meyers . . . . . 05
March	29. Leon Mallett . . . . .	1 00	" 3. Charles Madden . . . . . 99
"	30. Thomas Manning . . . . .	1 00	" 3. Thomas Kane . . . . . 25
April	29. Thomas Manning . . . . .	1 00	" 3. Lynn Kent . . . . . 50
June	3. Harry Neill . . . . .	50	" 3. Arthur Parks . . . . . 25
"	3. Newton Evans . . . . .	25	" 3. Andrew Herbst . . . . . 06
"	3. T. C. Cunningham . . . . .	1 00	" 3. Chas. Hazlet . . . . . 25
"	3. G. M. Lanning . . . . .	50	" 3. Peter Rasmusson . . . . . 1 00
July	3. Willie Webb . . . . .	85	" 4. Mrs. John Tirrill . . . . . 2 00
"	3. Sidney Roberts . . . . .	30	" 4. James Melrose . . . . . 50
"	3. Geo. Roberts . . . . .	30	
"	3. Harry Newcomb . . . . .	25	Total . . . . . \$18 80

## EXHIBIT NO. 20.

The following purchases have been made on donation account :

1882.		
March	13. To 1 foot ball . . . . .	\$ 2 50
"	13. To 1 dozen base-balls . . . . .	4 50
"	13. To 1 dozen bats . . . . .	90
"	13. To 1 dozen balls . . . . .	2 50
April	5. To 1 gross small flags . . . . .	1 00
"	5. To 1 ball bat . . . . .	25
July	3. To 1 snare drum . . . . .	8 00
"	3. To bill of fire-works . . . . .	16 50
"	29. To 1 foot-ball . . . . .	2 50
"	29. To Band of Hope requisites . . . . .	5 32
	Total . . . . .	\$43 97
	By amount received from donation account . . . . .	18 80
	Balance advanced by Superintendent . . . . .	\$25 17

We desire also to acknowledge the following acceptable gifts :

Sunday-school papers from the Presbyterian Church of Golden.  
Papers from the Baptist Sunday-school.  
Papers from George K. Kimball, Esq.  
Harper's Magazines from Mrs. K. D. Thomas.  
Papers from Methodist Episcopal Sunday-school.  
Papers from Rev. W. H. Green.  
Valuable books and papers from Captain E. L. Berthoud.  
Picture cards from Mrs. T. L. Bellam.  
Confectionery from Mrs. Mary Parks.  
A treat of apples from Mrs. John Nicholls.  
A flag from J. G. Schall, Esq.  
Six months' subscription to "Crystal Fountain" from an unknown donor.

## THE GREAT OBJECT.

The great object of the school is the reformation of the youth of the State who have become unmanageable

at home and disorderly abroad. Who, without fixed purpose, constantly drift from bad to worse, until it becomes necessary to place them under a stronger government, where their habits of disobedience and sin can be corrected, and the children saved from a life of wickedness and folly.

The only logical sentence to a reformatory school would appear to be: until the child be reformed, or during the period of minority, subject to the judgment of the Board of Control and Superintendent, as to the time when he is sufficiently improved to permit his release; and then it would always be well to give a probationary time before granting a discharge. Time for sowing the seed and cultivating the plant must be given before we can expect to gather fruit.

To have the law constitute the Board of Control legal guardians of all committed to their charge until they shall arrive at the age of twenty-one years, would be an important change for the school and pupil, and the greatest help in discipline.

Our school is conducted on what is known as the Family or Cottage plan. The pupils are divided into families of not more than fifty members each. Each family occupies a separate building and play-grounds, and is under a carefully selected head, called House Father, or Family Manager, who, with his assistant, takes sole charge of the family and becomes responsible for its every interest.

This plan admits of most careful classification, avoids the massing of children, and gives to each personality and home interest.

#### DISCIPLINE.

Our discipline is parental, kind and firm.

When a pupil first enters the school the rules are read to him and fully explained. He is encouraged to look upon all his officers and teachers as friends whose chief work is to help and assist him correct his bad habits, gain moral control over himself, and to exercise independent thought and action. Prevarication and lying are

viewed as the worst of sins—cowardly and unmanly. Positive truthfulness is encouraged, expected, and has already become a feature of the school. Fighting, profanity and quarreling, are almost unknown among us. Kind thoughts, kind words, and kind actions toward each other are taught and urged. The rules of the school are shown not to be arbitrary traps to worry, annoy and punish, but so many regulations to guard his comfort, and assist him in gaining healthy thought and action.

Indifference and carelessness, which characterized most new pupils, soon gives way to thoughtfulness and interest; hope is awakened, and the work of reform begins in earnest.

We do not rely on cold precept and philosophical reasoning; but tell him at once that he has a loving Heavenly Father who sleeplessly watches over him, and tenderly and lovingly invites him to become His obedient child. Whose Son was given to die that we might live. Whose promise is: "Come unto me all ye that are weary and heavy laden, and I will give you rest." "Though your sins be as scarlet, they shall be whiter than snow." The Bible is held up as the "Light of Life."

Our badge system is a most important aid in government, and a sure index of the pupil's standing and progress.

We have found by long experience and careful observation in this reform work, that UNDER THE MOST FAVORABLE CIRCUMSTANCES, it requires from two to three years to effect a healthy habit of thought and action in one who has broken away from all home restraints.

On entering the school, boys who have committed crime take the thirtieth badge; those sent for incorrigibility, truancy or vagrancy, the twenty-fifth badge. Badges are changed on the first of each month. Attempts to escape, degrades six badges. Stealing, lying, profane or vulgar language, deliberate disobedience, or defacing property, degrades from two to four badges.

Three ordinary reports prevent advance, and four reports degrade one badge. Three consecutive months of perfect conduct gives extra promotion of one badge.

These badges, with the grades that succeed them, may represent months of stay in the school. Every month of good conduct gives an improved badge or lower number, while bad conduct increases the badge number or degrades. When badge one is reached, the next step in advancement is grade three; then grade two and grade one, and finally, the honor badge is reached, which marks a successful ending of the school course.

Modes of punishment for wrong-doing are: Giving reports which affect the badges; deprivation of play, by requiring the punished one to stand on line in order during the play spells; and as a last resort, when other methods fail, the whip.

We thoroughly realize the fact that moral impressions are never forced upon children. Virtuous lives can never be led through fear. This is in perfect harmony with the fact that punishments, to be good for anything, must be effective, disciplinary, and reformative.

#### THE PROGRAMME

Of duties constantly varies. During the Summer months we rise at five o'clock. In April, May, September, and October, at five thirty, and the remaining five months at six o'clock. On rising, each pupil is required to neatly make his bed, dress, thoroughly wash, and then one hour is spent in school. Breakfast is then called—thirty minutes is given to each meal. The detail for morning work is then made. A recess at nine fifteen is given, and at eleven thirty work is stopped by bell signal. All wash and get ready for dinner. Dinner over, they play until one o'clock. Afternoon details then made. At two fifteen afternoon recess is given, and the bell rings to stop work at four o'clock; except on Monday, Wednesday and Friday afternoons, when the bell rings at three o'clock. This hour is used by the pupils on Monday for writing letters to parents and friends. On Wednesday, for Band of

Hope Society meeting, and on Friday, for instruction in music, declamation, etc. The supper bell rings at four twenty. After supper until school time is spent on the play grounds.

During the three Summer months school begins at fifteen minutes to six. During the other nine months, at five fifteen o'clock. School closes at seven thirty, and the day with evening worship, consisting usually of singing and prayer. At eight o'clock all are in bed.

Saturday afternoons are devoted to bathing, changing clothes, and play-ground exercise.

Sunday we rise thirty minutes later than on other days. A general inspection and parade is held at ten o'clock, followed by Sunday School. In the afternoon, chapel service is held at two thirty o'clock. Rev. C. M. Jones, of the Baptist Church; Rev. M. D. Bush, and Rev. W. H. Williams, of the Christian Church; Rev. J. H. Reynard, of the Presbyterian Church, and Rev. W. H. Greene, of the Methodist Episcopal Church, have taken regular turns in conducting this service. The gratuitous and able ministrations have been most gratefully appreciated by every officer and pupil of the school.

Sunday evenings, a service of song and praise is held by Mrs. Sampson.

#### SCHOOL.

Forms a very important part of the work. We lack very much in recitation rooms—several classes reciting to different teachers at the same time in one room is apt to distract the attention. But we have not permitted any want to interfere with an earnest pushing of the work, and our efforts have been attended with most gratifying results. The pupils have steadily advanced. The past few months have shown special progress.

At first it required the most persevering energy to awaken interest and industry in school studies—as in all other work—but gradually the love of study has increased, until with most, if not all the pupils, school hours are looked forward to as the pleasantest part of the day.



We have instituted frequent examinations. Rev. T. L. Bellam, County Superintendent of Schools for Jefferson County, by invitation visited and examined the school, and expressed himself much pleased at the progress the pupils had made in their brief school residence and instruction. The following letter speaks for itself.

GOLDEN, COLO., November, 9, 1882.

To W. C. SAMPSON, ESQ :

DEAR SIR:—At your request, I visited the State Industrial School on the day of examination, in August last. I spent the whole day at the school. It was a pleasure to me to find the educational part of your work receiving so much careful attention. The evidence of good progress was manifest in all your pupils. If the interest taken by the pupils in their studies is to be considered a token of good teaching, that evidence was abundantly manifested. You may rest assured that you have my heartfelt sympathy in your work and your method of work.

Respectfully,

T. L. BELLAM,

*County Supt.*

#### GRADES.

The school is carefully graded; and is taught by four earnest and competent teachers.

“A” grade, is our primary class, and begins at the foot of the ladder of learning; using Appleton’s First Reader, and receives lessons in spelling, numbers through addition, and in writing.

“B” Grade uses Appleton’s Second Reader, Spencerian Primary Copy Books, Harvey’s Primary Speller, and is taught in Arithmetic through subtraction.

“C” Grade uses Appleton’s Third Reader, Spencerian Copy Books Nos. 1 and 2, Harvey’s Primary speller, written and oral; Arithmetic through long division.

"D" Grade uses Barnes' Popular Science Reader, Spencerian Copy Books Nos. 3 and 4; Watson's Independent Speller, written and oral; Second Division Davies' and Peck's Brief course in Arithmetic, to end: First Division Davies' and Peck's Complete Arithmetic, and Folsom's Logical Book-Keeping and Blanks.

Grades "B," "C" and "D" receive instruction in geography, history, and drawing, and all the school vocal music. (See Exhibit No. 11 for grade statistics.)

International Sunday School Lessons are thoroughly taught in regular course.

#### EDUCATION.

It will be seen by reference to Exhibit No. 10, that irregular habits strongly mark the previous history of nearly every pupil placed in our school.

Our school course of industrial, mental, moral, and religious instruction, has been devised with a full knowledge of these deficiencies and wants, and is arranged to correct the bad and vicious habits already partially formed. To induce the love of system, regularity and cleanliness, in heart and person; to create a thirst for knowledge and habits of industry as a means of earning a competence, comfort and happiness; to elevate the low moral and religious standard to the Bible standard; and to thoroughly instill the love of country and good citizenship.

There never was a time in which a penniless, but ambitious boy had brighter prospects than now; but he must be prepared by moral, mental and physical attainments to take advantage of the opportunities presented him.

#### THANKS TO "OUR HEAVENLY FATHER."

During the sixteen months of the school's existence we have enjoyed very many blessings that call for profound gratitude to the Giver of every good and perfect gift.

The health of our school has been remarkably good; and although we have not been exempt from the minor sicknesses incident to a family of children, yet in but one case have we found it necessary to call in the aid of a physician.

The salubrious situation of the school is a most important factor in the matter of health.

#### VISITING HOME.

During the past summer eighteen boys have had permission to visit their homes and parents. Not one has in the least betrayed our confidence, but when their time expired promptly returned and reported for duty.

The following letter from one of the boys' parents but gives the unanimous testimony of all as to improvement, etc.:

B———, Aug. 29, 1882.

WM. C. SAMPSON, ESQ.,

*Superintendent Colorado State Industrial School:*

SIR:—Yours of the 26th received, and in answer would say that as soon as H—— arrived home his old playmates besieged him and gave him all kinds of advice as to his chances of running away from the school, but it had not the least effect on him. He told them that he had no cause to run away; that he was well treated, and the officers were kind to him; that he intended to return as soon as his time was out, and that some of them should be at the same school themselves.

He spent his time in play with his former friends in the day-time, but was always at home promptly at meal times, and at night, and was obedient in every particular.

I am glad to say that the people who knew him before he went to the school, speak in great praise of the improvement it had made in him, and we are glad to say that we think it *decided* and *permanent*, and hope for a continuance of the same.

Begging your pardon for not writing sooner, I remain

Yours, fraternally,

I.——— N———.

From a letter written by the father of one of our older pupils to his son, we take the following, as it voices the estimation in which the school is held by parents whose sons have not visited home, but who by letters received weekly from them, and by personal visitations, have assured themselves whereof they write:

DENVER, October 22, 1882.

"DEAR SON L——:—Your very welcome letter of the sixteenth came duly to hand, and found me well. I had not answered your previous letter because I had some thought of coming up and bringing your underclothes, but could not well do so. Am glad they fitted. Am pleased also to note the improvement in your penmanship, and to hear of your progress in arithmetic. Think you are doing remarkably well, and hope you will continue to improve. Am glad you joined the Band of Hope; it is new to me, but I like the doctrine it inculcates, and hope you will keep all its pledges and be an honored member. \* \* \* \*

I would be glad to have you with me, but you seem to be improving so finely that I almost hate to think of your leaving at present. I am satisfied that you have better instruction, and are doing more for yourself there than in the public schools—at least until you become settled and established in good habits. I shall always be grateful, and I think you will, to Mr. Sampson and the institution over which he presides, for the benefits derived from his kind consideration and good management. \* \* \* \*

Continue to study and improve. Let your mark be high, and work up to it. Make good use of present advantages in order to be prepared for further emergencies. I have written in haste, and you must overlook imperfections.

Give my kind regards to Mr. and Mrs. Sampson, and write as often as you can.

Yours, as ever,

To L——— K———;

O. C. K———.

## GOVERNOR'S VISIT.

His Excellency, Governor Frederick W. Pitkin, visited the school December 21st, 1881, and expressed himself as thoroughly pleased with its management.

## DENVER EXPOSITION.

By the kind invitation of the Hon. W. A. H. Loveland, the whole School visited the great Exposition in Denver. Going down in wagons we spent a very pleasant and profitable day, and the school won much praise from the Denver press for its admirable appearance and behavior.

## GOLDEN GATHERINGS.

The school has taken part in various public gatherings in the city of Golden, and has never failed to receive honorable mention and praise.

## APPRENTICED AND DISCHARGED.

Three boys have been apprenticed to farmers. The reports received from their employers are most favorable.

One boy has been discharged—his parents removing with him from the State.

Another has been discharged because of expiration of sentence of one year. This boy was nine years old when we received him, had never attended school, and did not know the alphabet. When discharged he could read intelligently in the Second Reader, could write a plain, distinct letter, and add and subtract figures rapidly and correctly. We regretted very much to be compelled to cut short his educational advantages.

## LIBRARY WANTED.

A library would add much to our boys' interest in reading, and properly selected books would be a source of constant pleasure, information and profit.

We hope for sufficient appropriations to largely increase our school in the coming year; accommodations for two hundred and fifty boys and seventy-five girls are urgently needed.

To the teachers and officers who have faithfully and efficiently performed their constant and arduous duties, I desire to return my sincerest thanks.

To my worthy companion is very largely due our acknowledgments for the successful home and religious influence—a marked feature, and so indispensable in a true work of reform.

To your Honorable Body I owe my most grateful acknowledgments and thanks. Your confidence, support and trust in our ability and faithfulness, has enabled us to successfully push through difficulties apparently inseparable from a true work of this kind, and which have appeared, at times, to surround us. Your words of cheer and encouragement have acted as an inspiration to us, and to your most necessary and cheerful co-operation and gratuitous labors is largely due our successful Industrial School now so strongly established.

WM. C. SAMPSON,

*Superintendent.*

Colorado State Industrial School, Nov. 10, 1882.

# EDUCATIONAL ADDRESSES.

STATE TEACHERS' ASSOCIATION.

1881.

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## PRESIDENT'S ADDRESS.

ISAAC C. DENNETT, *Professor of Greek and Latin, University of Colorado.*

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### *Members and Friends of the Association:*

If time permitted, in addition to the line of thought which I shall pursue; I should like to speak of the great private school system of this country—of Harvard, Dartmouth, Yale, Bowdoin, Vassar, of the trained intellects they have sent out to revolutionize scientific thought, and enrich literature; of the thousand other private schools; of their noble deeds of charity; of the missionary spirit which has characterized their labors. I should like to speak of the noble work of Colorado's private schools, which are so ably represented in this Association; and especially would I delight to pay an humble tribute to that school for higher education which owes its origin to the forethought and enterprise of this beautiful city, a school which says to the world, "I will take your children, be they the poorest of the poor, the lowest of the low, and with divine help, will make them men." With such examples before him, he must have a narrow vision who does not realize that the private and public schools form one grand system for the uplifting of men. But my line of thought leads me in another direction.

The proposition which I shall discuss this morning is—that universal individual development, which is only another term for universal individual freedom, is inseparable from and coincident with universal individual

education, and that the education of the masses must be accomplished, if at all, by the State providing, in a civil rather than in an ecclesiastical capacity, a free system of universal individual education, extending from the primary school to the college.

The term "free" is only incidental, since any system of education to be universal must practically be free to the individual. The advocates of universal education at the State's expense, as the chief factor in promoting universal individual development, challenge the criticism not only of India, but of America as well. But a clear apprehension of terms will enable us to turn from the criticism of words to the criticism of ideas. In the course of this discussion I shall find it convenient to make use of the terms "elementary," "secondary" and "superior," as applied respectively to primary and grammar schools, high schools and academies, colleges and universities.

I shall also use the terms "state" and "individual" in such connection as to raise in your thoughts the question, "does the speaker intend to prefer individual liberty to the permanence of the state?" The answer depends upon the meaning we give to the term "state," and whether that meaning is of universal application.

For illustration—suppose we say that the State is the whole people united under one form of government, whose chief aim is to perpetuate its institutions, and suppose we apply this definition to India, Germany, France, England and America; now I do not prefer individual development to the permanence of the State; for the definition recognizes that States, like the sun, have a right to live, even though in the process millions of individual atoms perish. But suppose we say that the State is the whole body of people united under one form of government, whose chief aim is, in the fullest degree, to develop and perpetuate individual liberty; and suppose that we apply this definition to India. Now I do place individual development above the welfare of the State, and when better conditions can be secured, India, as a State, ought to perish, because it hampers individual progress, and the individual has a right to live under



conditions favorable to his development. Again, suppose we apply this same definition to Germany, England and France; I reply that just so far as these nations recognize and promote universal individual development, they have a right to exist, and just so far as they have denied this principle, they and individual development are at variance, and the latter is of right paramount; and if, as we believe, the United States is the champion of individual liberty, not license, then there is no variance; the State and the individual are one, one not because the State reduces the individual to a servile position in order to sustain musty institutions, as in India; not because she assigns him his place by the laws of inheritance, as in Russia; not because she monopolizes his services from boyhood, as did Sparta; but one, because she has made the individual intellectually and morally free, and because he is free, patriotism inspires him to protect his country with the resources she has given him.

The country that has made me free,  
Her freedom's dearest unto me.

If permanence, founded upon custom rather than upon individual liberty, is the chief factor to be considered in a State, then China "bears the palm alone."

If by these illustrations I have made clear the basis of the idea of universal individual development, I will, with your permission, discuss the idea.

When the primitive world slowly and only partially cast off the shackles forged by Egyptian and Chaldean jugglery and divination, it raised its eyes to catch the first faint glimmerings of an imperfect light whose rays emanated from a torch held in the hands of an ignorant, designing and inefficient priesthood; but that same torch, with a more perfect light, and held in other and better hands, has guided us on our way, and has enabled us to meet here as the exponents and promoters of universal education. But while we congratulate ourselves upon the present, we may not turn disdainfully to the past; we may not forget that the educational systems of Oriental nations are exerting a powerful influence upon the nations of to-day. Persia was the first to recognize and

enforce the great principle, that it is the business of the State to educate its citizens, and we, of Colorado, send our voices across the abyss of ages, and the eternity of the past, and say to that ancient Oriental people, "your principle of State education is sound." But Persia, unlike Colorado, does not recognize the right of individual development; she cramps the powers of the individual in order to make him subserve the interests of the State, while Colorado develops the powers of the individual to enable him to subserve the interests of humanity.

Therein is contained a principle, which I leave for the advocates of a restricted elementary education to ponder. Accursed be that state, ancient or modern, in which neither vice nor virtue, neither incapacity nor ability, can change the position to which the individual is born; which sacrifices individual thought, action, aspiration, freedom to the perpetuation of its time-ridden and worthless institutions. Accursed be any state which gives to the individual institution just sufficient to prevent his realizing his own ignorance, and thus closing the pathway to his higher development.

Egypt, with her fetichism, her priestcraft, her wisdom, is a connecting link between the educational system of the extreme East, and those of Greece and Rome; nay, I may say, she is the link that binds the education of the East to the learning of all Christendom. From her treasure-house Egypt poured forth the priceless blessings upon Greece, and made it possible for the historian to say: "Pythagoras was the first Greek in whom the spirit of the East was united with that of the West, and in whom the culture of Babylon, Egypt and westernmost Asia combined to develop that of the Greeks, in a new and glorious form." Centuries after, Greece, in her gratitude, in her benevolence, in her learning, repaid wisdom's debt; she remodeled the system of Egyptian education; she made Alexandria forever famed for its science and literature; and, as the pagan philosophy connects it with the past, so does the Christian philosophy make it one with the present, and the pagan and the Christian meet at Alexandria and unite in revering its science, literature, philosophy and truth. Individual freedom, when an infant, neither strong nor vigorous, was washed ashore on the Ægean coast;

"An infant crying in the night ;  
An infant crying for the light ;  
And with no language but a cry."

But that infant cry, first heeded by Greece, and then by Rome, placed those countries far in advance of other nations of their time ; that cry produced orators, philosophers and jurists, and caused Cyrus the Younger to rely more upon the fidelity of ten thousand free Greeks than upon the time-serving of one hundred thousand Persians ; and if from those times anything of special value has come down to us, it is bedewed with the infant tears of individual freedom.

From the second to the thirteenth century of the Christian era is the darkest known page in history. It is the embodiment of a human cry for liberty smothered in the utterance by tyrants who knew no mercy.

Let the thoughtful, zealous student that loves his kind read that record, and he blots it with his tears. But ancient Greece and Rome, and ideal individual liberty, begotten at the birth of Christ, are the prismatic powers whose rays, cleaving the darkness of that age, illumine the canvas of the centuries beyond ; and as the centuries advance, the colors deepen, until upon the canvas of the nineteenth century are painted all the colors of the rainbow, and every one of these phases represents individual freedom.

But what do the free Greek and Roman—what does the oppression of twelve centuries—what does the individual freedom of the last six centuries mean ? Do they mean that, as a nation grows older, it must necessarily grow freer and better ? If so, how shall we catalogue modern Greece and Rome and Turkey ? They mean that just as individual education has been limited or has been universal, individual freedom has coincided with it. This is no mere assertion. An education which fostered ambition, and created in the individual a desire to sway the physical by the mental power, made the ancient Greek a freeman. In Europe, the first twelve centuries were characterized by an almost universal ignorance ; in the thirteenth century the University of Oxford, by harmonizing the barons north and south, made it possible

for them to wrench from King John the Great Charter of English liberty. Italian learning of the fourteenth and fifteenth centuries prepared the way for the Reformation and the scholarship of Germany.

You have not the patience and I have not the time to follow the progress and the universality of education in Europe from the Reformation to the present—the world-wide reputation of Dutch scholarship, the German schools for universal public education, which are unrivaled in the general development of mind (and, the the Germans say, in morality), the revival of education in France, such a revival as will never again brook the rule of a Napoleon. Neither can I follow consecutively the development, or rather the restrictions upon the development, of universal education in England; but the history of England, Germany and France will always be a standing monument of the inability of any ecclesiastical power, even when backed by the machinery of the state, to maintain, successfully and efficiently a system of universal individual education.

I am aware that the “practical” man may say that it is well enough to talk of the coincidence of individual freedom with individual education, but when a man possesses his civil, political and religious rights, he has all the law ought to give him. This is plausible, but no state ever yet *gave* a man rights of any kind. Human rights are from within, divine and universal; and their development by a system of education makes man free. The United States struck the shackles from the slaves and agreed to protect him in the exercise of his civil, political and religious rights, but he was as much a slave as before; he could not give a reason for his ballot—he did not know how to make a contract. And as for his religious rights, he didn't seem to have any use for them. The state does not confer rights, but it is her highest duty not only to protect a citizen in the exercise of his rights, but also to teach him what his rights are and how to use them; and when the state so teaches the individual that he will take the grandest view of his rights, she will no longer draw fine lines between primary and secondary education, but will give him the best education that America or Germany can bestow.

But I pass from the discussion of the principle of universal individual education, as connected with universal individual development, to the discussion of the application of this principle to a free system of universal individual education in America, extending from the primary school to the college.

As the Puritan stood upon the Atlantic shore, he looked to the east and to the west, then down at himself, and came to the not surprising nor uncommon opinion that, before all others, he was of chief interest to the Creator. He believed in individual liberty for himself; but a century passed before he discovered that, if he would maintain his own liberty, he must claim and enforce the same rights for others. His mind was hampered by the limitations which tyrannical institutions had placed upon it. The Puritan was in advance of his age, but in his conceptions of liberty, as compared with the representative man of the nineteenth century, he was inferior. We need not wonder, then, that the so-called free Grammar schools of Boston were in no sense the public schools of to-day; and, as individual liberty pushed its way slowly to the front, and demanded some system of universal education, we need not wonder that that system was made elementary.

Secondary and superior education were fostered by the states, but not as an integral part of the free school system.

Persia educated to enslave; Puritan New England, to make free; in the nineteenth century Germany and America educate to perpetuate freedom; and the freedom of the masses is not assured until poverty can stand by the side of wealth and aristocracy, not only in the primary school, but in the college as well.

But New England now realizes the fallacy of those limitations which the Puritan spirit, tinged with European ideas placed upon her educational system, and in breaking through these limitations, she has encountered opposition with which the traditions of centuries can oppress individual liberty.

In the last twenty-five years New England has made an heroic attempt to furnish the masses a free system of

secondary education, but with one or two exceptions, the free high school has not received the cordial support of the New England states. The obstructionists of free secondary and superior education are respectable, and have the traditions of ages in their favor.

The "Journal of Education" for Nov. 17th, 1881, contains the following:

"In several of the larger cities, and many of the smaller cities in our country, the people are waking up to the unpleasant conviction that their public schools are not paying for the large amount of money and expectation invested in them. The causes for this disappointment are various. In several of our large Eastern cities, the public school has grown up without the sympathy of the leading class, and in the face of the pitiless opposition of more than one great religious sect. Hence the inevitable collision between the respectable obstructionists and the growing demand of the masses of the people."

Why has the free public school system grown up "without the sympathy of the leading class?" The answer is, that the Eastern free school system, as a whole, has never challenged the respect of the "leading class?" by a free system of secondary and superior education. Even elementary schools are inefficient when not supplemented by high schools and colleges.

But the public school of New England has encountered opposition from a source from which it was its right to expect very different treatment. I refer to those endowed schools which have been the pride of the New England states, and which were, for a long time, the inspiration of the free school; but, as they have gained prestige, they have withdrawn their sympathy from the public schools of the states which nourished them and have assumed a patronizing attitude. Does this seem to be mere assertion? Harvard University will serve for illustration. In the report of the University, embodied in the U. S. Commissioner's report for 1879, is the following:

"Of late years the endowed schools and academies have been slowly gaining upon the public schools, in the number of candidates presented and in the quality of the

training given to their pupils." In "Education" for November, 1884, a commentation upon the above, adds: "The fact that the list of private schools and academies represented by the young men who entered Harvard from 1871 to 1879, inclusive, comprises the very best in the country, gives peculiar significance to the implied condemnation of free school training.

It is time to cease theorizing about secondary instruction in our country; the record before us, incomplete, unsystematic as it is, affords conclusive evidence that those who would abolish or cripple public high schools would place us below the intellectual plane to which all other nations are aspiring." Again, in 1873 President Eliot, of Harvard, and Dr. McCosh, of Princeton, opposed the endowment, by government, of schools for superior instruction, and held that the government of schools for superior instruction should confine itself to promoting elementary education. In the same year Professor Atkinson replied in language which still rings in our ears—"What," said he, "is the government domain but the property of the people, and to what higher use can the people put it than to promote the higher as well as the lower education of the people?"

We have in this country no aristocracy of education—not one education, as in the old country, for the "masses," and another and higher one for the privileged minority. The republican principle is the best education for all—the best and highest education for the "masses." That is the only principle on which Republican institutions can be founded.

Harvard, who, in her earlier and in her riper years, was directly aided by the state—Harvard, whose duty it was to foster the education of the whole people, now that she no longer needs the state's fostering care, has, like other great corporations, cut loose from the power that made her, and, turning to Massachusetts, declares that government has no right to endow institutions for superior instruction, and condescendingly says: "By the grace and tolerance of Harvard, and by reason of our past relation, we permit your poorly prepared and ill-conditioned students of the free schools to enter the Univer-

sity." Had Massachusetts kept her grip upon Harvard as a State institution, she would not now encounter this humiliation, and her free secondary education, instead of being "incomplete" and "unsystematic," would have been a firm and sympathetic link between her elementary school and the University. It is certain that the secondary and superior instruction of Michigan cannot patronize the State. Shall ever the bitter cup be placed to the lips of Colorado?

I now invite your attention to a growing evil which cannot exist in the same atmosphere with free secondary and superior instruction. I refer to the differentiation of New England society.

Why go to Europe for examples of class rule when we have them nearer home? Why wait until history shall crystallize truth before we realize our danger? Fifty years ago the words "day laborer," "workingmen," "lower classes," were almost unknown to American literature. To-day these words are not only a recognized part of our language, but are pronounced with an *accent*. These words in the mouths of corporations and the would-be "higher class" are synonyms of inferiority. It is a sad truth that the Eastern States contain a large and growing class which believe in an inferior elementary education for the many, and in a superior education for the few; and this same class is looking eagerly for the time when, as it fondly imagines, this country will be a great flower pot, with itself the central flower and the whole social scale beneath dirt in which itself may grow and put forth blossoms. This class had its origin in the New England States; its birth and growth were made possible by the absence of free superior and, until recently, free secondary education; and that same class is held in check only because New England has in the field an army of trained public school teachers who have not only broadened and deepened elementary education, but who have also battered down much opposition to free high schools. Does it occur to you that my imagination may deceive me? I refer you to the record.

The "Journal of Education" of October 6th, 1881, in an article entitled "The Peril of New England," says: "Like the Englishman, the Yankee has always in him a



lurking devil of despotism and pride, and he finds it difficult to deal justly in all ways with people dependent upon or beneath him. While we do not believe that, on the whole, the civilization of New England deserves much that is said of it, in comparison to other portions of the country, it would be folly to deny the fearful perils that threaten her near future, unless met and disposed of with the most vigorous wisdom and Christian forbearance." In another portion of the article, in speaking of the isolation of children for the purpose of exclusive training, as recommended by Catholic bishops, the "Journal" says: "In this they, meaning the bishops, coincide with the views of a class of the more exclusive native sort, who hold that the laboring multitude should be content with a very moderate education, largely industrial, that shall fit them for a well-defined inferior position in life, and not disturb them with discontent and envy of their superiors." Again, "Of one thing professor and priest may be alike assured, that every Yankee boy and girl, of native descent, intends to get the best of everything somewhere. If the time comes when a superior, exclusive class rules in New England, the whole body of native youth will turn their backs upon Yankeeland and push for regions where manhood and womanhood still claim their rights." To what region shall they turn if not to the West? And to what portion of the West unless to those States which, by the perfection of the free school system, shall guarantee protection from caste rule?

In the language of W. A. Mowry, "It is necessary to abolish caste. Let the doors of the school house, the 'brain factory,' be open to all the children, and the child once started on the career of learning, let time not find those doors ever closed against him till, if he so elects, he shall have completed not merely the course of study in the common English branches, but in the English high school, the scientific school or the college. Thus will be brought about the time when will be realized on earth the two great principles alike of the highest human philosophy and of our Holy Religion—the common Fatherhood of God and the equal Brotherhood of Man."

I now turn from the discussion of class rule to the consideration of another question which is agitating the

East, and which is not foreign to the West—I refer to the *manner* of imparting moral instruction in our public schools. If you have read the Superintendent's report of Denver's public schools for 1881, I fear that my views will prove of little interest. But we all agree that the methods of imparting moral instruction ought to be discussed till our schools reach a higher degree of moral excellence; and yet it will temper criticism if we remember that no scheme of education has been devised that has so improved the morals of the masses, rich and poor, as the public schools. It is my conviction that the schools are not so much in danger from increasing immorality as from honest but injudicious people who persist in administering nostrums to cure the evil. There are two methods of imparting moral instruction, the direct and the indirect. The ritualists, both Catholic and Protestant, encouraged by a growing class among other denominations, advocate the direct method of moral instruction, and yet it does not appear that, if opportunity were given, they could agree upon a moral code for the public schools. To prod your opponent with a sharp stick through a crevice in a high fence is much safer than though he were on the same side with yourself; so it is safer for us to prod the Roman Catholic than though he were upon the Protestant side of the fence. But I protest against this unfairness. Opposition to the free school system by the Roman Catholic is no worse than opposition by the Protestant, and so far as Protestant and Catholic travel the same road, they should be classed together. Criticism upon the public schools by more than one powerful denomination challenges criticism upon the same plane, and a chapter from their own experience may make them more charitable and possibly more modest. In Italy, Germany and Protestant England moral and religious precepts have thundered from the teacher's desk with the same regularity as ocean's tide beats upon the shore; but in every one of those countries the State has been obliged to interfere and wrest the school system from the power of the church. This historical fact is no reflection upon the church or Christianity, but it does reflect upon the *method*, it does go to show that the "formal inculcation of moral truth" is not the best way to weave character out of that com-

plex being, a child; the hitting of a boy with a moral cudgel affects him in the same way as striking him with any other club—in either case it confuses his ideas. It is curious to note some of the phases through which portions of the church have passed in connection with public education. In France, in 1833, the Roman Church played the strange role of the zealous advocate of freedom of instruction. In England, the Episcopalian has monopolized public instruction, and the Methodist is fighting public education because it is too sectarian. In America, the Catholic has not been noted for his zeal in advocating free instruction, and the Episcopalian has not been so indiscreet as to commit himself on the side of the public school; and here we find the Methodist a warm advocate of public instruction. But in all these cases we shall find them, as is their right, moving in the direction of what they deem to be their own interests. In view of these facts, when the morals of the public schools are criticized by the organ of any great denomination, the friends of public instruction have a right to ask what *motive* underlies the criticism, and if that motive is found to be more selfish than moral, the facts of history and the voices of the ages should be marshaled against it. In some of the Eastern States, the Roman Church demands a division of the school fund. Are you sure that the Roman Church has no Protestant sympathizers? Are you sure that if she should have hopes of obtaining her demand that other powerful denominations would not favor the scheme as they have in the Netherlands? The following is the exact quotation from the history of education in the Netherlands: "The Catholics, however, left their liberal allies, and, at present, are united with the orthodox Protestants and Conservatives, in an attempt to divide the school fund, a scheme which is opposed by the Liberals only. This question of denominational schools has since formed the chief issue at the general election. In the election of 1875, for members of the second chamber, the Liberals obtained a majority of two over the united-opposition."

But, happily, there is a more cheerful view than this. The arena of the public school furnishes a grand battleground for those who wish to contend for moral as well

as mental growth, and it is the only arena where all classes and denominations can meet in friendly rivalry and inculcate moral principles without the clash of dogma and the scars of war. But how shall these great denominations meet in that arena? Shall they come to impart direct moral and religious instruction, and, possibly, to teach special tenets of their own? God grant it not! But let their presence be felt even as the presence of the great teacher is felt among themselves—known, but not seen, present in the spirit but absent in the flesh. Let them see to it that no teacher, Catholic or Protestant, who is not morally clean stand at the teacher's desk, that suitable reading from the best authors is placed within the reach of every child; let them guard every avenue to vice and open wide the doors to virtue; let them take a broad Catholic view of the whole public school question. But if a system of back-biting and coldness once grows up between the free school and the Church both will suffer much, and in this age of independent action, it is impossible to foretell which will suffer most.

After that two and a half centuries of elementary instruction have passed, after that the courts of many of the States and the Congress of the United States have admitted the right of taxation to support secondary and superior education, I will not insult your intelligence by discussing this question, but I will strengthen your convictions by a few sentences from the lips of those men who have discussed this question in Europe and in the Eastern portion of the United States. "I will thank any person," says Everett, "to show why it is expedient and beneficial in a community to make public provision for teaching the elements of learning, and not expedient nor beneficial to make similar provision to aid the learner's progress toward the mastery of the most difficult branches of science and the choicest refinement of literature." Says Huxley: "No system of public education is worthy the name of National, unless it creates a great educational ladder with one end in the gutter and the other in the University." Francis Adams says: "Elementary education flourishes most where the provision for higher education is most complete. If the elementary schools of Germany are the best in the world, it is owing, in a great measure, to the fact that the higher schools are accessible

to all classes. In England not only have the aims of the elementary schools been educationally low and narrow, but an impassable barrier has separated the people's schools from the higher schools of the country. In the United States the common schools have always produced the best results where the means of higher education have been the most plentiful." The words of Washington are: "In proportion as the structure of a government gives force to public opinion, it is essential that public opinion should be enlightened."

Why is it that I have dwelt so long upon the shortcomings of New England? Let no one suppose I have been indulging an acrimonious spirit. She is the mirror in which we see reflected the civilization of two and a half centuries. It is our privilege to profit by the errors as well as by the excellencies of New England; she warns the West not to repeat the error of the Puritan, by placing limitations upon its free school system, and the West has profited by the warning. "Not until we turn our steps westward from the Atlantic coast, do we find the ideal free school; only here are the doors of knowledge thrown wide open to the poor as well as to the rich, only here does the State declare that no artificial limitations shall be placed upon her educational system, only on Western soil do we realize that universal individual development, which is only another term for universal individual freedom, is inseparable from and coincident with universal individual education, and that the education of the masses must be accomplished, if at all, by the State, providing in a civil rather than in an ecclesiastical capacity a free system of universal education extending from the primary school to the college." Is there not enough in the thought of universal emancipation to awaken our enthusiasm? Do we realize that we are writing the educational history of Colorado? and that, as we write, so shall it read a century hence, and as it shall read, so it shall stand as a testimony for or against us? If we cramp the model we can rear no stately structure. But it is our proud privilege so to build that caste rule can never obtain a footing in our State; let us build a free system of education with its foundation at the base of our lowest foot-hills, and let us extend it upward in an unbroken column until it shall match the highest moun-

tain peaks. Let us reply to all criticisms upon this grand system with patience, with calmness and with hope; let us not express anger nor surprise when people ask what education is for, not even though grave State Senators rise in their places and inquire, somewhat roughly, but in the presence of an applauding audience, "In the name of God what do they study at the State University that is of any sort of value?" Let the experience of the ages, embodied in the words of man, answer.

Hon. O. P. Fitzgerald, in the report of California for '71, speaking of the real value of the University, says: "The State, before renewing its endowments, the National Government before repeating its grant, the man of wealth before founding new professorships, and the fathers before sending us their boys, will often ask, 'What for?' Let us have our answer ready. Let us trace the influences which have proceeded from Athens, where Socrates and Plato taught—teachers whose words still nurture our statesmen and theologians; from Bologna and Paris, where students dwelt by thousands; from Oxford and Cambridge, where so many of the foremost leaders of Anglican literature, politics and science were fitted for their career; from the seats of learning in Germany, now surpassing in number of teachers and students the Universities of every other State; from the colleges of New England and the Atlantic seaboard. Let us study such examples, and say with courage and hope that the University shall be a place where all the experience of past generations, so far as it is of record, and all that is known of the laws of nature, shall be at command for the benefit of this generation and those who come after us; that here shall be heard the voice of the wisest thinkers, and here shall be seen the examples of the most diligent students in every department of science. Let us say that here high-minded youth, while they train their powers as in a gymnasium, may also fit themselves with armor for the battle of life, and may study examples of noble activity. Let us see to it that here are brought together the books of every nation, and those who can read them; the collections from all the kingdoms of nature, and those who can interpret them; the instruments of research and

analysis, and those who can employ them; and let us be sure that the larger the capital we thus invest, the greater will be the dividend.

“What is the University for?’ It is to fit young men for high and noble careers satisfactory to themselves and useful to mankind; it is to bring before the society of to-day the failures and successes of societies in the past; it is to discover and make known how the forces of nature may be subservient to mankind; it is to hand down to the generations which come after us the torch of experience by which we have been enlightened.

“It is wisdom which the university promotes; wisdom for individuals and nations—for this life and the future; a power to distinguish the useless, the false and the fragile from the good, the true and the lasting. There was a wise man of olden time who figured its value as well as any of the writers of to-day when he said: ‘Happy is the man that findeth wisdom, and the man that getteth understanding, for the merchandise of it is better than the merchandise of silver, and the gain thereof than fine gold;’ and his estimate of post-graduate instruction deserves our assent—‘Give instruction to a wise man and he will get wiser; teach a just man and he will increase in learning.’”

But overshadowing this reply, in the mystery of eternity are three unknown quantities whose values can be determined only by the Infinite—fraternity, humanity, liberty.

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## SOME OF THE RELATIONS OF THE SCHOOL TO THE HOME.

AARON GOVE, Superintendent of Denver Schools.

The greatest institution in the world is the family. Present civilization realizes the truth of Plato's saying that “whatever is most excellent in the State must always begin at the fireside.” Upon family economy all social science depends. In American more than in any other society the child is the center—the pivot about which all family movements are made to turn. The vo-

cation of the father, the financial investments, the expenditures and savings—all domestic arrangements are ever considered with the welfare of the children primarily in view. The minor details of the household are directed mainly with the thought that the best action is that which shall conduce most towards the welfare and happiness of the children.

Closely allied to the family, nearer to it than any other institution, not even excepting the church, is the school. The relations of the school to the community are peculiar and delicate. The school is very near the home. Fifty children in one of your rooms, representing as many families, present to you great possibilities of power for modifying and tempering the characters of fifty homes. A casual observer could conclude that in new communities like Denver the main effort was putting forth to acquire wealth; it does sometimes appear that the father is so deeply engrossed in money getting that the dear ties of family are not his first thought, and yet it is ever true that above all, nearest to his heart, his hopes, his prayers, his tears, are the success and happiness of his children.

In view of this intimate connection between school and family, you should not consider the fact as demanding special comment, when many and various opinions and much earnest advice is volunteered to you by parents, for it is not only their right, but their duty, to confer frequently and emphatically with the teacher of their children; and it is equally your duty to listen with courtesy, and receive with candor, that you may profit by the interview. It should be remembered that much that is said at such times is helpful to the teacher in giving direction to her conduct toward the pupil. Whatever passes that is frivolous or foolish can easily be forgotten.

Requests, petitions, and even demands, should be heard without impatience, and always granted when the concession will not interfere with the rights of others. System, in a congregation of schools like ours, is a necessity, but a system can well exist and be effective without at the same time being a great unelastic, soulless ma-



chine. Individual cases can be received and treated individually, both mentally and morally, and the pupil be an attendant of one of a system of schools. Rules and regulations may be printed and studied by the teacher; the room may be conducted strictly according to the letter, and yet be a spiritless machine—the teacher only the power that turns the crank.

No wonder that the parent protests when he sees the possibility, not to say probability, of his child's growth being measured and limited exactly like every other child's growth that happens for the time to be associated in the same room. Modifications in treatment must be made for physical differences and for mental peculiarities, and the instruction adapted to the requirements. No written law, or oral instruction can fully direct or measure the teacher's conduct. Each pupil merits special study, and the interests of some demand special consultation with the home. Do not forget that the pupil's advancement and preferment is of greater interest to the parent than to you. The school is the parent's, established and maintained by the public; the teacher is the instrument to accomplish the designs of the public. I do not forget that superiority in knowledge of the best plans and means of imparting instruction and discipline lies within the profession; this superiority is usually conceded to teachers. I am not urging you to accept the advice of all your callers, for I appreciate quite fully that the veriest nonsense is frequently presented to you as serious advice, but I am asking you to hear patiently all that patrons may wish to say, even more, to encourage them to confer often with you, and to comply with all requests when such compliance will not conflict with the best interests of the school. The relation of the school to the home demands frequent interchange of thought. In order to accomplish this, either parent or teacher, one or both, must visit. Some of you have expressed unwillingness to call at the homes of your pupils, and have intimated that you could be consulted on school business at the school-room. Such a sentiment is a comfortable one for the teacher, and were our noble profession like the ordinary business of the world, such a practice might not stamp the school as a failure. The banker closes his

vault at 3 o'clock. No business can be again done until nine the following morning. The merchant and artisan cease regular work at regular hours; the teacher continues her work from sun to sun. The responsibility can not be thrown off; no, not even in sleep, and so it is a mistake for one who believes in the highest and noblest aspirations of the teacher's life to announce that all school work can drop with the afternoon closing of the school-room door.

Visiting to parents is a frequent and sometimes necessary practice. Few persons can write a note to a parent about an unruly or indolent pupil when the reader thereof will correctly interpret the thought of the writer. A personal interview will accomplish what written notes can scarcely do, and when a parent cannot or will not come to you, you surely can go to him. I cannot urge hard-working teachers to make calls, as we used to do in our country schools, for social purposes, upon the hundreds of parents represented in your school rooms, the task is too great; but I do ask, as I have often before in your presence, that when trouble occurs you seek to dissipate that trouble in a personal interview with the parent.

In moving a pupil from class to class, something more than a knowledge of the scholarship is necessary for intelligent action; especially is this true in cases of special promotion for distinguished scholarship. Too many pupils, especially girls, are transferred suddenly to a higher grade, to which their ambition pushes them, without intelligent consultation with the home. Parents are understanding more than formerly the physical dangers that attend the yielding to precocious or ambitious pupils, and often would, if they had the opportunity, let in a flood of light on the grading of their children. So, I say, consult parents as to irregular movements of pupils up or down, particularly make no special promotion until you have satisfied yourself that the father and mother approve of the movement.

Finally, I believe that no school is as effective as it can or ought to be unless some acquaintance is maintain-

ed with the homes. The work and *status* of the schools of our great cities, such as I have seen and experienced, confirms this belief. Shall we avoid the errors others have made?

## PRESIDENT'S ADDRESS.

J. S. McCLUNG, PUEBLO.

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1882.

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Among all civilized nations and in all ages of the world there has been some great controlling idea toward which the minds of men have gravitated. At one time it was symmetry of form and physical perfection; at another, it was conquest and universal dominion. Again it appears in rich and costly hangings, frescoed ceilings, sumptuous feasts; still later it is knighthood, tournaments, chivalry; then liberty and equality among men in opposition to royalty. All these are way marks in history, which point out the course of thought down the ages, and how restless and unsatisfied humanity has gone hither and thither, each succeeding generation seeking in some new way to appease the cravings and longings which are the common inheritance of the race.

It belongs to every one who assumes to be a teacher of youth, to have a somewhat comprehensive view of those great outlines of thought that have grown up in the past, and have become the permanent possession of civilization and assuredly he should have such a grasp of the present run of affairs as will enable him to determine with some degree of accuracy the tendency of his own times. A study of the past reveals to us how men of other ages have wrestled with and solved the various problems of ethics, religion, sociology and politics of their own times.

It is from the successes and failures of the past that we may gather those rich experiences on which we may safely plant ourselves as we attempt to settle for ourselves and for mankind the various, perplexing questions of the present.

And so it has come about that in recent times history is becoming more and more a subject of careful study and scientific investigation. History is no longer regarded as a bleak valley of dry bones, but rather a grand re-assembling of the great and good of all places and all times, full of real life and real thought. And I confess that it is much easier to sift the records of the past, where human action has become quiet, and where one may calmly and deliberately measure and weigh results, than to discover in the currents and counter currents of such a busy age as ours what the historian of the future will record as the leading characteristic of our times. But in my opinion when the verdict of history has been written it will be found recorded that this was an age pre-eminent for intense intellectual life.

It has been reserved to recent times to witness the wonderful developments in inventions, in science, and in all learning.

Genius is prolific with new discoveries to lighten and lessen the labors of our hands.

Steam is carrying our merchandise of all kinds to the very extremities of the earth; but all this traffic and commerce has a higher use than simply the exchange of material commodities. This perpetual motion of the multitudes brings collision of minds, quickens and energizes thought, and enlarges the boundaries of the inner world of intellect.

What a variety of instrumentalities we have for assisting our organs of sight and hearing—every one of which is a multiplier of thought.

Books, periodicals and magazine literature of every sort are becoming great reservoirs of thought, from which the highest and the lowest alike may draw inspiration and entertainment.

Art is opening her portfolios to enrich and beautify, and thus there is found permeating society a flavor refining and elevating in its nature, and the mind goes out seeking new pleasures and new joys in this direction.

Great monied corporations are coming to be more and more a power among us, and causing us to feel the force of new social problems.

Commercial pursuits are taking a scientific tendency and it is found that the cultivation of the imagination is quite as essential in business life to make it highly successful as in any other occupation.

To meet and hold his own in so much sharp and driving competition the business man needs a broad and generous culture in order that he may be able to take a large view of affairs and to form from his present surroundings a correct judgment of the probable demands of the future; and hence there is such need for energy, and push, quick and accurate thinking in commercial life. So in educational work. The same intense mental strain which is seen everywhere else prevails here also. Order and system are coming forth. The shortest and least obstructed paths are sought for.

Education has come to be considered a science, and men are studying this science as profoundly and as earnestly as they study any other science.

Teaching is becoming a scientific profession.

The educator must now know something more than mathematics or language, or ethics, or politics.

He works with mind. Mind is a thing of growth, and consequently an ever changing quantity. He must therefore know something of the laws of mental development, especially of their bearings on his own work.

Our best schools are demanding specialists in every department. Primary and high school teachers, so far as the character of their work is concerned have very little in common.

Indeed human activity is compassing so wide a range of subjects and is so far-reaching in its operations that even specialists must apply themselves diligently if they keep pace with the birth of ideas in their own limits of investigation. Everywhere we meet new ideas, new theories, new methods, new problems.

Truly this is a grand age which has happened to come in our times, in which the accomplishments of a lifetime are crowded into the limits of a year. And he must be hard and insensible indeed, who does not experience some feelings of satisfaction and inward joy at the thought that he is permitted to witness, and be a sharer in such achievements of human intellect as are transpiring about him in these latter days.

But I am inclined to think, that as a people, our brains are decidedly getting the better of us, that we are becoming too exceedingly smart for our own good. And that we shall find ourselves prematurely diseased unless we call a halt in this direction, and bring into more prominent action some of the other endowments of our being, which are becoming weak from disuse.

To be intellectual is now the fashion, and anything that hasn't in it a strong mental tincture, doesn't bring much in our market.

Any magazine article is more likely to catch the eye and find a reader, if it is labelled with some psychological or metaphysical subject, and even our churches have an uneasy itching for mental rather than for spiritual nourishment. The fact is that we are growing more and more to a sharp, keen edge, rather than to breadth and solidity. And this tendency to run off on a bias—to grow one-sided, is producing an unsymmetrical development, which we shall one day pay dearly for, unless we change our tactics. The very luxuriance of the age ought to warn us of the dangers which may beset us, and against which it is wise to make some timely provision, and in my humble opinion we cannot too soon settle down and take candid counsel with ourselves about these matters.

It may not flatter our vanity, nor in any way increase the marks of respect we have been wont to pay to ourselves, but it may soften and temper our spirits, keep us within the bounds of moderation, and preserve us from the follies and calamities which have come upon other times.

I believe that the children who are now in the schools are to be a generation of marvelous readers, and we need not ever busy ourselves to whet their appetites in this direction.

Nor is it their intellectual activity that need most concern us: the times and the environments of the age will amply provide for this.

The matter that should prominently claim our attention, which penetrates most deeply into the foundation of things, is the kind of character that shall prevail among the people a generation hence.

And I mean by this, *not* that they shall hold some particular religious belief, *not* that they shall belong to some special caste in society, *not* that they shall be either princes or peasants, but that they shall be men and women of clean hands and pure hearts, with a sympathy and a charity as broad as humanity itself, and with an abhorrence and loathing of every malignant thing which would infect or taint the soul.

I have no disposition to find fault with or criticize the work that is now being done in the schools of this country. I believe that this work is better in quality, and greater in quantity than at any previous period—and yet I think that teachers as a class do not comprehend the full scope and extent of that complex and intricate something which we call education.

I am clearly of the opinion that teachers give too much thought to mental training and not enough to suppressing undesirable traits of character and to developing those which will prove real, lasting ornaments and price-less treasures to the possessors.



The faces of the men and women twenty-five years hence will unmistakably reflect the culture and the training they are now receiving in the schools, on the streets, everywhere.

It is not easy to quench an ocean of flame nor to stay the floods when they have once burst the barriers of the river.

The storms that are now agitating the social body will probably rage on until the objects of their fury are destroyed.

It is not therefore the teacher's work to combat the great, crying sins against morality and social order so much as it is to watch the germs and seeds that are now falling by the wayside and which the warmth and heat of this busy life will soon develop in characters good or bad.

Children are shrewd observers and many of them read the papers and know a good deal of what the folks in this world are doing. They know something of the shameful corruption that is said to exist in high places.

It is much easier to go the downward road to vice, when the allurements are strong, than the upward road to virtue and uprightness, and the temptations are very apt to lead one in the wrong direction unless he has been well fortified beforehand against these temptations.

The doctrine that education is the only safety of a free people has been dinned into our ears from our childhood, and it might be added with truth that even education is not a very safe kind of safety unless it is the right kind of education.

We may give our children ever so much intellectual culture and and only fit them the better for the most daring rascality.

On this subject Mr. Herbert Spencer recently made some very pertinent remarks to a representative of a New York paper. "Not lack of information," said he, "but lack of moral sentiment is the root of the evil." He spoke of the indifference of Americans to minor

violations of their personal rights, and thought that this indifference has its counterpart in equal indifference to the rights of others. In reference to this he said. "The trait I refer to comes out in various ways, small and great. It is shown by the disrespectful manner in which individuals are dealt with in your journals; the placarding of public men in sensational headings; the dragging of private people and private affairs into print." "There seems to be a notion," said he, "that the public have a right to intrude on private life as far as they like and this I take to be a kind of moral trespassing. It is true that during the last few years we have been discredited in London by certain weekly papers which do the like, but in our daily press, metropolitan and provincial there is nothing of the kind.

"Then in a larger way this trait is seen in the damaging of private property by your elevated railways, without making compensation, and it is again seen in the doings of railway governments, not only when over-riding the rights of shareholders, but in dominating over State governments and courts of justice."

What Mr. Spencer in his short stay among us has observed and pointed out as evils which threaten danger to our republican institutions, are not the only ones, nor indeed the most grave ones which are known to exist among us, and which are assuming formidable proportions, becoming bolder and more daring, compelling the attention of thoughtful men, and awakening feelings of anxiety and alarm. Money is becoming an immense power in politics, and it is a fact well known that in heated political contests, a candidate's pocket-book often controls more votes than his personal character or his political principles. There is to be found in this country a large element, and it appears to be increasing in numbers, composed of those who scruple at no means, however base or detestable, provided they can with impunity secure wealth and political influence.

The words *ring* and *barrel* are coming to have a new and rather unsavory meaning in our vocabulary, and when a candidate is selected for a high office in either

State or National Government, simply on account of his wealth and willingness to spend it to secure the success of his party ticket, surely we must admit that money is intermeddling in politics a little too freely for the good of the people.

There was a time in the Roman commonwealth, when men's votes became so cheap that they had a money value and could be bought for a price, and history relates how soon an end came to that republic. It was a degeneracy of *morals*, not of *intellects* that put an end to Rome's greatness.

Right along in this same track of evils we find the assessing of individuals in our civil service, for political purposes, a proceeding as it seems to me, exceedingly dangerous, and not to be tolerated by honest, honorable men.

There is a danger impending from another source, and one more to be dreaded because of its lurking and insidious nature, than the bribery and corruption to which I have referred.

It is more dangerous because it comes more directly at the minds of youth, because it comes in the garb of literature, because it has just such fascination as a young mind left to its own choosings, without proper directing and control is likely to be captivated by.

I refer to certain kinds of cheap literature, which are deluging the country, and which are notably unredeemed by regenerating or purifying influences. Judging from my own limited observation in school work, I am convinced that the most fruitful cause of ungovernable tempers, idleness, truancy, profanity, and other vicious propensities which cause our teachers so much annoyance, is this enervating literature, which is stealthily insinuating itself into our own homes.

I have been at some pains to examine into this matter, and in almost every case coming to my notice, I have found that this kind of reading has been infecting the pupil directly or indirectly, and I am of the opinion that there is much more of this kind of literature in and about our schools than teachers are wont to suspect.

I am aware that this subject is not a new one, that it has been talked about until it has lost its gloss and freshness, but the evil still exists, and so far as I can perceive, is not abating in the least.

There is to be found among American youth, in some localities at least, a sort of natural inclination to self-assertion manifested in various ways.

It is seen in their disregard for, and disrespect to others, especially to superiors and to older persons; a reckless independence,—an arrogance which spurns advice, tolerates no interference, asks no pardon, and listens to no reproof. These are the young Americans whom unwise or unfaithful parents have failed to restrain, and have turned them loose upon the schools to bluster and swell and to render every one uncomfortable who may chance to come into their neighborhood.

I need not stop to speak of other maladies which are known to exist and which might be set forth at indefinite length.

There are chronic, deep-seated diseases of character, which are infesting our people. I do not fear that they are going to subvert our institutions, nor do I look upon them as sure evidence of speedy dissolution in our government. They are grave evils, and to be dreaded, and unless they are met and restrained, they will grow to be a source of very serious trouble in our midst. But we have the means at hand to counteract them; means that are various and diverse in character, but having a common origin, a determination down deep in the hearts of the men and women who form the real substructure of our social organization, that probity—and every virtue which adorns and purifies our lives shall prevail among us.

Prominent among the means referred to may be mentioned our schools, public and private, this condition being observed that the teachers in these schools do not mistake their work and leave the moulding of character entirely out of their line of activity, or make it a matter of only small importance. And I do not understand how we as teachers, with any proper sense of our obliga-

tions to our pupils, can neglect this, which I conceive to be an affair of paramount importance and worthy of our first consideration.

It will prove very unsatisfactory, if not entirely fruitless, to attempt such a task—the proper development of character along with intellectual training—without some definite notion of what we would accomplish, and plan for bringing about our purposes; and we may as well at the outset put our minds at work devising ways and means.

After some plan has been outlined the instruction should conform to this scheme, for thus, so far as the teacher is concerned, he knows just where his work applies.

In any well developed plan certain obligations, incumbent alike upon all, are to be considered.

These obligations may be separated into two general classes. Those which are reflex in their nature and more particularly concern ourselves, and which in an indirect way interest those who are in any way associated with us.

Cleanliness, neatness, attention to one's personal attire, are among the cardinal virtues, and of all persons who breathe the air or enjoy the light, the teacher ought to be the most scrupulously careful of his personal appearance, of his clothing, his desk and everything pertaining to himself.

An untidy school is sure to be found with an untidy teacher, and the converse is equally true.

I wish I could sufficiently emphasize this statement, for I am convinced that untidiness or want of neatness is a germ that produces more failures in the classroom than any other one cause. Its legitimate outcome is laxness in discipline, inaccurate, weakly, slipshod scholarship, and in general a lazy, mangy school.

Another of these reflex virtues is industry. How the word abounds in good things! How it carries in its very looks hard-handed toil; patience and en-

duration under the rigorous yoke of poverty; self-reliance and a determination to succeed at any cost or sacrifice! What visions of abundant harvests, well-filled granaries, and happy homes with all their choice delights, it calls up to our minds! And how much of good or ill in the future of the children depends on how they are trained to work in school.

Here, as before, the teacher is the guiding and moving spirit; for a school will work as the teacher wills, if the teacher has the will and tact to make it. Closely allied to industry is *economy*—another word brim full of suggestive thought.

In what a variety of ways in and about the school room are the most favorable opportunities presented for impressing lessons in economy! economy in the care of books, clothing, of property of all kinds; economy in the use of time, until the child has absorbed the word with all its leagth and breadth into its very nature.

And so I might speak of contentment, moderation, or self-restraint, cheerfulness, modesty, humility, and the whole list.

But there is a second class of virtues which may be called extrinsic in their character, and which are manifest particularly in our conduct toward others.

Such terms as the following will indicate some of them: integrity, uprightness, trustworthiness, sincerity, fairness, rectitude, worth—all of which bear in the same general direction.

*Courage*, which mans us and holds us up under impending dangers; *compassion*, which makes us mutual sharers in the distresses and sufferings of our fellows; *sympathy*, that for which so many millions of our race are reaching out with longing and weariness; that for want of which the pleasures and joys which once animated many a heart have been chilled and quenched forever; that without which companionship is a burden, society a desert, and home almost a sepulchre. Time is wanting to speak of all these things.

The prospect widens with each advancing step, and the limits are not reached until we are arrive at the perfect, the complete estate of man.

The maturing and fostering of these germs of whatever is good or desirable in character so that there may finally issue a complete and symmetrical human being, whose nature has been so wrought upon that it reflects something of the lineaments of the divine image—this, I take it, is the teacher's work. There is in it a majesty and comprehensiveness to which few ever attain or even aspire.

And now a few words may not be amiss as to how this work may be best proceeded with.

And I may say negatively that we shall not make any great progress by having a particular time set apart on our programmes for general lessons on character; neither are we going to bring about any great reformation among our pupils by allowing them to catch the idea that there is somewhere lurking about a grain or two of compulsion in the matter.

We might possibly drive people to knowledge, but we shall find very up-hill work driving or lecturing them into our ideas of virtue and goodness. Except in cases of discipline we shall succeed best by keeping all ideas of compulsion entirely out of view. A suggestion of Isaac Taylor is so to the point here that I quote it. He says: "The efficacious mode of instilling moral principles as suggested by the history of nations, is at choice moments, and when all minds are in a state of gentle emotion, and in a plastic mood to drop the word or two of practical inference, to enounce the single, pithy, well digested sentiment, which by its natural affinity with the excited feelings at the moment shall combine itself with the recollected facts." There is need of forethought, and preparation, and a display of tact, so that the teacher may be ready at the opportune moment, but to the child it comes as a mere happening, an incident of the day, which he enjoys so much the more because of its fitness to the attending circumstances.

As a very helpful means of planting the seeds of moral excellence in the hearts and lives of our pupils I would mention the study of English literature, and by this I *do not* mean the study of what somebody has written about what somebody else has written, but the face to face converse with the authors themselves, without any dilution or rehandling by middle-men or second-hand dealers.

With the child's first entrance at school this work should begin and it should continue throughout his entire course, so that his *humor* may have the right bent in this matter. I have spoken of the dangers attending the reading of so much of the scum and froth which passes current in certain quarters under the stamp of literature, although, in my way of thinking, almost any other name would be more proper to the thing. But by whatever name we may call it, the question for us to settle is how we may so hedge about our pupils as to prevent the invasion of an enemy so baneful in its influences. I know of nothing so well calculated to ward off this trashy and mischievous reading as a taste so trained that it finds no pleasure in such mental revelings. If there exists already a perverse and depraved appetite for such reading, we must seek some adequate means to supplant this desire, and to beget a fondness for that which is healthful and regenerative in its tendency.

We cannot by any means compel young people to relish and take delight in a particular kind of literature by giving them our experience as evidence of its virtues and excellencies. It may be necessary to entice them by dainty morsels to seek out the most suitable occasions, and the most accessible avenues of approach, until the charm begins to fix the attention and the soul begins to rise to more substantial and more sacred communings.

I have assumed that the teacher is himself ardently in love with this kind of work ; that he finds some time every day to spend in the company of those who have won for themselves an imperishable name in the world of letters. I fear, however, that I am assuming that which is not a reality, and that too many teachers know



but little of the real pleasure and refining efficacy of such employments.

It is one of the chief functions of the school to bring pupils within a range of affinities that shall act on the better part of their natures; to bring them into fellowship with teachers in whose minds the finest and most sensitive lines of thought have been wrought, who are able to lift the veil which conceals from carnal eyes the treasured wisdom, the healthful inspiration, the deep spiritual enjoyment to be found in good books. It is in such work as this that teacher and pupil may take sweet counsel together—when the glowing eye shows the kindling of the spirit within, and there is begotten a supreme admiration for whatever shines forth exalted and lovely in the human soul.

But it is not to be expected that they who find no time for ministering to their own culture by supplying the mind with wholesome nourishment, will prove the most successful in leading their pupils into those temples and shrines to which they themselves are willingly and willfully strangers; and he who finds that he cannot win his own heart to true and loyal affection for such recreations, might as well make up his mind at once that he has missed his calling and that he can earn the substantial of life in some other way better than by teaching.

I am more and more convinced that it is from a proper study of our best English classics that there gradually comes to take possession of us and to become a substantial part of us, that genuine culture of mind and heart, which, though of slow growth, has a permanency and grace about it, which time can never efface.

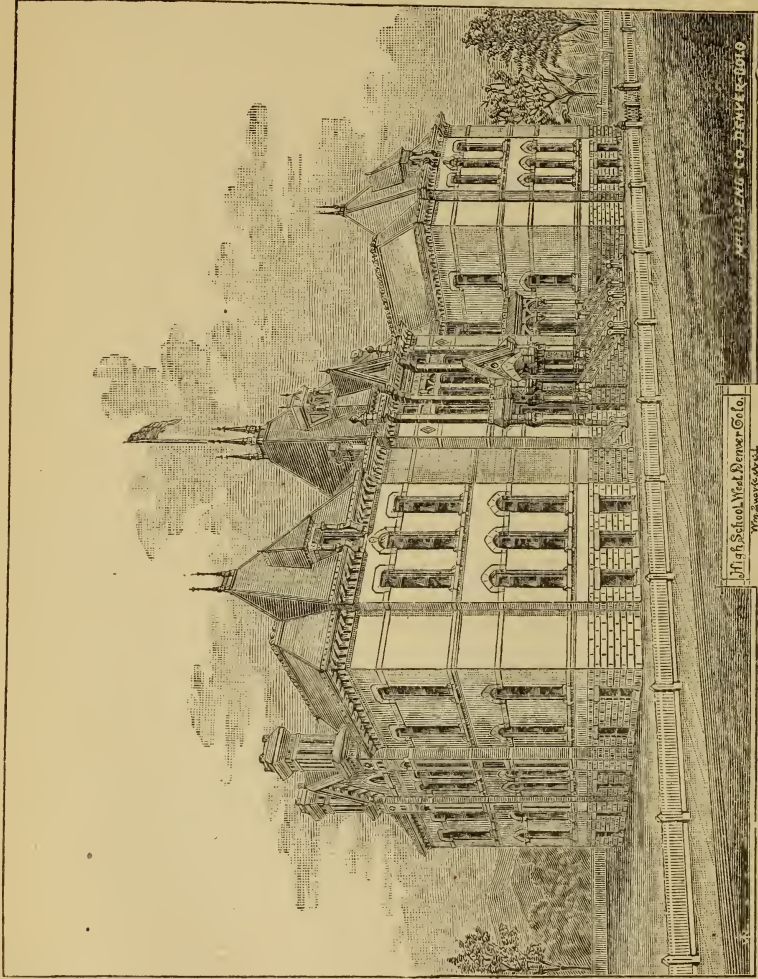
This abiding culture that takes deep root in our natures, and becomes a spring of perennial freshness and unwithering joy in the midst of all the success and reverses which fortune may place along our pathway—this, I take it, is the birthright of every child in this land of free schools and free universities.

The age of brain culture is now here. Let us hope that there is now dawning a better day—a day of brain culture and heart culture so harmoniously blended that when the pupil of the present shall stand in the full maturity of his manhood to control the world's affairs, he may be so thoroughly fitted and furnished that "Even Nature might stand up and say to all the world, 'this is a man.'"







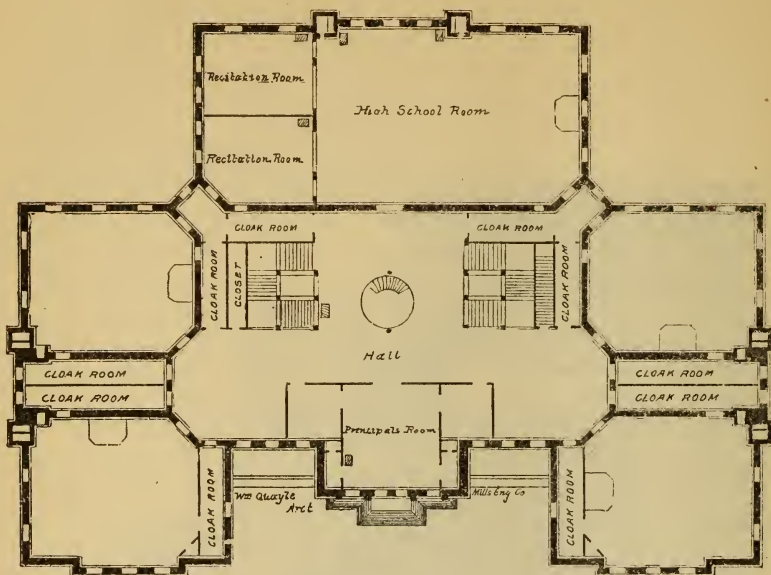


Franklin School, West Denver, Colo.  
Wm. H. Brown, Engraver

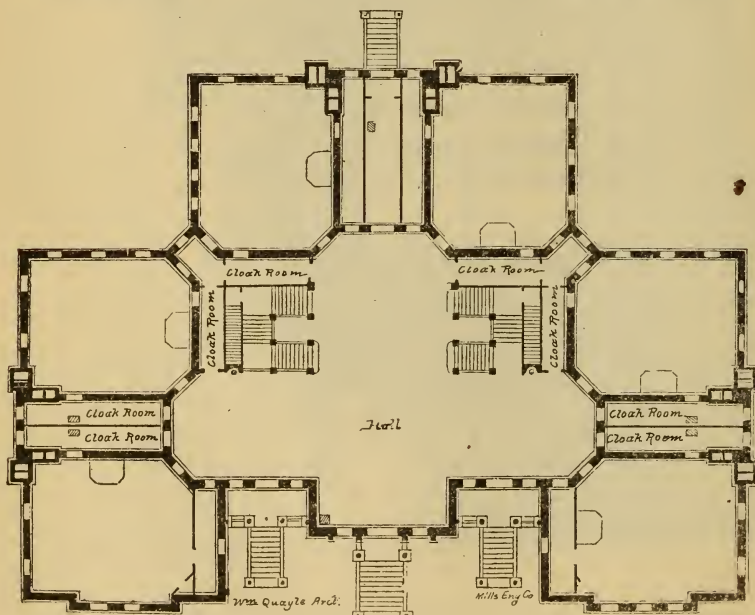
FRANKLIN SCHOOL, WEST DENVER.

Plate 1. See Page 40.





SECOND FLOOR.



FIRST FLOOR.

FRANKLIN SCHOOL,  
 Plate 2. See Page 49.

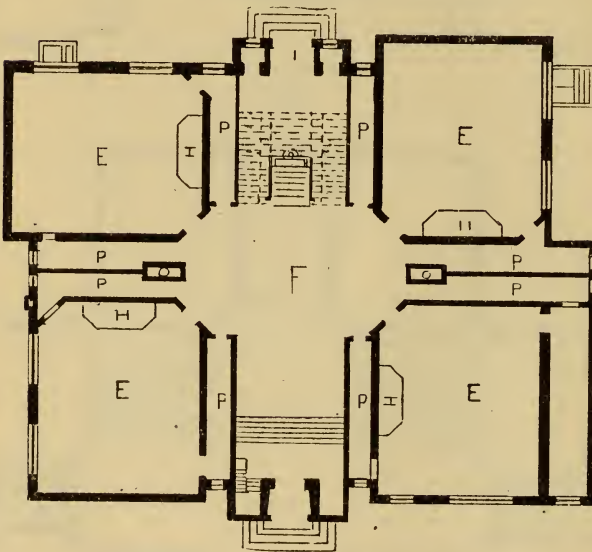




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SECOND FLOOR.



FIRST FLOOR.

EMERSON SCHOOL.

**E**—School Rooms. **F**—Halls. **P**—Cloak Rooms. **H**—Teachers' Platforms.

*Plate 3. See Page 40.*



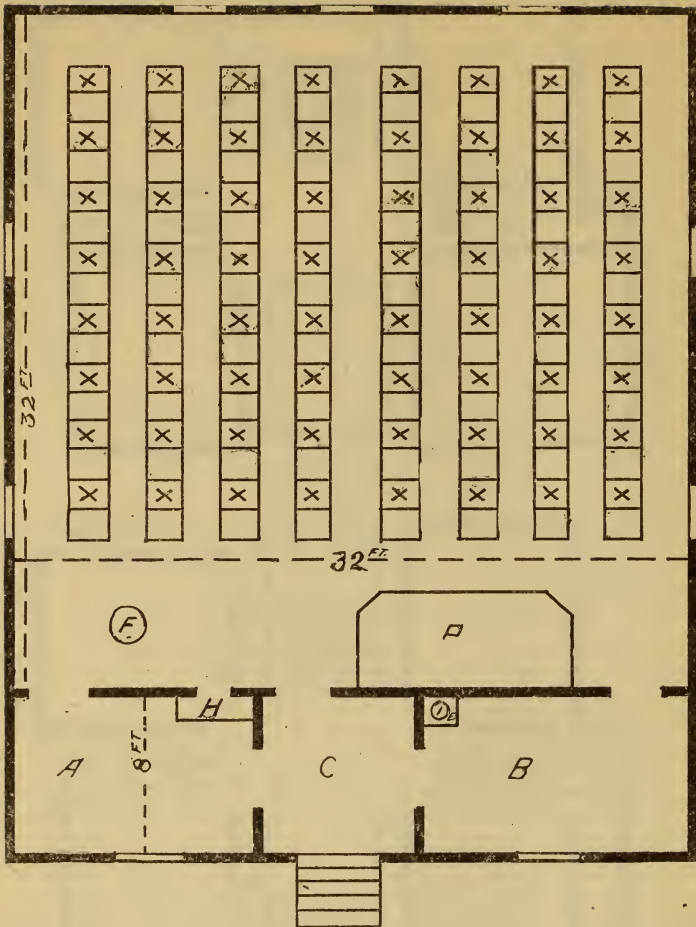


DIAGRAM OF SCHOOL ROOM WITH SINGLE DESKS FOR SIXTY-FOUR SCHOLARS.

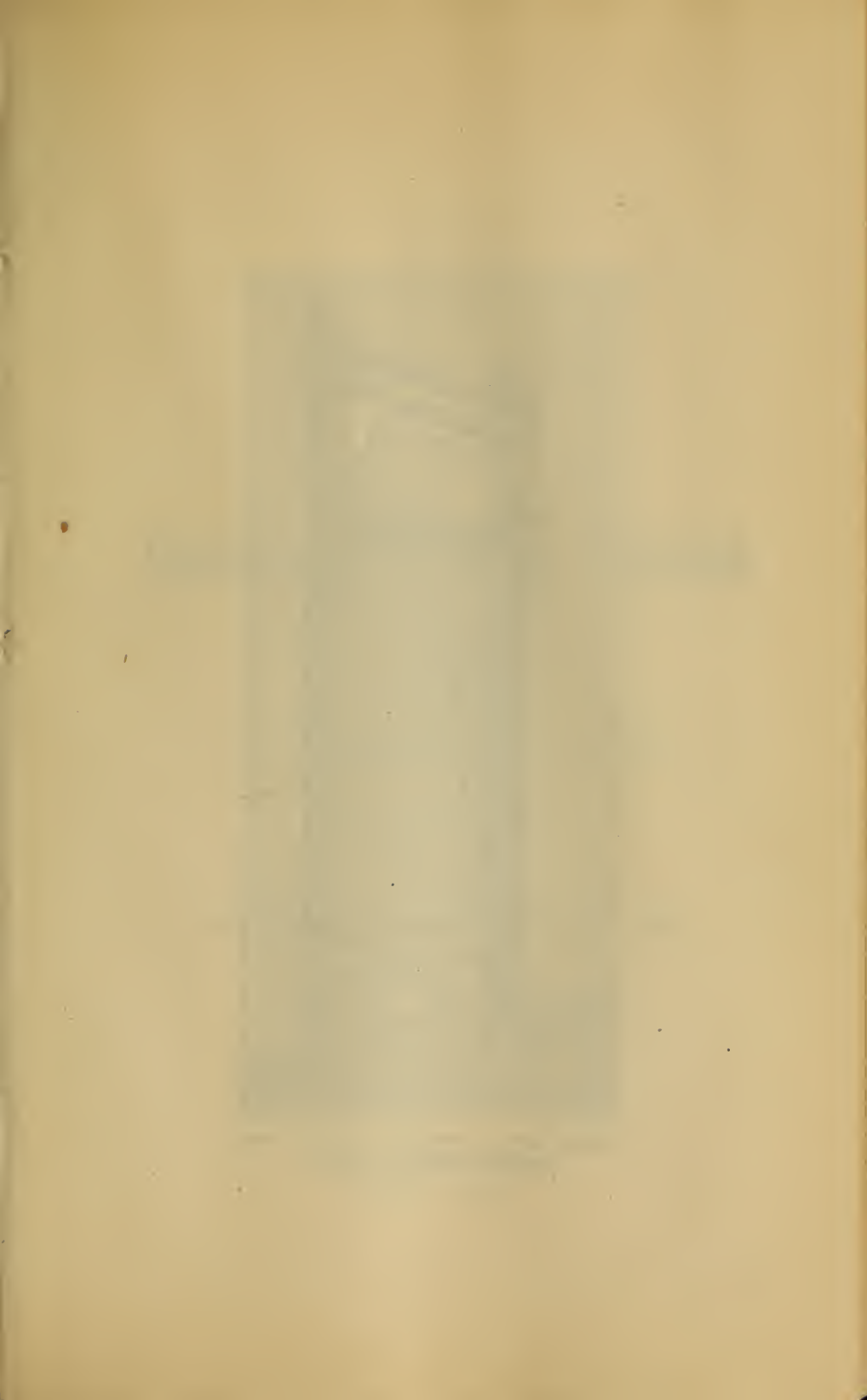
- A**—Boys' Wardrobe.
- B**—Girls' Wardrobe.
- C**—Vestibule.
- E**—Ventilating Flue.

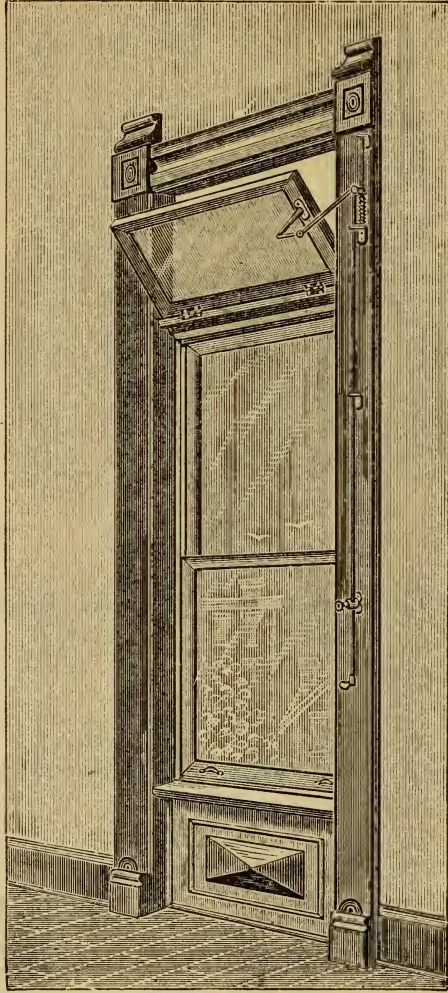
- F**—Stove.
- H**—Teacher's Closet.
- I**—Smoke Pipe.
- P**—Teacher's Desk.

Aisles between desks, 16 to 20 inches.

Aisles next to the walls and middle aisle, 24 to 30 inches.

*Plate 4. See Page 50.*





INSIDE VIEW OF WINDOW, SHOWING HOW  
TRANSOM SHOULD BE HUNG.

*Plate 5. See Page 51.*

FOURTH

BIENNIAL REPORT

OF THE

Superintendent of Public Instruction

OF THE

STATE OF COLORADO,

FOR THE YEARS ENDING

AUGUST 31, 1883, AND AUGUST 31, 1884

---

TO THE GOVERNOR.

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DENVER, COLORADO :  
COLLIER & CLEVELAND LITH. Co., STATE PRINTERS.  
1885.

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# STATE BOARD OF EDUCATION.

---

1883 TO 1885.

---

JOS. C. SHATTUCK,  
*Superintendent of Public Instruction.*

MELVIN EDWARDS,  
*Secretary of State.*

D. F. URMY,  
*Attorney General.*

---

1885 TO 1887.

---

L. S. CORNELL,  
*Superintendent of Public Instruction.*

MELVIN EDWARDS,  
*Secretary of State.*

T. H. THOMAS,  
*Attorney General.*

STATE UNIVERSITY,  
BOULDER.

BOARD OF REGENTS.

	<i>Term Expires</i>
MAX HERMAN-----	1887
JOS. C. SHATTUCK-----	1887
JAMES RICE-----	1889
L. S. CORNELL-----	1889
R. W. WOODBURY-----	1891
C. M. TYLER-----	1891

FACULTY.

JOSEPH A. SEWALL, M. D., LL. D., President.  
*Professor of Chemistry and Metallurgy.*

ISAAC C. DENNETT, A. M.,  
*Professor of Latin.*

PAUL H. HANUS, B. S.,  
*Professor of Mathematics.*

MARY RIPPON,  
*Professor of German and French.*

JAMES W. BELL, PH. D.,  
*Professor of Political Economy and History.*

W. F. C. HASSON, (Assistant Engineer U. S. Navy),  
*Professor of Mechanics and Applied Mathematics.*

J. RAYMOND BRACKETT, PH. D.,  
*Professor of English Literature and Greek.*

WILLIAM R. WHITEHEAD, M. D.,  
*Professor of Anatomy and Surgery.*

CHARLES AMBROOK, M. D.,  
*Professor of Theory and Practice of Medicine.*

JAMES H. KIMBALL, M. D.,  
*Professor of Physiology, Materia Medica and Therapeutics.*

THOMAS H. EVERTS,  
*Professor of Obstetrics and Diseases of Women.*

H. W. McLAUTHLIN, M. D.,  
*Professor of Pathology and Histology.*

GEORGE CLEARY, M. D.,  
*Professor of Ophthalmology and Otology.*

W. H. MERSHON,  
*Licensed Instructor in Music.*

EDWARD C. WOLCOTT,  
*Librarian*

# STATE SCHOOL OF MINES,

GOLDEN.

---

## BOARD OF TRUSTEES.

---

	<i>Term Expires</i>
C. C. WELCH.....	1885
JAMES T. SMITH.....	1885
FREDERICK STEINHAUER.....	1887
R. H. VAN DIEST.....	1887
E. L. BERTHOUD.....	1887

---

## FACULTY.

REGIS CHAUVENET, A. M., B. S., President,  
*Professor of Chemistry and Assaying.*

ARTHUR LAKES,  
*Professor of Geology and Drawing. Curator of the Museum.*

MAGNUS C. IHLENG, E. M., C. E., PH. D.,  
*Professor of Physics and Engineering.*

PAUL MEYER, PH. D.,  
*Professor of Mathematics.*

GEO. C. TILDEN, C. E.,  
*Assistant in Assaying.*

# STATE AGRICULTURAL COLLEGE,

FORT COLLINS.

---

## BOARD OF TRUSTEES.

---

	<i>Term Expires</i>
B. S. LAGRANGE.....	1891
W. F. WATROUS.....	1891
JOHN J. RYAN.....	1889
HENRY FOOTE.....	1889
DAVID BOYD.....	1887
OZRO BRACKETT.....	1887
R. A. SOUTHWORTH.....	1885
G. W. RUST.....	1885

---

## FACULTY.

---

C. L. INGERSOLL, M. S., President,  
*Professor of Political Economy and Logic.*

A. E. BLOUNT, A. M.,  
*Professor of Agriculture and Superintendent of Farm.*

C. F. DAVIS, M. S.,  
*Professor of Chemistry and Physics.*

ELWOOD MEAD, B. S., C. E.,  
*Professor of Mathematics and Engineering.*

JAMES CASSIDY,  
*Professor of Botany and Horticulture.*

J. W. LAWRENCE,  
*Professor of Mechanics and Drawing.*

G. C. FAVILLE, B. S., D. V. M.,  
*Professor of Veterinary Science and Zoology.*

# STATE INDUSTRIAL SCHOOL,

GOLDEN.

---

## BOARD OF CONTROL.

---

	<i>Term Expires</i>
J. FRANK GARDNER-----	1885
W. B. OSBORNE-----	1885
W. G. SMITH-----	1887

---

W. C. SAMPSON,  
*Superintendent.*

RACHEL B. SAMPSON,  
*Matron.*

A. W. EXTROM,  
*Family Father of Family One and Teacher.*

ED. L. HEALEY,  
*Family Father of Family Four and Teacher.*

I. M. SIBBET,  
*Assistant in Family One and Teacher.*

J. H. WILLIAMS,  
*Foreman of Broom Shop and Assistant.*

CHARLES A. COBB,  
*Bookkeeper.*

L. M. RHOADES,  
*Charge of Shoe Shop and First Night Watch.*

ANTONIA KLEIN,  
*Baker and Second Night Watch.*

C. M. COBB,  
*Charge of Laundry and Teacher.*

J. M. WRIGHT,  
*Charge of Kitchen and Officers' Dining Room.*

R. B. FISK,  
*Charge of Boys' Dining Room and Officers' Quarters.*

RHODA CARPENTER,  
*Charge of Tailor Shop.*

# DEAF-MUTE AND BLIND INSTITUTE,

COLORADO SPRINGS.

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## TRUSTEES.

---

DR. R. G. BUCKINGHAM, President.....	<i>Term Expires</i> 1885
CHARLES H. WHITE, Secretary.....	1885
DR. JAMES CORREY, Treasurer.....	1885

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## EDUCATIONAL DEPARTMENT.

---

D. C. DUDLEY,  
*Principal.*

H. M. HARBERT,  
A. J. LAMOREAUX,  
MRS. A. WHITCOMB,  
MISS LIZZIE KIRKPATRICK,  
*Teachers.*

MRS. C. C. WYNN,  
*Teacher of Blind Class.*

MISS M. E. CHURCHMAN,  
*Teacher of Vocal and Instrumental Music.*

---

## DOMESTIC DEPARTMENT.

---

MRS. A. O. WHITCOMB,  
*Matron.*

MISS MARY HARBERT,  
*Girls' Supervisor.*

COLLINS OSGOOD,  
*Boys' Supervisor.*

ROBERT MAGEE,  
*Engineer.*

---

## INDUSTRIAL DEPARTMENT.

---

H. M. HARBERT,  
*Teacher of Printing.*

MISS G. SUTTON,  
*Teacher of Needle-Work.*

DEPARTMENT OF PUBLIC INSTRUCTION, }  
DENVER, COLO., Dec. 10, 1884. }

*To His Excellency,*

JAMES B. GRANT,

*Governor of Colorado:*

I have the honor to transmit herewith the Fourth Biennial Report of the Superintendent of Public Instruction, for the biennial term ending August 31, 1884.

Very respectfully,

JOS. C. SHATTUCK.





# SYNOPSIS

OF THE

## Public School System of Colorado.

---

### OFFICERS.

Superintendent of Public Instruction.  
State Board of Education.  
County Superintendents.  
District Boards.

### SCHOOLS.

Ungraded District Schools.  
Town and City Graded Schools, with  
High School Courses.

### HIGHER AND SPECIAL SCHOOLS.

University, Boulder.  
School of Mines, Golden.  
Agricultural College, Fort Collins.  
Mute and Blind Institute, Colorado Springs.

### OTHER AGENCIES.

State Teachers' Association, voluntary.  
County Teachers' Association, voluntary.

### SCHOOL AGE.

Between six and twenty-one; attendance voluntary.

## STATE SUPERINTENDENT'S REPORT.

## SCHOOL YEAR.

Begins September 1, ends August 31.

## SUPERINTENDENT OF PUBLIC INSTRUCTION.

Elected by the people for two years. Has general supervision of the public schools; collects and tabulates the school statistics of the State; apportions the State school fund to the counties; gives information to school officers upon construction of school law; prepares and furnishes blanks for use of school officers and registers for teachers; visits annually such counties as most need his personal attendance, inspecting schools and making public addresses; is President of the State Board of Education and a member of the State Board of Land Commissioners; makes biennial report to the Governor in December previous to each session of the Legislature; causes school law to be published and distributed in pamphlet form; is *ex officio* State Librarian.

## STATE BOARD OF EDUCATION.

Consists of Superintendent of Public Instruction, Secretary of State and Attorney General.

Issues State diplomas to such teachers as may pass examination, after having taught successfully in the State for two years; tries appeals from the decision of County Superintendents, but cannot render a judgment for money.

## STATE BOARD OF EXAMINERS.

The Superintendent of Public Instruction, the President of the State University, the President of the Agricultural College, and the President of the State School of Mines, constitute a State Board of Examiners, having entire control of the examinations for State diplomas.

## COUNTY SUPERINTENDENTS OF SCHOOLS.

Elected by the people for two years. Compensation five dollars per day, and fifteen cents for each mile necessarily traveled, but such compensation may not exceed one

hundred dollars in one year for each school in the county; holds quarterly examinations for teachers, and grants certificates to successful applicants; apportions the county school fund to the districts; visits each district at least once each quarter while school is in session, for the purpose of inspecting the schools, advising with teachers and school officers, and examining the books and accounts of the latter, to see if the same are properly kept, and the district funds accounted for; receives reports from district secretaries and makes report annually to Superintendent of Public Instruction; hears appeals from decisions of district boards; supplies districts and teachers with copies of the school law and all needed blanks and registers; is Land Commissioner of the county.

#### DISTRICT BOARDS.

In districts of the first class: *i. e.*, those which have a school population of more than 1,000, the district board is composed of six directors, two of whom are elected annually on the first Monday in May, and hold office three years. They elect one of their number president, a secretary, who may be a member of the board, and a treasurer, who may not be a member of the board. In all other districts the board consists of three members, term three years, one elected each year. These district boards are the executive officers of the districts, which are bodies corporate, created by law.

The directors are custodians of the district property of all kinds; they employ and discharge teachers and laborers, and fix the salaries of the same; make rules for the government of the schools, and prescribe the course of study and the text books; suspend or expel pupils; disburse all school money; keep district records; take school census; report annually to County Superintendent; enforce the rules and regulations of the Superintendent of Public Instruction, and in general do all things necessary to carry on the schools.

In districts with a school population of 350 or more, the directors fix the amount of the special tax levy, if any, for school purposes; in smaller districts the question is submitted to a vote of the people, if more than 2 mills is to be levied.

The Constitution of the State provides: "That no person shall be denied the right to vote at any school district election, or to hold any school district office on account of sex."

#### SCHOOLS.

No district is entitled to any portion of the State or county fund unless it maintains a school, taught by a licensed teacher for at least sixty days in each year. In the county districts schools are maintained from sixty to one hundred and sixty days, sometimes prolonged even to two hundred days. In cities and towns the schools are from one hundred and twenty (in a few) to two hundred days in length; those in which is enrolled a majority of the pupils of graded schools are in session at least one hundred and ninety days; while those in which is enrolled a majority of the pupils of ungraded schools are in session about one hundred days.

All the graded schools have a High School course open to all, while Denver is the only city sufficiently populous as yet to require a High School with a full and entirely distinct faculty.

#### HIGHER AND SPECIAL SCHOOLS.

Separated, as the people of Colorado are, by so many miles and so much cost of travel, from the institutions of learning in the older States, they early saw and felt the necessity of providing for the advanced education of the youth of the State at home, since the majority are effectually debarred from attending elsewhere.

Out of this necessity sprung the University at Boulder, the Agricultural College at Fort Collins, and the School of Mines at Golden, all supported by the State; all, of course, yet in their childhood, but all vigorous and promising, in charge of teachers of experience and skill, and with courses of study which compare favorably in breadth and thoroughness with similar institutions in the older States.

The University is controlled by a Board of Regents, six in number, two of whom are elected biennially by the people.

The boards of management for the other institutions are appointed by the Governor.

A tax of one-fifth of one mill is levied by the State for the support of each.

#### REFORMATORY INSTITUTIONS.

The State Industrial School at Golden is a reform school for boys. It has been managed from the first on the modern family plan, nothing prison-like in its appearance or its discipline, and its success has been gratifying.

#### SCHOOL REVENUE.

The Public School revenue of Colorado is derived almost exclusively from taxation. In common with other new western States, she has a land grant of sections sixteen and thirty-six in each surveyed township, but so large a portion of these fall upon arid lands that the grant is of little aid to our school fund. The statute provides for the annual levy of a county tax for school purposes of not less than two nor more than five mills; this, with the proceeds of penal fines constitutes the county school fund. To this is added whatever may be received from the State fund, which, during the past year, has amounted to sixty-one cents per capita of the school population. For the year ending August 31, 1884, nineteen counties levied the minimum rate, and of the remaining twenty which exceeded it, two reached the maximum.

The State fund will be materially increased hereafter by the amount received from the Insurance Department.

In many States there is a "Teachers' Wages Fund," which cannot be used for any other purpose. There is no such fund known to the laws of Colorado. What is known as the "General Fund," derived, as above stated, from the county tax, from fines and estrays, and from the State fund, is available for all legitimate expenses of the district, except purchasing sites, erecting and furnishing buildings, making permanent improvements or betterments. The proceeds of a Special School tax, when collected, are practically added to the General Fund, because available for precisely the

same purposes. The excess of the Special Bond tax, if any, after paying the interest coupons due, can be used for the same purposes. None of these moneys can be used for building, enlarging or furnishing school houses, or purchasing sites, except the unexpended balance remaining to the credit of the district any year, after paying the expenses of a ten months' school for that year. Repairs rendered necessary by the ordinary wear and tear of the buildings can be paid from this fund. If a district is to build, enlarge, furnish, or purchase site, it must tax itself for that purpose. There is no statutory limit to the rate of taxation which a district may vote, either for school or building purposes, and in districts of first and second classes it is the duty of the board to fix the rate, and the board may also order the levy of one-tenth of a mill to be expended for a library.

SUGGESTIONS  
FROM  
COUNTY SUPERINTENDENTS.

---

DELTA COUNTY.

GEO. H. MERCHANT, *Superintendent.*

The school interests of Delta county are rapidly increasing. The districts have increased in number from 3 to 8 since my last annual report. During the year there have been 4 schools in session; one 7 months, two 6 months and 1 three months. District No. 1 has voted \$7,000 bonds for the purpose of building and furnishing a school house. It will be located at Delta, the county seat, will be of brick, and will be built and furnished in modern style. In the districts recently organized, none of them have less than 17 persons of school age, and all expect to have school the coming winter. We find that the maximum rate of taxation as fixed by law—5 mills—for the general fund will not support schools in these new districts as long as the people desire. If the maximum were fixed at 10 mills, and the rate then left to the judgment of the county commissioners, the needs of the people in sparsely settled counties would be better served.

---

CHAFFEE COUNTY.

JOHN G. HOLLENBECK, *Superintendent.*

School District No. 14 has completed a fine brick house this year. The Salida district is building one, and it will be ready for occupancy about December 1st. District No.

16 expects to build next year. The teachers in this county have held no institute this year. It seems to be an impossibility to get 25 teachers to even promise to attend on account of the expense. It is probable that a teachers' association will be formed during the holidays, the expense attending it being small on account of the shortness of its duration. I have been unable to attend to my official duties as I should have done, on account of the expense and the low price of county warrants. I think it is not right for county superintendents to work for nothing and board themselves. The school district officers of this county are generally good business men, and are careful not to employ incompetent teachers, frequently consulting with the superintendent before hiring them. During the year four new districts have been organized, viz.: One at Monarch, No. 21; one at Calumet, No. 22; one at Divide, No. 23; and one near Salida, No. 24, the latter having been organized since September 1st.

---

### CUSTER COUNTY.

ARTEMAS WALTERS, *Superintendent.*

Most of the schools in this county during the past year have been ably conducted by a class of teachers well qualified for their work, and many of them are using the latest methods and text books in their schools, while every teacher in the county reads one or more educational journals. Some of the districts are very large and sparsely inhabited, hence some of the pupils have a great distance to go to attend school, making the attendance in such districts very irregular and the average small. Without a special tax for school purposes, thinly populated districts cannot maintain a school longer than 3 months in a year. Other districts, by levying a special tax, maintain a school from 6 to 10 months in a year, and have some very fine and well furnished school buildings, which are a credit to the people who have built them. All districts in this county but two have school houses, and those two use very comfortable rooms, the use of which is donated. We are taking steps towards holding a teachers' institute the



coming year. I have visited every district in the county several times, and found a lively interest manifested in regard to schools, and the holding of longer terms. It has been my endeavor to foster and increase the interest among the people, and above all, to have teachers in charge of our schools who understand their business, and who *teach* instead of *keep* school.

---

### ELBERT COUNTY.

S. J. STID, *Superintendent.*

I am in hopes the Legislature will appropriate Elbert county enough money to hold a teachers' institute at least one week every year. Our schools are in rather a backward condition for this age of rapid progression. We have just organized a graded school at Elbert, which will undoubtedly be a success.

---

### EL PASO COUNTY.

B. A. P. EATON, *Superintendent.*

I think section 16 of school law should be so amended as to require school boards in districts of the first class to hold examinations for teachers who expect to be employed in said districts, on or about the 10th day of June in each year; and that said examination shall be conducted just as the county examination is; the district secretary to report the result to the county superintendent upon blanks prepared for that purpose within ten days after said examination closes. Also an additional clause to section 61, forbidding members of the several school boards from drawing warrants on the county treasurers in favor of themselves, except for their pay as members of the board. Also, another, prohibiting members of school boards from contracting to build or furnish school houses.

## GUNNISON COUNTY.

GEO. B. SPRATT, *Superintendent.*

A marked improvement has been perceptible in the educational work during the past year. Notwithstanding the hard times, several new school houses have been built, one at a cost of \$8,000; another, a frame, in course of erection in district No. 3. One new district organized since last report. There has been an increase in the school population of over five per cent.; in the "average daily attendance" of ten per cent. Teachers are doing good work. Although the directors are doing more to promote the interests of education in their districts than heretofore, I regret very much to say that most of them have been extremely tardy in sending in their annual reports, as required by law. A large majority of those reporting were incorrect. I have been compelled to go to a number of districts and make out their reports myself, which has consumed time and caused a great deal of unnecessary expense and trouble, therefore I hope you will excuse the unavoidable delay, on my part, in not reporting to you at an earlier day. District officers experience no little inconvenience in the matter of settling up and keeping a correct cash account with county treasurer, for the reason, when they are about to create an indebtedness or issue an order for the payment of the same, they are at a loss to know just what amount of cash on hand, etc., until the close of the year, because the law does not require the county treasurer to render a statement of balance on hand each quarter, but simply to report the amount collected. Most school officers are, therefore, apt to overdraw their accounts. I think the school law of the State should be revised so as to place the funds, as fast as collected, in the hands of the district treasurer.

## HUERFANO COUNTY.

A. H. QUILLIAN, *Superintendent.*

I am satisfied that there is a constant improvement in school work in this county. New methods are being

adopted in some of the schools with marked success. There is also a growing disposition to house the schools. We have in this county a large per cent. of Mexican children—in a few districts the school population is entirely Mexican. With this class of people there is a very decided improvement in the interest evinced by the parents concerning the education of their children.

---

### LARIMER COUNTY.

W. H. McCREERY, *Superintendent.*

In addition to the tabulated annual report this day forwarded, I would submit the following items in regard to the progress of school work in this county during the past two years. In that time the number of districts has increased from 26 to 35, while the increase in school population has been only about 14 per cent.; in the valuation of property in the county about 36 per cent. The increase in the value of school buildings has been more than 50 per cent., while the amount received by the schools from the general and special funds, together, has increased from \$10,782.96 in 1882, to \$23,590.10 in 1884, an increase of over 100 per cent. The liberality with which the people vote and pay heavy taxes, in some cases as high as 35 mills on the dollar, for building houses and maintaining schools, shows that the work of education occupies no second place in their hearts. As a class our teachers are devoted and earnest. In August, 1883, I organized a normal institute, which continued in session two weeks, with very satisfactory results. In this work I acknowledge gratefully the help received from yourself and from professors of the University, Agricultural College, and others. In August of this year a similar session was held. To make these Normal institutes what they should be we need State help. These sessions were attended by about three-fourths of the teachers employed in the county, although the attendance was entirely voluntary on their part and at their own expense. You will notice that the average salary of female teachers in the ungraded schools of the county is a little

higher than that of males. And so the world moves. May the system of school we are building up help to move it right.

---

### OURAY COUNTY.

P. H. SHUE, *Superintendent.*

I suggest that the school law be so amended as to make it the duty of the county judge (or commissioners) to appoint an assistant to the county superintendent in holding quarterly examinations of teachers, whose duties and powers shall be equal to those of the county superintendent in examining and grading the answers of applicants. It might do away with much irregularity in issuing certificates. The law is now plain enough, but it is sometimes evaded.

---

### PUEBLO COUNTY.

A. Y. HULL, *Superintendent.*

The public schools in this county during the past year were largely attended, and notably successful both in cities and country. The schools of Pueblo, under the superintendency of J. S. McClung, and those of South Pueblo, under F. B. Gault, will take rank with the best in the west; while the schools in the country have had the advantages of superior teachers as a rule, and the work has been very gratifying. All of our schools in the city and country, with few exceptions, have re-employed the superintendents and teachers of last year, which is a sufficient guaranty of a successful school year.

---

### RIO GRANDE COUNTY.

SIGEL HEILMAN, *Superintendent.*

I predict more improvement in the educational work of this county during the coming year, than during any

time in its past history. The better elements of society are rapidly settling in our little county, and they have already made their interest and influence felt in our educational work. The assessable property of the county is greater than ever before, and the school boards are using more care in the application of school funds and the selection of teachers. The district boards favor the regulation of teachers' wages by the grade of certificates; and also, the adoption of a uniform series of text books. They will give their support to a measure for having all school books furnished by the State.

NOTE.—See remarks elsewhere on text books.

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## SAGUACHE COUNTY.

W. E. WHITE, *Superintendent.*

Educational facilities in the way of new buildings, furniture and improved apparatus, have been greatly increased during the year, and the efficiency of our schools has been much enhanced by the services of a higher grade of teachers, and the wider interest and effort on the part of patrons, and yet for the money expended the schools are not what they should be. Some of the districts lacked the small amount of interest necessary to elect a board of directors at the last election, and others elected men possessing so little interest in educational matters that they failed to qualify. Many of the districts possess no maps, globes or charts, all of which are indispensable to the highest success of instruction. The influences of relationship, friendship, or other extraneous circumstances, rather than true professional merit, has governed too often in the selection of teachers, who should be employed only because of fitness for the work. In order that our schools may be highly successful, patrons should take the deepest interest and see that only men who are qualified and will perform their duties are elected directors. Directors should pay teachers as high wages as possible, in order that they may fit themselves for the difficult duties of their profession. Patrons, and especially directors, should sup-

port and encourage teachers when they are doing their duty, and if they are *not* performing their duty and attaining reasonable success, they should be promptly discharged. School boards will find that to attain the highest success, good maps, globes, charts and blackboards are indispensable, and the final result will justify their purchase, even if it is found necessary to shorten the school term. Text books are being rapidly improved and should be changed as often as possible compatible with justice to those who buy. Teachers of proved ability and success should be retained in the same school as long as they are successful. Much valuable time is lost by the frequent change of teachers. Factional quarrels should never be permitted to interfere with the proper management of the schools. Permits, as well as certificates, are now issued only upon the strongest evidence of ability, and the grade of teachers is being raised as rapidly as possible.

Our State statutes in regard to teachers' institutes do not provide the assistance that our teachers should have. Many of the counties that are making an earnest and faithful effort to make the influence of the public schools felt in every home, have not twenty-five teachers to attend an institute; and a term of two weeks is too long, because entailing too much expense upon teachers whose work is limited to a few months in the year.

An interchange and candid discussion of methods of instruction and discipline is the greatest utility of a teachers' institute, and this can be accomplished perhaps nearly, if not quite, as well in two or three days as in two or three weeks, and with much less expense. We suggest that State aid should be given to procure competent and progressive instructors in new and improved methods of instruction and discipline, and whatever aid possible to maintain a live, energetic institute for a period of two or three days every fall in each county of the State; and we are satisfied that the increased efficiency of our schools would more than compensate for such expenditure. The profession of teaching, with a few individual exceptions, has grasped only half of its power for true advancement. The great majority of our teachers only increase power, without giving that power right direction. The teacher is truly successful—the country is truly safe—the future is truly secure, only when

principle and intelligence are wedded together; and it is cheaper and less dangerous for the Nation or State to pay good teachers and furnish means to that end, than to support the products and effects of moral and mental ignorance.

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### SUMMIT COUNTY.

B. A. ARBOGAST, *Superintendent.*

Our county is fast emerging from the chaotic condition incident to a floating population. All our school boards have wisely consented to the adoption of a uniform system of text books. Our teachers and school officers are all working harmoniously, hence we look forward to a year of as prosperous school work as our limited finances will permit.

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### WELD COUNTY.

A. K. PACKARD, *Superintendent.*

I have secured, in seven or eight school houses, better arrangements as to light, ventilation and entrances, than were to be found in the county before. One hindrance to the best success of some of our schools is the carelessness of school boards in taking for teachers, simply because they apply, persons of whom neither they or any known to them, have knowledge, when they might easily obtain those of whose qualifications and successful experience they are or may be assured. Sometimes boards neglect to engage a teacher till they wish school to begin. Again, many boards, paying a teacher good wages, never have any personal knowledge of the teacher's work, and so sometimes a really good teacher gets an ill reputation in a district, and a poor one is counted successful. In the former case the testimony of incapable and prejudiced or malicious pupils is taken without examination. In the latter the teacher has not given offense, and though inefficient, ignorant and unapt, the trustees commend the teacher by saying, "we hear no complaint."

I would beg leave to renew, or repeat, the suggestion in my last year's report, that the State should provide, by the appointment of a commission, or otherwise, to insure that no school house, great or small, should be built without certain conditions to secure sufficient and the best light and proper ventilation, for the lack of both which most of our teachers and scholars suffer, some consciously, but most without thought of it, and all wrongfully.

Is it not possible, and desirable, to lighten the burden that oaths and bonds lay upon school officers? In a county like Weld, in portions thinly populated, it is quite a serious question. One secretary wrote me that he could not swear to his report without a journey that would cost \$7.50, besides the time required, and the time is quite an important consideration in a busy season. A secretary has told me of going to a not near neighboring town to swear—of going the third time before finding the necessary notary or justice. It vexes the secretary to be at so much trouble to swear that he will do his duty, and then, every time he returns a census list or report, to go again to swear that he has done his duty. If he must make oath when he takes office, might not his certificate be sufficient for his census list and report? Treasurers sometimes grudge the time and trouble and expense of swearing and giving bonds for the delivery of their record book and copy of school laws to their successors.



REPORT  
OF  
Superintendent of Public Instruction.

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There has been so marked an improvement in county reports for the present year, that the statistical tables for 1884 are the most reliable ever published for this State—in a number of the items, are reliable for the first time, as I believe, since educational statistics were collected in this State or Territory. This is due, in part, to the fact that the people are becoming familiar with the working of the school law, which has been subject to modifications rather than to radical changes since 1876, and the modifications have, for the most part, been to secure greater simplicity in the machinery necessary in district organization and management. It has been of advantage to the people that all changes in the law since it was enacted by the first General Assembly of the State, have been in the shape of amendments to the various sections of the original law, and not by separate acts. The State Constitution wisely provides that when any section of a law is amended the entire section must be re-enacted as amended, hence the school law of Colorado is complete in itself and does not require a digest.

The financial part of the county reports is now made with a near approach to absolute correctness. This is the result of the provision of law which keeps the district funds in the county treasury, from which it is paid out for the lawful expenses of the district, and the further provision requiring the county treasurer to report at the close of the school year to each district secretary the cash received, and paid out during the year on account of his district, and also to send to the county superintendent an abstract of the reports to the districts. This method enables the

county superintendent to detect and correct any errors in district reports, and to make his own report to the Superintendent of Public Instruction correct, as it could not be by any other plan yet devised.

Some few district officers still object to the provision of the present law which makes the county treasurer the custodian of the district funds, instead of the district treasurer, as formerly. I have made diligent inquiry wherever complaint has reached me, and have never found anything more serious than a little inconvenience, which is disappearing as the people become familiar with the present method. It is apparent to all thinking people, that the school funds are safer in the hands of one man, who is almost sure to be a skilled accountant, and behind whom is an ample bond, than it is when parceled out among ten, twenty or forty men, a majority of whom have little skill in accounts, and whose bonds, being in most cases for small amounts, are apt to be found worthless when put to the test of the courts. A well known citizen and banker, who has been treasurer of his county a number of terms, tells me he has repeatedly seen the three district officers come to his office, and, after receiving the district funds from the county treasurer, *divide the money between themselves before leaving the room*, making no pretense of accounting for it. This is, of course, an extreme case, but every year money was lost to the schools, at different points. It was loaned on insufficient security; being in small amounts it was mixed with the treasurer's personal funds, and no account kept but his memory, hence at the end of the year, a report that contained any information of value was an impossibility; and so in one way and another, here a little and there a little, in all a large fraction of the school fund of the State never benefited the schools. Such leaks are well nigh impossible under the present law, and as a matter of fact are stopped.

#### EXAMINATION OF TEACHERS.

In 1877 questions for use in the quarterly examinations of teachers were sent from this office to all county superintendents. From that time till 1881 the use of these uniform questions was tentative and voluntary, but so satisfactory

that it was then incorporated into the law and made compulsory. It comes as near giving universal satisfaction as it is possible for any system which touches so many individuals. As the method of our examinations, and the rigor with which they are conducted, are matters of interest to very many people, at home and abroad, I publish the circular sent to county superintendents, rules to be furnished each applicant, and the questions used at one examination. The purpose of uniform questions would be but half accomplished unless there were also some approach to uniformity in the manner of using them and the grading of the answers. As the suggestions of the circular have been very generally followed, this publication puts the Colorado county examination clearly before the reader :

OFFICE OF SUPERINTENDENT OF PUBLIC INSTRUCTION, }  
DENVER, COLORADO. }

*Circular to County Superintendents Concerning the Quarterly Examination of Teachers :*

GENTLEMEN: By virtue of law I am now required to prepare questions for your use in the quarterly examination of teachers. In sending these questions I desire to make the following suggestions as to their use :

These questions will be forwarded to you in sealed packages. I recommend that you open them on the morning of the examination, in the presence of the applicants. There is work for two days of five or six hours each of the average applicant, and I recommend a two days' session, at least in the more populous counties. Applicants should have time to do themselves justice. Let it be understood by all, that to receive a certificate, the applicant **MUST DO THE WORK** at the time and in the manner prescribed for all. If one can do it in half a day, well—but let it be known that a certificate will *never* be given for a part of the work. Absentees must take the consequence of their own misfortune, however imperative the cause of their absence. This is not given as a rule, but merely the plain statement of a fact.

By dividing the slips you can give out half a day's work at a time, and I urge this plan as much fairer to all than giving the topics singly, as some will gain time in one branch, others in another ; but no applicant should be allowed to leave the room after seeing any questions, until such questions are answered, that there may be no opportunity or temptation to consult authorities.

The topics are numbered from one to twelve. For the first day use Nos. 1 to 6 inclusive; second day, Nos. 7 to 12 inclusive. Take up questions and answers promptly at expiration of each session. If you wish an oral examination, take sufficient time for that and for reading before or after the time allotted to the session.

Do not take a *minute* of the session for general exercises, or *talk*, or allow any one else to do so.

Take such *further time* as you wish to satisfy yourself as to the moral character of all applicants, and as to their experience in and aptitude for the business of teaching, and also time to give such counsel concerning their duties as you may think helpful.

For marking the applicants divide the topics into two groups: First group, Nos. 1, 2, 3, 5, 6, 10, 11 and 12; second group, Nos. 4, 7, 8 and 9. Give certificates as follows:

#### FIRST GRADE CERTIFICATE.

First Group—Average 90 per cent.; no branch below 75 per cent.  
 Second “ “ 75 “ “ “ 60 “

#### SECOND GRADE CERTIFICATE.

First Group—Average 75 per cent.; no branch below 60 per cent.  
 Second “ “ 60 “ “ “ 40 “

#### THIRD GRADE CERTIFICATE.

First Group—Average 60 per cent.; no branch below 50 per cent.  
 Second “ “ 50 “ “ “ 40 “

NOTE—A third grade certificate must not be refused on account of a failure in the Natural Sciences.

File and retain all answers, for your own protection. Number the applicants, but take no names.

Give each a blank envelope and paper sufficient for the work. Examine and grade all papers by number before opening the envelopes to learn the names. (If you can get a committee of competent persons to examine and grade the papers, it will guard you still further from any charge of unfairness, which disappointed applicants are apt to make.)

A high degree of practical success in teaching should be accepted as a sufficient reason for issuing a certificate of a higher grade than is warranted by the percentage upon examination, and inexperience or want of success should lower the grade of the cer-

tificate given, while failure as a teacher might be so marked as to make it your duty to refuse a certificate, whatever the percentage obtained.

I earnestly recommend that certificates of the first grade be given only to teachers who have earned it by success in the school room as well as at examination. I also recommend the addition of ten to the grade earned on Theory and Practice, for the regular reading of some good educational periodical, or of one or more reliable books upon the subject.

Refuse certificates to applicants of whose moral character you have a reasonable doubt.

Please report to me as soon as convenient after your examination, on the blanks furnished for the purpose, giving the names of all applicants.

Preserve these instructions for future reference.

Take great pains that none of the questions go out of your hands until the end of the quarter.

No private examinations are lawful, except for temporary certificates, valid only till next public examination.

Respectfully yours,

JOS. C. SHATTUCK,

*Superintendent of Public Instruction.*

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#### RULES FOR THE CONDUCT OF THE EXAMINATION.

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(This slip is given to each applicant with the first questions.)

- \*1. Provide yourself with a lead pencil.
2. Write your name, age, nativity and postoffice address on a slip of paper, and answer the following questions:
  1. How long have you taught, and where?
  2. In what school or schools were you educated?
  3. What educational papers or journals do you read regularly?

Place the answers in the envelope, seal it, and put your number, but not your name, on the back.

3. Take a different paper for each branch, write the subject and also your number at the head of each paper, and write on but one side of the paper.

4. Number your answers to correspond with the questions, but do not repeat the questions.

5. Read all the questions on a topic before answering any of them.

6. All communication during examination is absolutely forbidden.

7. Do not take the questions from the room. Any applicant who violates this rule will forfeit all right to a certificate.

8. When possible, abbreviate. Give short but complete solutions to arithmetical problems.

9. Ask no questions. If you have doubts as to the meaning of any question, let them be submitted in writing, so that the Superintendent may examine them when he examines the answers to the questions.

10. Omissions will be considered as failures, and in estimating your rank the general appearance of the papers as well as the correctness of the answers will be considered.

\*If the Superintendent conducting the examination prefers to have the work done with pen and ink, he will provide them.

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QUESTIONS USED AT QUARTERLY EXAMINATION OF  
TEACHERS, THIRD QUARTER, 1884.

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1. ARITHMETIC.

Indicate the working of problems. No credit for mere answers.

1. On what principle does cancellation depend? 10.
2. Name the different kinds of common fractions, and illustrate by examples. 3 off for each omission.
3. Reduce  $\frac{2\frac{1}{2} \text{ of } \frac{4}{22} \text{ of } 5}{8\frac{1}{4} \text{ of } 12}$  to a simple fraction. Proc. 5, ans. 5.
4. How much will  $13\frac{1}{3}$  tons of hay cost at  $\$17\frac{1}{2}$  per ton? Proc. 5, ans. 5.
5. If  $36\frac{2}{3}$  acres yield 637 bushels of wheat, at the same rate what will  $5\frac{3}{4}$  acres yield? Proc. 5, ans. 5.
6.  $(.049 \times .00049) \div (.049 - .00049)$ ? Proc. 5, ans. 5.
7. What is the cube root of 12.812904? Proc. 5, ans. 5.

8 and 9. A commission merchant receives 24,000 pounds of pork, worth 6 cents per pound, and \$3,000 cash, with instructions to invest both in United States 5-20s at market rates. He charges 5 per cent. both for selling and investing. What is the amount of his commission? United States bonds are that day quoted at 108 $\frac{3}{8}$ , and none are to be had of a less denomination than \$50. How much does he invest, and what balance remains in his hands?

Proc. 10, ans. 10.

10. I wish to borrow \$400 from a bank for 30 days. What must be the face of my note when discounted at 6 per cent. that I may receive this amount?

Proc. 5, ans. 5.

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### 2. UNITED STATES HISTORY AND CONSTITUTION.

1. Give an account of the Stamp Act. 10.
2. In what year, where, and by what American Commissioners was the treaty of peace at the close of the Revolutionary War negotiated? 3 off for each error.
3. During whose administration did the War of 1812 occur, and what battle terminated it? 2 pts. 5 each.
4. Name the Presidents in their order, that filled the office for eight years? 5 off for each error.
5. Name the nationalities that made early discoveries in America, and the parts of the country discovered by each. 3 off for each error.
6. Give the boundaries of the United States at the close of the Revolutionary War. 10
7. What are the qualifications required by the Constitution for a Representative? Senator? President?
8. What bills must originate in the House of Representatives? 8.
9. What is the substance of the Thirteenth Amendment to the Constitution? 10.
10. What part of Colorado formerly belonged to Mexico? 10.

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### 3. READING.

1. What particulars are embraced in the general term "Expression?" 10.

2. At what point in a child's reading do you first insist on proper expression? 10.

3. How many inflections are there? Name them, and show how they are indicated in books? 4 off for each error.

4. What inflection is used to express irony, sarcasm, derision and contempt? 4 pts. 3 each.

6. Read the following sentence so that it will make a temperance speech and an anti-temperance speech: 8.

"The person who daily uses intoxicating liquor, if he does not become a drunkard, will be in danger of losing his health and character."

6 to 10. Read selections from Independent Sixth reader:

First, from "The Rim of the Bowl," page 255.

Second, from "Eloquence," page 325.

If this reader is not at hand, examiners will make other selections to test applicants in both prose and poetry, and give the last five credits according to the degree of proficiency shown.

#### 4. PHYSIOLOGY AND LAWS OF HEALTH.

1. Name the subdivisions of the heart, and give the office of each. 10.

2. Describe the lungs. 10.

3. What is ventilation, and on what does it depend? 10.

4. Define absorption, and explain the process. 2 pts. 5 each.

5. Describe the ear, and state how the sensation of sound is produced. 10.

#### 5. PENMANSHIP.

1. What is meant by principles? 10.

2. What is the object of the study and practice of principles in learning to write? 10.

3. In what way may the teacher assist the pupil in obtaining a clear conception of the forms to be written? 10.

4. Write the loop letters. Write the letters composed of the first and second principles. 5, 5.

5. Analyze a, m, h, y, d. 5 pts., 2 each.

NOTE—Your writing in answering the above questions will be taken as a specimen of your penmanship, and marked 0 to 50.



## 6. ORTHOGRAPHY.

1. How many syllables are there in every word? 10.
2. How many elementary sounds in our language? 10.
3. What is the rule for "e" final when suffixes are added? 10.
4. Give directions for the use of capital letters. 10.

5, 6, 7, 8. Write the following words, and make all the corrections necessary, and mark the accent: Antilope, caff, cammell, iknuman, exchecker, lovable, secrecy, sibel, irascible, sintilation, susceptibility, cirsingle, intelligible, meretricious, tranquility, sendent. 0 to 20.

## 7. SCHOOL LAW.

1. In what manner is the revenue raised for the support of the public schools of this State? 20.
- 2, 3. To whom must the teacher make reports; and what is the penalty for failure in this duty? 40.
- 4, 5. How many persons obtain a State diploma in Colorado, and what is the character of such diploma? 40.

## 8. BOTANY.

- 1, 2. Name the two grand divisions of Phenogamia or Flowering Plants, and give the leading characteristics of each. 40.
3. Define Inflorescence? Dehiscence? 2 pts. 10 each.
4. Point out the distinctive characteristics of herbs, shrubs and trees. 10.
5. What is a weed? An exotic? 2 pts. 10 each.

## 9. OTHER NATURAL SCIENCES.

1. What is science? 10.
2. Define Solids and Fluids. Inertia. 3 pts. 2½ each.
3. What is Newton's Universal Law of Gravitation? 10.
4. Define Organic Chemistry. Inorganic. 2 pts. 5 each.
5. How many chemical elements in nature? 10.
6. Give the leading characteristics of Mammalia. 10.

- 7, 8. Define Fragmental Rocks, Metamorphic Rocks, Calcareous Rocks and Igneous Rocks. 4 pts. 5 each.
9. Describe the Solar System. 10.
10. Who discovered the exact shape of the planetary orbits, and what is his first law? 2 pts. 5 each.

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10. GRAMMAR.

1. Give all the participles in both voices, of the verbs "to win" and "to lay." 10.
2. Write a complex sentence in which the subject and predicate are each modified by a clause. 10.
3. State the difference between ellipsis and abridgment, and give an example of each. 10.
4. Correct the following, and give the reasons:
- "Each one did their duty."
- "The Pleasures of Hope" were written by Campbell.
- "Counties who fail to make returns will forfeit their portion of the public fund."
- 5, 6, 7, 8, 9, 10. Analyze the following, and parse the italicized words:

*"Every hour that fleets so slowly,  
Has its task to do or bear;  
Luminous the crown and holy,  
When each gem is set with care.  
Do not linger with regretting,  
Or for passing hours despond;  
Nor, the daily toil forgetting,  
Look too eagerly beyond."*

0 to 60.

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11. THEORY AND PRACTICE.

1. Why should a teacher read regularly some educational publication? 10.
2. Is it necessary that your daily programme should specify the time for study as well as recitation? 10.
3. How many terms and in what grades of school have you taught? 10.
4. Define Corporal Punishment. How many cases ought to occur in a school of 50 pupils in three months? 2 pts. 5 each.
5. Are boys or girls the easier to manage in school? Mention points of difference in their management. 2 pts. 5 each.

6. What is the teacher's duty during recess? 10.
7. Is the correct teaching of vocal music of any use further than the musical information imparted? 10.
8. What do you teach outside the course of study? 10.
9. Write of the relations between teacher and school board? 10.
10. Between teacher and parents. 10.

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### 12. GEOGRAPHY.

1. Give some account of the extent, resources and people of the countries engaged in the last European war. 10.
2. Trace a water route from Bismark, Dakota, to the largest city of Continental Europe. 10.
3. Bound and describe Kentucky. 10.
4. How wide is the Torrid Zone, and what determines its width? 10.
5. Why does the sun shine on the north side of our houses in summer, morning and evening? 10.
6. How wide are the Temperate Zones, and what determines their width? 10.
7. Where are the Great Antilles? Name them. 2 pts. 5 each.
8. Bound and describe the most powerful of the South American States. 10.
9. Name the five first-rate powers of Europe in the order of importance. 6 off for each omission.

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## STATE EXAMINATIONS AND DIPLOMAS.

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The following circular sent to all parts of the State, in February last, fully explains the subject of State certificates in Colorado:

OFFICE OF SUPERINTENDENT OF PUBLIC INSTRUCTION. }  
DENVER, COLORADO, February 1, 1884. }

The State Board of Education is authorized to grant diplomas to teachers eminent in their profession by reason of character, scholarship and successful experience, by virtue of the following provisions of the School Law, viz.:

SEC. 3. The State Board of Education is hereby authorized to grant State diplomas to such teachers as may be found to possess the requisite scholarship and culture, and who may also exhibit satisfactory evidence of an unexceptionable moral character, and whose eminent professional ability has been established by not less than two years' successful teaching in the public schools of this State. Such diplomas shall supersede the necessity of any and all other examinations of persons holding the same, by county, city or local examiners, and shall be valid in any county, city, town or district in the State, unless revoked by the State Board of Education.

SEC. 4. But State diplomas shall only be granted upon public examination, of which due notice shall be given, in such branches and upon such terms, and by such examiners, as the Superintendent of Public Instruction, the President of the State University, the President of the State Agricultural College and the President of the State School of Mines may prescribe.

The Committee of Examination, constituted by section four above quoted, after carefully considering the provisions of the statute, has decided that applicants for State diplomas should be required to comply with the following

#### TERMS AND CONDITIONS.

1. To furnish the State Superintendent, prior to examination, satisfactory evidence of good moral character.

2. To furnish the State Superintendent satisfactory evidence of having taught, with decided success, not less than two years in this State.

3. To pass a very thorough examination in Reading, Mental and Written Arithmetic, English Grammar, Modern Geography, Physical Geography, History of the United States, the Constitution of the United States and the Constitution of Colorado, with the Elements of Civil Government, and Theory and Art of Teaching, limited for 1884 to Payne's Lectures on Teaching, and an Essay on Horace Mann, specific topics for the essay to be given at the time of writing.

4. To pass a satisfactory examination in Physics, Anatomy and Physiology, Botany, Zoology, Chemistry, Astronomy and Geology. The examination in these branches will embrace the rudimentary principles only. School Law of Colorado, Algebra, the Elements of Plane and Solid Geometry, not including Spherical Geometry, English Literature, to be limited to general questions upon American poets, and a special examination upon Whittier's *Snow Bound*.

5. To pass a satisfactory examination in one branch of the following group, choice to be made by the candidate :

Latin, to be limited to the first four books of Cæsar, the first two books of the Æneid of Virgil, questions upon grammatical principles involved in the passages translated, and Latin composition ; German, to be limited to translations from German into English and from English into German, and Schiller's *William Tell*, with questions on German Grammar ; Spanish, to be limited to Rudiments of Spanish Grammar ; outlines of Spanish Literature ; *El si de las Niñas*, by Moratin ; sight translation from Spanish into English, and from English into Spanish.

#### CREDENTIALS.

In regard to moral character, no set form of evidence is required, so that the fact of good character appears to the satisfaction of the committee of examination. If an applicant is personally known to either member of the committee as of good character, it will be sufficient to state the fact ; no evidence will be requisite. If not, written testimonials from one or more responsible persons acquainted with the applicant will be required. *There must be no doubt on the question of character.*

In respect to the length of time that an applicant has taught, his own statement, giving the time, place, and kind of school, will be sufficient.

Concerning success in teaching, written testimonials from employers, or other responsible and competent persons acquainted with the facts, will be required. *The evidence upon this point is vital, and must be clear and explicit.*

The minimum time to be accepted for two years' teaching is fixed by the Committee at sixteen school months.

#### CONDITIONS PRECEDENT.

Satisfactory evidence relative to character, length of time taught, and success, must be furnished before a candidate can be admitted to the examination ; it is a condition precedent, and should be transmitted to the State Superintendent, by each candidate, along with his application for examination, so that if defective due notice may be given, and that there may be no disappointment or loss of time in the inspection of credentials on the day of examination. Any one whose credentials are unsatisfactory will be promptly informed, and the deficiency pointed out, that it may be supplied, if practicable, and if not he will be declared ineligible and saved the expenses of attendance. Attention to these preliminaries is important ; that

there may be time for this, the application and credentials should be sent in by June 1. There will be no time to inspect testimonials during the examination, and none can be examined without them.

Papers forwarded as testimonials must, in all cases, be originals. If any applicant wishes the originals returned, copies thereof, for filing in this office, must be sent with the originals. When copies are so sent the originals will be returned, but not otherwise.

The candidate must also state, when he sends in his credentials, in which branch, in the elective studies named above, he will offer himself for examination, such choice to be final.

#### MODE OF EXAMINATION.

The questions to be answered under each branch embraced in the written examination, will be printed on slips of paper and consecutively numbered. Each applicant will be furnished with one of these slips and with pen and paper. A definite time will be allowed to each branch. Each answer must bear the number of the corresponding question. In questions requiring demonstration or analysis, the entire work must be given, and not merely the result or answer, so that the several steps of the process may appear, and the examiners be better enabled to judge of the candidate's habits of thought and reasoning.

In addition to writing answers to the printed questions, candidates will be examined orally in Reading and Arithmetic, but, in the latter branch, the written examination will have double the weight of the oral in determining the standing.

#### MODE OF AWARD.

The greatest care will be taken to make the examination strictly impartial. To this end each candidate will be given a number, by which he will be known during the examination, and he will be required to write his name, age, nativity and post-office address on a slip of paper and place the same in the envelope furnished, and put his number, but not his name, on the back. Each sheet of paper containing answers must also contain the number of the candidate using it.

In grading the papers, the examiners will note the grade of each one opposite the number found thereon. The envelopes containing the names will not be opened until the papers have been examined and the results obtained. After all papers have been finally graded, the marks of the oral examinations will be combined with the marks of the written work.

Diplomas will be awarded only to such candidates as secure the unanimous recommendation of the board of examiners.

In determining the merits of the papers, the examiners will be guided by the following rules: Scale 100. In Zoology, Physics, Chemistry, Astronomy, Geology, the minimum will be 60; in all other branches, 70. Certificates will be recommended when the candidate's average for the whole examination does not fall below 75; *Provided*, that in no branch he is below the minimum fixed for it. The time for Chemistry, Astronomy, Botany, Zoology, Physics, Physiology, Geology, Physical Geography, and Geography will be one hour each. In all the other branches, two hours will be allowed. In making up the average, each branch to which two hours were given in the examination will be counted double the branch to which but one hour was given. The candidate will be graded in spelling by noting the accuracy of the spelling in several pages of his papers written at this examination.

If a candidate reaches the required average for examination, but falls below the minimum in one or more branches, he will be required to take those branches only at the next examination, and will be recommended for a diploma when he has passed in each with a grade of 75. Candidates who fail to reach the required average will be allowed credit for topics on which they rank 95 or more, and at the next examination will be excused in such topics.

#### TIME AND PLACE.

The examination will begin June 30, and continue four days, at Denver.

#### ANNOUNCEMENT OF RESULTS.

Some time must elapse after the close of the examination before the results can be announced. Such an inspection of the work submitted as will enable the examiners to do impartial justice requires time, but as soon as the report of the examiners is received by the State Board, diplomas will be forwarded to those declared by the Board of Examiners to be worthy of them. Applicants who fail will be apprised of the fact by letter.

#### GENERAL REMARKS.

Punctual attendance upon all four of the days will be very important.

The rules governing the examination will be stated at the beginning of the examination, and general directions given, which will not be repeated. Moreover, there will be full work for the whole

time, and persons arriving after some of the topics have been written upon cannot make up for lost time without protracting the examination, which it will not be practicable to do; therefore, no person arriving two hours or more after the session has begun, will be allowed to participate.

Inasmuch as a State diploma supersedes "the necessity of any and all other examinations of persons holding the same, by county, city or local examiners," and is valid for life, unless revoked for cause, it is, therefore, not only the highest known to our system of public education, and an honor to those receiving it, but it has also an important business value to all professional teachers. It is the object of the law, in providing for these examinations, specially to recognize and honor those experienced and successful teachers who have given character and dignity to the profession in this State, and to furnish to young teachers a stimulus to honorable exertion.

By order of the Committee,

JOS. C. SHATTUCK,

*Superintendent of Public Instruction.*

It only remains to be said that, no applications being filed within the specified time, there was no examination.

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## SUPPLY AND DEMAND.

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To the question which comes to this office by nearly every mail, "Is there a demand for teachers in Colorado?" I know of no better answer than that of Philip to Nathaniel, "Come and see." Our population is shifting but steadily growing; teachers leave the school room for other work here as elsewhere—perhaps rather more than in the older States; not a large number of our young people, as yet, engage in teaching. These causes make room for some new arrivals every year, but it is rare that a teacher is engaged by correspondence. The employment of teachers is the business of the local school boards, and many boards make it a rule to make no engagements by correspondence. Hence it is safe to say to all applicants by letter, "The only way to get a situation as teacher in Colorado, is to come and find a vacancy and secure employment by personal application." Schools begin early in September, and



engagements for the year are usually made one or two months previous. For length of school terms and wages paid, see tables elsewhere.

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### COURSE OF STUDY.

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A little more than two years ago a convention of gentlemen interested in school work, and representing various parts of the State, met at the office of the State Superintendent, and, after deliberation, appointed committees to prepare courses of study for both ungraded and graded schools, including high schools. These committees prepared such courses, which were published in the last biennial report from this office, and also upon the inside of the cover to the daily registers furnished by the State. At the session of the State Teachers' Association in December, 1883, a committee was appointed to revise the high school course and report the revision to the Superintendent of Public Instruction. This committee consisted of Mr. J. H. Baker of Denver, Mr. W. C. Thomas of Leadville, and Mr. Oscar Jackson of Pueblo. The course of study recommended by this committee is found below, and is commended to all interested in high schools as worthy of adoption :

## A GENERAL COURSE OF STUDY FOR HIGH SCHOOLS.

ARRANGED FOR FOUR YEARS OR THREE YEARS.

MATHEMATICS.	SCIENCE.	HISTORY AND ENGLISH.	FOREIGN LANGUAGE.
Algebra. Plane Geometry. Arithmetic and Bookkeeping. Solid Geometry. *Plane Trigonometry. *Review of Algebra and *Plane Geometry.	Zoology or Physical Geography. Physiology. Elementary Botany. Physics. Chemistry. *Geology. *Astronomy. *Advanced Botany.	History and English. First Year. { Greek History. { Study of Selections; Brief History of American Literature. Second Year. { Roman History. { Rhetoric; Study of Selections; History of Periods of English Literature. Third Year. { English History. { U. S. Constitution; Political Economy. Study of Selections; History of English Language. Fourth Year. { *Periods of History. { *Study of Selections; Psychology.	Latin or German through- out the course.

\*These studies may be omitted in a three years' course.

By "English" is meant both the Literature and the Language.

If these four lines of work are pursued at the same time, it is not expected that five recitations per week will be given to each.

The committee recommend drawing as an addition to the course.

This course, as it stands, will give thorough preparation for Scientific courses in the best colleges. It may be modified by substituting French for History and English the third year, and Science the fourth year.

If desired in case of any pupil, French may be substituted for Mathematics the last two years.

A CLASSICAL COURSE OF STUDY FOR HIGH SCHOOLS.

ARRANGED FOR FOUR YEARS OR THREE YEARS.

MATHEMATICS.	SCIENCE.	HISTORY AND ENGLISH.	FOREIGN LANGUAGE.
Algebra. Plane Geometry. *Review of Algebra and *Plane Geometry.	*Zoology or *Physical Geography. *Elementary Botany. Physics.	Greek History. { Study of Selections ; Brief History of American Literature. First Year. { { Roman History. Second Year. { Rhetoric ; Study of Selections ; History of Periods of English Literature. *Review of Greek and Roman History.	Latin four years. Greek two years. *French, optional, last two years.

\*These studies may be omitted in a three years' course.

In preparation for Harvard, certain subjects are elective. Harvard and Yale require either French or German for admission.

It will be seen that this course corresponds as far as practicable with the general course.

This classical course and the Scientific Department of the general course correspond in essential points with the requirements for the University of Colorado.

## NORMAL INSTITUTES.

To Larimer county belongs the credit of holding the only real *working* teachers' institute that has been held in the State. Under the direction of County Superintendent McCreery, a goodly number of the teachers of Larimer county were brought together for a two weeks' term, the third and fourth weeks of August, 1883, and the same in 1884. The time was spent in work in the common branches, to the end that better methods of illustrating and teaching these branches might be acquired. The teachers of this county keep up a county association, by means of which they have adopted a course of reading—partly professional and partly general—which many of them are pursuing, and to a discussion of which some time is given at the meetings of the association. It is an echo of Chautauqua, sent back from the foot-hills of the Rockies, worthy of all praise.

There has been considerable discussion, during the last three or four years, concerning the propriety of establishing a State normal school at some point, as a separate institution. There is a normal department at the State University, which affords ample facilities to meet all demands, as yet, as far as numbers is concerned, but it is urged that our State is so large in territory that no one institution can well accommodate the entire State, because the distance will be so great from many points. A little thought, however, must convince any one that our population is yet too sparse to support a separate normal school at any point, or to justify the expense. If a small fraction of what a normal school will cost were appropriated to assist the counties in the support of normal institutes of two to four weeks each year, at least in all the larger counties, there can be no question but that the schools would be benefited far more than by the establishment of another State institution of learning of any description.

Another point worthy of serious consideration is, whether any more financial burdens ought to be laid upon the taxpayers of the State. The credit of the State is now of the best, and it is much easier to keep it so than to restore it

when once impaired. As far as I have been able to learn, there is no demand, whatever, for another State educational institution, except by the communities which expect help by the spending of public money in their midst. Until there is some sounder reason than this, the legislature should be deaf to all appeals for the establishment of a State normal school, more especially when the expenditure of \$2,000 to \$3,000 per annum, distributed where it will do the most good among the counties, for the support of county normal institutes, will fill a real want, and be of marked benefit to the schools of the State.

The normal institute is not an experiment. Its usefulness has been thoroughly demonstrated, and its necessity recognized in all of the most enterprising and prosperous Western States. The influx of well-trained teachers from abroad has enabled us to bring up the schools of this new State to a high degree of excellence, but the time has fully come when the need of the normal institute is felt. The graduates of our own schools are entering the ranks as teachers. Not all those who come to us from abroad, and who secure employment, are beyond the need of additional training, as Superintendent Packard, of Weld county, shows in his remarks on a previous page. County normal institutes, if once established on a sound basis, would soon create a public sentiment in favor of selecting teachers from among those who attend the institutes, and do much to remedy the evil of which the superintendent of Weld complains, and which is by no means peculiar to his county.

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#### SMALL DISTRICTS.

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Colorado schools, in districts of small population, suffer the ills incident to small, ungraded schools, with scant revenue, everywhere. If there be any way whereby a country district, with few people and a small amount of property from which to derive its revenue, can afford its handful of children as good educational advantages as its populous and wealthy neighbor, that way has not yet been found. I know both by the experience of my childhood and by recent observation, that this difficulty is no less

serious among the New England hills than with the scattered ranches of Colorado. Occasionally there is found in charge of one of these small country schools, one whose soul has been touched with the Divine fire, without which any teacher is but a drudge, and with which, not infrequently, a man or woman in charge of a small country school, for a few weeks, has kindled the entire neighborhood, roused a noble enthusiasm for real learning in the heart of every boy and girl in the community, in short, stamped her better self on the lives of her pupils, as no teacher in a large city school ever did or ever can. We lament the short schools, inexperienced and often incompetent teachers of the country districts, but the fact is open to all that the business of this country is, and always has been, largely in the hands of men whose boyhood gathered its strength amid just such untoward surroundings. Generally a *real teacher* costs money, and it is the prevailing vice in the management of the district schools that some one is hired to "keep the school," because he or she will work for small pay, and thus a longer term is secured. If people will only believe, and have the courage to act up to their convictions, that three months under the instruction of an apt teacher is better for a child than nine months under an unskillful one; that whether the school house be good or poor, the one thing that determines the character of the school is the *teacher*, and that skill in any sphere of human activity costs money, then the rural districts need not deplore their lack of educational facilities as an evil without compensation. County superintendents should exercise great care in ordering the division of districts, or cutting off a portion of one and annexing it to another on petition. Too often these divisions are desired for no better reason than a neighborhood quarrel. The superintendent should only act after such careful investigation as will put him in possession of all the facts, and he is convinced that the proposed change will be beneficial to a majority of those concerned.

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### SCHOOL BUILDINGS.

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Probably in no other way is so much money misspent with the best of intentions, as in building school houses.

I will not discuss exteriors, because here arise questions of taste and length of purse, but there are certain matters of interior arrangement upon which depend the comfort and health of the children in school, to which I invite careful attention. As an introduction I wish to call attention to the cuts in this report.

## PLATE ONE

Is Franklin School, West Denver. This is the most expensive school building yet erected in this State, costing \$59,500. Its seating capacity—single seats—is 660. It is heated and ventilated by the Ruttan system, and by an improved arrangement the air can be tempered in the supply pipes to any degree from hot to cold, thus introducing cool air, when the rooms are too warm, *through the registers*; a very excellent substitute for the usual method of admitting the cold outer air directly by door or window.

## PLATE TWO

Shows the floor plans of the same building. The rooms are all airy, well-lighted and cheerful, the seats so placed that the light comes to all pupils from the back and left side. The windows are all furnished with transoms opening in at the top, to which special attention is called further on. There is a director's room with fire-proof vault in the basement. Altogether the building is very attractive and admirable in all its appointments.

## PLATE THREE

Represents the floor plans of the Emerson School, Denver, the last building completed in the city. It cost \$27,600, and seats 440 pupils in single seats. It has a steep shingle roof and enough of the "Old English" in exterior appearance to be substantial without being "dudish." In this building the light is admitted only on the left of the pupils. The windows being large, the light is ample for our sunny climate, but would doubtless be insufficient in the States east of us. Attention is called to the spacious halls and broad stairways, both in this and the Franklin. This we claim as an excellent feature of all our recent Colorado

large buildings not often found elsewhere. These buildings can be emptied of 400 to 600 children in less than two minutes. The halls being warmed, the practice is of late to have the doors between it and the school rooms open at all times, except during concert exercises. This gives the children the benefit of all the air space inside the building, and its effect is excellent. The building is heated by hot air furnaces, and ventilated very effectively, and the windows are all furnished with transoms. No light being admitted behind the pupils it is far less trying to the eyes of the teachers than the usual arrangement which obliges them to face the glare most of the time. Like the Franklin, the Emerson is so nearly perfect throughout as to leave little to be desired.

## PLATE FOUR

Is given as a desirable plan for a one-room country school house, which will accommodate sixty-four pupils. If seated with double seats, the width may be twenty-four feet instead of thirty-two, although the latter width gives none too much air space for that number of pupils. If the width be reduced to twenty-four feet, it may be desirable to put the vestibule on one side—say where A now is—and have one wardrobe instead of two. The position of the stove is a matter of choice. By taking out the back seat on each of the two rows beside the middle aisle, the stove may be placed there. If the house be of brick, the chimney may be built in the middle of the rear wall—flush on the inside.

School boards will find the following table correct and valuable. It will aid them in determining just how many seats a house will hold, and the sizes wanted:

SINGLE SEATS AND DESKS FOR ONE PUPIL.						DOUBLE SEATS AND DESKS FOR TWO PUPILS.					
Size.	Seat inches high.	Seat inches wide.	Desk top in. wide.	Desk inches long.	In. from Desk to Desk	Size.	Seat inches high.	Seat inches wide.	Desk top in. wide.	Desk inches long.	In from Desk to Desk
A	17	14	16	24	34	A	17	14	16	42	34
B	16	14	15	24	32	B	16	14	15	42	32
C	15	13	14	22	30	C	15	13	14	40	30
D	14	13	13	22	28	D	14	13	13	40	28
E	13	12	12	18	26	E	13	12	12	36	26
F	11	12	11	18	24	F	11	12	11	36	24



Wainscot the school room all around two feet six inches high, above the floor and teachers' platform. Make a smooth wall above that, and put liquid slating on the wall four feet wide above the wainscoting. Recitation seats, or cases for district library and apparatus, can be put where convenient. Windows should extend to the ceiling to throw the light over the room.

## VENTILATION AND SANITATION—PLATE FIVE

Is an inside view of a window with transom at the top, which arrangement has proved to be one of the very best for supplying fresh air to the school room directly from the outside without subjecting pupils near the windows to a dangerous draft. If one or more of these be open on different sides of the room, when there is any wind at all, the air will come in freely, but is forced to take such an upward direction that it does not fall upon the heads of any, as is always the case when the ordinary sash is lowered at the top. Its superiority to the common window has been demonstrated by use in many school houses in Denver and other towns, and so excellent are its results that one of the most experienced city superintendents in the State declares that it should be made unlawful for any board to build a school house in this State without putting such transoms over the windows, and I fully endorse his emphatic approval. It is especially valuable in Colorado, where so many days of our school year are clear and admit of open windows on the sunny side of the building, even in cold weather. I urge upon school boards the use of this transom, the real merits of which are almost sure to be undervalued by those who have not proved it. *It is all I claim for it, and more*, and its cost is trifling. For large and heavy transoms it will be necessary to put a transom lift, shown on the right of the cut, on both sides.

Referring again to the diagram of school room—plate 4—we find that a room 32x32, and 12 feet high, will contain 12,288 cubic feet of air. The amount of fresh air allowed to hospital patients is about 2,500 cubic feet per hour. If we allow two-fifths this quantity to our children in school, they will require 1,000 cubic feet per hour, and sixty children will need an hourly supply of 60,000 cubic feet,

or nearly five times the amount contained in the room represented by the diagram. In other words, the air of this room must be entirely changed every twelve minutes, if the children are to breathe pure air. How many school rooms fill these requirements? Is it not rare to find one, even among costly city school buildings, that make more than one-half these allowances, either in air space or rapidity of change?

The best authorities estimate the allowance of floor space from fifteen to eighteen square feet to each pupil, and 250 to 300 cubic feet of air space as the *minimum* consistent with health, and this is less than one-eighth the hospital allowance as given above. If the room be 32x32, each of sixty-four pupils will have sixteen square feet of floor space, and fourteen feet in height will give each 224 cubic feet of air space; twelve feet in height will give each 192 cubic feet. Reduce the size to 32x24, and there will be but twelve square feet of floor space, and if twelve feet high, 144 cubic feet of air space; if fourteen feet high, 168 cubic feet to each pupil.

Park's Practical Hygiene states: "If 100 cubic feet of air be allowed to a man in a sealed room for one hour, 3,900 cubic feet of fresh air is required to restore that 100 cubic feet to a health standard."

Dr. Albert Buck, of New York, a recognized authority on hygiene, says: "We expire fourteen to twenty cubic feet of air per hour, requiring 200 times that amount of fresh air to dilute it to a health basis, or 3,500 cubic feet per hour."

In the Report of New York State Board of Health, 1882, Dr. D. F. Lincoln says of school requirements: "Assuming 1,800 cubic feet of air for each pupil per hour, and starting with 300 cubic feet for each pupil, six changes of air per hour are necessary in order to attain a reasonable health standard."

Let anyone compare the first half-dozen school rooms within his reach with the above figures, and the statements of these eminent authorities, and he will quickly see how the "Murder of the Innocents" is going on daily in about nine-tenths of the school rooms in this enlightened land.

Rooms are seated with double seats for the sake of economy in space, because room costs money, and no thought is given to what the occupants shall breathe. It should not be necessary at this late day to quote the well worn proofs that air loaded with organic contaminations is the source of nervous disorders and depression of the physical powers, of tubercular diseases and consumption; everyone knows them by heart. It is not, however, as generally known that children are many times more sensitive to atmospheric poison than adults, and that their natural brightness and activity during their school life, instead of showing that they endure its noxious influences with impunity, only conceal for a time the disorganization of lungs, or nervous system, which will assert itself when it is too late to remedy it. In planning our large city school houses, some attention is usually paid to ventilation. Too often, however, the result is a costly abortion, as the nostrils of every visitor inform him before he is fairly inside the outer door, and in very few of our country school houses, east, west, north and south, is there any evidence of an intelligent comprehension of the end to be attained, or the adaptation of means to that end. Not only are they wholly destitute of any provision for ventilation, but, being warmed by stoves, no fresh air is admitted. Yet small school houses are perhaps the easiest of all buildings to ventilate, if the object to be secured and the dangers to be avoided are kept in mind.

Briefly, the aim of ventilation should be to maintain a steady supply of fresh air, and withdrawal of foul, at all parts of the room, removing the products of respiration and organic particles as fast as thrown off, and leaving no corners stagnant or unswept by the purifying current. To accomplish this in small buildings, the windows should be so made as to be easily handled. Nothing can take the place of aeration by means of open windows. *If the transom be used*, the air will change so frequently that it will not become seriously vitiated. Artificial ventilation, though required for changing the air when the windows are necessarily closed, is almost always insufficient, unless the room is from time to time thoroughly refreshed and purified by the sweep of the free air through all its windows widely opened. Such an atmospheric

washing should be secured at recess, and at the close of each session, banishing teachers and children from the room meanwhile, if necessary. Nothing but the most inclement weather should prevent this cleansing. Eyes should be fixed in the upper sashes, and a pole and hook furnished with which to handle them; the window frames must be well made and looked after from time to time to see that all is in working order. It is a shame to any district to allow a window of its school room to remain in such a condition that the teacher cannot easily move it at will.

There are times, however, when windows cannot be opened, and means must be provided for insuring the withdrawal of the respired air from the room in some other way. If fresh air is to be introduced into a room, provision must be made for the escape of foul air. The simple experiment of attempting to blow into the mouth of a bottle will impress this fact upon the mind, and will show why it is that rooms supplied with hot air from furnaces cannot be warmed until a window or other outlet is opened, allowing the pent-up air to escape, and a fresh supply to enter in its place.

For our country school houses, and for two to four room buildings in our villages, it is useless to consider any costly system either of heating or ventilation.

The powers and properties of air shafts are often so grossly misunderstood that an explanation of their action may be necessary before proceeding to details. Nothing is more common or more absurd than to see rough ventilating flues, 4 by 8 inches, built in walls without any provision for heating them, under the supposition that they will "draw." The action of every such shaft or chimney is precisely analogous to the movement of two boys balanced on a see-saw. If their weights be equal, neither moves; if one is slightly heavier, he descends and the other ascends. So with ventilating shafts; the column of air in them is balanced against a column of the same size and height outside of them. If the outer air is cold and that in the shaft warm, the latter column will be slightly lighter, because, being expanded, a given volume contains less weight. This difference of weight, if there is

not too much friction in the chimney to be overcome, will incline the balance, and the air in the chimney will rise, cold air from without descending to take its place. The actual difference of weight between the column of air in a chimney 12 inches square and 30 feet high, at a temperature of 100 degrees Fahr., and an equivalent volume at 32 degrees Fahr., would be five ounces; and this, deducting the friction of both the ascending and descending currents, will be the measure of the ascensive force of the air in the shaft. This feeble force is all we have to depend upon, and it need hardly be said that all obstructions to its action must be avoided. The foul air shaft must be large, straight and smooth. One shaft two feet in diameter will carry off about as much air as six shafts each one foot in diameter, because of the increased friction in the smaller shafts. The one indispensable condition is, this shaft must be heated, else it will be useless. It has also been demonstrated under my own observation, that the best results are obtained *when the greatest heat is applied in the upper portion*. I have in mind a costly and beautiful church, supplied with foul air shafts, warmed by steam coils at the bottom, and though the shafts are of sufficient capacity and well located, they do not give satisfaction at all, it often being found necessary to close them when they are most needed, to prevent the in-flow of cold air. If the upper third of the shaft is heated there is *always* an upward movement of the air within it. Referring again to plate 4, E is the chimney, built upon the ground always,—and for this room it should be not less than 16x16 inches—inside. Into this the stove pipe should be inserted 2 or 3 feet below the ceiling. The pipe or flue for the smoke, made of galvanized iron, or something heavier, should be put into the chimney when it is built, and carried to the top of the chimney. Just above the floor, in this case above the floor of the platform, an opening must be made into the chimney, nearly equal in size to the sectional area of the chimney. Whenever there is fire in the stove, the column of air in the chimney is heated by the smoke pipe from the point where it enters to the top, and a “draft” is created, which takes out the cold air near the floor, which can always be best spared.

Another method is to build two flues side by side, using one for smoke and the other for foul air. The results

from this are not so satisfactory as when the smoke flue of metal is carried up inside the chimney because the latter gives a higher temperature to the air in the shaft.

The withdrawal of the foul air is always a more difficult problem than the introduction of fresh, yet the latter must receive attention. For a large room, or for a two or four room building, a furnace in the basement, with its smoke flue carried up inside a large ventilating chimney with which all the rooms are connected, is always to be recommended. If for any reason a furnace is not used, still fresh air, suitably warmed, can be introduced. There are now ventilating stoves made, which are really excellent. One made by Richardson & Boynton is in use in several school rooms in the State, and is well liked. Fresh air is admitted under the stove and carried up between the fire-box and the outer jacket, and, after becoming heated in the passage, is discharged at the top of the stove. If the ground is dry under the floor, and there are grated openings in the foundation, as there always should be, a hole in the floor under the stove is all that is needed. In the second story a pipe can be run between the joists from a suitable opening in the wall.

John Grossius, of Cincinnati, also makes a similar stove, which gives satisfactory results, and no doubt there are others. I was informed recently by Superintendent Peasley, of Cincinnati, that after some years of trial, the steam-heating apparatus has been removed from all the public school buildings in that city, and the Grossius stove put in.

If these stoves are too costly for the district purse, excellent results may be obtained by putting a jacket of galvanized iron around a common stove, about six inches from the stove, resting on the floor, and extending to the top of the stove, open at the top, strengthened by large wire, with large door in front to admit of feeding and cleaning the stove. The fresh air being admitted under the stove, is heated by passing up between the stove and the jacket, and is discharged warm into the room. With the ventilating flue already described, this simple contrivance, within reach of the poorest district, will keep the air of the school room in fair, if not perfect, condition. There will be the additional advantage that the pupils who are obliged

to sit near the stove will not be roasted for the benefit of those more distant. These appliances are as suitable for churches and halls as for school houses.

I have discussed ventilation and heating somewhat at length, because six years of visiting school rooms in Colorado and elsewhere, has convinced me that the most serious defect in the construction of modern buildings, public and private, is the absence of any provision for ventilation, or the use of methods entirely inadequate and often absurd; that the seeds of disease are sown in our school rooms, too often in greater abundance than the germs of intellectual development; while, except in large buildings containing many rooms, ventilation is not difficult, and ought not to be rare. In closing, I again call attention to the ventilating chimney I have described, and the window transom shown by plate 5.

For many valuable suggestions on the subjects of heating and ventilation, I am indebted to Circular No. 4, 1880, issued by the Bureau of Education at Washington; but I have recommended nothing which I have not proved by personal observation.

The following are a few out of an almost exhaustive series of questions officially issued to teachers in the Ontario schools by the Provincial Board of Health. They have equal pertinence for every school in Colorado:

1. How many cubic feet of air space for each pupil?
2. Is light admitted in front of the pupils, at their left or right side, or from behind them? or is it admitted from two sides?
3. Is light well distributed?
4. How near to the ceiling and to the floor do the windows extend?
5. Are there any blinds on the windows?
6. Is a uniform and equitable temperature of from 63° to 70° F. constantly maintained during school hours? Is this tested?

7. Is the air dry? What means are adopted for supplying moisture?

8. Explain fully how each room is ventilated in cold and in warm weather (whether by windows open at the top or bottom, by ventilating flues, or in what other way).

9. To what expedients do you resort to prevent draughts from open windows striking pupils?

10. Is the air of the school-room completely changed by opening doors and windows at stated intervals during school hours and at recess?

11. How often is the school-room swept per week?

12. Do pupils frequently complain of headache, cold feet, or any symptoms indicating the existence of defects in ventilation or heating?

13. What is the duration of school hours and recesses?

14. How are scholars and teachers occupied during recess?

15. At what periods are the greatest numbers absent?

16. Is the water pure, cold and abundant?

17. If from a well, what means have been adopted to prevent its receiving the soakage from surrounding grounds?

18. Is drinking water kept in the school house? If so, where is it kept, and how is it protected from dust and other impurities?

19. Are there cellars or other excavations beneath the school house?

20. Are there water closets for the different sexes in separate buildings?

21. Are they properly protected from observation and from inclemencies of weather?

22. State where they are located in relation to school house, wells, etc., and give distances?

23. What means are adopted to keep them clean?



24. Are the receptacle and the closet itself well ventilated?
25. Is any disinfectant used, and what?
26. If water closets are used, are the traps and appliances efficient?
27. In the case of privy pits, how are the vaults constructed, how often emptied, and by what means?
28. Have you any observations to make regarding the clothing of pupils? Protection against sitting in wet feet, etc.?
29. Is there any instruction given in hygiene?

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### TEXT BOOKS.

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Section 16, Article IX., of our State Constitution reads as follows: "Neither the General Assembly nor the State Board of Education shall have power to prescribe text books to be used in the public schools."

The statutes makes it the specific duty of each school board to determine what text books shall be used in the schools of the district, with the limitation that after the adoption of any book, it cannot be changed under four years. To make the adoption binding, the board must take formal action at a meeting at which at least a majority are present; the action must be properly recorded in the minutes of the board, *and the books put into actual use.* The courts of this State have never passed on the question, but courts in other States have put this construction upon the word "adoption" in similar statutes.

This section of our constitution has saved the State from the unseemly contests for "State adoption" to which many other States are subjected, and from any attempt by scheming printers to secure text books prepared and published by the State. For the protection thus afforded, let us be thankful.

The sentiment in favor of "free text books"—that is, text books owned by the district and loaned to the pupils—seems to be growing in many places in the country. The plan has given such satisfaction in various districts elsewhere, that perhaps the time has come for the slight change needed in our law to allow school boards to own and furnish the books where the public sentiment of the district approves the experiment.

## COMPARATIVE TABLE.

## SUMMARY.

DESCRIPTION.	1883.	1884.	Increase.
Number of districts.....	552	604	52
Number of males of school age.....	26869	28433	1564
Number of females of school age.....	26557	27809	1252
Total school population.....	53426	56242	2816
School population between 6 and 16 .....	41770	43131	1361
School population between 16 and 21.....	11656	13111	1455
Number between 6 and 16 enrolled in school.....	33030	34730	1700
Number between 16 and 21 enrolled in school.....	3414	3142	272
Number enrolled in graded schools.....	20930	22131	1201
Number enrolled in ungraded schools.....	15514	15741	227
Total number enrolled in school during the year...	36444	37872	1428
Average daily attendance.....	23008	23307	299
Per cent. of school population enrolled in school.....	68	70	2
Per cent. of school population under 16 enrolled in school.....	79	83	4
Per cent. of school population over 16 enrolled in school.....	29	28	Dec. 1
Per cent. of average attendance on enrollment.....	43	62	19
Per cent. in graded schools.....	57	58	1
Volumes in school library.....	6096	6387	291
Number of school houses.....	459	525	66
Value of school houses and property.....	\$1,551,080	\$1,676,130	\$125,050
Number of male teachers in graded schools.....	51	66	15
Number of female teachers in graded schools.....	295	317	52
Number of male teachers in ungraded schools.....	233	262	29
Number of female teachers in ungraded schools.....	454	448	Dec. 6
Average monthly wages of male teachers in graded schools.....	\$109.89	\$110.15	26
Average monthly wages of female teachers in graded schools.....	68.45	66.41	Dec. 2.04
Average monthly wages of male teachers in ungraded schools.....	51.23	51.30	.07
Average monthly wages of female teachers in ungraded schools.....	50.91	41.35	Dec. 9.56
Average cost per month for each pupil based on enrollment.....	.....	2.58	.....
Average cost per month for each pupil based on average daily attendance.....	.....	4.19	.....
Received from county tax (general fund).....	\$329,408	336,903	7,495
Received from district tax (special fund).....	269,442	210,784	Dec. 49,658
Received from district tax for building fund.....	37,829	189,996	152,167
Received from all sources, including amount on hand at beginning of year.....	992,119	1,087,659	95,540
Expended for teachers' wages.....	367,356	432,255	64,899
Expended for current expenses.....	117,194	140,322	23,128
Expended for buildings, sites and furniture.....	267,611	237,321	Dec. 30,290
Total expenditure.....	1,744,280	809,898	Dec. 934,382
* Expenditure per capita of school population.....	9.52	10.51	.99
Expenditure per capita of enrollment.....	14.00	15.63	1.63
Expenditure per capita of average attendance.....	22.12	25.33	3.21
Expenditure per capita of population between 6 and 16.....	14.41	13.71	Dec. 1.30

\*In calculating these per capita expenditures, only interest on amount expended for buildings, sites, etc., is added to the other amounts expended.

## GENERAL STATISTICS.

THE SCHOOL POPULATION OF COLORADO SINCE ITS ADMISSION WAS  
AS FOLLOWS:

1877 .....	21,612	1881 .....	40,804
1878 .....	26,473	1882 .....	49,208
1879 .....	29,738	1883 .....	53,426
1880 .....	35,566	1884 .....	56,242

THE NUMBER OF DIFFERENT PUPILS ENROLLED IN SCHOOL:

1877 .....	14,085	1881 .....	26,000
1878 .....	16,641	1882 .....	31,738
1879 .....	18,771	1883 .....	36,444
1880 .....	22,119	1884 .....	37,872

THE AVERAGE DAILY ATTENDANCE:

1877 .....	8,141	1881 .....	14,649
1878 .....	9,699	1882 .....	18,488
1879 .....	10,919	1883 .....	23,008
1880 .....	12,618	1884 .....	23,307

THE NUMBER OF SCHOOL HOUSES:

1877 .....	219	1881 .....	314
1878 .....	249	1882 .....	370
1879 .....	255	1883 .....	459
1880 .....	292	1884 .....	525

VALUE OF SCHOOL BUILDINGS, SITES AND FURNITURE:

1877 .....	\$ 472,983	1881 .....	\$ 977,213
1878 .....	474,771	1882 .....	1,235,491
1879 .....	496,891	1883 .....	1,551,080
1880 .....	682,410	1884 .....	1,676,130

NUMBER OF MALE TEACHERS EMPLOYED:

1877 .....	233	1881 .....	245
1878 .....	226	1882 .....	257
1879 .....	255	1883 .....	284
1880 .....	247	1884 .....	328

NUMBER OF FEMALE TEACHERS EMPLOYED:

1877 .....	297	1881 .....	556
1878 .....	341	1882 .....	630
1879 .....	338	1883 .....	749
1880 .....	431	1884 .....	795

What is known as the "General Fund" is derived from the county tax for school purposes, penal fines, and the amount received from the State fund.

THE RECEIPTS FROM THESE SOURCES HAVE BEEN AS FOLLOWS:

1877 .....	\$120,957	1881 .....	\$ 208,845
1878 .....	128,788	1882 .....	254,804
1879 .....	119,419	1883 .....	329,408
1880 .....	182,326	1884 .....	336,903

RECEIPTS FROM SPECIAL (DISTRICT) TAXES:

1877 .....	\$ 65,394	1881 .....	\$ 168,927
1878 .....	57,377	1882 .....	181,708
1879 .....	95,675	1883 .....	269,442
1880 .....	154,007	*1884 .....	409,780

\*This includes tax for building fund not heretofore included.

## STATE SUPERINTENDENT'S REPORT.

## EXPENDED FOR TEACHERS' WAGES:

1877 .....	\$ 140,780	1881 .....	\$ 240,384
1878 .....	153,089	1882 .....	300,128
1879 .....	153,144	1883 .....	367,356
1880 .....	186,426	1884 .....	432,255

## TOTAL EXPENDITURE FOR SCHOOL PURPOSES, INCLUDING BUILDINGS, SITES AND FURNITURE:

1877 .....	\$ 215,225	1881 .....	\$ 557,151
1878 .....	243,850	1882 .....	661,419
1879 .....	264,371	1883 .....	752,161
1880 .....	395,227	1884 .....	876,671

## \*EXPENDITURE PER CAPITA OF SCHOOL POPULATION:

1877 .....	\$ 7 95	1881 .....	\$ 13 64
1878 .....	9 21	1882 .....	8 45
1879 .....	8 88	1883 .....	9 52
1880 .....	11 07	1884 .....	10 51

\*In calculating these per capita expenditures, only interest on amount expended for sites and all permanent improvements is added to the other expenditures. It would be more nearly correct, as I think, to add the interest on a fair valuation of all school property, instead of on the amount expended for this purpose during the current year; but I follow the plan of the Bureau of Education at Washington.

## EXPENDITURE PER CAPITA OF PUPILS ENROLLED IN SCHOOL:

1877 .....	\$ 12 20	1881 .....	\$ 12 90
1878 .....	14 65	1882 .....	13 10
1879 .....	14 08	1883 .....	14 00
1880 .....	17 80	1884 .....	15 63

## EXPENDITURE PER CAPITA OF AVERAGE DAILY ATTENDANCE:

1877 .....	\$ 21 10	1881 .....	\$ 22 88
1878 .....	25 14	1882 .....	22 55
1879 .....	24 21	1883 .....	22 12
1880 .....	31 38	1884 .....	25 33

## STATE FUND.

The amount of the Public School Fund, on Nov. 30, 1884, was \$114,220. This is kept invested in State warrants at 6 per cent. interest. This interest, and the rental from leased lands, is distributed semi-annually to the counties that have made a legal report for the preceding year, per capita of school population, deducting from the portion of each county the value of the blank books and registers furnished. The first apportionment was made in 1879, and the annual apportionments have been as follows:

1879 .....	\$ 7,041 30	1883 .....	\$ 29,529 80
1880 .....	15,683 76	1884 .....	32,038 42
1881 .....	14,443 27		
1882 .....	17,953 76	Total.....	\$116,690 31

## THE PER CAPITA HAS BEEN AS FOLLOWS:

1879 .....	26 cents, 6 mills	1882 .....	44 cents .....
1880 .....	53 cents .....	1883 .....	60 cents .....
1881 .....	41 cents .....	1884 .....	61 cents .....

Looking at the per capita expenditures on a previous page, one can see how small the help that comes from the State fund. Our expenditures are almost \$100,000 per month for the months in which the schools are in session,

hence the entire proceeds of the State fund for the six years inclusive, since it has been productive, would support our schools about five weeks. This is a poor showing for an endowment fund, but it is not at all certain that it is a calamity. The people of Colorado expect no schools except as they tax themselves to pay for them, and the prompt liberality with which they vote taxes—and pay them—for public schools, is worthy of emulation. It is of itself an endowment beside which the most colossal fund were poor. If the people of all the States were possessed of the same spirit, there would be little need of "National Aid to Education." It is not that our people are rich, but because they are determined to have schools, and knowing they need hope for no external aid, have learned to depend upon themselves.

#### WHAT LACK WE YET?

In nothing fashioned by human hands or human minds is perfection found. The machine of to-day is old iron to-morrow, because some more skillful hand has more cunningly adapted materials to the end in view; and a "body of sound doctrine" for one generation is laid aside like an outgrown garment by the next.

Many years since, at Edinburgh, the jewels in the crown of Scotland were locked up in a strong box, and that box put into another box, and so on, until they were supposed to be burglar proof. They were then locked up in the vault of a castle, there to remain for one hundred years, the keys being then placed in a mortar and fired into the sea. Scarcely fifty years passed by, and the modern lock-picker opens the vault and boxes without trouble.

No reasonable friend of the public schools will claim for them immunity from human defects. The schools of a community are, to an extent, exhibition galleries, from an examination of which one can judge with reasonable accuracy of the community, the grade of its refinement and the tone of its morals.

As the morals and the culture of every community have some blemishes and some crudities, so there must be some improvement possible to its schools. While believ-



ing enthusiastically in the American public school, both for its results to-day and its promise for to-morrow, I am not satisfied with its present achievements, any more than I am with any other institution of society. Progress is possible only to those who are dissatisfied with the present. This is put in telling phrase in a recent article in one of our local papers: "For be sure of this, that never anything worth preserving by posterity grew out of a satisfied man or a satisfied society. The glorious fruits of human progress sprang not from roots like these. All the grand characters of the past, the noble ones of earth, the benefit of their kind, whose ideas left their imprint on the ages in which they lived, and whose deeds live after them in the institutions we enjoy, were animated in life by a profound and lasting discontent, only satisfied at last in peaceful death." This is what Emerson called the "Divine unrest." It was the thought of the great apostle when he wrote to the Phillippians, "forgetting the things which are behind, and reaching forth unto those that are before." I am not a prophet of smooth things. It is the vice of professional associations that they are in fact mutual admiration societies, whose contented minds are only ruffled by adverse criticism from an outsider, when they bristle "like the quills of a fretful porcupine." I trust our State Association may not fall into this slough; but, "with malice toward none, with charity for all," there will be in all meetings of instructors and school officers, whether State or county or city, a free discussion of existing errors, and a "reaching forth to those things which are before." Stanley Hall says: "To believe that there is but *one true* method of instruction is erroneous. To persuade a young teacher that she has that method, is fatal." There is nothing so wholesome as sound criticism, and even captious, unfair criticism may be of great advantage. It is generally, not always, the exaggeration of a real defect, and it will always profit the criticised to separate the grain of wheat from the peck of chaff, and use the wheat. I confess it seems to me that not infrequently the critics of our schools have amassed a remarkably large stock of ignorance upon the topic of which they write.

I could wish that critics would not so frequently compare the average child with the perfect child, which exists only in imagination, and for every point where the real

falls below the ideal, cry aloud against the school as the cause of the discrepancy, forgetting that when the perfect child puts in an appearance there will be a perfect home from which he comes, a perfect church, and a perfect society, each and all of which must exist and play well their parts with the perfect school in fashioning the perfect child. It is so much easier to transfer than to bear responsibility, that the over-burdened common school is made the scapegoat to carry away into the wilderness the sins of the people. To those whose lances are so free in thrusting the school, I say, look about you a little to learn if there be not some lack in the other institutions which are responsible for the child, which should not be overlooked in fixing the blame for ills which we all admit. Above all, let it not be forgotten that it is the ordination of Providence that home should form the character. When the home is so arranged and conducted that children wander from the parental roof for amusement, it is quite unnecessary to seek further for the root of the evil life which is so apt to follow. The child or youth who does not love his home, or has none to love, begins the battle of life with tremendous odds against him. A few years since it was ascertained that seventy-five per cent. of the convicts in Pennsylvania prisons were orphaned children, yet because more than seventy-five per cent. of them could read, a critic was ready to aim an arrow, pointed with this fact, at the public schools. No doubt better schools might have saved some, but I submit, they should not bear all the burden; but if this unfair aspersion brought home to any teacher a keener realization of the weighty responsibility under which she works; if it aroused any community to the duty of looking after and caring for the waifs upon its streets, deprived of both home and school and becoming criminals by natural selection, then, indeed, even its unfairness may be excused.

I could wish that the elegant gentlemen who so coolly mark out for the "children of the laboring classes," as they are pleased to term them, the limit of school instruction beyond which it will be injurious for them to go, would wake up to the fact that all talk of "classes of society," or a boundary to learning, beyond which any child may not go, because he is to remain in the condition of his parents, is the idlest of idle talk in this land of ours. If, in the light of

the great problems, so pregnant with the good of the race, which have been wrought out in this New World in the last two hundred and fifty years, and wrought so largely by men and women who, if born in any other country on the face of the globe, must have remained "hewers of wood and drawers of water" because their parents were; if in the light of such a history as ours any man can seriously talk of the public school as an injury to any "class" of American society, I am tempted to say, "Though thou bray a fool in a mortar, yet will he not understand." And yet it may be true that our schools are not fully adapting themselves to the greatly changed condition of society as compared with that of even twenty-five years ago, the most marked of which changes is the growth of cities. The door must be kept open for the future Lincolns and Garfields, who have the persistence to push to the top, but we must adapt our schools to the wants of the thousands who will not go to the top. Do they meet the wants of the children of the great cities as well as they have met those of the small cities and the rural communities in the past? Emerson says, "The castle which conservatism is set to defend is the actual state of things, good and bad. The project of innovation is the best possible state of things. Conservatism goes for comfort, reform for truth." Teachers and school officers are not, as a class, prone to defend this castle. They are on the alert for innovations, and it behooves them to think much and act wisely on this point,—the growth of cities. In 1793, the proportion of our population living in cities was 3.3 per cent.; in 1840, it had reached 8.5; in 1860, 16.1; and in 1880, 22.5. This means a constantly increasing number of children growing up with idle hands; some of them in pleasant homes, some in the street, but all alike deprived of that invaluable training which comes to the child in the country and in small villages by his hourly contact with material things.

The blood of our cities so far has been kept healthful and vigorous only by the constant absorption of fresh, energetic country life. The rotation is so well established as to be familiar to all. The country boys come to the city; they have had a few weeks each year in the district school; they have risen early and worked hard; their playmates have been domestic animals more frequently than

other boys ; they have cultivated muscle by day, and read books by night ; their hardships have made them strong and self-reliant. By the side of their city cousins they are rude, often uncouth, but they swarm into the cities like the barbarians upon ancient Rome. Like the Goths and Vandals, also, they will conquer, to be in turn rendered effeminate by the voluptuous life they so eagerly seize ; their children, most likely, to be reconquered in the same way. Must this be so ? What is to be the end ? The struggle for life grows intense, as our wilderness becomes populous. Limits are already set to the " Boundless West," which through all our history has been our safety valve. The contests between labor and capital, which have increased so greatly in frequency and bitterness in the last ten years, are but the mutterings of the tempest that is to come, which warn us that the immunity from the ills of overcrowded population which we have enjoyed by reason of our vast extent of unoccupied territory, will soon be ours no longer. What then ? Is it possible to educate the town-bred child to be the equal in strength, endurance, and moral stamina of his country cousin ? Must the children, or the grandchildren, of the men who by industry and frugality win a fortune, die poor ? While this remains the rule, it is evident we have not learned how to educate boys and girls under conditions of wealth, and make much of them. Out of this manifest inadequacy of our present method of training city children, both in home and school, has grown the discussion of manual training as a factor in this great problem. Its place is not yet fixed, its results not yet determined. The public school can afford to wait the development of the experiments going forward by private munificence. How extensive these experiments are, under what differing circumstances and influences, may be judged by the fact that in the last twelve years more than ten millions of dollars have been given to found and support technical schools in this country. Such results as we look for, hope for, must be awaited with patience. If it be determined that manual training should have a place in the public schools as a substitute or a supplement, a place will be found for it. The American people will have such schools as they want ; never doubt that.

There are not wanting those among us who, having themselves been trained in other lands, and by methods

widely different from ours, are sure that we lack almost everything because we have not followed the time honored models of the Old World. We are told of the extraordinary examinations through which boys are able to pass successfully after being trained in the famous English schools; and again on other hands we are assured that until we adopt the German system of training teachers and supervising their work we must fall far short of the results which are there obtained. Now, first, I remark, that we can best judge a nation's school system by its men and women of forty years, not by its boys and girls of fourteen or twenty. Secondly, many men trained in the English schools have come among us during the last twenty-five years, and, as far as I have heard, they have generally found enough to do to hold their own among our "ill-trained Yankees." I do not know enough of the great English schools to discuss them, but until some one convinces me that the pictures drawn in Tom Brown, and the Autobiography of Anthony Trollope are vile slanders, and that these schools are not, and have not been in the recent past, such dens of mediaeval barbarity, as these books represent, I must avow a decided preference for the little red school house of New England, and the log cabin of the frontier, which have given us our Websters, Lincolns, and Garfields.

The German system of supervision, in which an absolute government inspector comes round and winds up the machine over the heads of the people, whose only part is to send the children to school, is doubtless very attractive to a considerable class of educated men, whose confidence in their own theories is confirmed by a chronic distrust of the power of the people to take care of themselves. But the most ordinary school district in America has in it the elements of a broader and more profound system of education, in placing the power and responsibility for schooling the children on the people themselves, and inviting all men to contribute their best ideas, and co-operate in the election of the administrators of instruction. Of course, this means a vast amount of crude school keeping, with a perpetual danger of collapse into the slough of partisan politics. But on the other hand, it never fails to educate an increasing body of intelligent men and women, whose

indirect supervision of the schools, in the long run, weeds out incompetent teachers, explodes impracticable methods, and does for the children the best thing under the circumstances. At any rate this is the American way in all things; not the direct, despotic supervision, but the indirect, constant, growing superintendency, that at last creates that atmosphere of intelligent public opinion, which is the most powerful agency for good in this world. This, and only this, is in harmony with the American doctrine that the best government is that which teaches us to govern ourselves.

A number of distinguished writers have told us in recent years, that the schools of to-day lack the efficiency of those of a generation ago; that if we would retrace our steps and reproduce the methods of the instructors of former days, results would be far more satisfactory. Fairly stated, the schools of to-day have no results. We must wait twenty years, at least, for them, and here, I think, is the basal error of those who admire the dead and gone schools of the last generation. They compare boys and girls now in school with men and women who have been twenty or more years in the broader school of life. Judged in this manner, of course our schools must suffer. I have a profound and reverent admiration for the stern men and women who, amid all the terrible discouragements of the early settlement of New England, resolutely insisted that none of the children of the community should be allowed to grow up in ignorance. As Warner so admirably puts it, "The Mayflower did not bring over a sewing machine, but a bit of paper on which was written the charter of human rights and duties. The Pilgrims built a church before they built a ship; they set up a school house long before they thought of a factory. The first seeds they sowed were those of education. They quarried their wealth in chunks of energy, industry and faith out of the old family Bible." But I insist that the claim that these first rude schools—rude because everything else was rude—kept even pace with the improvements of all other social institutions for two hundred years, then halted while everything else continued its onward march, is, to say the least, inexplicable, and to be credible must be supported by indubitable facts. What are the facts adduced? In brief, they are

the excellencies of the old, often enchanted by distance, compared with admitted defects in the new, or to state it differently, the men of to-day are compared with the boys of to-day, to prove the superiority of the schools of fifty years ago. When a gray-haired patriarch will sit calmly down and reproduce for us the school of his boyhood as it really was, it is easy, then, to see that the school has been no exception to the general march of progress. Those who have had the privilege of reading the recent articles of Superintendent Harrington, of New Bedford, in the New England Journal, realize how true this is.

I have in my possession an arithmetic printed in 1807, and used by my father. It is, at least, one of the very first of its kind published in this country. I am sure the most sturdy advocate of the old schools, not even Edward Everett Hale or Dr. Hudson, would recommend it as preferable to any now in use. Since instruction began, it has been true that the teacher makes the school, and that among those who wielded the rod fifty years ago—for that was a laborious part of their business—there were doubtless men who roused the nobler impulses in their pupils in spite of the gross imperfections of prevailing methods of instruction, and the sickening brutalities of discipline. It is said that our school books are filled with matter which has no connection with practical life. A brief examination of this book proves that the every step of the evolution by which the modern book has grown out of this one, has been an attempt to bridge the chasm between school and business.

I cannot pursue the subject. I stand by the American public school, as it has been, as it is, as it will come to be, with its many human defects, as the best seminary yet devised in which to train American citizens. If everything which England has taught us in the century concerning public education were obliterated, it would leave no void, so they left us Thomas Arnold. He sowed seed at Rugby which is now ripening in both hemispheres. Grand and great as England is, she cannot hold such a man; he belongs to the race and the age. His life has been an inspiration to a generation of teachers; the spell of his influence more potent now, because more widely extended than when he died. Died? Such men cannot die.

To Germany we are indebted to the formula of Froebel—that the mind of a child is a force to be directed, not a magazine to be filled—beyond that we owe little in this department to Continental Europe. The probability is far greater that Germany will adopt our system, in which the people are the source of power in school affairs, as in all others, than that we shall borrow the despotic system of Germany. I have not the space here in which to state my reasons, but I hold to the American school for American children, with the achievements of a century of national life, behind me, to which I point all cavaliers.

Does some one say this is but pluming the American eagle? Very well. Let him scold. Bid him scream. He's our bird. I would I had space here to quote from the speech made last year in Parliament, by Mr. Labouchere, in which he compares the English board schools with the public schools of the State of Illinois, showing, beyond question, the signal superiority of the Illinois schools.

In 1876 the French government sent a number of gentlemen here—educational experts—for the express purpose of examining our school. I commend their report to that small class of my countrymen who imagine it to be evidence of culture to claim superior excellence for European educational methods. My extracts shall be brief: "Need one be astonished, then," say they, "at the frank pride with which the American citizen speaks of his schools? Has he not a right to be proud when he shows us the son and the daughter of the humblest citizen so mentally elevated that between them and the privileged of fortune no difference of culture, no trace of intellectual inferiority, is to be discovered? If it is glorious to see society freely giving to the poor the benefit of a public school education, is it not a still more extraordinary spectacle to behold a nation that deems it would wrong its humblest citizens were their children denied *any* opportunity for the full and free expansion of their minds? So far as social equality can possibly be reached on this earth, it is attained by the American school. In other countries it is to be feared that the children of different classes of society, though brought together for awhile in the public school, must soon find themselves separated by the whole distance between their respective families. In the United States every effort is made to delay and to diminish this



separation, to carry as far as possible, and as high as possible, that common instruction which effaces the distinction of rich and poor. If it be true that the prosperity of a republic is in the direct ratio of the replenishment of its middle classes, of the abundance and facility in the indefinite recruiting of these classes, then the school of the United States is the best investment that can possibly be made."

These are the honest words of educated foreigners, who came here to observe, not to parade their own superiority.

The school of the future will not be that of to-day. The times press it; the changing conditions of national life are laying upon it new burdens, which cannot be shirked; the great Church of Rome has declared open war upon the schools from its every pulpit in the land. These are but the voice of God to the schools, repeating the command given to Moses on the sea shore, "Speak unto the children of Israel, that they go forward."

We shall not return to the schools of the fathers, albeit there have been, and will be, old gentlemen with kindly memories and a sharp pen, who will bewail the degeneracy of the times. That has been common since the days of Solomon, but we nor our children will take no steps backward in any matter touching the training of the children of the Republic. And now, in severing finally my official connection with the public schools of Colorado, I bid adieu to the people of the State with this sentiment: The American Public School, right or wrong. If right, to be kept right; if wrong, to be set right.

#### RECOMMENDATIONS.

The changes in the school law, which experience indicates are required, are mostly such as are needed to clear up ambiguities, and render it less liable to be misunderstood. Beyond this and the correction of clerical errors due to the hurry of the last days of the short sessions of the General Assembly, I recommend:

*First*—That the school year be made to end with June 30, instead of August 31. This will make it coincide with

the time for balancing the books of the county treasurer, and save much trouble; and I am advised from the National Bureau at Washington, that June 30 will make our year agree with that of many other States, and hence make a better adjustment of statistics. It will occasion very little inconvenience to district officers, and will give time enough to insure the rendering of the yearly report in season. It will necessitate some change in the time of taking the census, which ought to be done in mid-winter, when the majority of district secretaries are not too busy to attend to it properly.

*Second* --Section 50 should be so changed as to prohibit school boards from paying any member of such board for his services as a member of said board, only excepting the payment of the secretary a reasonable per diem for the time necessarily spent in the duties of his office. Taking the annual census, keeping the district records, and making the lawful reports, are of vital importance to the district, and should be well done and paid for; but the payment of salaries to other members of the board is a perversion of the school fund, and should be prohibited.

*Third*—The law should be so changed that treasurers, in districts where no money, or but trifling sums, will come into their hand, need not be required to give bond.

*Fourth*—The special building fund should be consolidated with the special school fund. The people of a district may safely be left to their own discretion in the disposal of their special funds. If kept separate, it makes much additional work for the county treasurers, for which there is no adequate gain to the public service. As a matter of fact, many, if not most of the treasurers now keep the two as one fund, and the law should be changed accordingly.

*Fifth*—As to the need of changes in the laws concerning the State educational institutions, the reports of the institutions will speak. I wish to call special attention to the imperative demand of experience for such change in the law concerning the Mute and Blind Institute as will enable the trustees to appoint a competent man as superintendent, who will be in fact the responsible head of the institution in

all its departments. Upon no other plan can this or any other institution be successfully conducted.

*Sixth*—A number of other western States have, by act of legislature, put the 5,000,000 acres internal improvement land into the public school fund. There is a general desire that the legislature shall transfer the proceeds of the internal improvement land, realized to date, to the capitol building fund. I suggest to the legislature the desirability of transferring the remainder yet to be derived from these lands to the public school fund. Several States have transferred the entire 500,000 acres to that fund.

I have been urged to recommend that instruction concerning the action of alcohol upon the human body be made compulsory in the public schools. It is very desirable that some changes be made in our school physiologies, enlarging upon the pernicious effects of stimulants and narcotics, and authors and publishers are recognizing the demand, and meeting it promptly. There are text books already in the market containing the desired amplification on these points; but I am not one of those who expect the dawn of the temperance millenium when all school children receive this special and useful instruction. Among the scores of human wrecks it has been my misfortune to meet, I have yet to know of one who became an inebriate through ignorance of the effects of intoxicating liquor upon both body and soul. The question is, as I view it, a question of morals far more than of physiology, and the teaching of correct morals depends upon the *teacher*, not the *law*. The law can inquire into the character of the teacher, but to attempt, by legal enactment, to enforce the teaching of good morals, as if it were arithmetic or geography, is a waste of words. Every district can, if such be the desire of the people, secure such teachers as will give most effective moral instruction, not by set lectures—not by giving so many minutes of the daily programme to the teaching of morality but by remembering:

“That correct example is vitally important as a means of influencing others; that the teaching which tells on character is not chiefly by word; that life is more than logic; character more mighty than catechism. Matthew Arnold affirms that conduct is three-fourths of life. To

moral teaching it bears a larger proportion. Truth will have little vitality apart from the personality of the teacher. One must be, in order to do and to teach. A consistent example is the most convincing of arguments. 'Come' inspires conviction; 'go' awakens doubt." A wine drinker cannot be relied on to teach children correctly the effects of whisky, because the law says he shall do it. Home-brewed ale is no more virtuous than commercial XXX. A genteel tippler has no moral advantage over a ragged toper. Any cherished habit of self-indulgence weakens one's moral influence. Not a few are handicapped in their advocacy of temperance by the quid or cigar. "Who can bring a clean thing out of an unclean?" The American people will have such schools as they believe in and demand, and it is only necessary that any district should realize that the teacher is of more consequence than the law, and it will, if it desire, have temperance taught in the most telling manner without legislative enactment. Without realizing this vital fact, no act of legislature can secure correct moral instruction in the school room.

#### STATE LIBRARY.

By the use of the appropriation made by the Fourth General Assembly, the library has been shelved, the books cleaned of the accumulated dust of some years of neglect, and arranged and catalogued, and the remainder of the appropriation expended in new books of reference and permanent value, and the bills filed with the State Auditor. A copy of the new catalogue is submitted with this report, which will show what the library now contains.

## STATE UNIVERSITY.

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*To the Superintendent of Public Instruction of the State of Colorado:*

SIR:—I have the honor herewith to submit the following biennial report:

The Constitution of the State of Colorado provides for the election of a Board of Regents of the University, and defines its duties. While the Boards of Control of the other educational institutions of the State are appointed by the Governor, the members of the Boards of Regents are elected directly by the people [Const., Art. IX., Secs. 12, 13, 14], thus bringing the management of the University as near the people as practicable. The Organic Act, establishing and providing for the maintenance of the University, was passed by the General Assembly of Colorado March, 1877, and provides as follows:

“The University shall include a classical, philosophical, normal, scientific, law and such other departments, with such courses of instruction and elective studies as the Board of Regents may determine, and a department of the physical sciences. The Board shall have authority to confer such degrees and grant such diplomas as are usually conferred and granted by other Universities. And the Board of Regents is hereby authorized and required to establish a preparatory department, which shall be under the control of said Board of Regents, as are the other departments of the University. Nothing in this action shall be so construed as to require the Regents to establish the several departments, other than the normal and preparatory, as herein provided, until such time as, in their judgment, the wants and necessities of the people require.”

In accordance with the above named provisions, the Board has established, and there is now maintained, a

preparatory, a normal, a classic, a scientific and a medical department.

Since my last report, I believe I am justified in stating that the University has had a constant and healthful growth, as the following statistics and other facts will disclose:

Whole number of pupils in attendance.....	145
College classes.....	13
Preparatory school.....	100
Normal school.....	31
Special students.....	17
Medical students.....	2
Counties of Colorado represented.....	15
Other States represented.....	8

## ATTENDANCE BY TERMS.

	1882-1883.			1883-1884.		
	First Term.	Second Term.	Third Term.	First Term.	Second Term.	Third Term.
Preparatory and Normal ) Male.....	33	28	16	37	25	15
Schools..... ) Female..	40	34	25	51	41	33
Literary and Scientific ) Male.....	9	9	7	9	8	7
Dept. of College..... ) Female..	3	2	1	1	1	0
Medical Department..... ) Male.....	...	...	...	2	2	1
Department of Music..... ) Male.....	...	...	...	3	3	3
Female..	...	...	...	5	5	5
Totals.....	85	73	49	108	85	64

Average attendance per term, 1880-1.....	63
Average attendance per term, 1881-2.....	60
Average attendance per term, 1882-3.....	69
Average attendance per term, 1883-4.....	86

Amount of orders drawn on general fund from September 30, 1882, to September 30, 1884:

Regents.....	\$ 1,663.00
Salaries—Professors.....	32,955.00
Janitor.....	1,570.20
Fuel.....	1,090.53
Furniture.....	1,092.71
Laboratory.....	164.38
Library.....	149.91
Buildings and Grounds.....	1,734.82
Advertising.....	2,013.02
Telephone rent.....	240.00
Botanical and Geological Collection.....	104.80
Stationery.....	797.77
Sundries.....	1,372.86
	<u>\$44,049.00</u>

Amount of orders drawn on special fund from May 10, 1883, to September 30, 1884:

Cottages for Students and President's Residence.....	\$15,017 45
Buildings and Grounds.....	4,893 36
Library.....	459 28
Apparatus.....	717 50
Furniture.....	704 25
Total.....	\$21,791 84
Total expenditures.....	\$65,840 84

## STATEMENT

OF RECEIPTS AND DISBURSEMENTS OF C. G. BUCKINGHAM, TREASURER OF THE UNIVERSITY OF COLORADO, FROM OCTOBER 1, 1882, TO MARCH 17, 1884, BOTH INCLUSIVE.

## GENERAL FUND.

Received from Treasurer State of Colorado.....	\$33,246 44
Received from sundry sources.....	1,020 00
	\$34,266 44
<i>Contra.</i>	
Disbursed as per vouchers.....	\$35,327 90

## BUILDING FUND.

Received from Treasurer State of Colorado.....	\$11,700 00
<i>Contra.</i>	
Disbursed as per vouchers.....	3,992 40

## RECAPITULATION.

Receipts for account General Fund.....	\$34,266 40
Receipts for account Building Fund.....	11,700 00
	\$45,966 40
<i>Contra.</i>	
Disbursed on account General Fund.....	\$35,327 90
Disbursed on account Building Fund.....	3,992 40
Due as per former statement.....	34 97
Turned over to W. I. Jenkins, Treasurer.....	6,611 17
	\$45,966 44

## STATEMENT

OF RECEIPTS AND DISBURSEMENTS OF W. I. JENKINS, TREASURER  
OF THE UNIVERSITY OF COLORADO, FROM MARCH 18, 1884, TO  
OCTOBER 1, 1884, BOTH DATES INCLUSIVE.

## GENERAL FUND.

Received from Treasurer of State of Colorado.....	\$ 9,800 00
Received from sundry other sources.....	62 50
Total receipts.....	\$ 9,862 50
<i>Contra.</i>	
Disbursed as per vouchers.....	\$ 8,840 40
Balance cash on hand.....	\$ 1,022 10

## BUILDING FUND.

Received from C. G. Buckingham, Treasurer.....	\$ 6,611 17
Received from Treasurer of State of Colorado.....	7,900 00
Total receipts.....	\$14,511 17
<i>Contra.</i>	
Disbursements as per vouchers.....	\$14,486 27
Balance cash on hand.....	\$ 24 90

## RECAPITULATION.

Receipts for account General Fund.....	\$ 9,862 50
Receipts for account Building Fund.....	14,511 17
Total receipts.....	\$24,373 67
<i>Contra.</i>	
Disbursements for account of General Fund.....	\$ 8,840 40
Disbursements for account of Building Fund.....	14,486 27
Total disbursements.....	\$23,326 67
Balance cash on hand.....	\$ 1,047 00

The following are the names and titles of the present members of the faculty, with the salary of each:

Joseph A. Sewall, M. D., LL. D., President, Professor of Chemistry and Metallurgy.....	\$3,500 00
Isaac Dennett, A. M., Professor of Latin.....	2,200 00
Paul H. Hanus, B. S., Professor of Mathematics.....	2,000 00
Mary Rippon, Professor of German and French.....	1,250 00
James W. Bell, Ph. D., Professor of Political Economy and History.....	1,600 00



W. F. C. Hasson, (Assistant Engineer U. S. Navy,) Professor of Mechanics and Applied Mathematics .....	1,000 00
J. Raymond Brackett, Ph. D., Professor of English Literature and Greek.....	1,800 00
William R. Whitehead, M. D., Professor of Anatomy and Surgery.....	1,500 00
Charles Ambrook, M. D., Professor of Theory and Practice of Medicine.....	*.....
James H. Kimball, M. D., Professor of Physiology, Materia Medica and Therapeutics.....	*.....
Thomas H. Everts, M. D., Professor of Obstetrics and Diseases of Women.....	*.....
H. W. McLauthlin, M. D., Lecturer on Pathology and Histology.....	*.....
George Cleary, M. D., Lecturer on Ophthalmology and Otology.....	*.....
Edward C. Wolcott, Librarian .....	175 00
W. H. Mershon, Licensed Instructor in Music .....	No salary

\*Salary made contingent upon continuation of appropriation by the State.

#### NORMAL SCHOOL.

In arranging the course of study of the preparatory and normal schools, it was deemed advisable, as the faculty is so limited in number, and the classes so numerous, to combine the first and second years of the course in the two departments. Arrangements will be made, however, to give a course of lectures on Pedagogy for the benefit of students who do not complete the course, but who will, as undergraduates, teach in the schools of the State. By adopting this plan of combining the academic work of the two schools for the first and second years, the standard of the normal school was not only placed much higher, but together with other minor changes, the board was enabled to reduce the annual expense for salaries \$4,450.

#### MILITARY.

The State having supplied the University with rifles, a cadet corps has been organized under efficient discipline. None but students at the University are admitted to the corps. Students desirous of becoming members at their own discretion, present a written application to the commandant. This application being accepted, the student becomes subject to the regulations governing the corps, and his option ceases. The commandant reserves the right to reject any application. The cadets are drilled in the schools of the soldier and the company. The corps numbered thirty-two during the years 1883-4. The cadets make a commendable appearance in ranks, and their general carriage and manners are improved in a marked degree. The cadet officers are instructed by Assistant Engineer W. F.

C. Hasson, U. S. Navy, who was detailed in May, 1883, by the Secretary of the United States Navy, to give instruction in mechanics and engineering at this institution.

#### LITERARY AND SCIENTIFIC DEPARTMENT.

The entire department has been remodeled, and now offers to students one hundred and ten courses in seventeen branches of literature, language, mathematics, and physical science.

#### PREPARATORY SCHOOL.

In order to place the standard of admission to the various departments of the University on an equality with the ranking institutions of the United States, the course of study in the preparatory school has been extended from three to four years.

During the two years, fifteen have completed the preparatory course of study, and received certificates. Three have completed collegiate courses, and received degrees; two receiving the degree of B. S., and one B. A.

Since my last report, extensive alterations and improvements have been made in the University buildings; the library has been enlarged; several small rooms on the third floor have been thrown into one, affording a commodious lecture room, a large well ventilated dissecting room, furnished with lead floor, dissecting tables and water supplied.

The auditorium or chapel has been furnished, making as fine a room as there is in the State. Additions have been made to the furnishing of the several class rooms in the way of tablet settees, wall maps, charts, etc.

About one thousand dollars' worth of books have been added to the library; two hundred dollars of which was donated by Mr. C. G. Buckingham.

The following instruments have been furnished for the departments of surveying and engineering:

Gurley's engineer's transit, with solar attachment; Gurley's Y level [20-inch] and New York rod; Chesterman's steel tape; brazed steel chain; set of marking pins

A team of horses was purchased in the spring of 1883, from the proceeds of land donated to the University by Mr. Wm. Arnett, 1875, and has been constantly and profitably employed in working upon the grounds, hauling coal, etc.

In addition to these substantial improvements upon and in the main buildings, a portion of the ground has been cleared of boulders, and two stone bridges have been built, each containing about three hundred tons of stone.

Five additional buildings, including the hospital, have been built, costing in the aggregate about twenty-three thousand dollars.

#### MEDICAL DEPARTMENT.

Since my last report, the School of Medicine and Surgery has been established as a department of the University. It was estimated that not less than one hundred practitioners of medicine were coming to Colorado each year, and a careful investigation of the report of the State board of medical examiners for 1883, indicates the fact that this supply, in many instances, was not of the most desirable quality. Yet the fact of their coming and finding remunerative employment indicates a demand for competent medical practitioners. And as it seems to be the settled policy of the State, as indicated by its constitutional and legislative acts, to present its educational advantages to all classes of its citizens seeking education, technical, literary, or professional, the Board of Regents believed that the time contemplated in paragraphs 2748 and 2758 of the general laws had arrived, and the taxpayer whose son desired to study medicine had the same rights as his brother who was receiving instruction in agriculture, mineralogy, chemistry, civil or mining engineering, surveying or pedagogy. Conceding that all the taxpayers had a right to the fostering care of the State in conserving their health, so far as to give to those desirous of following medicine as a profession, opportunity to acquire the necessary knowledge, the Board of Regents unanimously decided that the medical department should be organized and maintained. In August, 1883, the board appointed a professor of anatomy and physiology, who entered upon his duties in September, 1883.

There was little opportunity for the proper advertising of the school before the opening of the term, and as it was deemed best to limit the new department to first year students, thus obviating the necessity of appointing a full corps of instructors, and at the same time making the expenses of the first year as small as possible, this plan compelled the faculty to reject several applicants who were advanced in their standing; with these provisions two students were matriculated.

In August, 1884, the board made the necessary arrangements for the appointment of a corps of teachers for the medical department, and for the erection of a hospital upon the grounds of the university. The board recognizes the fact that the hospital should be entirely under the control of the medical faculty, and all who are conversant with the history of hospital management will heartily approve of its action in this particular, and the necessity of such an institution for the purpose of giving practical bedside instruction to those to whom the State would in the near future look as protectors of the public health, is apparent to all.

The hospital is situated on the southeast corner of the university grounds, easy of access to students. It is modeled after the plan of the United States army post hospitals, having two wings or one story wards, attached to a central administrative building, with a rear extension divided into kitchen, dining room and store room. The central building and one wing or ward has been erected, and the other wing can be added when needed, and in the future, should the number of patients make it necessary, the accommodations can be indefinitely increased, at a minimum cost, by adding wards at right angles to those already erected, thus securing most of the advantages of the pavilion plan at the least possible cost.

The hospital, when opened (January 1, 1885,) will accommodate thirty patients; it is intended to receive all classes of patients except cases of contagious diseases, which will be cared for in special quarters provided for them away from the university grounds.

The hospital is for any sick person who can pay from seven to fourteen dollars a week, according to accommo-

dations; at present no free beds are provided, but such may be arranged for in the near future.

The present medical faculty is as given above.

The term of study extends over three years of nine months each, and the studies are so arranged that they can be pursued in courses of first, second and third years, or in mixed classes.

The question of fees was duly considered, and it was thought that, as the State gave instruction free in all its institutions, academical, technical and agricultural, there could be no good reason for a new departure in its medical school. If onerous tuition fees were charged, it would present the spectacle of making the noblest pursuit, that of making preparation for alleviating human suffering, dependent upon mere money qualifications, and not ability, and this decision has additional weight from the fact that at the Agricultural College, veterinary surgery is taught without fees. The inference is that the State is willing to do as much for its citizens as for its animals.

This being the first year that it was announced as a medical school, teaching all branches, is practically its first year, and its success is gratifying to all its friends, there being sixteen matriculants.

The requirements for admission are: A degree in arts and sciences, a high school diploma, or a satisfactory examination equivalent thereto.

The requirements for graduation are: Three years' study, actual dissection and chemical laboratory work, with not less than two courses of lectures, three being recommended, and satisfactory examinations, both written and oral.

#### EDUCATION AND THE STATE.

We boast of our free institutions—of the democratic idea. We proudly exclaim and declaim that in our country there is no lordly aristocracy, no great kingly power to crush, no oppressing ecclesiastical authority to which we are subject and must bow. But, with all our

boasting, we feel that though we all have equal civil and religious liberty in the fullest measure; though the poorest man stands the same before the law as the richest; though each is permitted to worship God according to the dictates of his own conscience; and the poorest and lowliest citizen has the same political rights as his richest and proudest neighbor—still, we somehow have a smouldering idea, a dim belief, that there is, after all, a class distinction, a seeming aristocracy, which, the more we contemplate and investigate, appears the more real. The aristocracy of wealth.

The masses growl "Monopoly"; the partisan press finds it convenient to utilize the fact as political capital, and the pulpit lays great stress upon the text relating to the camel, the needle's eye and the rich man. Now, if it be true that there is an aristocracy of wealth springing up; if our boast equality of rank is only seeming; and, if it be true that though the masses have equal civil and political rights with the select few, yet it is apparent and true that while these civil and political rights have been given in the fullest measure, at the same time social equality has been lost, and castes have been established, class distinction based upon wealth.

The free public schools of our country, giving to all children, rich and poor alike, an opportunity to secure a common school education, acts as a partial leveler, and tends to make class distinction less marked; while higher educational privileges—the State universities and colleges—go far to neutralize the evil tendencies of great unequal distribution of wealth. Abolish the free or State institutions of higher education, and in a short time there would arise an aristocracy based upon wealth and intelligence, and the few, with these elements of power, wealth and intelligence, could and would hold control of the great majority; for poverty with ignorance is no match for either wealth or intelligence.

In fact, the free public school system seems to be the one great, efficient bar against a despotism of wealth and intelligence—a despotism as strong and as hard and as cold as any that ever rested upon a people.

## THE PRACTICAL IN EDUCATION.

There is a strong tendency in the present age to regard what is called *theoretical* in education as of no value; in fact, making it synonymous with impractical.

The *practical* is what is demanded.

But in demanding the practical, it is well to consider the source from which this practical comes.

Do engineers build the bridges that span the rivers and then construct theories with regard to the transmission of strains and stresses? Are lines of irrigating ditches constructed before the development of theories with regard to the flow and velocity of streams?

When a thorough and exhaustive study of the structure of a grain of wheat has been made—and it was a marvelous study, the results of which filled a large volume—the miller applied the theory derived from this purely theoretical study and investigation, and made more and better flour from a given quantity of wheat.

The only real is the ideal. The only practical is an outcropping of this ideal. Every machine that is used by man, from the simplest to the most complicated, is but an imperfect material representation of the ideal that preceded. The steam engine with all its complications is only an idea stamped in the material. The idea is greater than the material, inasmuch as the idea is the progenitor—the creator—while the material—the machine—is the product, the created.

The Ancient and Modern Languages, Higher Mathematics, Science, Philosophy, and the rest, are non-practical studies; but somehow experience has taught us that the pursuit of these studies develops and makes strong men.

The clicking of the telegraph and the speaking of the telephone were heard before a pole had been set, a wire stretched, or a battery charged. The whole apparatus was set up and tested in the brain of the inventor before it passed into the material—the actual—the practical.

Froude, England's great historian, says:

"If this age is to stake its reputation on steam engines and money getting, on its rejection of what ages have proven good in education, morals, society, to gain what is merely practical, the dreariest farce in history will have been acted, and men will see it in that light when impartial minds shall, a few hundred years from now, sit in judgment on what we have done."

The purpose for which the institution was established is clearly set forth in the language of the organic act. And what has been done by the Board of Regents and by the faculty accords as nearly as possible with the spirit and intent of that organic act. The best and truest friends of the institution, those best acquainted with its affairs, do not claim for it perfection, or that the results are all that could have been wished.

Let the institution be judged by the results attained. But let the judgment be candid, honest and intelligent; let it be based on truth and not on some irresponsible "they say," or the biased testimony of prejudice.

We desire that what *is done*, should be known and understood. If any citizen wishes to know what is here being done for the promotion of higher education, let him come and see. He shall have full opportunity to observe and judge for himself.

Respectfully submitted,

J. A. SEWALL,

*President of the University of Colorado.*

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#### MINIMUM REQUIREMENTS IN CERTAIN SUBJECTS

*For Admission to the University of Colorado.*

Such a course of study for the State Preparatory School has been prescribed as, in the judgment of the Faculty, best prepares for college. The University has no intention of lowering its standard, and all candidates are



urged to do the work prescribed in its preparatory course. But students will be admitted from schools not having instructors enough to teach all the branches required, provided the course is, in other respects, sufficiently thorough and extended. The following work, however, cannot be omitted:

*I.—Minimum requirements of candidates for courses leading to the degree of Bachelor of Arts :*

\*1. LATIN—*Latin Grammar*—A thorough preparation in the elements; Jones's Latin Prose Composition, or an equivalent in Harkness or Arnold; Cæsar—four books of the Gallic war; Cicero—three orations; Virgil—first six books of the *Æneid*.

2. GREEK—Hadley's or Goodwin's Greek Grammar; White's Lessons; Jones's Greek Prose Composition; Xenophon—*Anabasis*, four books.

3. MATHEMATICS—*Arithmetic*—Common and decimal fractions; compound numbers, including applications of the metric system; percentage; interest; involution and evolution. *Algebra*—Through quadratic equation, *i. e.*, as much as is contained in Olney's Complete Algebra, omitting the Progressions and the "Business Arithmetic." *Geometry*—Plane Geometry, *i. e.*, the first five books of Chauvenet, or as far as Article 380 of Olney's Geometry.

4. ENGLISH—An essay on a subject assigned at the time of examination. In 1885 the subjects will be taken from Shakespeare's "Merchant of Venice," Hawthorne's "Scarlet Letter," Bryant's "Thanatopsis;" in 1886, from Shakespeare's "Hamlet," Longfellow's "Evangeline," Webster's "Reply to Hayne."

5. HISTORY—Roman History, to the death of Commodus; outlines of General History.

*II.—Minimum requirements of candidates for courses leading to the degree of Bachelor of Science :*

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\* NOTE—These requirements cannot be regarded as fixed. The continuous growth of the University, and the consequent extension of the courses of study will very probably necessitate considerable additions at an early date. For further information see University catalogues.

1. LATIN—*Latin Grammar*—Etymology and Syntax; Latin Lessons; Cæsar—four books of the Gallic war.

2. SCIENCE—*Chemistry*—Eliot and Storer's or Roscoe's Elements, omitting Organic Chemistry. *Botany*—Gray's Lessons. *Physics*—Gage's Elements of Physics, or Avery's Elements of Natural Philosophy.

3. MATHEMATICS—All the mathematics required under I., and in addition as follows: *Solid Geometry*—nine books of Chauvenet's Geometry. *Algebra*—Olney's Complete Algebra entire, including an elementary knowledge of logarithms.

4. ENGLISH—As under I.

5. HISTORY—Outlines of General History.

*III.—Requirements for admission to the Normal School:*

Candidates for admission to the Normal School must have passed the entrance examination to the Preparatory School, and have completed the work of the first two years, or its equivalent.

J. A. SEWALL,  
ISAAC DENNETT,  
PAUL H. HANUS,

*Committee on Minimum Requirements.*

# STATE AGRICULTURAL COLLEGE.

## REPORT OF THE PRESIDENT.

*To the State Superintendent of Public Instruction :*

SIR:—In accordance with the requirements of the Act of the General Assembly of the State of Colorado, approved February 11, 1881, I hereby submit the biennial report of the State Agricultural College, showing its growth and development, and, in part, the public work which it is now performing for the benefit of the State.

The former report was submitted soon after the reorganization of the college on a firm industrial basis, which was designed to make this institution something more than an industrial college in name. How well the present management have succeeded in this work, it is the province of this report to show, and whatever success has been attained has, in large measure, been the result of a steady course pursued both by board and faculty, and also to the fact that few changes have been made.

The present board, with terms of expiration of office, is as follows:

### STATE BOARD OF AGRICULTURE.

B. S. La Grange, Greeley	February, 1891
W. F. Watrous, Fort Collins	February, 1891
John J. Ryan, Loveland	February, 1889
Henry Foote, Del Norte	February, 1889
David Boyd, Greeley	February, 1887
Ozro Bracket, Frankstown	February, 1887
Hon. R. A. Southworth, Denver	February, 1885
*G. W. Rust, Boulder	February, 1885
His Excellency, Governor James B. Grant	Ex-officio
President, Charles L. Ingersoll	Ex-officio

\*Elected to fill vacancy caused by the decease of P. M. Hinman.

## OFFICERS.

David Boyd .....	President
W. F. Watrous .....	Secretary
Fred Walsen (ex-officio) .....	Treasurer

The present faculty, with salary paid each member, commencing September 1, 1884, is as follows:

## FACULTY OF INSTRUCTION.

	<i>Present Salary.</i>
Charles L. Ingersoll, M. S., President, Professor of Political Economy and Logic....	\$2,500
Ainsworth E. Blount, A. M., Professor of Agriculture, Superintendent of Farm.....	1,800
Charles F. Davis, M. S., Professor of Chemistry and Physics .....	1,400
Elwood Mead, B. S., C. E., Professor of Mathematics and Engineering.....	1,400
James Cassidy, Professor of Botany and Agriculture, Superintendent of Department	1,400
James W. Lawrence, Professor of Mechanics and Drawing.....	1,400
George C. Faville, B. S., D. V. M., Professor of Veterinary Science and Zoology....	1,400
Miss Ella Silcott, Instructor in Vocal and Instrumental Music.....	*
Mrs. C. L. Ingersoll, Matron of Ladies' Dormitory.....	400
W. F. Watrous, Secretary of State Board and Faculty.....	400

\*No salary—paid entirely by music fees.

The salaries paid are, in the main, much below those paid elsewhere for the same quantity and quality of work.

The faculty is largely composed of young, enthusiastic workers, and thorough work has been done by all.

To some the faculty may seem large, but when they know that twenty recitations are conducted each day, and that from five to nine squads of students are at labor in the various departments, as farm, garden and conservatory, mechanic shop, dissecting room, chemical laboratory, or field surveying, for two hours daily, and that this labor must be performed under the eye and direction of the instructor, they will then see that each professor has all the work he can perform; indeed, several are overworked when they undertake the investigation of questions which need to be answered for the people of the State.

The attendance at the college has increased in a steady and regular ratio until the present term, when there has been quite a notable increase. One feature of the attendance during the period covered by this report is that the students have remained for a longer period of time and

have become much more attached to the college and its work; they have also, more and more, taken the regular course.

The college sent out its first graduating class at the commencement held June 7, 1884. The class of three consisted of two gentlemen and one lady, and all were natives of Colorado. Two were residents of Larimer county, and the third was from Longmont, Boulder county.

The present senior class has six students, and the lower classes have increased numbers, so that in the college we have in—

College classes (regular)-----	44
College classes (special)-----	16
College classes (post graduates)-----	3
College classes (total)-----	63
Preparatory class-----	22
Total attendance-----	85

This is the daily attendance in classes at date of this report.

The table of attendance, showing the number of each sex and the attendance by terms, together with averages, is given below:

## ATTENDANCE.

TERMS.	1883.			1884.		
	Male.	Female.	Total.	Male.	Female.	Total.
First (winter) term.....	39	23	62	32	31	63
Second (spring) term.....	23	21	44	22	32	54
Third (fall) term.....	31	31	62	40	45	85
Average attendance.....	31	25	56	31 $\frac{1}{3}$	36	67 $\frac{1}{3}$
Total enrollment.....	51	39	90	55	52	107

The present course of instructions and labor is tabulated and annexed:

COURSE OF INSTRUCTION AND LABOR.

PREPARATORY YEAR.

First Term.....	Arithmetic.	Elocution.	El. Physiology.	English Analysis.	Labor on farm—2 hours.
Second Term.....	Arithmetic. } 20 weeks.	United States History.	Phys. Geography.	English Analysis.	Shop practice—2 hours.
Third Term.....	El. Algebra. } 20 weeks.	United States History.	Penmanship.	Word Analysis.	Labor on garden—2 hours.

FRESHMAN YEAR.

First Term.....	Geometry.	El. Rhetoric.	Drawing.	Agriculture Lectures.	Shop practice—2 hours.
Second Term.....	Geometry, completed.	Bookkeeping.	Drawing.	Botany.	Shop practice—2 hours.
Third Term.....	Algebra.	History (Ancient).	Drawing.	Botany.	Labor on farm—2 hours.

SOPHOMORE YEAR.

First Term.....	Algebra, completed.	History (Com.).	Drawing.	El. Chemistry.	Laboratory practice, 2 hrs.
Second Term.....	Trigonometry.	English Literature.	Drawing.	Organic Chemistry.	Shop practice—2 hours.
Third Term.....	Surveying.	English Literature.	Drawing.	Zoology.	Field surveys and levels.

JUNIOR YEAR.

First Term.....	Physics.	Rhetoric.	Geology.	Agricult'l Chemistry.	Chemical Analysis, 2 hrs
Second Term.....	Physics.	Floriculture.	Anatomy—6 weeks.	Agriculture Lectures	Laboratory work.
Third Term.....	Microscopy.	Horticulture.	Physiology—5 weeks.	Entomology.	Labor on garden, 2 hours, or Microscopy

SENIOR YEAR.

First Term.....	Chemical Physics.	Landscape Gardening.	Veterinary Science.	*Psychology.	Mechanics—2 hours shop
Second Term.....	Meteorology.	Moral Science.	Veterinary Science.	Logic.	practice.
Third Term.....	*Astronomy.	U. S. Constitution.	Veterinary Science.	Political Economy.	Clinics, Friday.

\* Elective, with Irrigation Engineering.

## HISTORY.

At the close of the previous report the faculty was composed of four (4) Professors, a Superintendent of Floral Department and a Farm Superintendent; the increased labor incident upon the addition of one full line of study and labor for the five years of the course, made it necessary to have more assistance.

Accordingly, at the last meeting of the State Board of Agriculture, held in 1882, the chair of Chemistry and Mathematics was divided, and Prof. Charles F. Davis retained as Professor of Chemistry and Physics, while the new chair of Mathematics and Engineering was created, and Prof. Elwood Mead, B. S., C. E., a graduate of Purdue University, and formerly connected with the United States Topographical Survey in the Ohio and Wabash valleys, was called to take charge of the department.

In February the Floral Department was consolidated with the Horticultural, which was in charge of the Farm Superintendent temporarily, and Prof. James Cassidy, of Michigan Agricultural College—a horticulturist of many years' experience and acknowledged ability—was called to the chair and placed in charge of the new department.

On March 21, 1883, Prof. Frank H. Williams, M. E., resigned, and Prof. James W. Lawrence, from Boston Institute of Technology, was elected to the chair of Mechanics and Drawing, to fill vacancy caused by resignation. The chair was very ably filled, and the work of the department went on almost without a break.

In August, 1883, the new department of Veterinary Science and Zoology was created, and Prof. George C. Faville, B. S. D. V. M., was called to the chair and put in charge of the department. The doctor is a graduate of the Iowa Agricultural College in both degrees, and a very valuable accession to our college and State, in everything which pertains to his line of work.

The Music Department was added to the list April 1, 1884, in order to give all students, but more especially the ladies, the opportunity to become proficient in this branch, which has almost ceased to be considered an accomplish-

ment, but a necessity, in every well-regulated home. Miss Ella Silcott, a graduate of the Music Department of Simpson Centenary College in Iowa—a lady highly recommended—has taken charge, and is giving excellent satisfaction.

The college has thus in two years been expanded to cover all the lines of work intended in the reorganization, and has the following distinct departments, viz:

Agriculture.

Horticulture and Botany.

Chemistry and Physics.

Mathematics and Engineering.

Mechanics and Drawing.

Veterinary Science and Zoology.

Music.

And, as thus organized, touches all the material interests in the State except mining, and this incidentally in the engineering and mechanics and drawing, thus teaching our students how to build houses or machinery and operate the same, while the veterinary department assists in all questions of diseased stock, of which the stockmen have stood in so much fear during the past year.

#### LEGISLATION.

The last legislature of the State passed an act creating a levy of one-fifth mill, annually, on each dollar of valuation; it also passed an act appropriating the sum of ten thousand (\$10,000) dollars, for mechanic shop and conservatory.

At the last session of Congress was passed an act making immediately available the 90,000 acres of land donated to the college, and this is being located for the future endowment of the college, when sold.

In the meantime, however, the State will be obliged to aid the school until the college can begin to realize from the endowment.



## IMPROVEMENTS.

With the appropriation of \$10,000, by adding some from one-fifth mill tax, we have erected a mechanic shop and equipped it well, at a cost of nearly twelve thousand (\$12,000) dollars, and a conservatory, with improved apparatus for heating, at a cost of two thousand seven hundred (\$2,700) dollars. We have also introduced water from the city water-works into the buildings for convenience and fire protection, and also have a good hydrant upon the ground, from which all the buildings can be reached; this cost about \$1,500. The building, originally erected for a barn, was changed into a chemical laboratory at a cost of \$1,450. This is the most complete in all its appointments of any laboratory in the State, though not as large as some. Water and gas are on each desk, and ventilating hoods keep the room clear of obnoxious gases, while the building is thoroughly plumbed for sewage. The grounds have been rapidly improved, so that even now we have one of the most attractive places in the State. In apparatus we have added largely to the chemical department, in machinery to the mechanical department, in instruments to the engineering department, and in surgical instruments and other material to the veterinary department, while our museum has grown to be the best general museum in the State, illustrating botany and forestry, zoology and comparative anatomy. The library has more than doubled and is growing rapidly. On the farm more fine stock has been secured, including some Clydesdale horses, while we have our conservatory filled with choice plants, many of economic value, and largely by the donations of friends of the institution.

## EXPERIMENTS.

The college has laid out an experimental ground of nearly twelve acres, which is entirely devoted to the comparative growth and treatment of all kind of farm products. The farm is carried on experimentally to some extent. The gardens are devoted largely to experimental work on vegetables, while the conservatory has been the scene of a large number of seed tests this year. The chemical department has been examining soils, corns and waters from different parts of the State, and conducting a series of observations

tri-daily, during the growing season, on soils, temperatures and the way in which soils are affected by irrigation. The veterinary department has been paying its attention to the so-called foot-and-mouth disease, Texas fever and "loco" poisoning of stock. The engineering department has been working a large portion of this year in conjunction with the State engineer in gauging the streams and ditches of Colorado, and in making experiments on the flow of water with the new instrument—a self-registering fluviameter—devised by our State engineer and purchased by our college. These experiments in due time will be published for the benefit of the people of the State, and will represent in part the interest and self-denying labor performed by our faculty during the summer vacation, when teachers in other institutions and other lines of work are spending their vacation in recuperation and rest.

The valuable agricultural display from our college, which has been at the Denver Exposition, and which never has been equalled in the United States, will be sent to the New Orleans World's Exposition—there to advertise the resources and possibilities of our State, while a fine educational display will be sent from other departments. The work of the college is thus threefold in its character :

*First*—Giving instruction such as shall educate mind, eye and hand, and send into the varied industries of the State men and women trained to make the best self-supporting citizens, those who will add to the material wealth of the State.

*Second*—To experiment in directions where private industry cannot, or will not, and put the results before the people for their benefit.

*Third*—To exhibit the work of our hands in various lines and call attention to the resources which lie hidden, as it were, in our soil, water and climate, and to protect the great stock interests of the State by the use which we can make of our veterinary department.

In closing, let me quote from Hon. J. L. Dow, M. P., of Australia, who spent several months in America investigating her resources, schools, systems of railroads, etc., etc. After having examined into the workings of one of the

oldest colleges of its class in the United States, and after having visited several colleges of the same kind in Canada and the United States, he says, in a book published in Melbourne on his return: "The Colorado Agricultural College, which although the youngest, is one of the best managed establishments of the kind in America." That we may be able to keep it up to this standard now attained, and even to improve upon it, is the earnest wish of each member of the faculty and the State Board of Agriculture, who have the institution under their supervision.

C. L. INGERSOLL,

*President.*

# STATE SCHOOL OF MINES.

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GOLDEN, COLO., December 1, 1884.

*To the Superintendent of Public Instruction of the State of Colorado:*

SIR—I have the honor herewith to submit the following report:

The general objects of the School of Mines, its courses and schemes of instruction, having been frequently set forth, both in its catalogues and in the last biennial report, it is thought unnecessary to recapitulate them in detail in the present one.

Since the biennial report of 1882, the new building has been completed, and during the winter of 1883-84 its outfit was increased by the addition of a laboratory, designed for the use of the professor and instructor in chemistry, for advanced students, and more especially for conducting scientific or technical investigations. The work done in the latter direction during the present year will be described later. The lecture room for physics has also been fitted up since the same date.

The number of students attending during the school year 1882-83 was sixty-nine; ladies taking instruction in drawing, sixteen; total, eighty-five.

The number attending during the school year 1883-84 was forty-nine; ladies attending as above, seventeen; total, seventy-six.

The number of students from Colorado is usually somewhat greater than from all other States and Territories combined. It may, however, be stated (although the present report properly carries the record only to September 1) that at present the Colorado students, exclusive

of ladies, are exactly equal in number to those from other States. In the past, single or "special" courses of instruction have been preferred by a majority of the students, but at present the tendency is toward full or regular courses. This is quite in accordance with the views of the present faculty, and new-comers are advised in all cases to take a regular course if possible.

It is not intended by any means to exclude special courses from the scheme of studies, but to expand them into something more than a *single* specialty. Thus, students in Assaying are required to pursue a laboratory course, besides lectures on General Chemistry and Stoichiometry, and attain a practical knowledge of quantitative operations, of which furnace work is but a single branch.

In the Chemical Department instruction in practical analysis is much more efficacious with the present facilities, and the improvement, both in the amount and quality of work done, over that accomplished before the completion of the present laboratories, is very marked. Advanced work in Analytical Chemistry is now being pursued by some of the students, for the first time since the opening of the school.

In connection with the courses in Mining Engineering, Geology and Metallurgy, excursions have been made to various points during the last two years. These have been to Central, Georgetown, Idaho Springs, Cañon City, Manitou, Pueblo and Leadville. Three more are in prospect for the present school year. Our thanks are due the management of the Denver and Rio Grande and Union Pacific Railroad Companies for reduced rates, whereby many students have been enabled to take these trips who would otherwise have been compelled to forego their advantages. Under direction of the professor in charge, each student is required to take full notes, and to write a descriptive thesis upon some subject connected with the trip. The benefit of thus combining active field work with the regular course, is sufficiently obvious.

The corps of instruction is, at present, constituted as follows:

Regis Chauvenet, A. M., B. S., Professor of Chemistry and Assaying. Salary.....	\$3,000
Arthur Lakes, Professor of Geology and Drawing Salary.....	1,500
Magnus C. Ihlseng, E. M., C. E., Ph. D., Professor of Engineering and Physics. Salary.....	1,800
Paul Megee, Ph. D., Professor of Mathematics. Salary.....	1,000
George C. Tilden, C. E., Instructor in Chemistry and Assaying. Salary.....	900

Previous to the last biennial report there was no Professor of Mathematics, the subject having been taught by the Professor of Engineering and an assistant. On the other hand, it has been found practical to reduce the corps somewhat for the year 1884-'85, by redistribution of duties among the present members, so that no new appointments have been made to fill the vacancies caused by the resignations of Professor Moss and Dr. Mackenzie. Although not intended as permanent, this reduction of force can be maintained without disadvantage during the present year, and will materially aid in extinguishing the debt of the school.

The necessary expenses of a technical school, outside of salaries, are, of course, greater than those of an institution where theoretical instruction only is given. A very large portion of the expenditure of the past two years is not to be charged to current expense, but to apparatus, fittings, and various appliances indispensable for any technological school, and which the School of Mines has had to supply from its annual income. It is only slowly that the full outfit of a school of this kind can be thus brought to completion, but we can now fairly say that our heaviest expenses are over, and our laboratories and assay-rooms are inferior in convenience and appliances to none in the West. No other institution of similar scope and facilities now exists between the Missouri River and San Francisco, and in the two years just passed, not one of the mining States or Territories has been without one or more representatives among the students.

During the past season the Board of Capitol Managers, having in charge, among other details, the selection of a suitable building material to be used in the construction of the new capitol, resolved to submit all the samples of stone sent to them to chemical and physical tests. No satisfactory report having been obtained from other sources, the matter was referred to the State School of Mines.

As, in the view of the trustees, investigations of this kind, of direct benefit to the State and of general interest, form a part of the proper functions of the school, no charge was made for the work. The report of the Board of Capitol Managers has been published, and that portion of the same undertaken by the School of Mines has been separately issued, and is transmitted herewith. It is believed that few States have as complete a record of their available building material as is presented in these publications.

It should be mentioned, as showing that the school is becoming favorably known, that applications have been made to it at several times during the past two years for chemists and assayers, to fill vacancies in this and other States and Territories. It has usually been practicable to answer at once, and furnish a competent incumbent from among the more advanced students or graduates. As it had been suggested that it might be a matter of interest to many to learn the present occupations of students who have left the school after taking more or less complete courses, inquiries were made resulting in the formation of a tolerably complete record, which is given below. It comprises all whose present residence and occupation is known, and who left the school from the spring term of 1881 to the same term of 1884. It will be seen that seven-eighths of the whole number are in Colorado and the mining Territories:

## RESIDENCES BY STATES.

Colorado.....	53	Oregon.....	1
Montana Territory.....	5	Dakota Territory.....	1
New Mexico Territory.....	6	Arizona Territory.....	1
Nebraska.....	1	Wyoming Territory.....	1
Idaho Territory.....	1	California.....	3
Utah Territory.....	1	Wisconsin.....	1
Kansas.....	1	New York.....	2
Illinois.....	2	Total.....	80

## OCCUPATIONS.

Assayers.....	21	Chemists.....	8
Superintendents.....	5	Students.....	4
Mining.....	12	Journalists.....	2
Mining Experts.....	2	Real Estate.....	2
Railroads.....	8	Lawyers.....	2
U. S. Deputy Surveyors.....	10	Druggist.....	1
Lumber.....	3	Total.....	80

## RECEIPTS AND EXPENDITURES.

The books of the Secretary of the State School of Mines and of the Professor in charge, from September 1, 1882, to November 30, 1884, show the following receipts and expenditures for the time noted, two years and two months:

## DEBIT.

Warrants drawn on State Auditor since last biennial report, viz.:	
From September 1, 1882, to September 1, 1883.....	\$29,100 00
From September 1, 1883, to November 30, 1884.....	27,398 30
Total for twenty-six months.....	\$56,498 30
Receipts from students since last biennial report, viz.:	
From September 1, 1882, to September 1, 1883.....	\$ 1,608 50
From September 1, 1882, to November 30, 1884.....	1,753 77
Total for twenty-six months.....	\$ 3,362 27
Total receipts from all sources for twenty-six months ending November 30, 1884.....	\$59,860 57

## CREDIT.

Vouchers issued for approved accounts since last biennial report, viz.:	
From September 1, 1882, to September 1, 1883.....	\$32,488 42
From September 1, 1883, to November 30, 1884.....	21,842 13
Total expenditures.....	\$54,330 55
Suspense account (due from Everett's bank).....	2,400 19
Grand total September 1, 1882, to November 30, 1884.....	\$56,730 74
Total receipts September 1, 1882, to November 30, 1884.....	\$59,860 57
Expenditures and suspense account (\$56,730.74) less cash in hands of Treasurer (\$328 39).....	56,402 35
Reduction of debt since October 12, 1882.....	\$ 3,458 22



SCHOOL OF MINES.

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DETAILS OF EXPENDITURES.

	1882-83.*	1883-84.†
Building and grounds.....	\$12,996 90	\$ 545 41
Furniture and fittings.....	2,459 06	1,042 30
Permanent apparatus.....	301 80	647 88
Library.....	217 68	185 29
Salaries.....	7,898 42	12,326 39
Repairs.....	6,7 88	722 11
Supplies (chemical and apparatus).....	3,850 83	3,089 69
Fuel, light and incidentals.....	472 81	642 05
Printing, advertising and stationery.....	1,680 02	890 63
Interest, insurance and expense accounts.....	2,002 46	1,750 38
Totals.....	\$32,488 42	\$21,842 13
Total for twenty-six months.....		\$54,330 55

\*Twelve months.

†Fourteen months.

STATEMENT OF SCHOOL DEBT.

Debt of school October 12, 1882.....	\$9,463 36
Debt of school November 30, 1884.....	6,005 14
Reduction in two years.....	\$3,458 22

The present debt of the institution (\$6,005.14) is covered by over-drafts on the State Auditor to the amount of \$6,500, which, when paid from taxes levied and in course of collection, will more than meet liabilities outstanding at the date of this report, November 30, 1884.

The Treasurer of the institution, Hon. F. E. Everett, who was also filling his third term as a member of the Board of Trustees, committed suicide at Golden, July 17, 1884, at which time his indebtedness to the school, as shown by the books of his banking house at Golden, was \$2,400.19, which amount is added to the expenditures for 1884. The affairs of the bank are now in process of settlement, and such amount as may be received of the indebtedness stated will go towards still further reducing the debt.

On July 30, 1884, Moritz Barth, Esq., of the City National Bank, Denver, was elected Treasurer of the school, and at the meeting of the Board of Trustees, held

August 21, 1884, the bond of the Treasurer, in the sum of \$10,000, with William Barth and John C. Kaufman as sureties, was formally accepted and placed in the hands of the President of the Board.

From the date of his qualification, August 21, until November 30, 1884, Mr. Barth received from the State Auditor \$5,298.30, and in cash from the Secretary of the Board of Trustees \$286.70, making \$5,585, out of which he paid warrants to the amount of \$5,256.61, leaving \$328.39 as cash on hand.

Respectfully submitted,

FREDERICK STEINHAUER,

*President Board of Trustees.*

# INSTITUTE FOR MUTE AND BLIND.

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COLORADO SPRINGS, December 2, 1884.

HON. JOS. C. SHATTUCK, *Superintendent of Public Instruction,  
Denver, Colo.:*

DEAR SIR—In compliance with the law I desire to give a brief statement regarding the Colorado Institute for Mute and Blind, over whose educational department I have the honor to preside.

The total number of pupils who have been under instruction during the two years is fifty-nine, though some of these were here only for a short time. The average attendance per session has been about forty-five.

General good health has prevailed and the work of the school has been uninterrupted. There has been a slow, but gradual increase in the number who avail themselves of the benefits so kindly offered by the State, and we hope that as information concerning the object and scope of the institution becomes more generally diffused, we shall be able to gather into our walls all who need our assistance to become good, useful and self-supporting citizens.

The institution is a part of the public school system of the State, and designs by its special appliances and methods to educate those who could not be reached in the ordinary way. It is of necessity a boarding school, for in no one community of a sparsely settled State could a sufficient number of pupils be gathered to justify the expense of organizing a school.

We endeavor to give those committed to us a fair English education, to instruct them in some useful trade, and so to train them in morals that they may apprehend their duties to their fellow-man and the Supreme Being.

Since our last report a blind department has been organized, and we now have ten pupils who are making creditable progress under their two teachers—one instructing them in the ordinary branches and the other in music. Some of the smaller pupils are becoming quite proficient in kindergarten work.

There are four teachers in the Deaf Mute department and two in that of the Blind. The salaries of the officers are as follows:

Principal.....	\$1,500
Matron and Acting Superintendent.....	900
First Teacher, Deaf Mute Department.....	1,200
Second Teacher, Deaf Mute Department.....	480
Third Teacher, Deaf Mute Department.....	300
First Teacher, Blind Department.....	600
Second Teacher, Blind Department.....	400

In conclusion, I desire to request you to emphasize the duty of county superintendents, or rather the secretaries of the school districts, to report all the blind and deaf children in their respective districts between the ages of four and twenty-one years. This, though prescribed by law, has not been done heretofore, and hence we have been unable to lay before the parents of such children the information they so much need. Many of them have no just conception of the institution and its work, but regard it more as an asylum than as a school.

Holding myself in readiness to hand you any information you may desire,

I am, with great respect, yours truly,

D. C. DUDLEY,

*Principal.*

# STATE INDUSTRIAL SCHOOL.

## SUMMARY OF THE SECOND BIENNIAL REPORT OF THE STATE INDUSTRIAL SCHOOL, AT GOLDEN, JEF- FERSON COUNTY, COLORADO.

The State Industrial School was formally opened July 16, 1881, and has since received 196 pupils—116 of whom were admitted during the past biennial term.

THERE HAS BEEN EXPENDED DURING THE PAST TWO YEARS:

For ordinary expenses .....	\$44,467 90
For building and other extraordinary expenses.....	29,465 18
Total.....	\$73,933 08

The appropriation made by the General Assembly in 1883 was exhausted in November of the same year, and the hopes of the Board of Control that State certificates of indebtedness could be issued to support the school until a new appropriation should be made, were disappointed. In this dilemma His Excellency, Governor James B. Grant, was applied to for aid, who, after thoroughly examining into its business, and assuring himself that its business had been well and economically conducted, gave his personal note as collateral security for the sum of \$20,000, the amount needed to carry on the school until January, 1885.

When the school numbers one hundred or more pupils in daily attendance, the operating expenses *per capita* is about fifty-one cents per day. At the time the appropriation was made, the school had ninety-seven scholars. Expecting that certificates of indebtedness could be issued when the appropriation should be exhausted, the school was kept open, and all boys properly committed were

received, until our number in April, 1884, reached 141. When it was decided illegal to issue certificates for the support of the school, it became necessary rapidly to reduce our numbers; active effort was made to find homes for those best fitted for them, and by the end of May following our attendance was reduced to seventy-four—and every boy sent away was provided with a good home, either with his parents or with strangers. The average number of pupils during the whole term has been 120 1-6.

The past biennial term has been one of substantial progress. By the purchase of fifteen acres of land during the past term, our grounds have been increased to twenty acres and enclosed by a neat fence.

Four brick buildings have been erected with appropriation of 1883. Three of these are planned and used for family and school purposes; each are 26x50 feet and two and one-half stories high; in these, properly placed, are boys' and officers' dining rooms, kitchen, laundry, tailor shop, three lavatories, four school rooms, and three dormitories. The whole is arranged for three families of fifty boys each. The first stories are heated by stoves, the second by furnaces specially arranged to heat the third by warm air through registers. The whole is well ventilated by large registers connected with a successful ventilating system. The fourth brick building is 32x32 feet, finished in two stories and basement. The basement is provided with a large oven, and thoroughly fitted up as a bakery. The upper stories are arranged in eight rooms for officers' occupancy.

Two fine shops have been erected—frame buildings, completely lined with brick. The larger is our broom factory, and the smaller is divided into shoe and carpenter shops. With lofts, they give floor space of 8,960 square feet.

A well-arranged wagon shed, coal and wood shed, barn yard and boys' closets have also been arranged and built. The main building has been entirely remodeled and the former laundry building fitted with basement, first and second floors, as a storehouse.

The buildings are not designed as permanent school buildings, but finally, when the growing wants of the school

demand it, to be used as factory buildings, for which they are specially adapted, and more commodious structures will be erected for the accommodation of the school.

There is now ample room for 175 boys, and with a little crowding 200 could find here a comfortable school.

#### REPAIRS.

There is economy and education in keeping all buildings well repaired and painted and the whole premises in the best of order. Want of means has hindered the fully carrying out our wish in this particular, but it has ever been our principle of action and been carried out as fully as possible.

#### INDUSTRIAL EDUCATION.

An important part of every true reform work must be its industrial department.

Our boys, as soon as they enter the school, are taught to take an active part in its industries, and very soon become interested in its work. They learn to take pride in the neatness and order of the whole premises; it becomes part of their making and a daily source of education.

The entire work of the school is performed by the pupils, and each department, or force, is presided over by competent teachers.

The laundry work is entirely done by a force of boys. The work in dining room, kitchen, tailor shop, shoe shop, yards and premises have to each a force detailed. In the same manner the broom factory, bakery, carpenter, barn, school, dormitory, house and incidental work is divided, and each department or work is felt to be a work of importance.

All clothing worn, including shoes, are made in our own shops, so that everything is had at the least cost, and all becomes part of our educational system.

Our broom factory started under many difficulties, but has proved a real success. One thousand dollars of the profits has been paid over to the Treasurer to help support

the school, and nine hundred and seventy-six dollars and eighty-seven cents of surplus earnings remains in the business, with the capital stock intact. Broom making, shoe making, tailoring, baking and carpentering give five important trades taught in the school. The products of but one trade have, as yet, been offered in the market. Our brooms have had a ready sale, and we hope to make them indispensable to every Colorado housekeeper.

#### SCHOOL DEPARTMENT.

Careful attention is given to school instruction. Three and one-quarter hours are given daily in school.

The pupils are carefully graded in five classes, and rapid progress in study has particularly marked almost every scholar.

The following course of study in each class will show what is aimed at:

#### COURSE OF STUDY.

The E grade comprises the necessary primary instruction in letters and figures for first beginners.

#### IN THE D GRADE.

Pupils complete the First Reader, numeration and addition, and receive lessons in penmanship, spelling, geography and mental arithmetic.

#### IN THE C GRADE.

Pupils complete the Second Reader, subtraction, multiplication and short division, receive instruction in penmanship, written and oral spelling, drawing, mental arithmetic, U. S. History and physiology.

#### IN THE B GRADE.

Pupils complete the Third Reader, long division and common fractions, receive lessons in penmanship, written and oral spelling, drawing, mental arithmetic, physiology, U. S. History and language lessons.



## IN THE A GRADE.

Pupils review common fractions and complete arithmetic and take up algebra, receive lessons in penmanship, drawing, written and oral spelling, geography, physiology, book-keeping and language lessons.

## LIBERAL APPROPRIATION NEEDED.

To accomplish the greatest good, the necessary wants of the school should be fully if not liberally supplied. The State can hardly afford to have the school again closed against those who should be received, for every boy thus excluded will probably continue to be an offender against the public peace, and a depredator on private rights; but admitted into the school, taught temperance, industry, truth, morality, to respect private and public rights, and the fear of God, given at least a fair common school education, and, as a rule, ninety out of every one hundred, at least, will be returned to society and the State, at the end of their school course, intelligent, industrious citizens, and contributors to its wealth and prosperity.

## DISCIPLINE.

The necessity of rapidly reducing our numbers has at times interfered with the regularly established methods of discipline, and to an extent weakened the excellent effect of our badge system; but good order and cheerful obedience has been a most pleasing characteristic of the school, and at very little cost of punishments. Our school has much the method of a well ordered home family. Most of the pupils take pleasure in maintaining the spirit as well as the letter of its rules, and become deeply interested in its good name and work. Many of them have been permitted, unaccompanied by officers, to visit stores in Golden and make purchases for themselves and the school, and a trust has never been betrayed. Their good manners and polite behavior have been a constant subject of remark.

The school, by invitation, has taken part in several public occasions, and has always received praise for correct and soldierly conduct. Permission to visit home has been freely given, and not a single furlough has been violated.

Mrs. Sampson has regularly held a voluntary noon-day prayer meeting, which has been well attended, and with marked results for good.

A Band of Hope society has been organized in each family, and is conducted entirely by the boys, they electing their own officers quarterly. Temperance literature is read, speeches, recitations and songs form part of the regular programme, and every Saturday evening a public rehearsal is held in the chapel, interesting alike to visitors, officers and pupils.

The ministers of the various churches in Golden have most kindly given their gratuitous and eloquent services on Sabbath afternoons, making chapel exercises especially interesting and profitable to all.

The Sunday evening "service of song," conducted by Mrs. Sampson, has been very much enjoyed by the boys.

#### LIBRARY.

Our Legislature, at their last session, appropriated two hundred dollars to form the nucleus of a library. The money has been most carefully spent for books of real value and interest.

Two hundred and sixty volumes, comprising encyclopedias, dictionaries, histories, biographies, books of travel, science, art, and works of standard fiction. In this selection the wants of the smaller as well as the larger boys have been considered and provided for. The books are much read by the pupils of every age, and an additional appropriation would be hailed with delight by the entire school.

#### GIRLS' DEPARTMENT.

There has been a constant demand during the entire term for the admission of girls, it being claimed that the State should at least show as much care for its girls as it does for its boys. It is hoped it will be possible to at once establish the girls' department of the school.

## LONGER TIME NEEDED.

It is regretted that many of the terms of the pupils have been entirely too limited to give the best results. It is desirable that the present limit of commitment be extended to read not less than two nor more than five years. We aim to give every boy sent to our school a good common school education, and in addition, skill in some desirable trade, that he may hereafter become an independent, self-reliant worker.

For this desirable end time should be given to complete the education aimed at, otherwise the incomplete effort may prove a comparative failure.

I desire to tender my sincere thanks to His Excellency, Governor James B. Grant, for nobly coming to our help at a most critical time; to the board of control for their earnest devotion to the best interests of the school and the welfare of the children committed to its care; to various kind friends for donations of books, magazines and papers; to A. G. Smith, Esq., for the gift of ten dollars for the Fourth of July, 1883; to the jubilee singers of our school, under the direction of W. P. Rhodes, Esq., and Mr. James McMullen, for public entertainments, netting the sum of forty dollars, which was donated to the reading fund.

## SANITARY CONDITION OF SCHOOL.

GOLDEN, COLO., October 16, 1884.

*To the Honorable Board of Commissioners:*

I beg leave to submit to your honorable board the following report concerning the sanitary condition of the State Industrial School, located at Golden, Colorado:

I have made a thorough examination of the premises and each and every department of said school, and found them neat and clean. The ventilation of school rooms and dormitories is fair, the food of uniform good quality and well prepared.

Upon examining the inmates I found no evidence of the diseases which usually prevail in such institutions. The

school has been exceptionally free from all contagious diseases, and excepting a few cases of measles, there has been no disease of an epidemic character. I think the location of the school and the arrangement of the buildings render it one of the most healthy.

Yours, most respectfully,

JOHN P. KELLY, M. D.

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LETTER FROM REV. C. M. JONES.

DENVER, COLO., November 7, 1884.

It is three years since Superintendent Sampson requested the pastors of Golden to preach at the Sunday afternoon services which he holds at the Industrial School. In this way once each month I have gone to address these boys, and it has proved one of the most pleasant experiences of my life. I have never known so satisfactory an audience. The presumption would not seem to be in favor of much encouragement in moral and religious work among boys whose homes and haunts had been so frequently so demoralizing and depraving. And undoubtedly such pastoral service as ours would have proved utterly unavailing had not the boys been in such a school and under the daily influence of Superintendent and Mrs. Sampson.

In sympathy with their magnificent spirit we have labored to supplement and emphasize their moral and religious teaching. Catching something of their noble enthusiasm, we have endeavored to exalt the idea of a true manhood. We assume, as without question, that these boys are going to make men of themselves, and we draw upon every motive and means by which they may be induced to appreciate the worthiness and real glory and sure satisfaction of such a career. We preach a gospel of cheer, and strength and magnanimity. Religion we urge as a preparation for a true human life.

This is the spirit in which, during these three years, I have spoken in these Sabbath discourses, and I believe I

am also speaking for my brother pastors, as to their spirit and purpose. The Christian young men who have gone from this school will average, I believe, better for well founded principles and genuine religious purpose, than the same number from any other kind of school. They are to be found, some of them in distant States, devoted and true Christians and promising men.

Very cordially submitted,

CHAS. M. JONES,

*Pastor Golden Baptist Church.*

As the school has printed a full report of its work for the past biennial term, it is thought unnecessary to put the State to the further expense of reproducing it in that of the Superintendent of Public Instruction. The State superintendent, desiring that the important work of our school should be known as widely as possible, invited this condensed summary of its work for the past biennial term.

Those wishing a full report of the school will please send their address on a postal card to the superintendent at Golden, Colorado.

WM. C. SAMPSON,

*Superintendent.*

R. B. SAMPSON,

*Matron.*

J. F. GARDNER,

Frankstown,

W. B. OSBORN,

Loveland,

W. G. SMITH,

Golden,

*Board of Control.*

TABLE I.

## COUNTY SUPERINTENDENTS OF SCHOOLS.

Term expires January, 1886.

COUNTY.	NAME.	POST-OFFICE.
Arapahoe.....	John L. Fetzer.....	Denver
Bent.....	John A. Murphy.....	West Las Animas
Boulder.....	A. L. Gravelle.....	Boulder
Chaffee.....	John G. Hollenbeck.....	Salida
Clear Creek.....	Henry Bowman.....	Idaho Springs
Conejos.....	R. K. Brown.....	Conejos
Costilla.....	William Stewart.....	Ft. Garland
Custer.....	Artemus Walters.....	Silver Cliff
Delta.....	George H. Merchant.....	Delta
Dolores.....	O. H. Taylor.....	Rico
Douglas.....	William B. Evans.....	Larkspur
Eagle.....	L. S. Pierce.....	Taylor
Elbert.....	S. J. Stid.....	Elbert
El Paso.....	Rev. B. A. P. Eaton.....	Colorado Springs
Fremont.....	Z. T. Hill.....	Canon City
Garfield.....	M. V. B. Blood.....	Glenwood Springs
Gilpin.....	H. M. Hale.....	Central City
Grand.....	Everett M. Harmon.....	Grand Lake
Gunnison.....	Geo. B. Spratt.....	Gunnison
Hinsdale.....	John M. Finley.....	Lake City
Huerfano.....	A. H. Quillian.....	Walsenburg
Jefferson.....	W. G. Smith.....	Golden
Lake.....	E. T. Taylor.....	Leadville
La Plata.....	D. Preston Bell.....	Pine River
Larimer.....	Rev. W. H. McCreery.....	Ft. Collins
Las Animas.....	John W. Douthit.....	Trinidad
Mesa.....	George Caldwell.....	Grand Junction
Montrose.....	Dr. W. W. Ashley.....	Montrose
Ouray.....	P. H. Shue.....	Ouray
Park.....	Wm. L. Bailey, Jr.....	Fairplay
Pitkin.....	H. L. Harding.....	Aspen
Pueblo.....	Dr. A. Y. Hull.....	Pueblo
Rio Grande.....	Sigel Heilman.....	Del Norte
Routt.....	J. H. Cheney.....	Yampa
Saguache.....	W. E. White.....	Saguache
San Juan.....	Dr. R. H. Brown.....	Silverton
San Miguel.....	H. C. Lay, Jr.....	Telluride
Summit.....	Dr. B. A. Arbogast.....	Breckenridge
Weld.....	Rev. A. K. Packard.....	Greeley

TABLE II.

## EXAMINATION OF TEACHERS.

COUNTIES.	1883.							1884.						
	CERTIFICATES GIVEN.							CERTIFICATES GIVEN.						
	First Grade.		Second Grade.		Third Grade.		Total.	First Grade.		Second Grade.		Third Grade.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.		Male.	Female.	Male.	Female.	Male.	Female.	
Arapahoe.....	7	21	4	24	3	22	81	9	14	7	35	4	20	89
Bent.....	2	4	2	1	2	11	13	3	3	2	3	1	1	13
Boulder.....	4	18	5	17	8	20	72	1	6	1	14	9	17	48
Chaffee.....	1	8	2	2	.....	13	13	9	13	1	13	.....	.....	36
Clear Creek.....	2	3	1	1	1	5	13	4	2	2	5	1	2	16
Conejos.....	2	2	6	5	5	4	24	.....	1	1	.....	9	8	19
Costilla.....	1	.....	2	2	5	.....	10	1	1	2	2	5	.....	11
Custer.....	4	1	1	1	1	8	16	2	4	3	8	1	9	27
Delta.....	1	.....	.....	.....	1	1	3	2	1	.....	1	1	1	6
Dolores.....	.....	1	.....	.....	1	.....	2	.....	1	.....	1	.....	.....	2
Douglas.....	1	2	5	5	.....	6	19	2	3	4	7	1	7	24
Eagle.....	.....	.....	.....	1	.....	1	2	1	.....	.....	4	.....	.....	5
Elbert.....	2	.....	1	5	.....	5	13	.....	1	1	5	1	4	12
El Paso.....	5	9	2	10	3	3	32	4	8	3	11	4	6	36
Fremont.....	7	5	5	3	2	2	24	10	13	.....	6	3	5	37
Garfield.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Gilpin.....	2	9	.....	9	.....	2	22	1	4	3	13	1	7	29
Grand.....	.....	.....	1	1	.....	1	3	.....	1	1	2	2	2	6
Gunnison.....	3	11	4	21	5	12	56	.....	5	.....	2	1	.....	8
Hinsdale.....	1	1	1	3	1	.....	7	2	.....	.....	2	.....	.....	4
Huerfano.....	.....	1	1	2	2	4	10	2	2	3	2	3	2	14
Jefferson.....	6	6	4	6	6	7	25	5	4	3	8	7	9	36
Lake.....	1	21	1	21	.....	17	61	1	12	.....	6	.....	5	24
La Plata.....	.....	2	.....	7	.....	1	10	4	2	3	7	.....	1	17
Larimer.....	2	7	5	16	4	35	69	1	.....	5	20	2	23	51
Las Animas.....	2	2	2	6	8	4	24	3	2	.....	10	2	6	23
Mesa.....	.....	2	.....	2	.....	.....	4	.....	.....	.....	1	.....	.....	1
Montrose.....	.....	.....	1	.....	.....	.....	1	3	.....	.....	2	2	.....	7
Ouray.....	1	1	.....	.....	2	1	5	4	1	4	6	1	2	18
Park.....	1	2	.....	6	1	7	17	.....	3	3	1	1	14	22
Pitkin.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
Pueblo.....	3	20	4	21	.....	5	53	1	25	4	15	3	6	54
Rio Grande.....	1	.....	.....	.....	1	8	10	.....	1	6	1	8	.....	16
Routt.....	.....	.....	.....	2	.....	.....	2	1	.....	.....	2	.....	2	5
Saguache.....	3	4	1	2	.....	5	15	3	.....	1	2	1	6	13
San Juan.....	.....	1	.....	1	.....	.....	2	.....	.....	.....	.....	.....	2	2
San Miguel.....	.....	.....	.....	.....	.....	2	2	.....	1	.....	.....	.....	.....	1
Summit.....	2	5	.....	2	.....	.....	9	1	2	2	6	.....	1	12
Weld.....	3	7	10	19	2	11	52	3	6	13	21	9	25	77
Total.....	68	173	72	227	63	201	804	84	139	75	247	76	204	825

TABLE III.

COUNTIES.	CENSUS—1883.								
	BETWEEN 6 AND 16.			BETWEEN 16 AND 21.			TOTAL BET. 6 AND 21.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Arapahoe .....	5177	5404	10581	1578	1532	3110	6755	6936	13691
Bent .....	165	190	355	51	43	94	216	233	449
Boulder .....	1217	1198	2415	387	356	743	1604	1554	3158
Chaffee .....	660	641	1310	261	234	495	930	875	1805
Clear Creek .....	693	677	1370	187	154	341	880	831	1711
Conejos .....	498	484	982	197	138	335	695	622	1317
*Costilla .....	386	343	729	110	65	175	496	408	904
Custer .....	529	540	1069	154	152	306	683	692	1375
Delta .....	55	58	113	63	67	130	118	125	243
Dolores .....	33	19	52	7	8	15	40	27	67
Douglas .....	215	268	503	59	54	113	294	322	616
Eagle .....	63	72	135	11	8	19	74	80	154
Elbert .....	134	131	265	43	32	75	177	163	340
El Paso .....	721	767	1488	259	194	453	980	961	1941
Fremont .....	766	624	1330	154	176	330	860	800	1660
Garfield .....									
Gilpin .....	648	630	1278	184	147	331	832	777	1609
Grand .....	102	90	192	20	22	42	122	112	234
Gunnison .....	470	390	860	104	100	204	574	490	1064
Hinsdale .....	103	87	190	21	19	40	124	106	230
Huerfano .....	674	688	1362	245	230	475	919	918	1837
Jefferson .....	714	1075	1789	206	108	364	920	1233	2153
Lake .....	1078	1197	2275	260	222	482	1338	1419	2757
La Plata .....	386	293	679	86	59	145	472	352	824
Larimer .....	792	751	1543	211	184	395	1003	935	1938
Las Animas .....	1278	1167	2445	381	267	648	1659	1434	3093
Mesa .....	106	96	202	22	22	44	128	118	246
Montrose .....	58	40	98	12	8	20	70	48	118
Ouray .....	102	98	200	38	38	76	140	136	276
Park .....	238	281	519	84	53	137	322	334	656
Pitkin .....	48	43	91	12	6	18	60	46	109
Pueblo .....	915	1212	2157	307	317	624	1252	1529	2781
Rio Grande .....	223	161	384	48	38	86	271	199	470
Routt .....	41	22	63	12	8	20	53	30	83
Saguache .....	326	287	613	92	70	162	418	357	775
San Juan .....	59	69	128	16	13	29	75	82	157
San Miguel .....	47	35	82	13	14	27	60	49	109
Summit .....	117	145	262	33	34	67	150	179	329
Weld .....	829	832	1661	270	210	486	1105	1042	2147
Total .....	20665	21105	41770	6204	5452	11656	26869	26557	53420

\*Estimated. No report.



TABLE III.—CONCLUDED.

COUNTIES.	CENSUS—1884.								
	BETWEEN 6 AND 16.			BET. 16 AND 21.			TOTAL BET. 6 AND 21		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Arapahoe.....	5496	6025	11521	1823	1802	3625	7319	7827	15146
Bent.....	184	222	406	73	50	123	257	272	529
Boulder.....	1223	1185	2408	366	373	739	1589	1558	3147
Chaffee.....	685	603	1288	210	208	418	895	811	1706
Clear Creek.....	660	671	1331	193	176	369	853	847	1700
Conejos.....	627	620	1247	176	164	340	803	784	1587
Costilla.....	290	262	552	447	165	412	537	427	964
Custer.....	443	497	940	128	121	249	571	618	1189
Delta.....	96	89	185	19	22	41	115	111	226
Dolores.....	27	21	48	12	11	23	39	32	71
Douglas.....	251	266	517	80	58	138	331	324	655
Eagle.....	60	61	121	20	11	31	80	72	152
Elbert.....	149	123	272	53	30	83	202	153	355
El Paso.....	769	808	1577	218	245	463	987	1053	2040
Fremont.....	609	589	1198	283	332	615	892	921	1813
Garfield.....	32	17	49	11	9	20	43	26	69
Gilpin.....	615	589	1204	206	167	373	821	756	1577
Grand.....	89	72	161	21	16	37	110	88	198
Gunnison.....	409	435	844	138	135	273	546	571	1117
Hinsdale.....	79	82	161	13	8	21	92	90	182
Huerfano.....	731	734	1465	262	235	497	993	969	1962
Jefferson.....	764	737	1501	255	180	435	1019	917	1936
Lake.....	1179	978	2157	214	195	409	1393	1173	2566
La Plata.....	304	321	625	106	98	204	490	419	909
Larimer.....	792	745	1537	258	213	471	1050	958	2008
Las Animas.....	1261	1169	2430	374	308	682	1635	1477	3112
Mesa.....	148	129	277	34	22	56	182	151	333
Montrose.....	106	81	187	24	17	41	130	98	228
Ouray.....	104	112	216	43	37	80	147	149	296
Park.....	294	301	597	94	71	165	388	374	762
Pitkin.....	77	61	138	20	20	40	97	81	178
Pueblo.....	1135	1196	2331	337	283	620	1472	1479	2951
Rio Grande.....	274	233	507	79	64	143	343	307	650
Routt.....	31	41	72	16	5	21	47	46	93
Saguache.....	294	285	579	87	51	138	381	336	717
San Juan.....	54	53	107	32	20	52	86	73	159
San Miguel.....	42	25	67	13	13	26	55	38	93
Summit.....	151	191	342	35	50	85	186	241	427
Weld.....	950	936	1886	307	246	553	1257	1182	2439
Total.....	21564	21567	43131	7080	6031	13111	28433	27809	56242

TABLE IV.

## ENROLLMENT AND ATTENDANCE.

COUNTIES.	PUPILS—1883.						PERCENTAGES.		
	Enrolled in Graded Schools.	Enrolled in Ungraded Schools.	Under 16 Enrolled in Public Schools.	Over 16 Enrolled in Public Schools.	Total Enrollment.	Average Daily Attendance.	Enrollment on whole Number.	Daily Attendance on Enrollment.	County Tax Levy—Mills.
Arapahoe .....	8101	755	8567	289	8856	5591	64	63	3
Bent .....	128	234	344	18	262	192	58	73	13
Boulder .....	1005	1454	2297	162	2459	1681	78	68	3
Chaffee .....	601	526	1025	102	1127	483	62	43	5
Clear Creek .....	810	479	1203	86	1289	809	75	63	3½
Conejos .....	184	727	743	168	911	535	69	50	5
Costilla .....	370	312	58	58	370	231	41	62	2
Custer .....	435	391	775	51	826	553	60	67	5
Delta .....	61	60	1	1	61	34	25	55	5
Dolores .....	57	55	2	2	57	37	85	65	2
Douglas .....	517	481	36	36	517	301	83	57	3
Eagle .....	74	69	5	5	74	49	51	66	2
Elbert .....	263	246	17	17	263	159	77	60	3
El Paso .....	897	815	1486	226	1712	1042	88	60	2
Fremont .....	362	880	1133	109	1242	863	75	70	5
Garfield .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galpin .....	971	207	1132	46	1178	806	73	68	2
Grand .....	114	109	5	5	114	86	49	75	2
Gunnison .....	463	354	771	46	817	516	77	63	3
Hinsdale .....	134	38	149	23	172	97	75	56	5
Huerfano .....	723	532	191	191	723	524	39	72	3½
Jefferson .....	560	863	1280	143	1423	945	66	66	3
Lake .....	1819	289	1731	377	2108	172	76	81	2
La Plata .....	351	315	586	80	666	281	81	62	3½
Larimer .....	660	685	1287	58	1345	877	69	65	4
Las Animas .....	808	858	1273	393	1666	827	54	49	2
Mesa .....	54	48	6	6	54	41	22	76	2
Montrose .....	33	33	.....	.....	33	14	28	42	2
Ouray .....	131	116	15	15	131	79	47	63	2½
Park .....	104	418	466	56	522	338	70	64	2
Pitkin .....	75	74	1	1	75	52	68	60	2
Pueblo .....	1780	463	2066	177	2243	1268	81	69	2½
Rio Grande .....	258	183	317	124	441	270	94	61	2
Routt .....	80	60	20	20	80	25	96	31	2
Saguache .....	471	359	121	121	471	289	61	61	2
San Juan .....	75	70	5	5	75	70	48	98	3
San Miguel .....	48	48	.....	.....	48	22	44	45	5
Summit .....	246	188	58	58	246	163	78	66	3
Weld .....	499	1188	1548	139	1687	1137	78	67	3
Total .....	20930	15514	33030	3414	36444	23008	68	63	.....

TABLE IV.—CONCLUDED.

## ENROLLMENT AND ATTENDANCE.

COUNTIES.	PUPILS—1884.							PERCENTAGES.			
	Enrolled in Graded Schools.	Enrolled in Ungraded Schools.	Under 16 enrolled in Public Schools.	Over 16 enrolled in Public Schools.	Whole No. enrolled in Public Schools.			Average daily attendance.	Enrollment on whole number.	Daily attendance on whole number.	County tax levy—mills.
					Male.	Female.	Total.				
Arapahoe .....	9011	483	8848	646	4613	4881	9494	6126	63	65	3
Bent .....	104	258	327	35	170	191	362	221	68	61	2
Boulder .....	1114	1356	2322	148	1258	1212	2470	1642	78	66	3
Chaffee .....	698	380	1003	75	548	530	1078	698	67	65	4
Clear Creek .....	389	738	1071	56	572	555	1127	726	66	64	2 1/2
Conejos .....	200	800	855	145	561	439	1000	467	63	47	2
Costilla .....	427	349	78	78	270	157	427	239	44	56	2
Custer .....	490	349	787	52	399	440	839	427	71	51	2
Delta .....	152	129	23	23	83	69	152	87	69	57	4
Dolores .....	43	37	6	6	23	20	43	39	61	91	2
Douglas .....	477	435	42	42	242	235	477	253	72	53	3
Eagle .....	83	81	2	2	46	37	83	50	55	60	2
Elbert .....	250	223	27	27	136	114	250	157	70	63	3
El Paso .....	802	696	1229	269	756	742	1498	907	73	61	2
Fremont .....	349	1017	1276	90	670	696	1366	916	75	67	4
Garfield .....	24	17	7	7	15	9	24	15	35	62	2
Gilpin .....	975	185	1108	52	590	570	1160	717	74	62	2
Grand .....	71	68	3	3	36	35	71	44	36	62	2
Gunnison .....	497	391	823	65	447	441	888	569	79	64	2
Hinsdale .....	112	19	129	2	69	62	131	111	72	85	5
Huerfano .....	794	643	151	151	419	375	794	524	40	66	3 1/2
Jefferson .....	581	900	1380	101	754	727	1481	937	77	63	3
Lake .....	1712	249	1890	71	1001	960	1961	1088	76	55	5
La Plata .....	348	274	553	69	359	263	622	353	68	56	3.7
Larimer .....	686	811	1400	97	763	734	1497	859	74	57	4
Las Animas .....	791	759	1388	162	882	668	1550	868	49	56	2
Mesa .....	168	164	4	4	96	72	168	98	50	58	5
Montrose .....	143	133	10	10	86	57	143	68	62	47	2
Ouray .....	100	82	151	31	106	76	182	135	61	74	2
Park .....	78	406	441	48	260	224	484	346	63	71	2
Pitkin .....	103	99	4	4	56	47	103	66	58	64	2
Pueblo .....	1953	601	2331	223	1254	1300	2554	1529	86	59	3
Rio Grande .....	258	176	400	34	246	188	434	246	67	56	5
Routt .....	54	44	10	10	21	33	54	41	58	76	2
Saguache .....	133	377	415	55	249	221	470	270	65	57	2
San Juan .....	85	76	9	9	46	39	85	57	54	67	3
San Miguel .....	49	44	5	5	28	21	49	30	53	61	2
Summit .....	221	191	375	37	180	232	412	186	97	45	3
Weld .....	529	1320	1686	163	954	895	1849	1195	76	64	3
Total .....	22131	15741	34730	3142	20264	17568	37832	23307	67	62	.....

TABLE V.

NUMBER OF TEACHERS IN GRADED AND UNGRADED SCHOOLS, AND  
AVERAGE MONTHLY SALARIES.

COUNTIES.	1883.									
	GRADED SCHOOLS.					UNGRADED SCHOOLS.				
	Teachers.			Salaries.		Teachers.			Salaries.	
	Male.	Female.	Total.	Male.	Female.	Male.	Female.	Total.	Male.	Female.
Arapahoe .....	9	119	128	\$ 118 00	\$ 58 00	21	17	38	\$ 54 00	\$ 48 00
Bent .....	1	1	2	120 00	75 00	5	7	12	60 00	52 50
Boulder .....	2	15	17	138 88	64 70	21	43	64	57 14	42 11
Chaffee .....	2	8	10	75 00	65 00	7	15	22	60 30	46 60
Clear Creek .....	4	9	13	112 34	80 00	1	16	17	60 00	49 00
Conejos .....	1	3	4	120 00	73 00	10	13	23	61 80	44 37
Costilla .....	2	2	4	100 00	60 00	9	3	12	25 66	33 86
Custer .....	2	4	6	100 00	60 00	8	7	15	43 75	41 00
Delta .....	1	1	2	100 00	60 00	3	3	6	47 66	47 66
Dolores .....	1	1	2	100 00	60 00	1	1	2	80 00	80 00
Douglas .....	1	1	2	100 00	60 00	9	18	27	45 00	42 00
Eagle .....	1	1	2	100 00	60 00	1	4	5	60 00	53 00
Elbert .....	1	1	2	100 00	60 00	7	11	18	45 00	46 15
El Paso .....	1	12	13	130 00	67 81	7	26	33	46 42	43 35
Fremont .....	1	8	9	100 00	57 50	13	12	25	57 23	42 08
Garfield .....	1	1	2	100 00	60 00	12	15	27	45 00	47 75
Gilpin .....	3	11	14	108 33	84 09	4	10	14	55 75	56 30
Grand .....	2	5	7	100 00	60 00	2	5	7	45 00	44 00
Gunnison .....	2	8	10	117 50	71 50	3	10	13	57 50	57 67
Hinsdale .....	1	1	2	100 00	60 00	1	3	4	50 00	50 00
Huerfano .....	1	1	2	100 00	60 00	12	15	27	45 00	47 75
Jefferson .....	2	7	9	105 00	66 00	13	18	31	55 00	44 00
Lake .....	3	26	29	137 00	80 00	7	7	14	50 00	56 25
La Plata .....	2	3	5	95 00	75 00	2	9	11	55 00	54 44
Larimer .....	2	9	11	97 50	60 00	9	38	47	41 25	39 21
Las Animas .....	4	10	14	90 00	64 00	21	8	29	44 00	41 00
Mesa .....	1	1	2	100 00	60 00	1	1	2	50 00	50 00
Montrose .....	1	1	2	100 00	60 00	1	1	2	50 00	50 00
Ouray .....	1	1	2	100 00	60 00	3	1	4	61 67	60 00
Park .....	1	1	2	80 00	55 00	4	20	24	60 00	40 00
Pitkin .....	1	1	2	100 00	60 00	2	2	4	50 00	50 00
Pueblo .....	5	32	37	130 00	65 00	8	30	38	48 21	49 66
Rio Grande .....	2	2	4	100 00	75 00	2	6	8	62 50	48 75
Routt .....	2	2	4	100 00	75 00	2	2	4	45 00	50 00
Saguache .....	1	1	2	100 00	60 00	5	11	16	53 33	47 90
San Juan .....	1	1	2	100 00	60 00	2	2	4	50 00	49 44
San Miguel .....	1	1	2	100 00	60 00	2	2	4	50 00	57 50
Summit .....	1	1	2	100 00	60 00	3	7	10	47 50	53 75
Weld .....	1	8	9	133 33	61 00	21	50	70	45 85	43 23

TABLE V.—CONCLUDED.

NUMBER OF TEACHERS IN GRADED AND UNGRADED SCHOOLS, AND AVERAGE MONTHLY SALARIES.

COUNTIES.	1884.									
	GRADED SCHOOLS.					UNGRADED SCHOOLS.				
	Teachers			Salaries.		Teachers.			Salaries.	
	Male.	Female.	Total.	Male.	Female.	Male.	Female.	Total.	Male.	Female.
Arapahoe .....	14	136	150	\$105 55	\$59 91	10.	17	27	\$48 05	\$48 23
Bent .....	1	1	2	100 00	75 00	7	8	15	61 40	53 00
Boulder .....	5	14	19	110 00	72 38	17	45	62	53 53	43 37
Chaffee .....	3	15	18	78 33	60 00	7	14	21	59 28	46 44
Clear Creek.....	2	6	8	150 00	77 50	7	15	22	67 85	42 77
Conejos .....	1	5	6	166 67	72 96	15	16	31	50 78	48 37
Costilla .....						10	4	14	41 16	45 00
Custer .....	2	9	11	103 33	56 82	9	10	19	40 93	38 83
Delta .....						4	2	6	61 67	40 00
Dolores .....						1	1	2	90 00	90 00
Douglas .....						12	18	30	47 50	42 38
Eagle .....						3	5	6	60 00	65 71
Elbert.....						6	13	19	57 25	46 85
El Paso.....	1	12	13	157 50	70 00	9	22	31	67 50	40 00
Fremont .....	2	9	11	110 00	55 56	11	17	28	56 81	45 42
Garfield .....							1	1		50 00
Gilpin.....	6	16	22	107 00	73 37	3	6	9	56 00	45 00
Grand .....						4	3	7	45 00	46 67
Gunnison.....	2	10	12	107 50	65 53	4	15	19	53 33	58 06
Hinsdale.....	1	2	3	100 00	80 00	1	1	2	50 00	50 00
Huerfano.....						17	11	28	46 73	45 45
Jefferson.....	2	9	11	107 50	69 00	16	23	36	46 00	42 63
Lake .....	1	26	27	120 00	95 00	1	9	10	60 00	55 00
La Plata.....	2	5	7	92 50	70 00	3	11	14	65 00	50 00
Larimer .....	2	12	14	97 50	57 81	12	43	55	39 50	40 23
Las Animas .....	4	10	14	91 25	66 00	17	11	28	48 00	40 00
Mesa .....						1	6	7	50 00	54 20
Montrose.....						5	2	7	61 00	50 00
Ouray.....	1	2	3	100 00	75 00	4	1	5	50 00	33 34
Park .....	1	1	2	100 00	55 00	5	12	17	39 33	48 43
Pitkin.....						1	1	2	110 00	85 00
Pueblo .....	7	28	35	117 87	70 26	4	24	28	46 84	48 60
Rio Grande.....	3	2	5	123 33	75 00	3	7	10	49 54	43 74
Routt .....						4	1	5	50 00	50 00
Saguache.....	1	1	2	80 00	50 00	10	10	20	59 00	44 00
San Juan.....							3	3		82 00
San Miguel.....							2	2		65 00
Summit .....		2	2		60 00	2	4	6	52 50	55 00
Weld.....	1	13	14	166 66	66 56	20	41	61	48 86	45 23

TABLE VI.

## DISTRICTS, SCHOOL HOUSES AND TUITION.

COUNTIES.	1883.						
	Districts.	No. of days of School.		School Houses.			
		Graded Schools.	Ungraded Schools.	Number.	Valuation.	Sittings.	Volumes in Library.
Arapahoe	29	190	140	45	\$707,950	6925	2180
Bent	11	200	151	8	9,925	231	.....
Boulder	47	183	107	40	65,150	2352	50
Chaffee	20	167	104	13	32,227	819	.....
Clear Creek	11	184	105	10	34,893	989	350
Conejos	12	195	122	10	17,760	535	.....
*Costilla	9	125	4	4	680	235	52
Custer	20	166	87	14	8,025	809	180
Delta	3	65	3	3	100	.....	.....
Dolores	1	66	1	1	2,068	56	.....
Douglas	21	116	116	17	9,325	522	.....
Eagle	3	98	1	1	1,000	46	.....
Elbert	11	159	11	11	5,725	300	.....
El Paso	28	180	99	28	48,050	1408	800
Fremont	20	195	124	19	34,690	1032	58
Garfield	.....	.....	.....	.....	.....	.....	.....
Gilpin	8	180	88	8	48,760	873	1676
Grand	7	.....	86	1	300	40	.....
Gunnison	16	172	87	13	43,150	1082	.....
Hinsdale	3	200	91	1	28,000	132	.....
Huerfano	20	.....	98	9	2,110	349	.....
Jefferson	32	190	109	32	34,400	1488	150
Lake	8	135	81	11	90,000	2000	.....
La Plata	15	160	102	12	18,025	717	.....
Larimer	31	191	101	27	35,075	1304	300
Las Animas	28	197	77	13	23,800	550	.....
Mesa	1	100	.....	.....	.....	.....	.....
Montrose	2	.....	60	1	50	.....	.....
Ouray	3	.....	99	3	1,525	118	.....
Park	17	200	160	16	4,025	601	.....
Pitkin	2	.....	145	3	4,500	70	.....
Pueblo	33	185	92	27	145,630	1922	.....
Rio Grande	7	165	78	7	13,507	400	.....
Routt	6	.....	44	1	50	25	.....
Saguache	15	.....	95	10	5,640	375	.....
San Juan	2	.....	140	1	4,000	50	.....
San Miguel	1	.....	64	.....	.....	.....	.....
Summit	9	.....	76	4	6,000	300	.....
Weld	42	178	130	35	85,523	1724	300
Total	552	183	102	459	\$1,551,080	30434	6090

\*From report for 1882. No report for 1883.

TABLE VI.—CONCLUDED.

## DISTRICTS, SCHOOL HOUSES AND TUITION.

COUNTIES.	1884.								
	Districts.	No. of Days of School.		School Houses.				Av. cost per month for each pupil.	
		Graded Schools.	Ungraded Schools.	Number.	Valuation.	Sittings.	Volumes in Library.	By enrollment.	By av. attendance.
Arapahoe .....	31	184	136	47	\$ 640,000	6311	2300	\$2 76	\$3 90
Bent .....	11	200	137	8	18,025	693	.....	4 44	6 62
Boulder .....	46	180	112	41	67,230	2576	420	2 34	3 77
Chaffee .....	22	176	103	14	37,750	1248	6	3 12	5 04
Clear Creek .....	13	200	110	10	21,100	1047	150	1 76	2 69
Conejos .....	16	180	92	11	18,721	598	50	1 98	3 68
Costilla .....	11	.....	91	6	2,400	400	.....	1 55	2 64
Custer .....	19	186	96	17	10,520	928	34	2 51	4 35
Delta .....	8	.....	110	4	940	52	.....	1 56	3 16
Dolores .....	1	.....	140	1	1,800	120	.....	2 81	3 10
Douglas .....	21	.....	110	19	12,300	534	.....	2 71	4 71
Eagle .....	4	.....	123	1	1,100	52	.....	3 24	5 68
Elbert .....	11	.....	153	13	10,300	347	.....	4 85	8 18
El Paso .....	28	190	115	31	64,755	1665	600	2 92	4 77
Fremont .....	19	160	113	21	44,900	1273	58	2 23	3 34
Garfield .....	3	.....	60	.....	.....	.....	.....	3 00	4 15
Gilpin .....	8	200	94	9	45,025	961	1768	1 86	3 01
Grand .....	9	.....	54	3	607	150	.....	4 11	6 63
Gunnison .....	17	200	77	16	19,700	1208	.....	6 07	9 21
Hinsdale .....	3	160	80	2	30,500	166	.....	4 26	4 65
Huerfano .....	23	.....	93	13	3,246	530	.....	2 21	3 27
Jefferson .....	33	175	117	36	40,838	1679	174	2 59	4 24
Lake .....	8	180	70	11	150,980	1770	50	1 19	2 93
La Plata .....	15	173	86	15	15,310	609	.....	3 04	4 74
Larimer .....	35	184	110	32	42,450	1475	300	2 58	4 19
Las Animas .....	30	133	95	15	33,580	600	.....	1 72	2 88
Mesa .....	7	.....	88	1	8,500	250	.....	3 87	5 21
Montrose .....	6	.....	85	1	8,000	200	.....	2 80	5 00
Ouray .....	6	100	70	4	10,450	264	.....	3 18	5 27
Park .....	19	195	103	16	13,930	449	.....	2 65	4 42
Pitkin .....	2	.....	80	2	4,650	150	.....	2 06	3 22
Pueblo .....	32	190	91	32	157,390	1843	452	2 82	4 78
Rio Grande .....	9	163	104	9	13,600	438	.....	3 84	7 72
Routt .....	6	.....	68	5	230	42	.....	5 23	6 88
Saguache .....	14	160	92	11	9,145	370	.....	2 76	4 69
San Juan .....	2	.....	100	1	2,500	85	.....	3 72	5 62
San Miguel .....	2	.....	128	1	4,000	48	.....	1 31	2 10
Summit .....	7	100	68	7	9,657	291	.....	2 06	4 56
Weld .....	47	180	145	39	100,000	2150	375	2 46	3 90
Total .....	64	174	100	525	\$1,676,130	35662	6687	\$2 58	\$4 19

TABLE VII.

FINANCIAL STATEMENT FOR 1883.

COUNTIES.	RECEIPTS.					Total Receipts.
	Amount on hand Sept. 1, 1882.	From General Fund.	From Special Fund.	From Building Fund.	From all other sources.	
Arapahoe .....	\$ 189 54 59	\$108395 30	\$127390 99		\$ 89857 92	\$344598 80
Bent .....	4402 53	6809 34	2070 84		431 94	13714 65
Boulder .....	15708 37	14767 16	15849 68	2904 46	691 95	49921 62
Chaffee .....	5376 72	10971 00	5107 83	285 19	1007 23	22747 97
Clear Creek .....	2495 44	8107 54	7295 22	1193 14	1939 84	21031 18
Conejos .....	1717 18	6794 88	3069 28	3570 00	179 42	15330 76
*Costilla .....	1244 64	2512 82	1441 23		180 68	5379 37
Custer .....	644 39	6362 16	2285 34	120 08	522 19	9934 16
Delta .....	556 91				9 00	565 91
Dolores .....	123 97	701 72	643 90			1469 59
Douglas .....	3772 26	3635 45	1760 06	1086 94	639 34	10894 05
Eagle .....		596 02	18 00		329 77	943 79
Elbert .....	4642 39	4076 33	171 93		545 92	9436 57
El Paso .....	5926 31	10602 88	12465 84	173 76	98 41	29267 20
Fremont .....	2374 36	6540 41	7757 08	443 56	5838 86	22954 27
Garfield(no organization)						
Gilpin .....	663 36	4747 66	1674 34		10145 50	17230 86
Grand .....	227 00	773 97				1000 97
Gunnison .....		6780 34	14651 51		1195 65	22627 50
Hinsdale .....	1470 27	3030 38	3833 67		135 30	8469 67
Huerfano .....	2208 00	5027 90	604 86	99 58	591 73	8622 97
Jefferson .....	3680 80	9993 45	7936 48	1371 15	5880 89	28862 77
Lake .....	1663 74	30772 92				32436 66
La Plata .....	695 65	6074 53	2330 17	1798 97	1305 24	12204 56
Larimer .....	3167 98	11312 78	10799 46	925 51	6877 23	33882 96
Las Animas .....	7825 12	8281 14	5433 93	9518 74	1411 17	32470 10
Mesa .....		344 18				344 18
Montrose .....		150 00				150 00
Ouray .....	77 86	834 95	1723 90		8706 50	11343 21
Park .....	2002 96	3156 38	3742 71		691 88	9593 85
Pitkin .....	31 17	289 80	399 83		2042 96	2763 76
Pueblo .....	20843 40	19899 71	19318 93	6761 36	54494 73	121318 13
Rio Grande .....	2679 19	1655 57	3570 56	255 60	1250 35	9411 27
Routt .....		161 00				161 00
Saguache .....	1289 16	2977 85	1861 75	1000 00		7128 76
San Juan .....	765 55	1179 89				1945 44
San Miguel .....	193 08	25 00	275 00			493 08
Summit .....	441 68	2070 76	521 54	5500 00	621 92	9755 90
Weld .....	10283 20	18995 66	3436 13	821 33	29576 82	63112 54
Total .....	\$128239 23	\$329408 23	\$69441 99	\$37829 37	\$227200 26	\$992119 08

\*Estimated. No report.



TABLE VII.—CONCLUDED.

FINANCIAL STATEMENT FOR 1883.

COUNTIES.	EXPENDITURES.					Balance in hands of Co (and Dist.) Treas. to credit of District Aug. 31, 1883.
	For Teachers' Wages.	For Current Expenses.	For Sites, Buildings, Furniture, etc.	For temporary loans paid.	Total Expenditures.	
Arapahoe .....	\$102558 27	\$ 29318 76	\$150028 01	\$ 26490 56	\$308395 60	36203 20
Bent .....	5757 75	1100 63	2580 55	3 00	9441 93	4272 72
Boulder .....	21478 00	3800 38	12620 04	5525 51	43423 93	6497 69
Chaffee .....	10347 66	3171 27	2852 82	180 99	16552 74	6195 23
Clear Creek .....	11357 37	3228 73	2396 86	143 91	17126 87	3904 31
Conejos .....	6130 70	2171 14	4490 29	80 80	12872 93	2437 83
*Costilla .....	1762 95	389 75	250 27	.....	2402 97	2976 40
Custer .....	6730 15	1431 95	352 88	97 23	8612 21	1321 95
Delta .....	413 50	.....	95 71	.....	509 21	36 70
Dolores .....	300 00	107 15	267 95	.....	675 10	794 49
Douglas .....	5030 79	323 62	436 85	542 60	6333 86	4560 19
Eagle .....	713 30	37 10	.....	.....	750 40	193 39
Elbert .....	4120 25	693 42	.....	.....	4813 67	4622 90
El Paso .....	15761 50	3275 37	3875 76	981 73	23894 36	5372 84
Fremont .....	9846 15	2325 50	7364 74	1667 85	21204 24	1750 03
Garfield .....	.....	.....	.....	.....	.....	.....
Gilpin .....	12224 95	4209 46	378 37	5 86	16818 64	412 22
Grand .....	310 00	285 00	206 53	.....	801 53	199 44
Gunnison .....	14954 88	4334 77	694 93	.....	19984 58	2642 92
Hinsdale .....	2460 00	2944 59	.....	1332 15	6736 74	1732 88
Huerfano .....	5258 96	452 67	207 20	60 90	5979 73	2642 34
Jefferson .....	13843 49	3124 63	5153 85	3040 36	25162 33	3700 44
Lake .....	17573 00	13801 76	.....	.....	31374 76	1061 90
La Plata .....	6480 71	1258 63	280 65	3093 67	11113 66	1090 90
Larimer .....	12085 62	3719 08	6485 31	5291 23	27581 24	5501 72
Las Animas .....	11481 12	2561 35	7255 67	1346 06	22644 20	9825 90
Mesa .....	250 00	50 00	.....	.....	300 00	44 18
Montrose .....	150 00	.....	.....	.....	150 00	.....
Ouray .....	1338 75	326 40	3073 65	5569 95	10308 75	1034 46
Park .....	4543 19	541 40	647 49	.....	5732 08	3861 77
Pitkin .....	1460 00	868 50	428 46	.....	2756 96	6 80
Pueblo .....	30117 44	17853 29	22745 53	39606 66	110322 92	10995 21
Rio Grande .....	4552 94	1207 23	2044 26	.....	7803 53	1607 74
Routt .....	150 00	.....	.....	.....	150 00	11 60
Saguache .....	3699 72	701 12	1047 00	609 28	6057 12	1071 64
San Juan .....	800 00	128 75	253 55	162 24	1344 54	600 90
San Miguel .....	225 00	65 08	.....	.....	290 08	203 00
Summit .....	1673 33	152 43	5597 97	475 00	7868 67	1257 23
Weld .....	19415 35	7233 31	23593 41	311 22	50553 29	12559 25
Total .....	\$367355 89	\$117194 22	\$267610 79	\$ 96714 47	\$848875 37	\$143243 71

\*Estimated No report.

TABLE VIII.

FINANCIAL STATEMENT FOR 1884.

COUNTIES.	RECEIPTS.					Total Receipts.
	Amount on hand Sept. 1, 1883.	From General Fund.	From Special Fund.	From Building Fund.	From all other sources.	
Arapahoe .....	\$ 37843 96	\$110467 53	\$ 56778 26	\$131366 81	\$ 42688 26	\$ 379144 82
Bent .....	4272 72	7504 67	1372 27	5461 38	306 24	19007 28
Boulder .....	6016 06	15322 66	11219 63	5610 32	1420 65	39589 27
Chaffee .....	6927 23	9283 51	4826 20	2843 73	118 00	23168 57
Clear Creek .....	1707 20	6981 08	10391 00	1200 00	3121 60	23400 88
Conejos .....	3089 11	7388 79	4097 56	1399 97	643 90	16619 24
Costilla .....	2806 53	1826 85	.....	233 65	26 20	4893 23
Custer .....	1727 00	658 99	3764 54	142 49	225 43	12440 45
Delta .....	.....	1813 33	493 85	.....	296 00	2603 18
Dolores .....	141 19	860 63	845 79	492 33	39 29	2379 41
Douglas .....	3544 45	4664 01	1745 78	1091 20	901 83	11347 27
Eagle .....	193 39	626 53	186 88	532 54	.....	2439 34
Elbert .....	5076 87	5167 74	326 96	27 83	247 15	10846 55
El Paso .....	5395 85	10106 40	13342 83	2491 28	75 86	31412 22
Fremont .....	1691 26	9431 27	8561 21	2045 34	2099 23	23818 31
Garfield .....	.....	242 12	.....	.....	.....	212 12
Gilpin .....	458 76	5561 20	12646 06	.....	102 55	18768 57
Grand .....	71 50	1725 00	7 00	.....	106 57	1916 07
Gunnison .....	3259 81	4668 16	14866 72	2396 47	10876 93	35471 09
Hinsdale .....	1792 88	4276 05	15 79	3194 78	.....	9279 50
Huerfano .....	1853 42	5106 72	1900 64	2970 00	60 00	11830 78
Jefferson .....	4514 28	9220 87	10501 87	.....	4582 24	29119 26
Lake .....	11066 73	8724 03	13595 01	99 8 57	7985 94	52099 28
La Plata .....	1585 52	6845 74	2655 63	273 53	733 49	12093 80
Larimer .....	6337 00	11945 22	11644 88	1224 30	5431 14	36582 54
Las Animas .....	9825 74	9559 51	5693 63	414 92	10768 97	36252 77
Mesa .....	.....	4253 39	812 16	.....	60 00	5099 50
Montrose .....	24 75	1268 78	839 79	788 00	.....	888 48
Ourray .....	6489 88	1007 65	3430 02	821 84	250 99	12009 39
Park .....	3943 60	4238 56	1836 44	41 42	372 22	10432 24
Pitkin .....	514 09	433 80	.....	.....	679 57	1627 46
Pueblo .....	11686 77	2266 40	4694 51	432 55	56681 97	95556 01
Rio Grande .....	859 12	2599 56	5358 10	1109 95	494 45	19222 18
Routt .....	259 00	720 00	.....	.....	60 00	1036 00
Saguache .....	1649 96	3731 43	2960 06	.....	1011 85	9853 30
San Juan .....	66 76	3130 53	.....	.....	.....	3737 29
San Miguel .....	203 00	1922 28	76 51	591 66	3000 00	4993 45
Summit .....	1213 49	2584 61	2094 01	1117 57	.....	7509 68
Weld .....	12318 60	24763 63	5390 29	2769 54	24594 14	67836 20
Total .....	\$161034 48	\$236903 33	\$219784 02	\$189905 77	\$179941 58	\$ 1087659 18

TABLE VIII.—CONCLUDED.

FINANCIAL STATEMENT FOR 1884.

COUNTIES.	EXPENDITURES.					Balance in hands of County (and District) Treasurer to credit of District, Au- gust 31, 1884.
	For Teachers' Wages.	For Current Ex- penses.	For Sites, Buildings, Furniture, etc.	For Temporary Loans Paid.	Total Expenditures.	
Arapahoe .....	\$128338 34	\$ 43923 83	\$131366 81	\$ 9979 19	\$313608 11	\$ 65556 65
Bent .....	6367 25	1737 29	1706 80	40 44	9857 78	9149 50
Boulder .....	23219 62	4120 88	5873 52	1697 05	34911 07	4678 30
Chaffee .....	12886 61	3470 72	2183 91	15 00	18556 24	4612 43
Clear Creek .....	11992 69	3358 24	642 52	32 53	16025 98	7371 90
Conejos .....	7931 25	1607 83	2193 84	268 11	12001 03	4618 21
Costilla .....	2040 00	681 87	249 51	.....	2971 37	1921 86
Custer .....	8157 41	1802 51	439 70	130 35	10529 97	1910 48
Delta .....	1210 43	136 09	336 94	100 00	1783 46	819 72
Dolores .....	630 00	225 00	730 01	.....	1585 01	794 46
Douglas .....	5676 84	395 46	1331 53	121 85	7525 68	3821 59
Eagle .....	1077 12	271 25	482 26	.....	1830 63	608 71
Elbert .....	4417 50	636 12	760 45	65 55	5879 62	4966 93
El Paso .....	17214 35	3899 71	5807 36	95 33	27118 75	4293 47
Fremont .....	1079 30	2451 82	1083 56	3494 35	17789 03	6329 28
Garfield .....	62 44	.....	.....	.....	62 44	179 68
Gilpin .....	14614 08	3372 32	45 47	100 86	18132 73	635 84
Grand .....	961 96	297 14	36 57	.....	1295 67	620 40
Gunnison .....	11120 41	6656 66	7946 02	4760 30	29883 39	5587 70
Hinsdale .....	1890 00	2575 57	3840 86	202 57	8509 00	770 50
Huerfano .....	6202 06	252 51	588 73	7 29	7050 59	4780 19
Jefferson .....	14925 20	2722 17	2681 55	4365 80	24694 72	4424 54
Lake .....	23725 85	10994 14	16660 86	.....	51380 85	769 43
La Plata .....	7228 68	844 49	425 69	1327 38	9826 24	2267 56
Larimer .....	15541 00	5571 65	4684 87	3457 07	29254 59	7327 95
Las Animas .....	13218 35	2397 30	1091 78	2645 13	19352 56	16900 21
Mesa .....	1493 00	914 05	735 91	.....	3143 86	1946 64
Montrose .....	1259 86	352 30	5260 29	.....	6872 45	3116 03
Ouray .....	2059 00	687 20	7740 88	761 50	11239 60	769 79
Park .....	5272 34	1495 69	154 05	.....	6922 08	3569 16
Pitkin .....	354 32	553 17	.....	.....	967 49	719 97
Pueblo .....	32250 23	17670 15	8465 48	24785 03	83171 79	12384 22
Rio Grande .....	4550 25	1844 17	868 96	292 51	7555 89	2766 29
Routt .....	780 00	27 75	.....	26 00	833 75	202 25
Saguache .....	4216 64	1218 96	395 79	272 89	6104 23	3249 02
San Juan .....	1595 00	1068 03	200 00	199 71	3002 74	734 55
San Miguel .....	310 00	373 25	3682 29	.....	4365 54	537 91
Summit .....	2393 11	1689 35	625 00	.....	4707 46	2302 22
Weld .....	24212 56	8093 65	16001 43	8119 98	56427 62	13408 58
Total.....	\$432255 05	\$140322 20	\$237321 20	\$ 66772 67	\$876671 12	\$219888 66

TABLE IX.

## FINANCIAL SUMMARIES.

1883.	Received.	Paid.
Amount on hand September 1, 1882.....	\$ 128,239 23	
From General Fund .....	329,408 23	
From Special Fund .....	269,441 99	
From Building Fund.....	37,829 37	
From all other sources.....	227,200 26	
Total receipts.....	\$ 992,119 08	
For teachers' wages .....		\$ 367,355 89
For current expenses .....		117,194 22
For sites, buildings, furniture, etc. ....		267,610 79
For temporary loans paid .....		96,714 47
Total expenditures.....		\$ 848,875 37
Balance in hands of County Treasurer, August 31, 1883.....		\$ 143,243 71
Totals.....	\$ 992,119 08	\$ 992,119 08
1884.	Received.	Paid.
Amount on hand September 1, 1883 .....	\$ 161,034 48	
From General Fund .....	336,993 33	
From Special Fund.....	219,784 02	
From Building Fund.....	189,995 77	
From all other sources .....	179,941 58	
Total receipts .....	\$1,087,659 18	
For teachers' wages .....		\$ 432,255 05
For current expenses .....		140,322 20
For sites, buildings, furniture, etc.....		237,321 20
For temporary loans paid.....		66,772 67
Total expenditures .....		\$ 876,671 12
Balance in hands of County Treasurer, August 31, 1884.....		\$ 210,988 06
Totals .....	\$1,087,659 18	\$1,087,659 18

TABLE X.

## APPORTIONMENT OF STATE FUND.

COUNTIES.	1883.			1884.		
	60 CENTS PER CAPITA.			61 CENTS PER CAPITA.		
	Amount Apportioned.	Deducted for Blanks.	Balance Certified to Auditor.	Amount Apportioned.	Deducted for Blanks.	Balance Certified to Auditor.
Arapahoe .....	\$ 7227 60	\$ 45 45	\$ 7182 15	\$ 8151 51	\$ 23 42	\$ 8128 09
Bent .....	276 60	9 57	267 03	273 89	9 11	264 78
Boulder .....	1800 60	82 23	1718 37	1926 38	60 45	1865 93
Chaffee .....	928 20	33 73	894 47	1101 05	53 35	1047 70
Clear Creek .....	961 80	36 00	925 80	1043 71	4 07	1039 64
Conejos .....	745 80	35 20	710 60	803 37	20 90	782 47
Costilla .....	542 40	9 66	532 74	.....	.....	.....
Custer .....	769 80	30 55	739 25	838 75	30 71	808 04
Delta .....	.....	.....	.....	148 23	16 18	132 05
Dolores .....	48 00	.....	48 00	41 07	1 58	39 49
Douglas .....	343 80	17 43	326 37	375 76	16 09	359 67
Eagle .....	.....	.....	.....	93 94	26 10	67 84
Elbert .....	213 00	12 73	200 27	207 40	14 99	192 41
El Paso .....	1231 20	4 70	1226 50	1184 01	51 24	1132 77
Fremont .....	981 00	44 85	936 15	1012 60	19 26	993 34
Garfield .....	.....	.....	.....	.....	.....	.....
Gilpin .....	954 00	30 90	923 10	981 49	16 36	965 13
Grand .....	118 80	8 00	110 80	142 74	.....	142 74
Gunnison .....	883 20	95 19	788 01	649 04	16 09	632 95
Hinsdale .....	134 40	4 80	129 60	140 30	4 78	135 52
Huerfano .....	964 80	29 85	934 95	1120 57	7 20	1113 37
Jefferson .....	1154 40	22 28	1132 12	1313 33	48 61	1264 72
Lake .....	1561 80	36 55	1525 25	1681 77	20 10	1661 67
La Plata .....	460 20	7 68	452 52	502 64	47 73	454 91
Larimer .....	1057 80	66 96	990 84	1182 18	42 52	1139 66
Las Animas .....	1817 40	34 73	1782 67	1886 73	31 39	1855 34
Mesa .....	.....	.....	.....	150 06	44 10	105 96
Montrose .....	.....	.....	.....	71 98	30 35	41 63
Ouray .....	130 80	10 35	120 45	168 36	3 78	164 58
Park .....	399 60	5 33	394 27	400 16	12 41	387 75
Pitkin .....	85 20	28 46	56 74	66 49	1 05	65 44
Pueblo .....	1519 20	53 41	1465 79	1696 41	82 82	1613 59
Rio Grande .....	321 00	3 30	317 70	286 70	16 89	269 81
Routt .....	.....	.....	.....	50 63	33 74	16 89
Saguache .....	430 20	5 65	424 55	472 75	16 62	456 13
San Juan .....	43 20	3 50	39 70	95 77	2 10	93 67
San Miguel .....	.....	.....	.....	66 49	12 35	54 14
Summit .....	309 00	12 41	296 59	200 60	18 62	182 07
Weld .....	1110 00	90 92	1019 08	1309 67	44 81	1264 86
Total .....	\$ 29524 80	\$ 912 33	\$ 28612 47	\$ 32038 42	\$ 901 87	\$ 31136 55



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APPENDIX.

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STATE TEACHERS' ASSOCIATION.

1884.

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COLORADO  
STATE TEACHERS' ASSOCIATION.

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TENTH ANNUAL SESSION.

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MONDAY, TUESDAY and WEDNESDAY, DECEMBER 29, 30 and 31, 1884.

HIGH SCHOOL BUILDING, - - - DENVER.

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EXECUTIVE COMMITTEE:

*J. S. McCLUNG, Chairman, Pueblo. ROBERT S. BEGGS, Secretary, Denver.  
A. C. COURTNEY, Denver.*

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The session was a very successful one, the attendance larger than ever before. The papers read were of a high order, as may be judged by the two herewith published.

The following order of exercises was observed:

MONDAY EVENING, DECEMBER 29.

Lecture—"Poetic Justice" . . . Rev. Myron W. Reed, Denver

TUESDAY MORNING, DECEMBER 30.

President's Address, . . . . . David Boyd, Greeley

"Unmarked Results," . . . . . Miss Harriet Scott, Pueblo

"Scientific Temperance Instruction in Schools," . . . . .  
A. B. Copeland, Greeley

General discussion and announcement of committees.

AFTERNOON.

"A New Demand," . . . . . F. B. Gault, South Pueblo

"Philosophy of Teaching," . . . . . Miss M. A. B. Witter, North Denver

"What Lack We Yet," . . . . . Jos. C. Shattuck, Supt. of Public Inst.

"Discussion," . . . . . Fred. Dick, Trinidad

## EVENING.

- Lecture—"The Development of Character," . . . . .  
 President Edwin C. Hewett, Normal, Illinois

## WEDNESDAY MORNING, DECEMBER 31.

- "The Microscope in the School-Room," . . . . .  
 H. F. Wegener, Supt. Schools, West Denver
- "Theory as Related to Practice in Teaching," . . . . .  
 Charles A. McMurry, Denver
- "How to Secure a Judicious Cut-Down in Geography," . . . . .  
 President J. A. Sewall, Boulder
- General discussion.

## AFTERNOON.

- "Selection and Use of Public Libraries," . . . . .  
 Frona R. Houghan, Denver
- "School Reading," . . . . . E. C. Stevens, Alamosa
- "Mistakes in School Management," . . . . .  
 E. L. Byington, Colorado Springs
- "Discussion," . . . . . T. E. Irwin, La Junta
- "The Teacher Out of School," . . . . . Aaron Gove, Denver

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Sessions begin at 9 a. m., 2 p. m. and 8 p. m. Discussions will be in order after  
 the reading of each paper.

## PRESIDENT'S ADDRESS.

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### "THE ETHICAL IMAGINATION."

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DAVID BOYD, GREELEY.

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In the opening half-hour of your deliberations, which custom assigns to the address of your president, he has concluded, on the present occasion, to invite your attention to the importance of cultivating in yourselves and the youth under your charge the ethical imagination.

By ethical imagination, I mean that faculty of the human mind by which it represents to itself human actions and their consequences as possible occurrences, and experiences in the presence of these representative or ideal actions, the sensations and emotions that it would in the presence of real actions.

There are three sources of the thrills which agitate our being—sensation, memory and imagination.

Sensation is the response of the mind to an external stimulus. This response the mind is capable of reviving in the absence of the external stimulus.

This is memory: It is living over a past forever vanished as an external reality. At pleasure the mind is usually capable of reproducing these thrills of organism, fuller or fainter echoes of past experiences. But the mind can do more than this. It can experience sensations of emotions corresponding to stimuli, of which past experience only furnished a hint.

This is imagination: It is a real, subjective world, correlated to an unreal, objective world created by the mind out of the hints of former experiences.

These experiences are divided into three classes, corresponding to the true, the beautiful and the good, giving foundations for science, esthetics and ethics. The part played by the imagination in the domain of the beautiful seems alone to have received the attention of thinkers until Tyndall brought into recognition the scientific imagination. But that there is an ethical imagination is just as certain. As there is ideal truth and ideal beauty, so is there ideal virtue. As the mind is pleased or pained about truth and error, beauty and deformity, so it is about virtue and vice. Each has created for itself an ideal world.

Science has its pure mathematics, formal logic and supersensible ether, molecules and atoms; esthetics its fine arts; and ethics its literature of fictitious actions and characters.

We are all agreed about the beauty of virtue, the importance of right living, the desirableness of private and public well-being and well-doing, and how to secure these ethical ends has been the problem of the wise and good of all ages and nations. But, in my opinion, the hope for the future in this regard chiefly reposes upon the teachers in our public schools.

I would not underrate the ethical work done by the Christian Church ever since its rise, and believe that it is now doing more and better work than ever before in its history. But scarcely half the people ever enter a church, and its pulpit addresses itself mostly to the adult mind. Its Sabbath schools are, no doubt, an important adjunct in the formation of virtuous character; but half the children are not in these schools, and those that are receive instruction only one hour a week, as against thirty in the public schools.

The home made by the parent for the child alone has an ethical importance equal, or perhaps superior, to the public school. But, alas, we know not how to prevent a multitude of homes from remaining what they have long been, nurseries of vice and crime. Hence I may say to the teachers here assembled before me, "Ye are the ethical salt of the earth." If the savor of virtue be native to you, and abide in you, the prevention of moral corruption may be hoped for.

The significance of beginning ethical training early is shown by the multitude of maxims and proverbs found upon this theme in every civilized language. However, the difficulty of the tasks expected to be performed by those in charge of the young remains as arduous as ever, and is best appreciated by those who have the most earnestly struggled in this work. "Bend the twig and bend the tree" is easily said; but some twigs will break before they bend, and others that will bend and remain bent under a sufficient pressure will immediately resume their native direction when the pressure is removed.

Few children are like a bar of lead, many are like a bar of cast steel, while most are like the tine of an American hay fork. By applying sufficient force in the right direction the tine may be straightened out, but take away the pressure and the tine immediately resumes the shape given in its manufacture. Some teachers will remember certain boys whom they straightened out, but who would not remain straightened. I know how often you have to sigh over the persistent survival of the ethically unfittest of the race, and would be ready to reply to him who would blame you for it, as a certain teacher is said to have very indiscreetly replied to a parent who was finding fault because John did not get on better in his studies. "Sir," said he, "there is one important respect in which the teacher cannot stand *in loco parentis*, and that is in furnishing the pupils brains."

The boy has been very aptly named the savage of civilized society. I fear that we are all born ethically perverse. The Calvinist who teaches total depravity is nearer the truth than the sentimentalist who takes the child character as the type of moral perfection.

All children are selfish, self-willed and cruel, and display these qualities to the extent of their small abilities. Their innocence and purity are the innocence and purity of imbecility. No reasonable man would pray for the coming of the kingdom of heaven whose moral bore any resemblance to child ethics. To such a one the child is interesting as a bundle of possibilities.

All of you, in your endeavor to form the young mind to virtue, have no doubt been struck by the inefficacy of the

finest moral maxims and precepts. They have fallen upon your own soul like the dew upon the withered flower. But the reason for the difference is not far to seek. It is the experience of life which has consecrated for you these sayings of the world's sages. They originated in their experience, and can only be fully understood by him who has had it. The child has no such experience, and can only anticipate it through imagination in sympathy with the feeling that animates your tongue and face. This it should be able to do, not from a set form of words, however beautifully alliterated into a proverb, but by a narrative whose actions it can simulate. It luxuriates in the realm of make-believe performance. Its imagination is more active in simulating action than in creating objects. It takes delight not so much in mud pies themselves as in the making of mud pies. The kindergarten folk understand this propensity of child-nature, and hence their success.

Now this child tendency in living in an unreal, ideal world, instead of being suppressed, should be encouraged, directed and prolonged as fast as possible into the adult life. Through the whole journey of life it offers us great possibilities. The finest joys of the finest natures, the purest happiness of the choicest men and women, spring up, bud, blossom and fructify in the realm of the ideal. We do not ask as a test of a finer nature what wine a man likes, or what brand of cigar, or what fish, flesh or fowl, but what poem or what novel delights him. Indeed, will we, nil we, the far greater part of the life of even the adult must be passed in this world of imagined experiences. They may be high or low, gross or refined, and they will give tone to our conversation and conduct. What they are in youth and after life will depend much on the home and school training. As the child readily takes its opinions from another, so it may be easily led by another to form its ethical ideal. Fictitious narratives about other children is the best means of gaining the end. It must be fictitious, because as all real children are very naughty you must invent your models, or take those that you find at hand already invented. These models must find happiness, joy, delight in well-doing. Your success will depend on your histrionic ability—that is, upon the penetrating power of your expression. Says Horace: "If you would have me weep, you must yourself shed tears."

The generous, the magnanimous, the disinterested deed must appear to fill you with a glowing enthusiasm. The sense of your appreciation will sparkle in your eye, flush on your cheek, tremble on your lips and thrill in your voice. Children are readily led by sympathy, and will experience with you your loves and hate, your approvals and disapprovals. It is just as important that you show yourself a good hater of the mean as a warm lover of the generous. Attempt no foolish compromise here, pretending to have some false sentimental love for the man, the person, while you detest his character. Eliminating from the equation some 150 pounds, more or less, of solids and fluids identical for us all, the character is the man, the person. The child cannot understand your fine spun distinction; nor in reality does the distinction exist. It is a fiction invented to reconcile rational morality with certain impracticable moral precepts, such as "Love them that hate you and despitefully use you, and say all manner of evil concerning you."

However, it is better to dwell upon the loveable in man than the hateful, for hate, like care, corrodes the heart and tends to make us unamiable and misanthropic. Besides, rightly viewed, it is the goodness in humanity and not the evil that is to be wondered at. Selfishness, cruelty, and immodesty we have in common with other animals; while disinterestedness, kindness and modesty are peculiarly human characteristics. What is lowest in our nature is easily explained on the theory of inherited tendency. The comparative ethical inferiority of the child nature is also easily explained by the theory of evolution. Embryological research shows that the human organism passes successively through structured changes, corresponding in its leading features with the development in time of the animal series. Analogy would lead us to expect that functional evolution would follow the same order. At birth structural metamorphosis is nearly complete, while independent functional existence is only then beginning. In accordance with this analogy we find that the child's first functional activities are purely animal. As the organic germ inherits the tendency to build up the organism after the parental type, so the infant organism inherited the tendency to perform the functions necessary to complete and preserve the organism. The love of life is a *sine qua non* of living. An

individual or race deficient in this propensity would soon succumb amid the fierce struggle for existence everywhere going on in nature. The tendency to take a vigorous part in this struggle has been inherited by us through a long line of savages, if we are not allowed to say brute ancestors. The fact of man's victory in the struggle implies the energy, skill and audacity of man's self-assertion. Hence, as we said, the wonder is not about man's self-assertion and self-indulgence, but concerning why and how he has succeeded in making a partial escape from the dominion of these powerful tendencies.

In order that the child may be led to form for itself a fair, fascinating ethical ideal in harmony at once with its affection and with the principles of human well-doing and well-being, it must be led in a path that it understands, into an ideal world of beauty and virtue, whose actions it can take part in and appreciate. As in teaching knowledge, we should begin with the near and known, and gradually help it to reach out to the unknown and far, so in our attempt to fascinate it with the beauty of virtue, we must lead it through activities lying close to its own young, narrow life. It should begin with child life, its plays and its pleasures, its griefs and its perplexities. Next it can be introduced into the activities of youth and adult life, such as lies near it and immediately under its observation. Sooner than some of us old folks think we are studied and seen through and our actions weighed and classified by the little folks.

The point to be brought out in all these fictions of life should be that it is more manly to help than to hurt, to help than be helped, and that the finest pleasure is derived from the endeavor to make others happy.

That the persons introduced in the narrative may have a vital influence upon the life of the child, they must be genuine human beings, neither helped nor hindered by any superhuman beings or agencies.

The supernatural aid received by the heroes of the Iliad, and the semi-divine genesis of some of them, lessens our interest in their prowess. We sympathize with each of them just in proportion to their strictly human origin and energy. The divine Achilles, invulnerable by being dipped



in the Styx by his goddess mother, Thetis, and armed and armored in panoply manufactured by the god Vulcan, sinks into contempt by the side of the Trojan, Hector, thoroughly human and relying solely upon human armor and native human courage.

The Hebrew Psalms, prophecies and proverbs contain some of the loftiest ethical utterances to be found in literature, and the practice of having the young commit to memory some of the gems of Hebrew ethical literature is excellent. In this way there is created for the young an ethical standard quite at variance with their ethical ideal. The one is creation of adult reason, which we have been taught to believe, pretend to believe, and often even think we believe, but away from which the affections are averted; the other a beautiful goddess which we disown, but which we worship in our heart of hearts.

The moral battle of life lasts as long as these two conflicting ideals usurp our allegiance. In their reconciliation and unification we have peace. It may be the peace brought on by moral death, or the peace wrought out by us, struggling in the path of duty, "on with toil of knees and heart and hands, through the long gorge to the fair light," which illumines "those shining table lands, to which our God" (the unified, perfected, ethical ideal) "is moon and sun." The conquest consists in winning over the affections to the love of virtue embraced as the supreme good. Says Seneca, "We do not love virtue because it pleases us, but virtue pleases us because we love it." And Marcus Aurelius, "To ask to be paid for virtue is as if the eye demanded a reward for seeing."

The ethical end is met when we find our supreme happiness in making others happy; the other end, whatever we call it, is reached when we find our chief pleasure in making others miserable. The first secures the complete reconciliation of public and private ends; the second sets up their complete antagonism.

We see that the moral magnet has two poles, at the one happiness for him who makes happy, at the other a fiendish satisfaction in making others miserable. Few have reached either goal. We are mostly either climbing upward to the

one, or crawling backwards to the other. Few have reached Bunyan's land of Beulah, and none Dante's "Inferno," whose gates bore the inscription, "He who enters here leaves hope behind." He who climbs may crawl, and he who crawls may climb. Teachers, it is your privilege to start the coming race a-climbing. To succeed you must be sure you are yourselves climbing. "Honor the truth by use." Your own lives will radiate sweetness and light in proportion to the firmness and strength of the ethical ideal you have succeeded in enshrining in your hearts. If the prevailing tone of your minds be "it is better not to be at all than not to be noble," it will radiate from the countenance as the divine effulgence is said to have beamed from the face of Moses, fresh from talking face to face with the ineffable brightness.

Some one has called the hope of posthumous fame the most refined and supersensual of all that can be called reward, yet a still more refined and supersensual reward because refined of all selfishness. It is the hope of living:

In other minds made better by your presence,  
 In pulses stirred to generosity,  
 In deeds of daring rectitude, in scorn  
 Of miserable aims that end in self;  
 In thoughts sublime, that pierce the night like stars,  
 And with their mild persistence urge men's search  
 To vaster issues.  
 May you reach that purer haven  
 And be to other souls that cup of strength  
 In some great agony; feed pure love,  
 Beget the smiles that have no cruelty;  
 Be the sweet presence of a good diffused,  
 And in diffusion ever more intense,  
 So you may join the choir invisible,  
 Whose music is the gladness of the world.

So far I have but hinted at the method of quickening the ethical imagination in the young. We will now speak of perfecting it in yourselves, which will also apply to the more advanced pupils.

For ethical purposes mathematics and science are about as good as worthless. History has two very distinct lessons for us. The one relates to the rise, growth and influence of institutions and phases of thought; the other to individual conduct and the formation of character. Writers

will value the one or the other of these elements in proportion to the relative importance which they attach to knowledge as compared to character. Hence we find Buckle excludes biography from the domain of history, while Emerson says, "There is properly no history, only biography." Biography may be said to be the stuff from which the ethical imagination forms its ideal character. This study constituted the greater part of the education of the Roman youth. Says Plutarch in his "Helps to Virtue:" "Whenever we begin an enterprise, take possession of a charge or experience a calamity, we place before our eyes the example of the greatest men of our own or bygone ages, and we ask ourselves how Plato, or Epaminondas, Lycurgus or Agesilaus would have acted, seeing these persons in our minds as in a faithful mirror, we remedy our defects in word and deed." It was with this end in view that Plutarch wrote his "Lives," a work which has had an immense influence in forming the character of the great men whose lives have adorned modern civilization. However, there is now within our reach a biographical literature of more importance to us. The nearer a man's life is to our own the more will a study of his influence ours. Hence, first of all, Americans of our own age, and so receding in time and space. Macaulay called Plutarch a charming writer, but still only a romancer. Had his delineations been more literally true they would have no doubt been much less effective. Since we all are prone to say, "what others have done I can do," it is well to have the highest achievement for example. Into the biography that is the most tonic for us there always enters some fiction. Macaulay remarks that it is a proof of the intrinsic greatness of Sam Jonson's character that even the minute shadowing of Boswell could not make it contemptible. We all know how the severe truthfulness of Froude has taken down from its pedestal the imposing character of Carlyle.

How different from the one Swinburne drew for him in these four lines:

Storm god of the northern foam,  
Strong, wrought of rock, to breast and break the sea,  
And thunder back its thunder, rhyme for rhyme,  
Answering as tho' to out-roar the tides of time.

This leads us to observe that the best models are pure fictions. As long as they remain genuinely human, the

finer and stronger the better. If the art be high there is but little difference whether it be in prose or in verse. When the culture and experience of life will make it avail, then the words of sages like Emerson or Carlyle may be read and pondered.

More than reading the words of the absent and departed, is the conversation of a friend who is yearning for more light, and a fuller, overflowing life. Such a one is not to be met at every step of our lives, nor will the all-compelling circumstance allow our paths long to lie parallel.

There is one direction in which the ethical imagination was cultivated to an extraordinary degree, and that was in anticipating the rewards and punishments of a future life. Even in quarters where these rewards and punishments are still believed, there are now no such efforts being made to paint to the imagination the terrors of the one or the felicities of the other. In other quarters there is a very decided decline in the belief both about any rewards or punishments, and about there being any hereafter or any power outside of natural causation to punish either here or hereafter. Some deplore this and point to a like decline in faith about the supernatural accompanying the moral decadence which brought about the fall of the Roman empire. It is said that history repeats itself, and that there are signs that a like demoralization is now going on *parri passu* with a decline in religious belief.

In answer to this we can point to the fact that in periods of the greatest demoralization there was to be found side by side with it a philosophic morality never surpassed for the grandeur of its conception, or the lives and characters of its followers. Those ages produced a Marcus Aurelius on the throne, and Epictetus, the slave of cruel master, yet the author of writing which that emperor thanked Providence for having access to.

True, this philosophy failed to reform the masses and save the empire. But so also did Christianity with all its allurements and terrors of a future life. It is then pertinent to ask what we have to save the masses which Rome did not. I answer two things in particular: The printing press and the free common schools. The last especially, for the

press, though generally on the side of right and virtue, is too apt to print what pays. But if the common schools save the nation it will not be by means of the multiplication table, or a knowledge of the law of gravity. Under the fierce electric light of science old faiths are fading and the motives of life are changing with them, but all that was ever made truly for righteousness still remains. Those were brutal and blind ages, when the "fear of hell was a hangman's whip to hold the wretch in order," and it had no great efficacy in doing that. The more refined motives for action still remain. It is your mission to lift the life of the masses to a higher, healthier plane, where these more refined motives may guide their feet into paths of righteousness. It is for you to prepare the heart for the beauty of holiness, the grandeur of generosity and magnanimity, the serene majesty of utter truthfulness.

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## THE MICROSCOPE IN THE SCHOOL ROOM.

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H. F. WEGENER, DENVER.

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It has been said that he who makes two blades of grass grow where formerly only one grew is a benefactor of mankind. Equally true I believe it to be of the teacher who, besides teaching his pupils how to read, write and cipher, can also awaken in them a bent or inclination which, in its prosecution in after life, shall be to them not only a source of pleasure and recreation, but also a means of self-education.

Curiosity is a trait of human nature especially active in childhood. Children are always ready and willing to see things. To develop this curiosity in pupils to such an extent as to lead them to look deeper than the mere superficial form; to cultivate a habit of seeing and discovering all that can be seen about an object, and then to

collect and arrange the knowledge thus gained in a tangible and available form, should be the basis of all true teaching.

A desire to indicate one way in which this can be done is the object of the present paper. I have chosen the microscope as the means, because no other instrument enters in its investigations into the affairs of every day life at so many points as this does. In our work during the past term, time did not permit us to follow more than one line of study methodically. We, therefore, chose as a course the growth and development of the lower forms of animal and vegetable life:

One of the simplest and easiest studies, and one which will give most striking practical results, is a study of that very common, yet very little understood substance called yeast. With this we began our course. I required each member of my class to bring to school a small quantity of yeast, some in the fluid form and some in the dried form. I also requested that each pupil supply himself with four or five clean bottles. These, with some Florence flasks, test tubes and a microscope, completed our apparatus. We first observed the general appearance of yeast in its fluid state. That bought at the baker's is usually of light brown color, containing more or less solid material. We strain off the latter. Four bottles, marked 1, 2, 3 and 4, respectively, were prepared. Into the first one a solution containing sugar was poured, and then a little yeast added. This is put in a warm place, and we await results. The mixture soon begins to disengage bubbles containing gas. Its sweetness gradually loses itself, and a vinous flavor takes its place. From this liquid alcohol can be obtained by distillation. Another bottle, numbered 2, is partly filled with the same solution as before, but, before adding the yeast, we pass the latter through a very fine filter. This bottle is now allowed to stand under the same conditions as the first one, but no change takes place. A third bottle, containing the same solution, *but not corked*, is allowed to stand in the room with the yeast, but none is added. After a few days we observe bubbles beginning to rise, a sign that yeast has gotten into it, and that it is beginning to work. In our fourth bottle another portion of sugar solution is placed, and some yeast added. Now, this solution

we boil, and, whilst it is boiling, we fit into its wide neck a plug of cotton. We set this also in the neighborhood of the yeast, and then wait. But we wait in vain. No change is apparent.

Four facts have thus been learned regarding the nature of yeast. Let us sum them up. By the first experiment we discovered that if yeast is placed in contact with a fluid containing sugar it induces a chemical change, by which the sugar is decomposed, principally into carbonic anhydride and alcohol. The second experiment taught us that this something which induces the chemical change can be filtered off from the containing fluid, whilst the third experiment informed us that these particles float in the air, and that they can be filtered out by passing the air through cotton. In the fourth and last experiment we gained the knowledge that the efficiency of yeast is destroyed by heat. The question, What are these particles that they can produce such mysterious changes? remains to be answered.

And now we will call upon our microscope to assist us in finding the answer. A drop of yeast is placed on a glass slide and covered with a thin glass. The microscope is adjusted with a moderately high magnifying power. With the drop of yeast on the stage of our instrument, we take a look through the tube. What do we see? A number of round or oval transparent cells are seen floating before us. Some are single, others are arranged like a string of beads, whilst still others show a large cell with one or two small cells attached. The large cell we may call the mother cell, the smaller ones are daughter cells. Each cell is composed of a thin walled sac, enclosing a granular fluid. The sac is the cell wall, the contents is protoplasm. The average size of these cells is about  $\frac{1}{3000}$  of an inch. Chemical analysis has determined its composition to be made up of carbon, hydrogen, nitrogen, sulphur, phosphorus, potassium, magnesium and calcium. In order to determine whether these cells are living organisms, we shall have to perform another experiment. For this purpose I had prepared one of Pasteur's culture fluids. In a portion of this fluid we placed a small quantity of yeast, and examined it with the microscope. We see only a few isolated cells here and there in the fluid. We allow it to stand in a warm place over night. Next morning we

examine the contents of our bottle again. The surface of the fluid is covered with a frothy scum. This scum, upon examination, is found to consist of an immense number of yeast cells, which have grown during the night. We, therefore, conclude that these cells are living cells, for only living organism can grow and multiply. But we have also discovered *how* they grow. When we examined the contents of our bottle in the evening we saw only a few single cells. Now we see a great many cells with smaller cells attached. These cells, therefore, multiply by budding. Each bud in turn becomes the parent of another bud, until we sometimes see six or seven cells joined together. Each cell is a perfect individual, and represents one generation.

One more question remains to be answered. We have not yet determined whether the organism is a plant or an animal. Our culture fluid will help us to solve the problem. This fluid is a solution of the inorganic salts, ammonium tartrate, potassium phosphate, calcium phosphate, magnesium sulphate and sugar, the whole dissolved in distilled water. In this we found the yeast plant will grow very vigorously.

As the cell consists of cellulose and its contents is protoplasm, neither of which we placed in the fluid, we are led to the conclusion that these cells are plant cells, for only plant cells have the power of taking up from the surrounding fluid the inorganic salts and constructing out of them such organic compounds as protoplasm.

We can classify it still further. We know it is a plant. To what division of the vegetable kingdom does it belong? It contains neither starch nor chlorophyll. It grows without requiring sunlight. It absorbs oxygen and gives off carbonic anhydride, all properties which are *not* characteristic of green plants. But these *are* the characteristics of another class of plants called fungi.

I have now presented with more or less detail our first study. Although I have omitted some particulars, enough has been indicated to give a comprehensive view of the plan. Every experiment and every observation was made by the pupils themselves.



The knowledge which they gained was derived from phenomena observed with their own eyes, and worked out by their own hands.

The practical bearing of the results was thoroughly understood. The girls of the class were particularly interested in this subject; practically familiar with it, they had never known its nature nor the conditions which favor its growth. They had now been supplied with the means of solving for themselves that seemingly inexplicable mystery which so often puzzles and aggravates our good housekeepers—an obstinate batch of dough.

To them the cause and prevention of fermentation in preserved and canned fruits is no longer a matter of tradition, but rests upon a knowledge obtained by personal observation.

As the yeast plant is the simplest type of the *non*-chlorophyll bearing fungi, so protococcus is the simplest type of that large class of *green* or chlorophyll bearing plants. This, then, formed the subject of our second study. To avoid tediousness, however, I will omit details and give only results.

My pupils explored water-troughs, mud holes and ditches to supply the necessary specimens for observation. Like the yeast plant, the protococcus consists of a single cell, composed of a cell wall and a granular protoplasm, but instead of being transparent and colorless, it has diffused through its mass granules of coloring matter, generally green, but occasionally half green and half red, sometimes wholly red. We found the yeast plant to multiply its cells by budding. Protococcus multiplies by dividing each cell into two cells. Protococcus requires sunlight for its development and growth. The yeast plant does not. The latter gives off carbonic anhydride, and absorbs oxygen. Protococcus *absorbs* carbonic anhydride and gives off oxygen, when exposed to sunlight.

One peculiarity of this plant is its motile stage. During this stage it possesses two long filaments—projections of protoplasm—called cilia. By means of these it can move very rapidly through the water, and thus be easily mistaken for an animal.

In our next study the proteus animalcule permitted us to observe the simplest manifestations of animal life, and to note the conditions of its existence.

We chose the bacteria for the fourth study, because in our current literature we frequently meet with allusions to them in connection with the cause of contagious diseases. As some very conflicting notions prevail regarding their nature I thought it desirable that we should observe some facts about them. Pasteur's culture liquid and diverse infusions furnished the means. We learned that bacteria are organisms belonging to the vegetable kingdom. They have a great variety of forms. They are the cause of all putrefactive fermentation. No decay of organic matter takes place without their presence. They are so extremely small that they require the highest power of the microscope to discern them. They float in the air, but can be filtered off by means of cotton. A temperature of 140 deg. destroys their vitality.

In the study of moulds we first met with that singular form of reproduction called alternation of generation.

A view of the streaming motion of the protoplasm in the vegetable cell, sometimes miscalled circulation, gives a reality to our conception, which no amount of descriptive text could impress so well.

Definite ideas regarding the characteristics of a cryptogamous plant and the differentiation of cells to form tissues can be most readily acquired by a careful study of the structure and life of a fern.

By means of thin cross-sections of the rhizome the microscope will reveal its beautiful scalariform and spiral vessels. The brown patches on the under side of the pinules are seen to be bunches of translucent cells full of minute bodies called spores. The growth and development of the prothallus of the fern and the discovery of its function is always a source of wonder and surprise.

A quantity of duckweed gathered by my pupils one day, from a pool of clear water close by, gave occasion for more expression of astonishment and delight than anything which so far had been discovered. On the stems of these

tiny plants are found whole colonies of vorticellæ, wheel-animalcules and green hydræ.

Whoever has observed a wheel-animalcule in its native element, when exposed to sunlight, with all its beautiful transparent organs in rapid motion, can form some idea of the effect which such a wonderful spectacle has upon a young mind to whom it is presented for the first time. Our hydra, too, seemed to catch the inspiration of the occasion, for it filled its spectators with amazement by sending out a bud from its body, and developing it into a complete counterpart of itself—tentacles and all—in the short time of twenty hours.

Here we have another instance of multiplication by budding, but in this case it is an animal instead of a plant.

In the study of human physiology, the circulation of the blood through the capillaries is seldom clearly comprehended by ordinary pupils. We can illustrate this beautifully by a living animal.

For this purpose I asked my boys to secure for us one of those nocturnal vocalists whose discordant notes so frequently break the monotony of a balmy summer evening.

The translucent membrane found between the toes of his foot, when spread out on the stage of the microscope, gives a most excellent view of the movement of the red blood discs through this net-work of minute tubes. Both the arterial and venous flow can be seen at the same time. But while it serves to illustrate a physiological function, it can also be made to exhibit a pathological condition: namely, the state of the capillaries during an inflammatory process. If we place a few grains of mustard on the moist membrane as it is stretched out before us, a change in the motion of the blood discs soon becomes apparent. Instead of continuing to pass through the tubes singly, they now begin to crowd through, in much greater numbers, giving to the membrane a much redder appearance. This is due to an increase in the diameter of the tubes. The irritation produced by the mustard causes the muscular fibres surrounding the blood-vessels to become flaccid, and they, therefore, allow more blood to enter the vessels.

Another change is noticeable. The blood flows slower and slower, until finally complete stagnation ensues.

We have now before us a perfect inflammation of the frog's foot. A precisely similar condition obtains in an inflammation of any organ of the human body.

If such a condition were continued for any length of time, it is obvious that serious structural changes must result. We, therefore, remove the mustard and keep the membrane moist until the flow of blood is fully re-established. In consideration of the interesting lesson afforded us by our subject under the microscope, and as we owe him no grudge, he is returned to his favorite element, where he will, no doubt, be the hero among his amphibious colleagues.

Many more examples could be cited to illustrate the numerous uses to which the microscope can be put. But I determined to indicate only an outline of my own experience with the instrument as an adjunct in school work.

No time which I have ever spent in the pursuit of information or knowledge has yielded me so much genuine pleasure and such fruitful results as the time spent with this instrument.

But its value does not lie wholly in the immediate knowledge which we gain by its use. It excites in us a desire to go farther than mere external appearance. The curiosity to know something about the nature of an object, its life, and the conditions which brought it into existence, leads us, unconsciously, to become independent observers.

My observation and experience has led me to believe that the teacher who has stored his mind with accurate and positive knowledge, and has this knowledge in an available form, can do better teaching, can secure more satisfactory and happier results, than he with whom a certificate and a school is the climax of his ambition.

#### RESOLUTIONS.

The following resolutions were reported by committee and unanimously adopted:

*Resolved*, That we thank the Board of Education of District No. One, the railroads and hotels, and the Denver University, for favors extended; the executive committee for their work in the interests of the association, and Doctors Hewett and Reed for their lectures.

*Resolved*, That a periodical published in the interests of the schools of Colorado and affording a medium of instruction and communication between the State department of education and the several school boards throughout the State is desirable.

*Resolved*, That the Hon. H. M. Hale, with two others whom he may appoint, shall constitute a committee the duty of which shall be to prepare and print a pamphlet embodying a history of the schools of Colorado, and especially a history of this Association now just completing its tenth year of life; and that said committee be hereby empowered to draw on the treasury of this Association to the extent of \$200 to defray expenses, said money to be refunded from the proceeds of the sale of said pamphlet.

*Resolved*, That it is the decided sense of this Association that the true aim of education is the development of character; that the culture of the heart should never be subordinated to that of the head—the training of the conscience to the training of the intellect—and that in realization of this aim we recognize as the most potent factor a true Christian morality, embodied in the character of the living teacher and pervading and guiding all the work of the school.



FIFTH BIENNIAL REPORT  
OF THE  
SUPERINTENDENT  
OF  
PUBLIC INSTRUCTION,  
OF THE  
STATE OF COLORADO,  
FOR THE YEARS ENDING  
AUGUST 31, 1885, AND AUGUST 31, 1886.  

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TO THE GOVERNOR.  

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DENVER, COLO. :  
THE COLLIER & CLEVELAND LITH. CO., STATE PRINTERS.  
1887.





DEPARTMENT OF PUBLIC INSTRUCTION, }  
DENVER, COLO., December 10, 1886. }

*To His Excellency,*

BENJAMIN H. EATON,

*Governor of Colorado:*

SIR:

In accordance with the requirements of law, I have the honor to submit to you the Fifth Biennial Report of the Department of Public Instruction for the biennial term ending August 31, 1886.

LEONIDAS S. CORNELL,

*Superintendent of Public Instruction.*



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# State Board of Education.

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1885 TO 1887.

LEONIDAS S. CORNELL,  
*Superintendent of Public Instruction.*

MELVIN EDWARDS,  
*Secretary of State.*

THEODORE H. THOMAS,  
*Attorney General.*

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1887 TO 1889.

LEONIDAS S. CORNELL,  
*Superintendent of Public Instruction.*

JAMES RICE,  
*Secretary of State.*

ALVIN MARSH,  
*Attorney General.*

# State University.

BOULDER.

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## BOARD OF REGENTS.

---

	<i>Term Expires.</i>
JAMES RICE .....	1889
L. S. CORNELL .....	1889
R. W. WOODBURY .....	1891
D. E. NEWCOMB .....	1891
E. J. TEMPLE .....	1893
WOLFE, LONDONER .....	1893
J. A. SEWALL, { President until January 1 .....	1887
{ Professor in charge until July 1 .....	1887
H. M. HALE, President from July 1 .....	1887

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# State School of Mines.

GOLDEN.

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## BOARD OF TRUSTEES.

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	<i>Term Expires.</i>
FREDERICK STEINHAUER, Pres't of Board .....	1887
E. L. BERTHOUD .....	1887
P. H. VAN DIEST .....	1887
C. C. WELCH .....	1889
J. T. SMITH .....	1889
REGIS CHAUVENET, President.	

# State Agricultural College.

FORT COLLINS.

## BOARD OF TRUSTEES.

	<i>Term Expires.</i>
OZRO BRACKETT.....	1887
DAVID BOYD.....	1887
JOHN J. RYAN.....	1889
HENRY FOOTE (deceased).....	1889
B. S. LAGRANGE.....	1891
W. F. WATROUS.....	1891
GEORGE WYMAN.....	1893
R. A. SOUTHWORTH.....	1893

C. L. INGERSOLL, President.

# State Industrial School.

GOLDEN.

## BOARD OF CONTROL.

	<i>Term Expires.</i>
WILLIAM G. SMITH.....	1887
M. N. MEGRUE.....	1887
A. L. EMIGH.....	1887

W. C. SAMPSON, Superintendent.

# Deaf-Mute and Blind Institute.

COLORADO SPRINGS.

## TRUSTEES.

	<i>Term Expires.</i>
A. L. LAWTON.....	1887
HENRY BOWMAN.....	1889
DANIEL HAWKS.....	1889
H. R. FOSTER.....	1891
C. E. NOBLE.....	1891

D. C. DUDLEY, Superintendent.

The following statement will show, in a measure, the advance of the school work of the State during the past two years :

	1884.	1886.	INCREASE.
Number of children of school age .....	56,242	60,798	4,556
Number of school districts .....	604	685	81
Number of school houses.....	525	631	106
Number of pupils enrolled .....	37,852	40,690	2,838
Average daily attendance .....	23,307	26,428	3,121
Number of teachers employed.....	1,123	1,304	181
Value of school property.....	\$1,676,130 00	\$2,343,982 00	\$ 667,852 00
Total receipts .....	1,087,659 18	1,217,008 80	129,349 62
Total expenditures.....	876,671 12	905,622 57	28,951 45
Balance on hand.....	210,988 06	311,386 23	100,398 17
Volumes in school libraries....	6,687	11,561	4,874



SYNOPSIS  
OF THE  
Public School System of Colorado.

---

**OFFICERS.**

---

Superintendent of Public Instruction.  
State Board of Education.  
County Superintendents.  
District Boards.

---

**SCHOOLS.**

---

Ungraded District Schools.  
Town and City Graded Schools, with  
High School Courses.

---

**HIGHER AND SPECIAL SCHOOLS.**

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University, Boulder.  
School of Mines, Golden.  
Agricultural College, Fort Collins.  
Mute and Blind Institute, Colorado Springs.

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**OTHER AGENCIES.**

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State Teachers' Association, voluntary.  
County Teachers' Association, voluntary.

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**SCHOOL AGE.**

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Between six and twenty-one; attendance voluntary.

---

**SCHOOL YEAR.**

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Begins September 1, ends August 31.

---

**SUPERINTENDENT OF PUBLIC INSTRUCTION.**

---

Elected by the people for two years. Has general supervision of the public schools; collects and tabulates the school statistics of the State; apportions the State school fund to the counties; gives information to school officers upon construction of school law; prepares and furnishes blanks for use of school officers and registers for teachers; also furnishes questions for teachers' examinations; visits annually such counties as most need his personal attendance, inspecting schools and making public addresses; is President of the State Board of Education, and a member of the State Board of Land Commissioners; makes biennial report to the Governor, in December previous to each session of the Legislature; causes school law to be published and distributed in pamphlet form; is *ex officio* State Librarian.

---

**STATE BOARD OF EDUCATION.**

---

Consists of Superintendent of Public Instruction, Secretary of State and Attorney General.

Issues State diplomas to such teachers as may pass examination, after having taught successfully in the State for two years; tries appeals from the decision of County Superintendents, but cannot render a judgment for money.

---

**STATE BOARD OF EXAMINERS.**

---

The Superintendent of Public Instruction, the President of the State University, the President of the Agricultural College and the President of the State School of Mines, constitute a State Board of Examiners, having entire control of the examinations for State diplomas.

---

**COUNTY SUPERINTENDENTS OF SCHOOLS.**

---

Elected by the people for two years. Compensation, five dollars per day, and fifteen cents for each mile necessarily traveled; but such compensation may not exceed one hundred dollars in one year for each school in the county; holds quarterly examinations for teachers, and grants certificates to successful applicants; apportions the county school fund to the districts; visits each district at least once each quarter while school is in session, for the purpose of inspecting the schools, advising with teachers and school officers, and examining the books and accounts of the latter, to see if the same are properly kept, and the district funds accounted for; receives reports from district secretaries and makes report annually to Superintendent of Public Instruction; hears appeals from decisions of district boards; supplies districts and teachers with copies of the school law and all needed blanks and registers; is Land Commissioner of the county.

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**DISTRICT BOARDS.**

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In districts of the first class: *i. e.*, those which have a school population of more than 1,000, the district board is composed of six directors, two of whom are elected annually on the first Monday in May, and hold office three years. They elect one of their number president, a secretary, who may be a member of the board, and a treasurer, who may not be a member of the board. In all other districts the board consists of three members, term three years, one elected each year. These district boards are the executive officers of the districts, which are bodies corporate, created by law.

The directors are custodians of the district property of all kinds; they employ and discharge teachers and laborers, and fix the salaries of the same; make rules for the government of the schools, and prescribe the course of study and the text books; suspend or expel pupils; disburse all school money; keep district records; take school census; report annually to County Superintendent; enforce the rules and regulations of the Superintendent of Public In-

struction, and in general do all things necessary to carry on the schools.

In districts with a school population of 350 or more, the directors fix the amount of the special tax levy, if any, for such purposes. In smaller districts the question is submitted to a vote of the people, if more than two mills is to be levied.

The Constitution of the State provides: "That no person shall be denied the right to vote at any school district election, or to hold any school district office on account of sex."

---

#### SCHOOLS.

---

No district is entitled to any portion of the State or county fund, unless it maintains a school, taught by a licensed teacher for at least sixty days in each year. In the county districts, schools are maintained from sixty to one hundred and sixty days, sometimes prolonged even to two hundred days. In cities and towns the schools are from one hundred and twenty (in a few) to two hundred days in length; those in which is enrolled a majority of the pupils of graded schools are in session at least one hundred and ninety days; while those in which is enrolled a majority of the pupils of ungraded schools are in session about one hundred days.

Many of the graded schools have a High School course, open to all, while Denver is the only city sufficiently populous as yet to require a High School with a full and entirely distinct faculty.

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#### TEACHERS.

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All teachers engaged in public schools must hold a certificate from the County Superintendent, or a State certificate issued by the State Board of Education. Neither county nor State certificates are granted, except upon a thorough examination in the branches required.

### HIGHER AND SPECIAL INSTITUTIONS OF LEARNING.

The State has made ample provision for the higher and special education of its youth. The State University, at Boulder, under the control of a board of six Regents, elected by the people; the Agricultural College, at Fort Collins; the School of Mines, at Golden, and the Deaf Mute and Blind Institute, at Colorado Springs, are controlled by boards of management appointed by the Governor. These institutions are supported by the State, by an annual tax levy of one-fifth of one mill.

### REFORMATORY INSTITUTIONS.

The State Industrial School, at Golden, is a reform school for boys. It has been managed from the first on the modern family plan, nothing prison-like in its appearance or its discipline, and its success has been gratifying.

### SCHOOL REVENUE.

The public school revenue of Colorado is derived almost exclusively from taxation. In common with other new Western States, she has a land grant of sections sixteen and thirty-six in each surveyed township, but so large a portion of these fall upon arid lands, that the grant is of little aid to our school fund. The statute provides for the annual levy of a county tax for school purposes of not less than two nor more than five mills; this, with the proceeds of penal fines, constitutes the county school fund. To this is added whatever may be received from the State fund, which, during the past year, has been materially reduced, owing to the fact that all funds arising from the leasing of school lands were, by an act of the last Legislature, transferred to the permanent school fund.

In many States there is a "Teachers' Wages Fund," which cannot be used for any other purpose. There is no such fund known to the laws of Colorado. What is

known as the "General Fund," derived, as above stated, from the county tax, from fines and estrays, and from the State fund, is available for all legitimate expenses of the district, except purchasing sites, erecting and furnishing buildings, making permanent improvements. The proceeds of a special school tax, when collected, are practically added to the General Fund, because available for precisely the same purposes. The excess of the special bond tax, if any, after paying the interest coupons due, can be used for the same purposes. None of these moneys can be used for building, enlarging or furnishing school houses, or purchasing sites, except the unexpended balance remaining to the credit of the district any year, after paying the expenses of a ten months' school for that year. Repairs rendered necessary by the ordinary wear and tear of the buildings can be paid from this fund. If a district is to build, enlarge, furnish, or purchase site, it must tax itself for that purpose. There is no statutory limit to the rate of taxation which a district may vote, either for school or building purposes, and in districts of first and second classes it is the duty of the board to fix the rate, and the board may also order the levy of one-tenth of a mill to be expended for a library.

# REPORT

OF

## Superintendent of Public Instruction.

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In presenting this report, it is quite gratifying to note the evidence of substantial growth and vigorous life manifested in the school work throughout the State during the last two years. The statistical reports and written statements from the County Superintendents of the various counties indicate that much is being done to render the schools more efficient. More care in the examination and selection of teachers, a disposition to grade the country schools, and establish school libraries, and the organization of teachers' associations, are among the things that are worthy of special mention.

In entering upon the duties of this office, at the beginning of the present term, it was with a conviction that, among other things, steps should be taken to grade country schools, to build up school libraries, and to organize county educational associations where such organizations did not already exist.

These county organizations seemed to be a necessity in order to secure intelligent and uniform action in matters relating to school work.

In order to secure uniformity of action throughout the State in the above matters, and to awaken an interest therein, the following letter was addressed to the County Superintendents of the State, immediately after they took charge of their offices in January, 1886:

OFFICE OF  
SUPERINTENDENT OF PUBLIC INSTRUCTION, }  
DENVER, COLO., January 15, 1886. }

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*Superintendent of Schools, ----- County :*

DEAR SIR :

You have just entered upon the duties of your office for a term of two years, and during this period you can do much for the improvement of the schools in your county. In order that unity of action may exist throughout the State, permit me to call your attention to a few things of importance to the school work, and urge upon you the necessity of earnest effort to secure them.

First, it is important that a course of study be adopted in all the ungraded schools of your county. At present most of our ungraded schools are without a definite outline of work, and under this condition the results are not satisfactory. The condition of the schools will be greatly improved when a course of study is adopted by each school board, and the teacher is required to carry it out in the school room. This will not be done unless the County Superintendents urge its importance and point out its value to school officers and teachers. For the purpose of uniformity, I wish to recommend the "Course of Study for Ungraded Schools," published in the *Daily Register*, in use in the public schools of Colorado. This course was adopted in June, 1882, by a convention of the educators of the State, and is intended as an outline, to be varied in detail to meet the wants of the school. In comparing this with courses of study used in like schools of other States, I find nothing that seems better. In Boulder county a number of ungraded schools have adopted a course of study, and good results are already reported, although introduced but recently.

Inasmuch as it is impossible, under the present provisions, to hold "Teachers' Institutes," except in a very few counties, allow me to recommend the organization of a County Teachers' Association, to be held for two or three days, at least once a year. This will give you an opportunity of having your teachers together, where you can make such suggestions in regard to the work as you think best. You can also arrange to have such work done, and methods of teaching illustrated, together with the discussion of other important features of the school work, as you deem will be of benefit to the educational interests of your county.

You can also do much toward the establishment of School Libraries. At present we have but few in the State. These are in the larger towns, and have been created by means of private contribu-



tions and entertainments. The law provides that a tax may be levied by a district for library purposes. The carrying out of this provision of the law should be encouraged. No school is well equipped without a library, yet you may find a disposition among the people to advance slowly in this matter; but it is a needed advance, and one which you can greatly aid, standing as you do at the head of the schools of your county. If the County Superintendents of the State will take hold of these matters, in connection with the other duties of the office, a new life will dawn upon the schools of the State. I shall be glad to hear from you in regard to the foregoing suggestions.

Hoping they may find in you a hearty approval, I remain,

Yours respectfully,

L. S. CORNELL,

*Superintendent of Public Instruction.*

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#### COUNTY TEACHERS' ASSOCIATION.

It is encouraging to know that about twenty-five counties have already organized Teachers' Associations, and others will do so in the near future. I have endeavored to be present at these meetings when possible. These associations have been attended with good results. Through them a new life has entered into the school work. Teachers have been inspired with new zeal, and school boards have been led to see the importance of making their schools better.

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#### SCHOOL LIBRARIES.

In establishing and maintaining public school libraries, something has been done, but not enough. But few districts have availed themselves of the provision of the law for levying one-tenth of a mill for library purposes. Most of the libraries now established are the result of private contributions and public entertainments. Districts of the third class should be authorized by law to levy a library tax, as well as districts of the first and second classes.

Such libraries are of great value, and every school in the State ought to have one, of at least a few volumes for refer-

ence. Without doubt, there is an increased interest in libraries among the school people of the State, as the reports show that the number of volumes in school libraries have almost doubled in the past two years, but the matter must not be allowed to rest here. It will be time to rest when all of our schools are supplied with suitable reference books for the use of pupils.

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#### COURSE OF STUDY FOR THE COUNTRY SCHOOLS.

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This feature of the school work has recently received considerable attention in this State, and encouraging progress has been made. The reports this year show that in the State there are now a large number of country schools that have adopted a definite course of study. Our country schools cannot be made as thorough and efficient as they should be, until a definite course of study is adopted and the pupils are classified.

It has been over four years since the course of study published in our daily registers was first recommended to district boards of ungraded schools for consideration and adoption, but little seems to have been done until last year, and the reports this year are the first to show country schools with a course of study. This course of study was intended only as a general outline of the work, with a view to variation in detail to meet the contingencies that may arise in different schools.

The following statements, from a few of the County Superintendents in regard to the success of a course of study, are in place:

"The schools in our county that have adopted a course of study are all we could wish. Our shifting population makes all methods an up-hill work.

"B. A. ARBOGAST,

*"Superintendent of Schools, Summit County."*

"A special effort has been made during the past year to have our schools adopt the excellent course of study for ungraded schools printed in the *Daily Register*, and I am glad to report encouraging success. Wherever this course has been adopted and carefully carried out, thorough work has been the result. I shall continue to urge its importance until every school in the county has adopted it.

"J. B. COOKE,

*"Superintendent of Schools, Weld County."*

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"The schools of this county that have adopted a regular course of study are progressing in a very satisfactory manner. There seems to be more interest taken by both pupil and teacher, as now they have some definite plan of labor, systematized so as to be continually progressive to the pupil, and encouraging alike to both teacher and pupil. Although but few outside districts have adopted a course, it is gratifying to know that it is meeting with success where adopted, and is enthusing new life into the school work.

"WM. G. SMITH,

*"Superintendent of Schools, Jefferson County."*

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"Seven schools in this county have adopted the course of study, but only one long enough to test it. This school adopted a course of study one year ago, and has succeeded beyond our most sanguine expectations.

"ROBT. N. HANCOCK,

*"Superintendent of Schools, Douglas County."*

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"In every case where a course of study has been adopted and the school graded, the result has been very flattering, more especially so in the country schools. It is a great incentive to work for both teacher and pupil. The teacher has a starting place, and after a time she can look back and see what has been done. There is always an effort to do the work well, if the school is graded, much more so at

least than in schools where the pupils are working in a haphazard manner. Again, the pupil is stimulated to work harder and more earnestly when he sees that there is a chance for him to *step up* from one grade to another. I think there is another and a very important advantage in having country schools graded, which, at first, is not realized. I find that it is often the case that a pupil in a country school is allowed to make very rapid progress in his favorite study or studies, to the detriment of his other studies. This, of itself, is not right, and whenever a pupil that has lost his equilibrium, so to speak, in his studies, wishes, as is very often the case, to enter a graded school in some town or city, he becomes much discouraged by being placed in a grade where his neglected studies entitle him to be placed. The work in the country and city schools should be so graded that the work in the former, as far as it goes, be like the work in the latter.

“S. D. CARROLL,

*“Superintendent of Schools, Gunnison County.”*

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“The country schools in this county which are using a course of study and have been graded, are very successful in the course pursued. The results obtained by so doing are, the pupils are better classified, a more uniform series of books is used, and more and efficient work is performed by both teachers and pupils in these schools, while the work is guided by the course of study so that each successive teacher does not have to classify and grade the school, but can commence where his predecessor left off, thus preventing a repetition of work, which is often the case in country schools. One of the results gained in grading the schools, is an incentive to the pupils, as they will work more diligently to reach a higher grade. The course of study and grading of schools pursued in this county is according to the formula prescribed in the *Daily Register*.

“A. WALTERS,

*“Superintendent of Schools, Custer County.”*

If the country schools are graded, the work must be accomplished largely through the efforts of the County Superintendents. They must see that the teachers properly classify the pupils of such schools, and keep proper records of such classification. From these records the teacher should make monthly reports to the County Superintendent, which shall show the progress of the school. The mere adoption of a course of study by a school board will avail but little unless some system is inaugurated for having it carried out and made permanent. It is not expected that any one course of study can be adopted in detail in every school. County Superintendents must determine what course is best suited to the schools of their counties. Yet, if possible, it will be better to follow one general outline of work in every county.

#### CONVENTION OF COUNTY SUPERINTENDENTS.

In order to secure more perfect uniformity of action in the school work of the State, the following call for a State convention of County Superintendents was issued:

OFFICE OF  
SUPERINTENDENT OF PUBLIC INSTRUCTION, }  
DENVER, COLO., March 19, 1886.

DEAR SIR:

A convention of the County Superintendents of the State will be held at the Barclay Block, Denver, April 15, at 10 o'clock a. m., to which you are especially invited. Among the subjects to be discussed are the following:

"The County Superintendents' Work in the Office and Among the Schools." Discussion opened by W. H. McCreery, Fort Collins.

"Necessity of Uniformity in County Superintendents' Work." Discussion opened by B. A. P. Eaton, Colorado Springs.

"What can be Done to Improve Our Country Schools?" Discussion opened by J. L. Fetzer, Denver.

"County Superintendents' Meetings. Shall We Organize District Conventions?" Discussion opened by J. H. Freeman, Cañon City.

L. S. CORNELL,  
*Superintendent of Public Instruction.*

In response to the above call, a very enthusiastic and profitable meeting was held. There were present during

the sessions, State Superintendent Cornell, County Superintendents J. L. Fetzer, of Arapahoe; Amos Bixby, of Boulder; Artemus Walters, of Custer; J. B. McGinty, of Delta; Robert N. Hancock, of Douglas; B. C. Killin, of Elbert; B. A. P. Eaton, of El Paso; J. H. Freeman, of Fremont; F. S. Beggs, of Gilpin; Fred Pischel, of Huerfano; W. G. Smith, of Jefferson; W. H. McCreery, of Larimer; I. S. Smith, of Park; B. A. Arbogast, of Summit; J. B. Cooke, of Weld; and City Superintendents Gove and Wegener, and ex-Superintendent Shattuck.

The addresses made and the discussions that followed showed that all had a deep interest in the public school work and were desirous of obtaining the best methods for county supervision of schools.

During the session of the convention, the following resolutions were adopted:

*Resolved*, That we recommend the course of study printed on cover of *Daily School Register*, and urge upon the district boards of all our schools to adopt and carry out this course of study.

*Resolved*, That we consider the development of character as the highest end of education and the only safe basis of American citizenship, and we urge upon Superintendents the duty of doing all in their power to purify the moral atmosphere of the schools and all their surroundings.

*Resolved*, That it is the sense of this convention that a teacher's certificate of the first grade should be evidence of a high degree of proficiency in the art of teaching, as well as in literary qualifications, and to this end we recommend the uniform practice among County Superintendents of granting no first grade certificate upon examination, without being satisfied also by personal observation, that the applicant possesses a high degree of ability in all that pertains to the actual management of the school.

*Resolved*, That we recommend great care in the issuing of temporary certificates, granting them only upon good evidence of fitness, and when imperatively demanded by a scarcity of regular teachers or other urgent reason.

*Resolved*, That our hearty support is due, and that it be given to *The Colorado School Journal*, and that we recommend to our teachers, directors and others interested in the school work of our State,

this worthy monthly above all others, when only one school journal is taken by the individual, and that the *Journal* be adopted as the official organ of the County Superintendents.

*Resolved*, That we should do for Arbor Day everything in our power to make the day what it was intended to be, and that the school boards, teachers and pupils of the various districts of our respective counties be especially invited by us to transplant trees on the school grounds, if suitable, or on other public or private grounds as may be deemed best, and that they report to the County Superintendents the number of trees planted, that we may be able to further report to the State Forestry Commissioner.

*Resolved*, That it is the sense of this convention that the income arising from the leasing of the school lands should be placed in the general school fund for semi-annual distribution, and that the amount received from this source, since the change of the law of 1885, should be transferred from the permanent fund to the general fund for apportionment among the several counties, and that legislation to this end be asked of the next Legislature.

#### TEACHERS' INSTITUTES.

Boulder, Larimer, Weld, Fremont and Las Animas counties have been able to hold institutes of two weeks' length, with much profit, although quite expensive, owing to the small number of teachers. But few other counties are able to bear the expense, hence in most counties in the State, institutes are impracticable. This would be so, even if the Legislature should grant an annual appropriation of \$100 to each county, for such purpose. In most counties, the number of teachers are too few to hold a successful institute of two weeks' length. The value of Teachers' Normal Institutes is not questioned, but how to supply the teachers of this State with such institutes, in such a manner as to reach the greatest number at the least expense, is a question to which I have given considerable study. It is my opinion that the best thing that can be done at present is to divide the State into about four Normal Institute districts, and provide for holding an institute annually in each district. While in the present condition of State finances, the Legislature will never consent to the appropriation of \$100 to each county in the State, aggregating

the sum of \$4,000 annually, it might cheerfully grant \$100 to each district annually, or the sum of \$400 for the whole State. Our State ought to have Normal Institutes, and this seems to me to be the best solution of the problem.

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#### STATE SCHOOL FUND.

The amount to the credit of the public school fund, November 30, 1886, was \$261,374.74. This includes the funds from sale of school lands and rents on said lands since the law of 1885 took effect. Interest arising from the investment of the above amount constitutes, under the present law, the funds for semi-annual distribution among the schools of the State. Previous to the Legislature of 1885, all funds arising from the leasing of school lands became a part of the funds thus distributed, but, by an act of that body, it became a part of the permanent fund, and only the interest on it can be used, thus depriving the schools of a large amount of needed help.

During the last two years the rent on the school lands of the State, not apportioned, have amounted to the sum of \$89,804.69.

It is my opinion that the policy of retiring this fund from distribution is a mistaken one, and should be corrected by the next Legislature.

If there is a time when the schools of the State need help, it is now, while they are in their infancy and struggling for existence. Sparsely settled districts frequently make the local tax for the support of schools burdensome; yet our people pay those taxes cheerfully. While the amount per capita arising from the rent on school lands would not be large enough, it would be sufficient in many cases to afford a partial relief.

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#### ARBOR DAY.

More interest was manifested by the schools of the State in tree-planting during the past year, than usual. Many trees were planted through the instrumentality of public



schools, not only 'on school grounds, but upon other public grounds. An endeavor was made by this office to have Arbor Day generally observed by the schools of the State. The following letters were sent out, the first to Principals of schools, the second to County Superintendents:

OFFICE OF  
SUPERINTENDENT OF PUBLIC INSTRUCTION, }  
DENVER, COLO., April 8, 1886. }

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*Principal of*-----*School:*

DEAR SIR:

Governor Eaton has selected April 29 as Arbor Day. If your school grounds are enclosed, and can be irrigated, I hope you will observe the day with appropriate exercises and the planting of trees. Please report to your County Superintendent the number and kind of trees planted.

Yours truly,

L. S. CORNELL,  
*Superintendent of Public Instruction.*

OFFICE OF  
SUPERINTENDENT OF PUBLIC INSTRUCTION, }  
DENVER, COLO., April 8, 1886. }

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*Superintendent of Schools*-----*County:*

DEAR SIR:

Governor Eaton has selected April 29 as Arbor Day for the State of Colorado. Permit me to urge upon you the importance of having the schools of your county observe the day by appropriate exercises and the planting of trees upon such school grounds as can be irrigated and are enclosed. Hon. Edgar T. Ensign, State Forestry Commissioner, desires you to report to him, at Colorado Springs, the number and kind of trees planted in your county.

Yours truly,

L. S. CORNELL,  
*Superintendent of Public Instruction.*

In accordance with this request, the County Superintendents reported to the Forest Commissioner, and his published report will show the results.

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### HISTORY OF EDUCATION IN COLORADO.

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Under the supervision of the State Teachers' Association, a history of the educational work in Colorado has been published. The committee authorized to prepare this history consisted of H. M. Hale, Aaron Gove and J. C. Shattuck. This volume, although brief, furnishes a collection of the facts in connection with the early history of education in this State that are worthy of preservation. It was thought best to collect these facts while those who engaged in Colorado's first educational work were still living.

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### SCHOOL HOUSES.

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As will be seen elsewhere in this report, there have been erected during the past two years 106 school houses. Some of these have been built with reference to the comfort, convenience and health of the pupils, while others have not.

In regard to the proper construction of school houses, so many excellent suggestions were made by my predecessor, the Hon. J. C. Shattuck, in his last biennial report, that I deem it unnecessary to say more until school boards have time to profit by what has already been said.

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### TEACHERS.

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At no time in the history of the State have we had a greater supply of excellent teachers than now. There is a constant influx of teachers from all parts of the Union, seeking positions in our schools. At times I have as many as fifty names of teachers wanting situations, and no situations to be had.

Those coming to Colorado for the purpose of teaching must make up their minds to take their chances, for the supply is greater than the demand.

## TEACHERS' EXAMINATIONS.

All teachers who teach in the schools of Colorado must hold a certificate obtained from the proper county or State authority, by passing the required examination, as no certificates are granted without examination.

For the information of those who may desire to know something of our county examination, the following instructions, rules and questions are inserted:

OFFICE OF  
SUPERINTENDENT OF PUBLIC INSTRUCTION, }  
DENVER, COLORADO.

*Circular to County Superintendents Concerning the Quarterly Examination of Teachers.*

GENTLEMEN:

By virtue of law, I am now required to prepare questions for use in quarterly examination of teachers. In sending these questions, I desire to make the following suggestions as to their use.

The questions will be forwarded to you in sealed packages. I recommend that you open them on the morning of the examination, in the presence of the applicants. There is work for two days of five or six hours each for the average applicant, and I recommend a two days' session, at least in the most populous counties. Applicants should have time to do themselves justice. Let it be understood by all, that to receive a certificate, the applicant **MUST DO THE WORK** at the time and in the manner prescribed for all. If one can do it in half a day, well—but let it be known that a certificate will *never* be given for a part of the work. Absentees must take the consequence of their own misfortune, however imperative the cause of their absence. This is not given as a rule, but merely the plain statement of a fact.

By dividing the slips you can give out a half day's work at a time, and I urge this plan as much fairer to all than giving the topics singly, as some will gain time in one branch, other in another, but no applicant should be allowed to leave the room after seeing any questions, until said questions are answered, that there may be no opportunity or temptation to consult authorities.

The topics are numbered from one to twelve. For the first day use Nos. 1 to 6, inclusive; second day, Nos. 7 to 12, inclusive. Take up questions and answers promptly at the expiration of each session.

If you wish an oral examination, take sufficient time for that, and for reading before or after the time allotted to the session.

Do not take a *minute* of the session for general exercises or *talk*, or allow any one else to do so.

Take such *further time* as you wish to satisfy yourself as to the moral character of the applicants, and as to their experience in and aptitude for the business of teaching, and also time to give such counsel concerning their duties as you may think helpful.

For marking applicants, divide the topics in two groups: First group, Nos. 1, 2, 3, 4, 5, 10, 11 and 12; second group, Nos. 6, 7, 8 and 9. Give certificates as follows:

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#### FIRST GRADE CERTIFICATE.

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*First Group*—Average 90 per cent.; no branch below 75 per cent.  
*Second Group*—Average 75 per cent.; no branch below 60 per cent.

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#### SECOND GRADE CERTIFICATE.

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*First Group*—Average 75 per cent.; no branch below 60 per cent.  
*Second Group*—Average 60 per cent.; no branch below 40 per cent.

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#### THIRD GRADE CERTIFICATE.

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*First Group*—Average 60 per cent.; no branch below 50 per cent.

*Second Group*—Average 50 per cent.; no branch below 40 per cent.

Provided that a certificate shall not be refused for failure in Nos. 8 and 9.

All answers to be filed and retained in your office for six months. *Number* the applicants, but take no names.

Give each a blank envelope and paper sufficient for the work. Examine and grade all papers by number before opening the envelopes to learn the names. (If you can get a committee of competent persons to examine and grade the papers, it will guard you still further from any charge of unfairness, which disappointed applicants are apt to make).

*A high degree of practical success in teaching should be accepted as a sufficient reason for issuing a certificate of a higher grade than is warranted by the percentage upon examination, and inexperience or want of success should lower the grade of the certificate given, while failure as a teacher might be so marked as to make it your duty to refuse a certificate, whatever the percentage obtained.*

I earnestly recommend that certificates of the *first* grade be given only to teachers who have earned it by success in the school room as well as at examination. I also recommend the addition of ten to the grade earned on Theory and Practice, for the regular reading of some good educational periodical, or of one or more reliable books on the subject.

Refuse certificates to applicants of whose moral character you have a reasonable doubt.

PLEASE REPORT to me as soon as convenient after your examination, on the blanks furnished for the purpose, giving the names of all applicants.

Preserve these instructions for future reference,

Take great pains that none of the questions go out of your hands until the end of the quarter.

No private examinations are lawful except for temporary certificates, valid only till next public examination.

Respectfully, Yours,

L. S. CORNELL,

*Superintendent of Public Instruction.*

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## RULES FOR THE CONDUCT OF THE EXAMINATION.

(This slip to be given to each applicant with the first questions.)

- \*1. Provide yourself with a lead pencil.
2. Write your name, age, nativity and postoffice address on a slip of paper, and answer the following questions:
  1. How long have you taught, and where?
  2. In what schools were you educated?
  3. What educational papers or journals do you read regularly?

Place the answers in an envelope, seal it, and put your *number*, but not your name, on the back.

3. Write your *number* on each paper.

4. Take a different paper for each branch, write the subject at the head of each paper, and write on but one side of the paper.

5. Number your answers to correspond with the questions, but do not repeat the questions.

6. Read all the questions on a topic before answering any of them.

7. All communication during examination is absolutely forbidden.

8. Do not take the questions from the room. Any applicant who violates this rule will forfeit all right to a certificate.

9. When possible, abbreviate. Give *short but complete solutions* to arithmetical problems.

10. ASK NO QUESTIONS. If you have doubts as to the meaning of any question, let them be submitted in writing, so that the Superintendent may examine them when he examines the answers to the questions.

11. Omissions will be considered as failures, and in estimating your rank the general appearance of the papers, as well as the correctness of the answers, will be considered.

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\*If the Superintendent conducting the examination prefers to have the work done with pen and ink, he will provide them.

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QUESTIONS FOR THE QUARTERLY EXAMINATION OF  
TEACHERS. FIRST QUARTER, 1886. PREPARED BY  
SUPERINTENDENT OF PUBLIC INSTRUCTION, DEN-  
VER, COLORADO.

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1. ORTHOGRAPHY,

1. What is the use of teaching the sounds of letters?
2. Ought pupils to be taught to spell words of which they do not know the meaning? Why?
3. What are the rules for doubling final consonants?
4. What use do you make of the dictionary in teaching spelling?
5. Give directions for use of capital letters.
- 6-10. Write twenty words dictated by the examiner.

## 2. ARITHMETIC.

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1. What are the fundamental operations of arithmetic? Why are they so called?
2. Define prime factor, fraction, decimal fraction, percentage and root.
3. From  $\frac{7}{8}$  of a mile take  $\frac{3}{8}$  of a rod.
4.  $(\frac{2}{5} - \frac{1}{3} + \frac{3}{4}) \div [\frac{7}{8} \times \frac{8}{9} - (\frac{5}{8} + \frac{1}{3})] = ?$
5. Multiply 32.765 by .000985.
6. What sum will amount to \$1,000 in 5 years with interest at 8%?
5. A cubical box contains 10 bushels. What is the length of one side?
8. What will it cost to plaster a room 18 feet long, 14 feet wide, and 12 feet high, at 30 cents per square yard?
9. A district whose property is valued at \$500,000 wishes to raise a special school fund of \$2,500. What must be the rate of taxation?
10. The amount of a certain principal for three years, at a certain rate per cent., is \$750, and the interest is  $\frac{1}{4}$  of the principal. What is the principal and what is the rate? Solve by analysis.

## 3. READING.

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1. Classify and define the inflections.
2. Of what use are punctuation marks to the reader?
3. What is gained by concert reading?
4. *a*—Name five great American poets. *b*—Three of the ablest authors among American women.
5. What constitutes the preparation of a reading lesson on the part of the pupil?
- 6-10 An exercise in reading, conducted by the examiner.

## 4. UNITED STATES HISTORY AND CONSTITUTION.

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1. Give a brief account of the capture of Washington City.
2. Slavery. *a*—When introduced, and by whom? *b*—When abolished?

3-4. Explain the connection the following names have with American history: De Soto, General Scott, Alexander Hamilton, Arnold, Farragut, John Brown.

5. Explain the cause of the war with Mexico.
6. What was gained to the United States by the adoption of the Constitution?
7. What provisions for carrying on war did the Second Continental Congress make?
8. In the war of 1812, by what forces were most of the victories of the United States achieved?
9. What amendments were made to the Constitution in the interest of the colored race?
10. Name three important American inventions.

#### 5. PENMANSHIP.

1. Of what value is the blackboard in teaching penmanship?
2. What slant should all straight lines make with the base line?
3. What is the chief object to be gained in penmanship?
4. Analyze the letters in the word "*light*."
5. Write the following as a specimen of your penmanship:  
 "Lord Marmion turned, well was his need,  
 And dashed the rowels in his steed."

#### 6. PYSIOLOGY.

1. Name the bones of the arm and the leg.
2. Name the organs of digestion.
3. *a*—Explain the effect of alcohol upon the digestion. *b*—Upon the circulation.
4. Name three laws of health which you consider important to observe.
5. *a*—What are the offices of the skin? *b*—Under what conditions can it best perform them?

#### 7. SCHOOL LAW.

1. *a*—By whom are text books adopted? *b*—How long must they remain in use when adopted?



2. To whom is the principal teacher required to report at the end of each term?
3. From what source are school funds derived?
4. When and by whom are the school funds apportioned?
5. Upon what basis are the school funds apportioned?

### 8. BOTANY.

1. *a*—What is meant by germination? *b*—Venation?
2. *a*—Explain the function of the leaves. *b*—The roots.
3. Give an example of a dicotyledonous plant. Monocotyledonous. Polycotyledonous.
4. Explain the growth in exogenous plants.
5. What part of the Cactus performs the function of the leaf?

### 9. NATURAL SCIENCES.

1. Name the general properties of matter.
2. *a*—Describe the mercurial barometer. *b*—What are its uses?
3. In what direction do the trade winds blow? Why?
4. Name two minerals that are harder than glass, and give their composition.
5. What is supposed to be the cause of volcanoes?
6. Name the planets that have moons, and give the number belonging to each.
7. Explain the chemical reaction that takes place in a coal fire.
8. Give some important distinctions between animals and plants.
9. To what class of the vertebrates do each of the following animals belong: cat, frog, seal, bat, man?
10. Define astronomy, geology and zoology.

### 10. GRAMMAR.

1. Name the properties of verbs and pronouns.
2. Write the principal parts of the following verbs: wring, fly, can, bend, get, draw, flee, drink.

3. Define Grammar, and name its principal divisions.
4. Define sentence, subject, predicate, object.
5. Analyze :  
 " I know thou art gone where the weary are blest,  
 And the mourner looks up and is glad."
6. Analyze: "*He that* has ears to hear, *let him hear.*"
7. Parse the words in italics in the above sentence.
8. Write a complex declarative sentence.
9. Conjugate the verb "to write," in the past tense, potential mood.
10. Punctuate and capitalize: "a stranger in a printing office asked the youngest apprentice what his rule of punctuation was said the boy i set up as long as i can hold my breath and then i put a comma when i gape i insert a semicolon and when i want to sneeze i make a paragraph."

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#### 11. THEORY AND PRACTICE.

1. How would you cultivate the power of attention in the pupil?
2. What are perceptive faculties?
3. What book have you read on mental development?
4. What is the use of the object lesson?
5. Name five requisities of a good teacher?

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#### 12. GEOGRAPHY.

1. How many counties has Colorado? Name and locate the county last organized.
2. Name the countries in which each of the five races of men predominate.
3. Name the countries and States in the same latitude as France.
4. Name five capital cities of Europe in the order of their size.
5. Name the principal islands of the West Indies, and give the government to which each belongs.
6. What and where are the following: Honolulu, Nicaragua, St. Helena, Aetna, Baton Rouge, Lima, Geneva, Po, Biscay, Shasta.

7. Name all the countries that are washed by the Mediterranean sea.
8. Locate Australia, and name its principal cities and most important products. To what government does it belong?
9. Locate the following: Providence, Bangor, Vicksburg, Puget Sound, Bay of Funday, Pueblo, Portland (2), Detroit, Atlanta.
10. Write a topical outline for the study of the geography of Colorado.

#### FREE TEXT BOOKS.

There is a strong and growing sentiment in this State in favor of school districts purchasing and owning the text books. The frequent changes that our people make from one locality to another has caused the purchase of text books to become a burden. This has led the people to inquire if there is not some way to secure relief. A gentleman said to me: "Is there no way to reduce the expense of purchasing text books?" Said he: "I moved three times last year, and was compelled to buy three sets of text books for my children."

It will require but little change in the law to bring this relief, and that is to provide for the school districts to purchase and own the books. This step should be taken, for it will greatly reduce the text book expense in the State. It can be shown that such a measure will save to the people of this State the sum of \$100,000 annually, for school books.

While East, last spring, I took occasion to make inquiry in reference to the advantages of the Free Text Book system. I conversed with a number of educators from Massachusetts, and visited a number of schools in New York, for the purpose of ascertaining what there is in the Free Text Book system to commend it.

The following are some of the facts noted:

1. The annual expense is from  $33\frac{1}{2}$  to 50 per cent. less.
2. The books are better preserved than when the children owned them.

3. Increased enrollment in schools.
4. The children are all supplied with needed books at the opening of the school term, rich and poor alike.
5. The work of the teacher is not materially increased.

The following from the last report of the State Board of Education of Massachusetts, is worthy of consideration:

The advantages of the Free Text Book system are:

1. Economy in time and money. Under the present system schools may be supplied on the first day of the term with all the necessary means of study. This prevents the long delays that were formerly experienced in organizing the classes, and enables the teacher to make a better classification of his school. Experience has proved that the expense of books and supplies, by the new method of purchase, is reduced nearly one-half.
2. The new system furnishes a good occasion for training the children to take good care of those things not their own, but which they are allowed to use.
3. It has, without doubt, increased the attendance upon the schools more than ten per cent.
4. The public schools of the State are now literally free schools, offering to all on the same free terms, the advantages of a good education.

Before the act of 1884 was passed, sixteen towns in the commonwealth had voluntarily adopted the free text book system. In all cases of fair trial, the most satisfactory results have been produced.

#### TEMPERANCE INSTRUCTION.

A great deal of interest is shown by the people in different parts of the country in relation to temperance instruction in the public schools. Many States have already taken steps in this direction, and have provided for instruction that shall show the injurious effects of alcoholic stimulants

and narcotics. Congress has also provided that such instructions shall be given in the public schools of the District of Columbia and all the Territories of the United States. Should not Colorado take some steps in this direction? Many of the people of our State are asking for some action in this matter, and the Legislature should give the subject serious consideration.

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#### COLORADO SCHOOL JOURNAL.

The publication of a School Journal for Colorado was undertaken in the spring of 1885, by Superintendent Gove as editor and J. D. Dillenback as publisher. Although the effort has not been a remunerative one, it has met a necessity in the school work of the State that could not well be provided in any other way. It has furnished a means of communication for the school people of the State, and a medium through which the rulings of this office may reach those interested therein. It is worthy of a better patronage than it has received up to this time.

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#### SCHOOL AND COUNTY VISITATION.

I have endeavored as much as possible to visit the various counties in the interest of the public schools. The county associations afford a favorable opportunity for meeting teachers and school officers, and I have made an effort to attend these meetings. My work in this direction has been pleasant to me, and, I trust, profitable to the school interests of the State. The lectures given have been mostly confined to some feature of school work, with a view to awakening an increased interest in the work of education. I have visited a large number of schools in the State, and find them as a rule in excellent condition. Men and women of ability and experience are found in our schools in all parts of the State.

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#### STATE LIBRARY.

Since removing to the present quarters, in May, 1885, the library has been classified and arranged as well as the

limited room would permit. Its more convenient location, and the fact that the doors have been open every day, excepting legal holidays, from 9 a. m. to 4 p. m., have caused a marked increase in the number of readers.

An attempt has been made to fill the gaps in a number of incomplete sets of publications, especially the official documents of Colorado, and some of the more important publications of the United States Government. The results have been highly gratifying. With the permission of the Secretary of State, the document room belonging to his office was searched, and about one hundred Colorado documents, consisting of session laws, journals and official reports were obtained. Even with this number added, the Colorado section of the library is by no means complete. Accepting the offer of the honorable Secretary of the Interior, to receive duplicate documents in exchange for such numbers as could be furnished to fill out incomplete sets, seventy-seven volumes of duplicates were sent to Washington, and the same number have been received in return, with a promise of others.

A few volumes were also exchanged with Messrs. Pierce & Curtis, of this city. With these additions, we now have a complete set of the Patent Office Records from 1847 to the present time, a complete set of the Congressional Globe, a set of the Congressional Record, with the exception of volume 12, and almost a complete set of the publications of Hayden's Geological Survey.

A number of volumes have been added to other valuable sets.

As we are receiving from many of the States and Territories all of their publications, it would be simple justice to give them the journals and official reports of this State in return. Only the laws and Supreme Court reports are now exchanged. It would be well to provide that the Secretary of State furnish the State Library fifty copies of each public document for exchange with other libraries. This would insure us a complete series for our own library in the future.

The library ought to have a small appropriation for the purchase of reference works and books pertaining to Colorado, and for binding some books in the library that sadly

need it. A State Library should be a complete reference library, and should contain every book pertaining to the State.

The following statement will show the growth and present condition of the library:

Number of volumes catalogued November 30, 1884 -----	7,481
Number of volumes received from States and Territories 350	
Number of volumes received from United States (regular series) -----	340
Number of volumes received from United States (in exchange) -----	77
Number of volumes received from individuals and all other sources -----	68
Total receipts -----	835
Duplicates exchanged -----	85
Lost during removal -----	8
In library November 30, 1886 -----	8,223

One hundred and seventy-three volumes of judicial reports and laws have been received, and turned over to the Supreme Court Library.

The following periodicals have been donated by the publishers, and kept on file :

Aspen Daily Press,  
 Atwood Advocate,  
 Christian Register,  
 Colorado Farmer,  
 Colorado School Journal,  
 Deaf Mute Hawkeye,  
 Denver Times,  
 Denver Tribune-Republican,  
 Journal of the Franklin Institute,  
 Patent Office Gazette,  
 Polyclinic,  
 Rocky Mountain Herald,  
 Rocky Mountain News,  
 Saguache Chronicle,  
 Saguache Democrat,  
 Shaker Manifesto,  
 Unitarian Review.

Most of these have been received regularly—some only a part of the time. It is to be regretted that the list is so short. A complete collection of the newspapers of the

State would be invaluable to future historical students, but at present we must depend on the generosity of the publishers to furnish them.

#### COUNTY SUPERINTENDENTS.

The condition of the schools is largely dependent upon the County Superintendents. This is especially true of the country schools, and in no department of the educational work is there more need of able supervision than in these schools. A judicious, earnest and capable County Superintendent can do much toward improving the schools of his county, but it requires earnest effort. It is sometimes said that the office of the County Superintendent is not appreciated. It is called an unimportant office. The importance of the office depends upon how it is filled. The County Superintendent has it in his power to render the office one of great value, and compel the people to acknowledge its importance.

Most of the present County Superintendents of the State are proving themselves well fitted for the office, but, unfortunately, changes in this office occur too frequently for the good of the schools. When a County Superintendent holds the office but two years, he has little time to mature and carry out plans. It takes him one year at least to learn the wants and condition of the schools of his county; then he has but little time left to carry out any methods for advancing the schools. For this reason, County Superintendents who are doing good work should be retained as long as possible. Unfortunately, in some counties the County Superintendents have been denied pay for valuable services rendered—items of work rejected because not specially mentioned in the law. It is to be hoped that where County Superintendents are doing efficient and earnest work, they will not have their efforts checked by the refusal to pay them for necessary services rendered.



## STATE OF COLORADO.

## COUNTY SUPERINTENDENTS OF SCHOOLS, FROM JANUARY, 1886, TO JANUARY, 1888.

COUNTY.	NAME.	POSTOFFICE.
Arapahoe .....	John J. Fetzner.....	..... Denver
Archuleta .....	B. Price .....	..... Chromo
Bent .....	John A. Murphy.....	..... West Las Animas
Boulder .....	Amos Bixby .....	..... Boulder
Chaffee .....	R. J. Coleman.....	..... Buena Vista
Clear Creek .....	Henry Bowman .....	..... Idaho Springs
Conejos .....	R. K. Brown .....	..... Conejos
Costilla .....	Fred Etter .....	..... Fort Garland
Custer .....	Artemus Walters.....	..... Ula
Delta .....	J. B. McGinty.....	..... Hotchkiss
Dolores .....	Rev. W. H. Howard .....	..... Rico
Douglas .....	Robert N. Hancock .....	..... Castle Rock
Eagle .....	L. S. Pierce.....	..... Mitchell
Elbert .....	B. C. Killin.....	..... Kiowa
El Paso.....	Rev. B. A. P. Eaton .....	..... Colorado Springs
Fremont .....	J. H. Freeman.....	..... Cañon City
Garfield .....	W. D. White .....	..... Glenwood Springs
Gilpin.....	W. J. Thomas .....	..... Central City
Grand.....	Frank Coy .....	..... Grand Lake
Gunnison .....	S. D. Carroll .....	..... Crested Butte
Hinsdale .....	Lyman Henry, deputy.....	..... Lake City
Huerfano.....	Fred Pischel .....	..... La Veta
Jefferson .....	W. G. Smith.....	..... Golden
Lake.....	D. J. Sayer.....	..... Leadville
La Plata .....	Oscar C. Wood .....	..... Durango
Larimer .....	Rev. W. H. McCreery.....	..... Fort Collins
Las Animas.....	Fred Dick .....	..... Trinidad
Mesa .....	M. O. Whitehead .....	..... Grand Junction
Montrose .....	John J. Tobin .....	..... Montrose

## COUNTY SUPERINTENDENTS—CONCLUDED.

COUNTY.	NAME.	POSTOFFICE.
Ouray.....	Dr. W. W. Rowan .....	..... Ouray
Park.....	I. S. Smith .....	..... Fairplay
Pitkin.....	W. R. Callicotte .....	..... Aspen
Pueblo.....	Dr. C. F. Taylor .....	..... Pueblo
Rio Grande.....	Sigel Heilman.....	..... Del Norte
Routt.....	John T. Whyte .....	..... Yampa
Saguache.....	W. H. Nelson .....	..... Saguache
San Juan.....	Dr. J. N. Pascoe .....	.....Silverton
San Miguel.....	H. C. Lay.....	..... Telluride
Summit.....	Dr. B. A. Arbogast.....	.....Breckenridge
Weld.....	Rev. J. B. Cooke.....	..... Greeley

REMARKS  
OF  
County Superintendents.

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Statements by County Superintendents, here inserted, will give the reader an idea of the school work in the different counties:

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**ARCHULETA COUNTY.**

B. PRICE, *Superintendent.*

This county has been organized but little more than one year, and its school work has merely commenced. A year ago there was not a dictionary, globe, map, chart nor school seat in this county, and all educational work was very crude. To-day each district has good furniture and a well selected variety of apparatus. Another new district has just been organized. One district will build a new school house next spring. The school census of one year ago was erroneous; the present one is, I believe, correct. Indifference to school matters is passing away, and a real healthy interest is taking its place.

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**BOULDER COUNTY.**

AMOS BIXBY, *Superintendent.*

Boulder county is divided into fifty school districts, and is taxed about forty thousand dollars a year for public school purposes. Including voluntary contributions for building school houses, for lengthening terms of school, and for the various forms of aid to the public schools, the whole sum annually expended will not vary much from fifty thousand dollars, and this for the education of about

twenty-five hundred children. The total school population of the county is 3,302, and the assessed valuation nearly five million dollars. Some districts tax themselves much higher than others, varying according to needs and the varying educational spirit of the people. The average by direct taxes is about  $7\frac{1}{2}$  mills; including voluntary contributions, it is about 10 mills on the property valuation.

With few exceptions, the school houses of the county are substantial structures, creditable in appearance. If built of wood, they are generally nicely painted; have window blinds, and are supplied with good seats, mostly single seats, of the most approved modern patterns. The better class of country school houses are constructed with provisions for proper ventilation. There is growing up an enlightened attention to this matter of providing unpolluted air for pupils. The school ground in the country is usually one acre, in the towns much more. In both town and country, considerable attention is paid to the adornment of the ground with ornamental trees. One country district has voted a one-mill tax for this special purpose. Some are fencing and providing for irrigation, with the view of the future transplanting of trees on the school acre.

The best thing that can be said of the public schools of the county, is that there is an increasing demand for the higher order of teachers—teachers whose armor is a natural aptitude for imparting instruction, a good education, and high character. Of this class, a larger proportion than ever before are employed. This is taken as proof, that on the part of school directors, and of the people generally, there is growing up a nicer discrimination between competent and incompetent teachers.

The standard of teachers is raised by the presence of the higher educational institutions—the State University, at Boulder, the Longmont College, the High School of the Longmont public schools, and the established excellence of the city schools of Boulder. From these sources, teachers for the common schools are more and more derived. Public sentiment is in favor of giving the schools to the care of home educated teachers, as fast as they become really

well qualified. To this end, a good normal course is provided for in connection with the Longmont College.

By the heavy taxes they pay for the sake of good schools, by the liberal contributions they make for founding schools of the higher order, by their appreciation of accomplished teachers, by their pride in fine school houses, and the arboreal decoration of school grounds, the people of this county evince an interest in education it is believed not excelled in any community of families.

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#### CLEAR CREEK COUNTY.

HENRY BOWMAN, *Superintendent.*

A marked improvement has followed the educational work in this county during the past two years, and in that time there has been quite an increase in the school population.

District No. 5, Idaho Springs, has completed a fine brick house this year, at a cost of \$19,000.

The liberality displayed by our people in voting and paying taxes for building and enlarging houses, and maintaining school, is an evidence of their deep interest in the school system of this county.

As a class, our teachers are earnest and well up to their work.

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#### CONEJOS COUNTY.

R. K. BROWN, *Superintendent.*

An increased interest in our public schools is manifest. Each portion of our county having the requisite number of children has been organized into a school district. Our public schools are almost solely relied upon for the education of the children in this county. Teachers of advanced scholarship are sought after by districts that can afford to pay good salaries. I am proud to say that some of our schools are prepared to advance students until their scholar-

ship would entitle them to the degree of B. S. or A. B. in many colleges. Several of our districts continue their schools from eight to ten months during the year. Some, however, have so far only from three to five months' school. We labor under some disadvantage on account of the Spanish-speaking districts, though the rapidity at which the little fellows, under a successful teacher, learn to translate from the English into Spanish, and *vice versa*, is wonderful. Taking everything into consideration, I think our schools are at least making fair progress.

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#### COSTILLA COUNTY.

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FREDERICK ETTER, *Superintendent*.

This county has shown marked progress in educational matters within the past few years, although much yet remains to be done. The principal drawback is the lack of suitable school houses, which the people do not feel warranted in building, as the title to the land in the greater part of this county is in dispute.

A compulsory education law is, in my estimation, a much needed measure in Colorado, or at least in this part of the State, owing to the indifference of some parents, who, having no education themselves, do not realize the importance of one.

I also hope to see a law enacted authorizing the State Board of Education to adopt a standard set of text books for use in the public schools, and furnish the same to the County Superintendents throughout the State, who in turn could furnish the same to the different districts as required.

I would also suggest that the school law be so amended that the County Treasurer should not honor any check drawn by the district boards, unless countersigned by the County Superintendent. This will, to a great extent, prevent any illegal use of the district funds.

## CUSTER COUNTY.

ARTEMUS WALTERS, *Superintendent.*

The educational work of this county has been steadily increasing the past year, and both patrons and teachers have manifested, by their works, a desire to improve upon the past.

Every school district, except one, in the county has voted a special tax, which will enable many of the districts to maintain longer terms and pay better wages in the future than they have paid heretofore.

One new district was formed during the past year, viz.: Westcliffe, No. 24.

Several of the districts have furnished their school houses with new patent furniture and the latest improved apparatus, thus making their teachers' work more pleasant and interesting.

The course of study recommended by the State Superintendent has been very successfully pursued in the schools at Rosita, Silver Cliff and Blumanan, which were the first to use it in the county, while many other districts are gradually working to it, and the teachers are using it as far as they can introduce the prescribed course.

An institute of three days duration, was held last August, at which about twenty-five teachers and a number of school officers participated. The work done during the session was of an interesting character and productive of much good to the teachers.

An educational column is edited by J. H. H. Low, principal of the Rosita school, and published in one of our county papers. It is a medium by which the teachers of the county exchange ideas and publish their reports.

While we have many inconveniences to work against, such as rude school houses and furniture in many districts, low finances and sparsely inhabited districts, where the attendance is small and irregular, the educational interests

of the youth are not neglected, but are watched and guided by an able and industrious corps of teachers, whose highest aims are to inculcate in their pupils that desire for knowledge which elevates the intellect and enriches the mind for future usefulness in life.

I have visited each district several times during the year, and urged the necessity of holding longer terms of schools, paying higher wages, thus securing the better class of teachers and working by some uniform course of study and, thus secure greater results in the school room.

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#### DELTA COUNTY.

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J. B. MCGINTY, *Superintendent.*

The school interest of this county was never so great as at the present time. We held the second annual Teachers' Association at Delta the fourteenth, fifteenth and sixteenth of October, and the earnestness manifested there in the teacher's work, shows ten-fold more zeal than was manifested one year ago. I have labored incessantly to awaken this interest in the patrons, as well as in the teachers, and when we cannot interest the latter, we push them out.

I have also labored diligently to grade our country schools, and have, by the hearty co-operation of our wide-awake and energetic school officers, succeeded in getting a uniform system of text books adopted throughout the county, and at the above mentioned institute, the teachers unanimously passed a resolution pledging themselves to aid me in this work.

Some of our school buildings are not as commodious as we would like, but better than we could expect in a country so lately abandoned by the Indians. We have one \$7,000 brick building, and another brick and two frame buildings near completion that will aggregate \$5,000. The number of school districts has increased from seven to twelve the past year, while the school population has only increased from 415 pupils to 499 pupils.



## DOUGLAS COUNTY.

ROBERT N. HANCOCK, *Superintendent.*

The school work in Douglas county never was in as good condition as now. The majority of the boards are disposed to hire only good teachers, and are willing to pay liberal salaries if they get good teachers. Four of our country districts are paying \$60 a month this year. The Castle Rock board is paying J. H. Matthews \$100 a month. Seven of our districts have formally adopted the course of study as laid down in the *Daily Register*. None of them have been pursuing it long enough yet to pronounce it a success, except one that adopted it a year ago, and it has succeeded beyond our most sanguine expectation. The pupils are taking a greater interest in their work, and are doing better work than they have ever done before.

## EAGLE COUNTY.

L. S. PIERCE, *Superintendent.*

I am pleased to report that during the past year there has been a greater interest taken in the educational work and the welfare of the children of our schools than heretofore. There have been from three to seven months of school taught in each of the schools of our county during this period. Since my last report there have been two new school districts organized. One of these districts includes the new and thriving town of Clinton; on Battle Mountain, the inhabitants of which have built and furnished a good and substantial frame building, at a cost of about \$1,000. They propose to give the use of this building to the school district for school purposes, free of charge, and a school will be commenced there within a few days. In the other new district, and in districts Nos. 1 and 2, school has already begun with a good attendance. School districts Nos. 4 and 5 are expecting to build school buildings during the coming year. Since their organization they have used buildings donated or rented for school purposes. The school population has increased from 191 in 1885, to 278 in 1886, making an addition of 87 children of school age.

**ELBERT COUNTY.**

B. C. KILLIN, *Superintendent.*

The school year just closed has been productive of very satisfactory results in the school work of Elbert county. Notwithstanding the great extent of territory embraced in twelve school districts, we have enrolled in our schools 68 per cent. of the entire school population of the county. Our teachers are faithful and earnest in the discharge of their duties, thereby winning the confidence and respect of both pupils and patrons. Most of our teachers will continue with us another year.

Building and improvements have been slow the past year, but there is a prospect of considerable being done in that line next summer. Many of the early-day school houses are being sold or torn down, and replaced by new comfortable buildings, in more convenient locations.

It is interesting to observe the alacrity with which the taxpayers come forward to vote the funds necessary for building and furnishing school houses.

At the town of Elbert is a handsome, substantial brick two-room school building. It has seating capacity for 150 pupils, with three grades in each room. This building was completed in September, 1884, at an expense of \$3,000, bonded indebtedness, interest 8 per cent. per annum. An additional sum of \$1,000 was raised by special taxation for the purpose of furnishing the building.

At Elizabeth is a very neat and substantial building, erected and furnished at a cost of \$1,200. It is a credit to the thrift and enterprise of the citizens of that district.

In District No. 13 was erected, in 1884, one of the most tastefully furnished buildings in the county. It seems almost incredible that it could be built and furnished at the cost of only \$600. The heavy work, hauling material, etc., was generously donated by the patrons of the school.

At Hugo, a new brick building is in contemplation, to replace the frame building now in use.

At Kiowa the school building was completed last season, with an additional outlay of \$450. It now ranks second in the county in size, cost, and also in daily attendance of pupils.

A three-days' session of the Elbert County Teachers' Institute was held at Elbert, beginning June 23, 1886. Professor Cornell was in attendance during the day of the twenty-fifth, and delivered a lecture in the evening. The teachers were deeply in earnest in the work, encouraged and supported by the friends of education throughout the county. Twenty-five new names were added to the list of membership.

The system of county institutes is of vast importance to our school interests. It is the teacher's need; the fountain-head for recuperation and progress, and more, his range extends beyond his narrow school room, beyond his fellow teachers; he speaks with the people, with friends of education all over the country, and they in turn become more deeply than ever interested in the teacher's work.

I am quite interested in a new system of readers introduced in the Elbert school this term by Miss Woods, of the Primary Department. They are divided into small books or parts, each part containing thirty-two pages, the First Reader containing three parts, Second Reader six parts, etc. It is surprising how the pupils work to master one part in order to take up the next. There is always something new in store for them, and they know it is not very far off. The study never becomes stale or monotonous.

Were I to suggest any change in the law governing text books, it would be that the directors shall purchase all books, paying for them from the district fund, and furnish them free of cost, except in cases where books are wilfully or carelessly destroyed by the pupils.

Uniformity of text books in a county can only be brought about by the teachers and superintendents putting aside personal preferences, and settling upon a series of books to be adopted by the directors.

Our teachers follow as nearly as possible the course of

study outlined in the *Daily Register*. Even with considerable modification, it is of invaluable aid to teachers.

As to the thoroughness of our instruction, I will only say, several pupils from outlying districts are attending school in Denver at this time, at ages ranging from 13 to 15 years. All passed examination to enter the Eighth grade in the city schools.

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#### EL PASO COUNTY.

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REV. B. A. P. EATON, *Superintendent*.

In addition to the regular annual report, I wish to say that we have built four new school houses in the county this year. In Colorado Springs there are now being built two new brick buildings of four rooms each, with all modern improvements, and when completed, which will be about December 1, we shall have four school buildings that will compare favorably with any in the State. We have organized two new school districts this year. Our school population has increased nearly eight per cent. during the past year. We are trying to grade all our country schools, but it is rather an up-hill work. However, we have succeeded in several of the country districts, and expect to succeed in all.

We urge upon school boards the necessity and importance of maintaining school for at least eight months in each year; also, the importance of furnishing their schools with the necessary helps for the teacher, by way of plenty of blackboard, wall maps, reading, arithmetical, and physiological charts, globes, dictionaries, etc. And, we are glad to say, we find a disposition in many districts to provide these helps. We urge upon teachers the necessity and importance of exercising great care in this work, so that what the pupil does learn, he will never have to relearn, or correct in the future.

I am glad to be able to say that, as a rule we have an excellent class of teachers in the county. Pardon us when we say that we have some teachers in the county, with whose ability and proficiency, we are so well pleased, that we believe there are none better in the State.

School boards in El Paso county are fast learning that poor, cheap teachers are dear at any price, and, that a too frequent change of teachers is not best, so a number of our school districts retain their teachers from year to year.

We hold a County Teachers' Association once a year, which is of great practical benefit, especially is it beneficial to those of our teachers who need theory and practice of teaching.

El Paso county is proud of her schools. Our excellent High School department gives the finishing touches to those who complete the course, well-fitting them for the ordinary duties of life, and those who wish to go higher, have only to pass up to Colorado College, located in Colorado Springs, where they may take the regular college course, fitting them for the more important stations of life. Our motto is, "Upward and Onward," believing there is plenty of room at the top.

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#### FREMONT COUNTY.

JACOB H. FREEMAN, *Superintendent.*

In this county, since its organization, twenty-four school districts have been formed. Four of these are now vacant. In the twenty remaining districts one thousand five hundred and fifty pupils were enrolled during the past year, with an average daily attendance of nine hundred and forty-one. But, large as these figures may appear, sixty-four per cent. of the school population of the county were absent from school every day, and forty per cent. of those enrolled were not present.

That five hundred persons of school age in the county should not enter school, is explained by saying that many of them are heads of families, others have completed the work of the common schools; a very few are attending school elsewhere, and many are earning their daily bread. But that more than six hundred of those enrolled should be absent every day is not so satisfactorily explained.

This irregular attendance is the greatest hindrance to

thorough work in our schools. Indeed, this evil is so great in some districts, that teachers tell me classes must be formed every few days, and the instruction must suit the needs of those who chance to be present.

I believe that the cause of this evil lies deeper than mere carelessness on the part of pupils and patrons. It is due to a misconception of what the district school really is. It is looked upon as an institution of the people and for the people, to the extent that it is, in a great measure, a *private* institution, to be used, abused or neglected, as may suit each individual's fancy or convenience. Is it not rather true that the State—the whole people—demands the education of every individual within its borders, and that the public school is the creature of the State, an institution whose advantages every parent is not only privileged but in duty bound to secure to his children? That this is the correct view of the matter is substantiated by the fact that the framers of our State Constitution inserted a clause in Article IX., affirming the right of the Legislature to pass laws compelling the attendance of pupils at schools, whenever such a law may be deemed necessary. Is it not about time something be done to correct this evil? Sickness is the only sufficient excuse for a child's absence from school during the period of his connection therewith.

The reports of district secretaries upon the ages of pupils is incomplete, but enough is given to show that we lose from our school the boys and girls at the very ages when they most need the instruction. In District 24, where nearly 200 pupils attended school, but two were over sixteen years of age. As a partial remedy for this falling off, I urge the establishment of district schools of higher grade, in various parts of the county. Let houses and accommodations be prepared especially for large pupils. Put teachers there who know how to reach and stimulate the pride and enthusiasm of such, and we shall not fail to accomplish an important step in popular education.

Until the present year nothing had been done toward grading our village and country schools. Teachers had come and gone, and plans of school work had passed away with them. Others had worked on, year by year, ever at the mercy of capricious parents and pupils, utterly unable

to carry out any systematic work. After repeated conferences with teachers and school officers upon this subject, I prepared a manual for Fremont county schools, a copy of which I transmit herewith. This pamphlet is designed to be a guide that shall lead all toward a uniform system of school work. This step has met a very cordial second from teachers and school boards, and there is every reason to believe that in a few years our country and village schools will be as well graded as those of any other State. The schools in Cañon City are already thoroughly graded, and are doing good work.

For promoting the cause of education in a general way and acquainting teachers, especially, with each other, an institute was held in Cañon City, August 23, 24, 25 and 26, attended by some thirty teachers and many visitors. The greater part of the expense was paid by contributions from the business men of the town. The meeting was unanimously voted a complete success. It was but the beginning of what will hereafter be an annual gathering.

Three new houses are building, many are newly furnished and supplied, two abandoned districts have been reformed, every district in the county has voted a special tax of 2 to 15 mills, at least eight more teachers are employed than last year, and in every respect the work appears to take on new life.

District secretaries give no report on private schools. Very little was done in that direction. In Coal Creek two teachers had private schools during the summer, and in Cañon City and at Hillside one each was maintained.

At the State Penitentiary a night school was held during the greater part of the year. At the request of Warden Cameron I visited this school and found some forty convicts reciting reading, writing, arithmetic, grammar and Spanish. They were taught by convicts, and all seemed much in earnest, and were making splendid progress. This work is superintended by Elwood Dudley, who is also superintendent of the prison library and laboratory. If we can make our prison places of reform as well as of punishment, we have accomplished a double purpose; and such is certainly the tendency of the prison school.

I find that the month of September, which should be spent by every Superintendent among his schools, is largely taken up with receiving and making reports. I trust our next Legislature will not fail to change the school year to agree with the year of the business world, and also that they will make a few other very necessary changes.

#### GUNNISON COUNTY.

S. D. CARROLL, *Superintendent.*

You will see from my report sent you this day that there has been a decrease of about twelve and one-half per cent. in the school population of Gunnison county for this year, as compared with the previous year. This, however, does not indicate that there has been, during the past school year, or that there is at present, so great a falling off of the actual number of pupils attending the public schools.

Here, as in all new counties, as the population becomes more settled and the industries of the people more staple, the number of pupils attending school, in proportion to school population, becomes greater.

Another fact which shows an advancement in our school interests is found in the fact that there are now fewer changes of teachers than in previous years. The better teachers always come to the top in time, and the patrons of the school soon learn that it is for their interest to retain such teachers. In the early days of this county many persons were teaching as a make-shift, while to-day our teachers are those to whom the work is a profession.

In regard to an uniform course of study, only a beginning has been made.

In many of the schools the teachers were handicapped, owing to the mixed condition of the text books, thus making it very difficult for the teachers to properly classify their pupils. This difficulty has in a great measure been removed, and a number of our schools are now following the course of study given in the *Daily Register*, and so general is the feeling among teachers and school officers, that this is a



move in the right direction, that it will be only a short time before all the schools of the county will have an uniform course of study.

Another matter which deserves comment, and a matter of great importance, is the interest which is being taken in the study of Physiology. Two or three years ago, there was but one school in the county where this branch was taught; now a majority of the schools have taken up the study; in some cases, however, the pupils have no text books, oral instructions being given by the teachers, but in all cases the results are the same, viz.: good. And in connection with this subject, I will say that I have been surprised at the willingness with which school boards have purchased anatomical charts, in some cases very high priced charts; and the one reason, which more than another has prompted them to buy, is owing to the great assistance which most of these charts give to the teacher in giving instructions on the effect of stimulants and narcotics.

All in all, the schools of Gunnison county are far from being perfect. There are great opportunities for improvement. But the people of this county can congratulate themselves, I think, on the fact that there is progress being made in the right direction.

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#### HINSDALE COUNTY.

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The principal part of our school work is in the town of Lake City. Here we can show a visitor a fine school building, provided he does not wish to look at the rooms. It is a large two-story brick building, but the upper rooms have never been finished. Two rooms have been finished, and are used, on the first floor. The Primary Department is furnished with a few charts that call forth respect on account of age. There has been no money with which to purchase proper supplies for that department. The teachers could utilize the building as an object lesson in architecture and expenditure. In the Grammar Department, the room gives a visitor an impression of vastness and barrenness.

So much for criticism. A high order of work has been

accomplished in the Lake City schools. This is true, when the many inconveniences and disadvantages are taken into consideration. Five or six years ago, more attention was given by the people to the appearance of the building to the passer-by than to the advancement of educational interests. At present, the people are deeply interested in the advancement of learning. The mining fever having passed, the people are determined to make their position in school advantages as high as the means at command will allow.

Last year schools were maintained for six months; the year before that for eight months. The School Board will endeavor to maintain schools in this district for eight months of the school year.

There are two other school districts in this county. At Capitol City, in District No. 2, there is a good frame school building. It has one room. Last year no school was taught in that district. That was owing to the general despondency of the people. Many who had formerly attended in that district have, by the removal of families, become pupils in the Lake City schools.

In District No. 3, the school is taught in a rented room at Antelope Springs. There were only two pupils in attendance during the school taught there for sixty days during the past year. The settlement at Antelope Springs is far from any other place in which schools could be had. The hope of the people, which hope causes them to maintain their district organization, is that there will be an immigration of school population, or an increase in the number of the rising generation.

No institutes have been held. If the mining industry be prosperous during the present year, the next school year will witness much advancement in educational work in Hinsdale county.

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#### HUERFANO COUNTY.

FRED PISCHEL, *Superintendent.*

There is certainly a constant growth of educational interest here, which manifests itself in different forms.

Three new schools have been or are being built; three more will go up in the spring, of which one, at least promises to be of some merit for a country district. A comparison of these new buildings with the old log or adobe cabins, roughly and crudely put up, with no regard to light, comfort, or convenience, is evidence of progress. Here the old rough tables and benches are replaced with the modern school desk, there a globe, a set of wall maps or charts are purchased. Special taxes are voted freely and liberally. Many inquiries are made regarding the best schools in the county, with a view to sending the children there. While this may be the cause of rejoicing, much can and should be done, and especially in the selection of teachers are many mistakes made, proving a hindrance to the best success of the school. Engagements are often made to accommodate the wishes of Neighbor John's boy, who, it is true, never went to college or normal school, but can read or write pretty well, and everybody likes him. Besides, he has not much to do during the winter and would like to teach the school. A temporary certificate can be secured for him from the Superintendent by a petition.

Often school boards make no provision for a teacher until school is to begin. Hasty engagements are the consequences. Not difference enough, if any, is made in the real teacher of long and successful experience, and Neighbor John's boy. Many school boards never visit their schools, and have no personal knowledge of the teacher's work, but form their opinion solely according to the praises or complaints of the little ones. How many noble teachers are hampered in their great aims by such a course, until they become disgusted and shake the dust from their shoes.

A majority of the population of the county consists of Mexicans, and almost one-half of the schools are exclusively attended by them. The great bulk of these people do not understand English. Their teachers ought to be familiar with the Spanish language to meet with any success. It is a matter of great difficulty to secure capable men, who can talk Spanish. I must confess that, so far, my experience has not sufficiently pointed out the best course to be pursued. But, to the credit of these people be it said, that

many of them begin to appreciate the advantages of education, the necessity to put their children on an equal footing with the children of others for the race of life, and the consequent necessity of learning the English language. To encourage such feeling, and make plain the value of schooling, is one of the Superintendent's great duties.

I have as yet had no teachers' association in the county, simply because we have never had but a few teachers in the county at the same time; but I see the proper time near at hand when I will request the aid of the State Superintendent, and some of the other educators in the State, to assist in bringing about a universal appreciation of good public schools, and the necessity of raising the standard of our teachers.

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#### JEFFERSON COUNTY.

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WM. G. SMITH, *Superintendent.*

In addition to the statistics contained in the annual report forwarded, there are several matters of interest relating to our schools and their progress, which are worthy of note. One new school district has been organized during the school year, and all the old organizations have been prosperously maintained.

The loss to the county, through the State apportionment, has been nearly one thousand dollars this year over the former school year. Of course it is understood that this loss is occasioned by the passage of a law by the Legislature, withdrawing from the apportionment fund the rentals of school lands, and placing that in the permanent school fund. That loss has been seriously felt in some of the weaker districts, where patrons are struggling to maintain a public school in sparsely settled localities.

It would seem to be a proper step to ask the next Legislature to correct the mistake, for it is very evident that while our State is young, and the several school districts are struggling to build school houses and to place their school interests on solid footing in all sections, then is the time all the help is needed that can be legitimately obtained.

There has been one other drawback to perfect progress in the schools of this county. In some instances teachers have been employed who hail from the East, or some other distant clime, and of whose ability the school boards or Superintendents know nothing. In a few instances, in country districts, this has proved of great detriment, the teacher not only failing to do good work, but in some instances they have been the means of working into the school certain odd text books, belonging to series in use forty years ago, and ill adapted to the progressive school system of to-day. This has, in some measure, tended toward confusion in any effort which might be put forth looking toward the establishment, so far as possible, of any uniformity in text books throughout the county. However, it is only necessary to state that the liberality of our people in paying school tax, in some cases as high as fifteen mills, shows that the school interests of Jefferson county are dear to their hearts, and they are determined to maintain them. We are encouraged by the fact that seventeen thousand dollars more tax, for special school purposes, has been collected the past year than the previous one. Twenty-seven, out of the fifty one teachers employed in the county, held first grade certificates, which is an excellent sign of progress. It is also gratifying to notice that the average school term during the year in each district has been increased about ten per cent., while three of the county districts have built commodious new school houses, and several others have branched out with a commendable freak of enterprise, and improved their school buildings and grounds, rendering them attractive and beautiful.

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#### LAKE COUNTY.

D. J. SAYER, *Superintendent.*

Our schools are in better condition than they have been for some years. Owing to their financial condition, we will be enabled to have school for the whole year.

In regard to renewing certificates of the first grade an indefinite number of times, I must record myself as opposed to it, for the reason that I think teachers get care-

less, and do not keep themselves posted when they think they can get their certificates renewed without taking the examination, and I would recommend that after a certificate is once renewed, the holder of the certificate should be required to take an examination.

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NOTE.—The renewal of certificates is wholly in the hands of the County Superintendents, and may be renewed or not, at their discretion.—SUPERINTENDENT PUBLIC INSTRUCTION.

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#### LARIMER COUNTY.

REV. W. H. MCCREERY, *Superintendent.*

The growth of the school interests of Larimer county is quite marked. Comparing with five years ago, I find that the school population has increased nearly sixty per cent. In the same time the number of school districts has more than doubled, while the number of schools in the aggregate has nearly trebled, and amount paid for teachers' wages has more than trebled. In some parts of the county the population is much scattered. A number of the districts are weak, with a small school population, yet the average duration of school in country districts is six months.

The Larimer County Normal Institute held its fourth annual session last July, in Estes Park, with instructors of national reputation, and an attendance from several counties. At that meeting a project was set on foot to establish a permanent summer institute at that place, embracing Arapahoe, Boulder, Jefferson, Larimer and Weld counties in the organization. To make this district institute completely successful, State aid should be given. These institutes have been greatly useful to the teachers and through them, to the schools.

We are now organizing local teachers' associations in at least two parts of the county. There is noticeable, also, quite an improvement in the matter of school appliances and furniture. Schools are pretty generally supplied with maps, charts and dictionaries. A few have obtained cyclopedias. A few districts have voted a library tax this year. One district gives the teacher five dollars each month to

expend for the school at her own discretion. This example might be followed with good results by many other districts.

There are many reasons why the time for ending the school year should be changed to June 30. One is, it will leave the County Superintendent free to visit schools in the month of September, instead of keeping him at office work during the time when his visits would count for most. It is absolutely necessary, too, that the district secretaries have longer than five days to make annual report after time fixed for county treasurer's financial statement to secretary. Owing to long distances and infrequent mails, at least fifteen days would be required for some secretaries in this county. If a few plans, suitable for country school houses of moderate expense, could be published in your biennial report, I think it would greatly add to its value. The value of school property in the county will be augmented this coming year by the building of a number of school houses in the county, and a \$20,000 building in Fort Collins, consisting of eight rooms, heated by furnace, with improved Ruttan system of ventilation. Quite a number of our districts are taking another step to the front, in the adoption of single, instead of double desks.

I am thankful for the privilege of working with the people on one hand, and yourself on the other, under God, in building up our noble educational system.

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#### LAS ANIMAS COUNTY.

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FRED DICK, *Superintendent.*

The educational interests of this county are gradually approaching a much higher standard than heretofore, which is largely due to an increased activity in school work on the part of the people, and to the employment of more competent teachers. A committee, appointed at a convention of school directors of the county, has examined and recommended for adoption in all the schools of the county a uniform system of text books. Three new school houses have been erected during the past year. Three new dis-

districts are now in process of organization. A Teachers' Association, the first in the county, was held in August last, continuing two weeks. Our population in the rural districts is largely Mexican, and it is with great pleasure that I refer to the progress made and the interest manifested by them in education.

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#### MESA COUNTY.

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M. O. WHITEHEAD, *Superintendent.*

During the past year two new districts have been formed, which have had a summer term of three months each, and will soon begin their winter schools.

Districts No. 2 and No. 8 have been using rented buildings, but in the near future they will possess buildings of their own. No. 8 will build a frame, while No. 2 will put up a substantial brick, to cost about \$5,000.

There is a growing demand for first class teachers. The best are none too good, and wages are also advancing. The simple fact that patrons want longer terms, or more school, and the best teachers procurable, is a sign of advancement in school interests.

The graded school at Grand Junction, under Professor Stone, is doing good work, and he is making many friends, who are pleased with his efforts and will do all they can to aid and encourage him.

It is to be hoped that, in the near future, a High School will be established.

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#### OURAY COUNTY.

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DR. W. W. ROWAN, *Superintendent.*

Our schools were never in better condition. Excellent corps of teachers, good school houses, and children learning rapidly.



## PARK COUNTY.

I. S. SMITH, *Superintendent.*

The interest in good schools is increasing throughout the county. School boards are more anxious to secure first class teachers than to employ cheap ones.

There is a growing demand for more and better school room appliances.

District and county educational meetings have been held within the last year. The result has been a mutual benefit to parents, officers and teachers. More co-operation of these three forces will insure greater progress in the schools.

During the year the county has been organized into districts, to which definite boundaries have been given.

Short terms and two frequent changes of good teachers are a hindrance to the best results. The average number of months of school is gradually increasing. Some rural districts have eight months a year.

Indications of progress are noticeable, in the promptness with which secretaries make their annual reports. Punctuality and accuracy in district reports are necessary.

The attendance for the last year has been better than in any year previous. Yet, a large per cent. of the pupils of the county are not enrolled in the schools. Teachers are prompt in sending their monthly reports to the County Superintendent. These reports show an increased attendance. Parents are too apt to be indifferent to the benefits that are offered them. It is a deplorable state of affairs when one-third of the children of school age fail to attend regularly. We have earnest and enthusiastic teachers, who are striving to make this coming year show better results.

Another difficulty that confronts us, is the variety of text books in use. We are striving to weed out the "stale and unprofitable," and introduce the best.

The subject of grading the country schools is receiving the attention of school boards and teachers. Systematic classification throughout the county is the ultimate object.

Three new school houses have been erected during the year. Alma constructed a two-story frame building at a cost of \$3,000.

On the whole, the educational outlook in this county is encouraging. What we want is the aid and influence of every citizen in support of our system. The people are willing to tax themselves to the extent of the law, and cheerfully pay those taxes in support of the schools. What we want, is the best educational goods for the money. We are laboring to make the home and the school "one and inseparable."

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#### PITKIN COUNTY.

W. R. CALLICOTTE, *Superintendent.*

The organization of public schools in this county dates from August 1, 1881, at which time Judge D. H. Waite assumed the duties of Superintendent of Schools, having been appointed to that position.

The first school district, Aspen, No. 1, was organized August 6, 1881. Soon after the organization, a school was opened, a building being rented for the purpose, and maintained for six months of that year. Districts Nos. 2 and 3 were organized during the same year, and each held short terms of school. The total enrollment during the first year was fifty-eight.

Fortunately for our county, it has been peopled by those who are earnestly in favor of a good system of public instruction.

In 1882, District No. 1 voted bonds for building purposes, to the amount of \$5,400. These were cashed at 95 per cent., and a very respectable house was built, containing three rooms. The district maintained an eight months' school. This year, 1882, the enrollment amounted to sixty-nine.

In 1883, the school population had increased sufficiently to require the services of two teachers. Mrs. I. E. Grubb, having been elected Superintendent of Schools, was also employed as Principal of Schools. During the year, eighty pupils were enrolled, and eight months' school maintained.

The other two districts failed to maintain their organization.

The rapid increase in population during the latter part of 1884, induced the Board to employ three teachers, Professor H. C. Rogers taking the position of Principal. It became necessary, ere the year closed, to employ four teachers. The total enrollment reached 273.

Mr. H. L. Harding was elected County Superintendent of Schools in 1884.

In 1885, additional school facilities became necessary, and a bonded debt of \$10,000 was contracted; from the proceeds of this debt a commodious addition to the old building was made, and a two-roomed building built in East Aspen. These buildings were completed in October, 1885. Seating and ventilation have been properly arranged according to the most modern plans. The seating capacity is now about 400.

Mr. W. R. Callicotte was employed as principal of schools, with seven assistants. A course of study and regulations were published; the schools were graded, and a general interest aroused. Schools were open for nine months, with an enrollment of 462.

Numerous ranches having been opened up along the Roaring Fork Valley, it became necessary to organize for school purposes. Three additional districts were organized in 1886, in two of which, schools have been maintained. The retirement of the State School Fund has been a serious drawback to these new districts. There is but little property yet taxable in these districts. The result is, that those with large families must bear a very heavy burden for some time, supporting their schools by private contributions. It is to be hoped that the next Legislature

will see to it that we again have the funds appropriated as formerly.

Our schools are prosperous, and teachers well paid. All assistants receive, in Aspen, \$100 per month.

Aspen schools have re-opened for a nine months' term, September 6, 1886. All rooms are filled, with a probability that more seating will be necessary ere the year closes.

The school population of the county is 572. W. R. Callicotte is Superintendent of the county, and Principal of the Aspen school.

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#### PUEBLO COUNTY.

DR. C. F. TAYLOR, *Superintendent.*

I have reason to believe that the cause of education has advanced in Pueblo county, within the year past, although there are many things that may well be deplored; but on the whole, the school work done for the year just past has been excellent. Our city schools have prospered as never before, under the superintendency of J. S. McClung, in District No. 1, with an able corps of teachers, most of whom are adepts, while Professor F. B. Gault still holds the superintendency of the schools in District No. 20, with a corps of teachers who have been thoroughly tested and endorsed by the people.

Our high schools in connection with the two above named districts, have each an excellent course of study, fitting pupils for the scientific course in most of our American colleges, and, more especially, for the higher educational institutions of our own State.

Owing to the rapid growth and settlement of the rural districts of the county, three new districts have been formed, and are now in a good, prosperous condition, while several have been redistricted, until now we have thirty-six fully organized and wide-awake school districts in the county. What we have said of the city schools, can be equally applied to the country schools, owing to the better class of teachers now employed by the directors,

and also the greater interest manifested by parents, and especially school officers, as they seem fully aroused to the needs of their respective schools, and are not satisfied with simply a "school mistress," but demand a teacher—one who is thoroughly educated in her work, believing that three months of good school is worth more than six months of poor school, even if the cost is the same.

Most of the directors have reported promptly, with, of course, a little assistance from the County Superintendent.

Our school houses throughout the county, with few exceptions, have all modern improvements (either in the rooms, or have ordered and are now awaiting the arrival of the same, but of course, in several instances, the purchase of such was too late for report this year, although several have so reported), such as wall maps, globes, charts and improved furniture. Several new school houses have been built and the old ones repaired this season, so that, with a few exceptions, our school rooms are pleasant and agreeable.

We need badly a uniformity of text books, not worse here, probably, than in other counties; but we need the change, it appears to me, all over the State. We have in operation sixty-eight schools in this county, so you can imagine how much time the County Superintendent can waste on the street corners. In fact, one cannot make the visits, as required by law, and do justice to the schools and consult with the district officers, as he should; but, however, we are doing the best for the interest of the schools that our ability admits of. We have not been able as yet to hold a county teachers' institute, as most of our teachers were away during July and August, therefore making it impossible to hold it during our summer vacation, but anticipate that, in the near future, we may be able to follow in the wake of our sister counties.

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#### RIO GRANDE COUNTY.

SIGEL HEILMAN, *Superintendent.*

In 1874, the first school district was organized in Rio Grande county; since that time others have been formed,

so that there are now seventeen public schools under my supervision. Of these, only one is a graded school, and this is the one at Del Norte. Next year the school at Monte Vista will be graded. The Del Norte district, in 1876, voted bonds to the amount of \$10,000, to be applied in building and furnishing a two-story brick building of four rooms. Though a district of the third class, I believe it to be as well provided with school apparatus, and managed as successfully, as any other of this class in the State.

This year the Monte Vista district issued bonds to the amount of \$4,000, and the proceeds have been used in erecting a brick building of equal capacity and completeness to the one at Del Norte. Five other districts each have an adobe school house; in four others are as many log and one frame. Excepting School District No. 1, and those named above, the buildings in all other districts are insufficiently supplied with blackboards, maps, dictionaries and other necessary apparatus.

The boards of directors, in even wealthy districts, have failed to provide even fair buildings, and all have neglected to establish any fixed course of study or uniformity of text books, notwithstanding my urgent request for them to do so. This is the state of facts, outside of Del Norte. In some districts outrageous prices have been paid for poor buildings.

It seems to me that the power of establishing a course of study, of determining the capacity and necessary apparatus of a school building, in districts of the third and second classes, ought to be vested in a more intelligent source than where that power now is. I believe it will prove better for our schools if every County Superintendent had this power, providing no better source can be found. Until something of this kind is done, the plan of grading which you so much desire can never be made a success.

It is apparent to any one of experience that several changes ought to be made to our existing school law. I recommend that the first provision of 3023, section 28, General Statutes of 1883, be so amended that the application for transfer, therein referred to, be made within ninety days after the formation of the new district, and that a

higher levy of tax shall not be considered a hardship; that the salary of boards of directors shall be limited by law, in districts of the third and second classes; that the interest collected on delinquent school tax shall be credited to the respective school funds, instead of going into the county contingent, as now.

#### ROUTT COUNTY.

JOHN T. WHYTE, *Superintendent.*

"Progress all along the line" are the words well-fitted to characterize the school work of this county. New districts are being organized—the old ones are holding longer terms and providing better building accommodations. A hearty interest in educational matters is shown not only by parents, but by the public in general. Unmarried men, realizing how essential good schools are to the building up of a new country, are frequently foremost in the work of organization, and the erection of suitable buildings.

All the schools of the county, with one exception, were taught the past year by persons holding either first or second grade certificates. The approval of the work of three of these teachers is shown by their re-engagement in the county, with monthly salaries increased \$10, \$15 and \$20 respectively.

Of course there are many difficulties in the way, and progress is sometimes not as rapid as we wish. The work of bringing order out of chaos is necessarily slow. But beginning at bed rock, we are trying to lay the foundation strong and sure. Despite the obstacles, our pioneers in school work persevere, and when asked for a message to send to the State Superintendent, say, "Tell him we're rising."

#### SAGUACHE COUNTY.

W. H. NELSON, *Superintendent.*

Saguache county is earnest in its desire to have good schools, and mostly consistent in its efforts to secure them.

Amongst our teachers are some who have few superiors anywhere.

We have held two brief Institute sessions during the year just closed, and they were very well attended and profitable to those who were there. The citizens, too, manifested as much interest in the teachers' meetings as the teachers themselves. Day and evening sessions were filled.

One of the unfortunate conditions which affect the schools in our county, however, is the practice of changing teachers frequently. This prostitutes the real character of a school, for a school can no more be established in all virtue by giving itself over to every suitor, than can a lover by frequent changes.

Another fault is in the habit of employing teachers by favoritism, and thus obliging the examiner, either to grant a temporary certificate to one who *should have been examined*, or to keep the schools idle until next regular examination. The former course is disastrous often to the real interests of the school, the latter *may* be equally so, and is *sure* to involve ill-feelings. It would be wise, I think, to do away with the temporary certificate entirely.

One district in our county (No. 3,) has held a ten months school during the year just closed, and is now building a new and substantial house, which will be ready for occupation by November.

The people *want* good schools, and are mostly willing to do all in their power to procure them. A good many, however, do not appreciate the importance of regularity of attendance, and hence, send very irregularly. Some compulsion in the matter would be good for the schools.

A legislative enactment, too, enforcing something like a uniform course of study is, in my judgment, very much needed. The course presented in the School Registers is good, and something of the sort for the ungraded country schools should be made obligatory. There should be no such thing as an ungraded school.



**SAN JUAN COUNTY.**

DR. J. N. PASCOE, *Superintendent.*

Our county has only one school district organized at present, but it has a good, substantial school building, costing \$10,000, which speaks well for the enterprise of its citizens. Our school has been conducted principally on the "go-as-you-please" plan, but this year it has been thoroughly reorganized and graded.

**SAN MIGUEL COUNTY.**

H. C. LAY, *Superintendent.*

The first school within the limits of the present San Miguel county was a private one taught, in Telluride during the summer of 1881, by Miss Lily Blair. On November 15, 1881, a private school was opened at San Miguel City by Mr. Charles Jeffs, continuing during the winter months.

July 10, 1882, a public school was opened in Telluride, and in the summer of 1883 the present school house, 25x80, divided into two rooms and a lobby, was built. School has been held regularly each year. Until this season, however, the vacations have been thrown in the spring and fall, on account of climatic considerations.

A school organization has been twice arranged, at Ames; but dissensions among the citizens there prevented the engagement of a teacher, and now the smelter, which supported and caused the town, is indefinitely closed.

At San Miguel City there are a number of children who will ere long be of school age, when a school will probably be started there. The other towns in the county, Pandora, Ophir and Placerville, have few children.

All of the county, except the eastern end, is dependent upon its cattle interests, and it is not probable that there will be any aggregation of people therein for years to come.

No other private schools have been held, beyond those mentioned, except one taught by a Mrs. Folsom at Ames, some time previous to 1885, and a night school taught in Telluride by myself during the winter of 1883-4.

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#### SUMMIT COUNTY.

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DR. B. A. ARBOGAST, *Superintendent.*

The work in our county is more satisfactory than it has ever been. We have had more teachers that make Summit county their home, hence an interest in the work beyond the pay they get, and a "pleasant summer vacation," with their thought, their energy, their ambition somewhere else. I repeat, the public schools should not be an asylum for the physical wrecks that Colorado's pure air and beautiful climate bring to us. Come to Colorado, but don't afflict our schools.

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#### WELD COUNTY.

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JOHN B. COOKE, *Superintendent.*

We are glad to report rapid progress during the past year. When the last report was made we had fifty-five school districts in the county; we now have sixty-seven, and several more organizing. In 1885 we had 2,951 persons of school age; we now have 3,439.

A special effort has been made during the past year to have our schools adopt the excellent course of study printed in the *Daily Register*, and I am glad to report encouraging success. Wherever this course has been adopted, and carefully carried out, thorough work has been the result. I shall continue urging its importance till every school in the county has adopted it. The work of grading in our county schools is slow, but encouraging. I have introduced teachers' contracts among the schools of this county, and find them an excellent remedy for the numerous misunderstandings so common between teachers and school boards.

I would suggest that there be more time between the County Treasurer's statement to the district secretaries and the Superintendent's annual report. It is impossible, in a large county like that of Weld, under the present arrangement, for the Superintendent to receive the secretaries' reports in time to make his report on the first Tuesday in October.

I would also suggest that the law be so amended that the Superintendent be allowed to hold examinations in other places than the county seat. In this county, many teachers are obliged to pay out almost a month's salary to secure a teacher's certificate.

## Reports of State Institutions.

### STATE UNIVERSITY.

*To the Superintendent of Public Instruction  
of the State of Colorado:*

SIR:—I have the honor herewith to submit the following biennial report:

The Constitution of the State of Colorado provides for the election of a Board of Regents of the State University, and defines its duties. While the boards of control of the other educational institutions of the State are appointed by the Governor, the members of the Boards of Regents are elected directly by the people (Const., Art. IX., Secs. 12, 13 and 14), thus bringing the management of the University as near the people as practicable. The organic act, establishing and providing for the maintenance of the University, was passed by the General Assembly of Colorado March, 1877, and provides as follows:

“The University shall include a classical, philosophical, normal, scientific, law, and such other departments, with such courses of instruction and elective studies as the Board of Regents may determine, and a department of the physical sciences. The Board shall have authority to confer such degrees and grant such diplomas as are usually conferred and granted in other Universities. And the Board of Regents are hereby authorized and required to establish a preparatory department, which shall be under the control of said Board of Regents, as are the other departments of the University. Nothing in this section shall be construed as to require the Regents to establish the several departments, other than the normal and preparatory, as herein provided, until such time as, in their judgment, the wants and necessities of the people require.”

In accordance with the above named provisions, the Board has established, and there is now maintained, a Preparatory, a Normal, a Classic, a Scientific and a Medical Department.

#### ATTENDANCE BY TERMS.

First term, 1884-1885.....	85	First term, 1885-1886 .....	88
Second term, 1884-1885.....	77	Second term, 1885-1886.....	79
Third term, 1884-1885.....	60	Third term, 1885-1886.....	67

Total number of students in attendance for the two years, 132.

#### RESIDENCE BY COUNTIES.

Arapahoe county.....	1	Fremont county .....	1
Boulder .....	100	Gunnison.....	1
Chaffee .....	1	Jefferson .....	1
Clear Creek .....	1	Saguache .....	1
Custer .....	3	Weld.....	3
El Paso.....	1	Other States and Territories.....	18

#### SUMMARY.

Department of Philosophy and the Arts .....	28
Department of Medicine.....	19
Preparatory School:	
Seniors.....	9
Juniors .....	14
Third class .....	20
Fourth class.....	42
Total .....	132

The following are the names and titles of the present members of the faculty, with the salary of each :

JOSEPH A. SEWALL, M. D., LL. D., President.....	\$ 3,500
Professor of Chemistry and Metallurgy.	
I. C. DENNETT, A. M .....	1,800
Professor of Latin.	
PAUL H. HANUS, B. S .....	1,800
Professor of Mathematics.	
MARY RIPPON.....	1,400
Professor of German and French.	

JAMES W. BELL, Ph. D. (Leipzig).....	1,800
Professor of Political Economy and History.	
J. RAYMOND BRACKETT, Ph. D. (Yale).....	1,800
Professor of English Literature and Greek.	
JAMES H. KIMBALL, M. D.....	700
Professor of Principles and Practice of Medicine, Materia Medica and Therapeutics.	
H. W. McLAUGHLIN, M. D.....	500
Professor of Obstetrics and Diseases of Women and Children.	
GEORGE CLEARY, M. D.....	500
Professor of Surgery, Ophthalmology and Otology.	
W. J. WAGGENER, A. M.....	1,500
Professor of Physical Sciences.	
HON. PLATT ROGERS.....	100
Lecturer on Medical Jurisprudence.	
L. M. GRIFFIN, M. D.....	500
Professor of Anatomy and Physiology.	
R. N. MAYFIELD, M. D.....	200
Lecturer on Pathology and Hygiene.	

#### SECRETARY'S REPORT.

Amount of orders drawn on special fund, from September 30, 1884, to September 30, 1886, inclusive:

Cottage for students and President's residence.....	\$ 614 02
Building and grounds.....	1,442 11
Library.....	3,264 55
Apparatus.....	3,233 99
Furniture.....	237 23
Insurance.....	862 50
Hospital.....	6,738 13
Horse and wagon.....	360 00
	<hr/>
	\$ 16,752 53

Amount of orders drawn on general fund, from September 30, 1884, to September 30, 1886, inclusive:

Regents.....	\$ 1,313 10
Salaries—Professors.....	30,350 00
Janitor.....	1,758 20
Fuel.....	803 51
Furniture.....	109 80
Laboratory.....	47 95
Library.....	489 55
Building and grounds.....	419 29
Advertising.....	327 05
Telephone rent.....	140 25
Stationery and printing.....	893 86
Medical Department.....	950 77
Horse keeping.....	575 15
Sundries.....	730 04
	<hr/>
	\$ 38,908 52

## TREASURER'S REPORT.

Statement of receipts and disbursements of W. I. Jenkins, Treasurer of the University of Colorado, from October 1, 1884, to February 24, 1885, both dates inclusive :

GENERAL FUND.	
Balance as per report, October 1, 1884.....	\$ 1,022 10
Received from State Treasurer .....	400 00
Received from other sources .....	176 00
Total receipts.....	\$ 1,598 10
CONTRA.	
Disbursed as per vouchers.....	\$ 1,225 48
Turned over to Charles L. Spencer, Treasurer .....	372 62
Total .....	\$ 1,598 10
SPECIAL FUND.	
Balance as per report, October 1, 1884.....	\$ 24 90
CONTRA.	
Turned over to Charles L. Spencer, Treasurer .....	\$ 24 90
RECAPITULATION.	
Total receipts, General Fund .....	\$ 1,598 10
Total receipts, Special Fund.....	24 90
Total .....	\$ 1,623 00
CONTRA.	
Disbursements account, General Fund .....	\$ 1,225 48
Turned over to Charles L. Spencer, Treasurer .....	397 52
Total .....	\$ 1,623 00

*To the Board of Regents of the University of Colorado :*

Receipts and disbursements of Charles L. Spencer, Treasurer, from February 24, 1885, to September 30, 1886, both dates inclusive :

GENERAL FUND.	
Received from W. I. Jenkins, Treasurer.....	\$ 372 62
Received from Treasurer of State, Current Expense fund.....	42,050 00
Received from Treasurer of State, Land Income Fund .....	7,380 00
Received from Dr. Sewall, fees, Bragdon .....	10 00
Total receipts .....	\$ 49,812 62
CONTRA.	
Disbursed, as per vouchers .....	\$ 37,864 48
Balance cash on hand .....	11,948 14
Total .....	\$ 49,812 62

## SPECIAL FUND.

Received from W. I. Jenkins, Treasurer.....	\$ 24 90
Received from Treasurer of State.....	22,968 00
Received from Dr Sewall, rebate express charges .....	3 95
Total receipts .....	\$ 22,996 85

## CONTRA.

Disbursed, as per vouchers.....	\$ 20,711 65
Balance cash on hand .....	2,285 20
Total .....	\$ 22,996 85

## RECAPITULATION.

Total receipts, account General Fund.....	\$ 49,812 62
Total receipts, account Special Fund .....	22,996 85
Total receipts .....	\$ 72,809 47

## CONTRA.

Disbursements, account General Fund .....	\$ 37,864 48
Disbursements, account Special Fund.....	20,711 65
Balance cash on hand.....	14,233 34
Total.....	\$ 72,809 47

Respectfully submitted,

CHAS. L. SPENCER,

*Treasurer.*

November 5, 1886.

## LIBRARIAN'S REPORT.

J. A. SEWALL, *President*:

SIR:—I have the honor to submit the following report of the Buckingham Library:

Number of volumes registered Sept. 30, 1886 . . .	2,499
Number of volumes unregistered . . . . .	790
Number of volumes unbound . . . . .	60
Total . . . . .	3,349
Number of volumes Sept. 30, 1884 . . . . .	1,796



## INCREASE FOR TWO YEARS.

Volumes purchased . . . . .	1,267
By pamphlets received . . . . .	60
Presented by Mary Rippon . . . . .	3
Presented by W. J. Waggener . . . . .	2
Presented by W. F. C. Hasson . . . . .	1
Presented by J. W. Bell . . . . .	2
Presented by J. R. Brackett . . . . .	1
Presented by L. Huber, M. D., of Pennsylvania . . . . .	37
From the U. S. Government and others . . . . .	180
	1,553

The following periodicals are purchased for the reading room:

North American Review,  
 Contemporary Review,  
 Fortnightly Review,  
 Edinburgh Review,  
 Quarterly Review,  
 British Quarterly Review,  
 London Quarterly,  
 Westminster Review,  
 Blackwood's Magazine,  
 Nineteenth Century,  
 Atlantic Monthly,  
 Harper's Monthly,  
 Century,  
 Nation,  
 Rocky Mountain News,  
 Education,  
 New Englander,  
 Library Journal,  
 Fliegende Blaetter,  
 Deutsche Rundschau,  
 Journal of Speculative Philosophy,  
 American Journal of Philology,  
 Zeitschrift Internationale,  
 Anglia,  
 Englische Studien,  
 Latin et Graece,  
 Nature,  
 American Naturalist,  
 American Chemical Journal,

Popular Science Monthly,  
 Popular Science News,  
 Bulletin Torrey Botanical Club,  
 Science,  
 Electrical Review,  
 American Journal of Mathematics,  
 Nouvelles Annales de Mathematiques,  
 Revue des Deux Mondes,  
 Journal des Economistes,  
 Mind,  
 Messenger of Mathematics,  
 Journal fuer die Reine und Angewandte Mathematik,  
 Youth's Companion.

The following have been presented by the publishers :

Citizen,  
 Challenge,  
 Co-operative Index,  
 Critic,  
 Literary News,  
 Natural Science Bulletin,  
 Teacher,  
 Boulder County Herald.

From September, 1885, to February, 1886, the library was open two hours a day. Since February, 1886, it has been open each school day from 8:15 a. m. to 12:30. During these hours an assistant librarian is in charge. Besides the care of the circulation of the books, checking and cutting the magazines received, and keeping the room in order, the assistants have, in the last five months, registered 2,500 volumes, entries averaging eighteen words each, written 2,643 cards for the charging department, and printed about 2,200 cards on the type-writer for an alphabetical index to the library; 140 volumes have been prepared for the binder; over 1,000 volumes have been received, labeled and placed upon the shelves; all the books in the library have been rearranged upon the shelves, and each volume marked with its accession number, subject number and author number; printed guides have been placed upon the

shelves, and every volume has twice been compared with the accession book to guard against loss. For this, skilled labor is required. The following students have assisted in this work: E. C. Wolcott, B. A.; F. L. Chase, B. A.; W. R. Wood, Guy V. Thompson, M. B. Johnson, Jennie Sewall and E. C. Mason. All have been students in the Department of Philosophy and the Arts; they have been paid twenty-five cents an hour.

The first library in connection with the University was started by a literary society, the "Lyceum;" the few volumes collected afterwards passed into the University library, which was founded by C. G. Buckingham, of Boulder. Mr. Buckingham gave \$1,200, May 2, 1879, and continued his donations till March 31, 1884, giving \$2,121.60 in all.

The students, by giving a series of five entertainments, raised money to buy curtains and chairs; Platt Rogers, and other citizens of Boulder, furnished a carpet for the library room; four walnut book cases were purchased from the Buckingham fund; the regents made an appropriation for the purchase of three tables.

Orders have been drawn on the university funds on account of the library as follows:

From April 28, 1877, to April 30, 1880 .....	\$ 100 90	.00½—
From September 30, 1880, to October 1, 1882 .....	333 80	.01 +
From September 30, 1882, to September 30, 1884 .....	149 00	.00½ +
From September 30, 1884, to September 30, 1886 .....	2,523 04	.05½
Total .....	\$ 3,106 74	

The first three years, less than one-third of one per cent. of the total expenditures of the University went to the support of the library; for two years ending October 1, 1882, a trifle over one per cent.; for the two years ending September, 1884, a little more than one-third of one per cent.; for the last two years, five and one-half per cent.

The library occupies the southwest room in the second story of the main building. The following is a fair estimate of the cost of its property:

Books purchased by appropriation .....	\$2,500
Books purchased by Buckingham fund .....	2,000
Books presented .....	800
Furniture .....	300
Card cases and library supplies .....	100
Type writer .....	108
Total .....	<u>\$5,808</u>

The subscriber was appointed Librarian in June, 1885. He has given an hour and half a day to the supervision of the work. The books have been arranged by subjects, according to the decimal system of classification, first used by Melvil Dewey in the library of Amherst College, and afterward at Columbia College; the author numbers used are those invented by C. A. Cutter, librarian of the Boston Athenæum. The catalogue is based on the plan of the card catalogue of Yale College. It has been the study of the Librarian to make everything the library contains easily available and yet to employ only such methods as are equally applicable to a library of half a million volumes.

It is a low view that limits the work of a college to learning and reciting lessons prescribed by a course of study. The successful teacher must bring to his class a fund of collateral and historical information; and, what is more important, the student must be trained to acquire this information for himself. The main object of a collegiate education is the formation of scholarly habits and the ability to investigate special subjects. The graduate may be pardoned the ignorance of many things, but if he cannot consult a library correctly and rapidly, he has little claim to be called a scholar. In any literature, lectures and the study of manuals are particularly barren, unless supplemented by a good library; the material dealt with in these studies is books; and without the books themselves, the work is too superficial to be a part of university training.

The books of the Buckingham library have been selected with great care. Excluding public documents, there are not quite 2,500 volumes. The library is too small for extended research in most departments, or for the proper illustration of studies in *belles-lettres*. In no way

can a true university spirit be fostered at less expense than by a permanent appropriation for the library.

#### RECOMMENDATIONS.

1. That an annual appropriation be made for the library. Sixteen hundred dollars a year seems to be the least amount that can meet the growing needs of the different departments.

For assistants and supplies . . . . .	\$ 250
For binding . . . . .	100
For periodicals . . . . .	200
Purchases in Latin and Greek . . . . .	100
Purchases in modern languages . . . . .	100
Purchases in history and philosophy . . . . .	100
Purchases in science and mathematics . . . . .	100
Purchases in English and comparative literature . . . . .	200
For general growth of the library . . . . .	450
Total . . . . .	<u>\$1,600</u>

A small annual appropriation will secure a better selection of books than a large appropriation at irregular intervals. There is also a constant demand for annual additions, as new volumes of books appear, completing sets that the library has in part.

2. That the Librarian be empowered to purchase books. Of course each professor is best able to judge of books in his own department; but only one person can have a full knowledge of what there is in the library, and avoid the purchase of duplicates. Many of the most valuable books are difficult to secure, and chance opportunities for their purchase must be seized with promptitude.

3. That a room be set apart for public documents, and that it be fitted with adjustable shelving. These books are the unregistered volumes mentioned in the first paragraph of this report.

Respectfully submitted,

J. RAYMOND BRACKETT,

*Librarian.*

### NORMAL SCHOOL.

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The only direct or special work done in this department has been by a course of lectures on methods of instruction. These lectures were given by the President and two members of the faculty. The academic studies of this class have been the same as provided for the preparatory classes.

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### MEDICAL SCHOOL.

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The majority of the one hundred and twenty medical schools now in existence in the United States are private enterprises, established and conducted for pecuniary profit. It therefore follows that each school, desiring all the students possible, establishes that grade of qualifications which most conduces to its own interests.

The evils which result from the underbidding, and the questionable methods adopted to draw students have only within a few years attracted the attention of State officials and University authorities, so that comparatively little has been accomplished towards a remedy.

The State Board of Illinois has doubtless done more to advance the standard of medical education than any other organization, and mainly through its efforts and the examples shown by a few of the older schools, we find twenty-four colleges of the one hundred and twenty, requiring three full courses of lectures, instead of two, which a few years ago made the generally adopted standard.

More attention, too, is directed to the preliminary education of the applicants, an examination as to their fitness to enter the profession now being required by the best schools. From the facts before stated, the efficient Secretary of the Illinois Board of Health, draws the following logical conclusions: First—"That the best interests of the public welfare demand the highest attainable standard of educational qualifications, skill and ability, as well as of professional honor, integrity and morality, among those engaged in the practice of medicine." Second—"That it is the duty

of the State to exercise the inherent plenary power and authority which it possesses, for the protection and promotion of the public welfare, to secure such standard."

#### PROGRESS.

The wealth of the State increased from 1878 to 1885 a little more than one hundred per cent., the population increased about eighty per cent., the number of students in attendance at the University increased in this period one hundred per cent., while the schools of like grade, authorized to confer like degrees, increased two hundred and sixty-six per cent. Surely the State is well supplied with colleges and universities. Moreover, the attendance on the University has not only increased in number, but the rank of the students is higher. In 1877-78, *all* the students were in the preparatory school, and all but six, in the first year of this school. In 1885, twenty-eight were pursuing the studies of the college courses, while only forty-two were of the entering, or first year class of the preparatory school, out of a total of one hundred and thirty-two.

#### INSTRUCTION.

I believe I am justified in most heartily commending the character of the instruction given. The professors in the several departments have labored with a zeal that must produce good results. While it is not claimed that the University affords all the facilities of older and better endowed institutions, yet the instruction given is equal to the best. And our graduates will compare favorably with those of any institution of learning in the country.

It is a credit and an honor to the State, particularly to the efficient professor of Latin, that to-day, one of our early graduates holds the position of professor of Latin in one of the oldest and best colleges in New England.

Surely, something has been done to maintain a high standard of attainment, and whatever success has been achieved, the credit belongs to the hard-working, faithful faculty.

In June, 1886, Paul H. Hanus, professor of mathematics, tendered his resignation, which was accepted by the Board of Regents. Professor Hanus had been connected with the institution about six years, and in that time had demonstrated his ability and fidelity as an instructor of rare merit. Few young mathematicians in the country are his equal, none his superior. When he left us, there was a vacancy which I fear cannot soon be filled.

Whatever may be the future of the University, I am sure something has been done for the cause of higher education. A few, at least, of the youth of the State have felt the stimulating, invigorating influence that comes of learning and culture. My earnest desire and hope is, that the dark and discouraging days of the University are past, and that a new administration may bring with it abundant prosperity and success.



## STATE AGRICULTURAL COLLEGE.

To the State Superintendent of Public Instruction:

SIR:

In accordance with the act of the General Assembly of the State of Colorado, this biennial report is submitted, in order that yourself and the coming Assembly may have at command the facts pertaining to the growth and development of the State Agricultural College, as one of the factors in our State system of general education.

This college is under the supervision of the State Board of Agriculture, whose terms of office expire as follows:

## STATE BOARD OF AGRICULTURE.

*Term expires*

Hon. R. A. Southworth, Denver.....	1893
Hon. G. E. Wyman, Longmont.....	1893
Hon. B. S. Lagrange, Greeley.....	1891
Hon. W. F. Watrous, Fort Collins.....	1891
Hon. J. J. Ryan, Loveland.....	1889
*Hon. Henry Foote, Del Norte.....	1889
Hon. David Boyd, Greeley.....	1887
Hon. Ozro Brackett, Frankstown.....	1887
His Excellency, Gov. B. H. Eaton, } President C. L. Ingersoll, }	Ex officio.

## OFFICERS.

Hon. David Boyd.....	President
Hon. W. F. Watrous.....	Secretary
Hon. George R. Swallow (ex officio).....	Treasurer

\*Deceased. (Vacancy to be filled by appointment, 1887.)

The present faculty, with the salary paid each, is as follows:

## FACULTY.

Charles L. Ingersoll, M. S.	President	\$ 2,500
Ainsworth E. Blount, A. M.	Agriculture	1,800
*Charles F. Davis, M. S.	Chemistry and Geology	1,400
James Cassidy	Botany and Horticulture	1,500
James W. Lawrence	Mechanics and Drawing	1,400
†Geo. C. Faville, B. S., D. V. M.	Veterinary Science	
	(State Veterinarian.)	
Maj. Vasa E. Stolbrand	Mathematics and Military Science	1,400
	(Late Lieutenant U. S. Army.)	
Miss E. G. Bell	English Literature and Modern Languages	1,200
Elwood Mead, B. S., C. E.	Physics and Engineering	1,400
Miss Grace Patton, B. S.	Instructor	450

\*Resigned September 1, 1886. (Temporarily carrying the work, until successor shall be elected and installed in the chair.)

†Salary paid by State as State Veterinarian.

As was remarked by me in a previous report, the salaries named above, except those of President and Professor of Agriculture, are small and entirely out of proportion with salaries paid in most places for the same quantity and quality of work.

No more self-denying men are to be found, and the difficulty of filling a chair, when it becomes vacant, with a really good, earnest man, is one not easily met, when the cost of living in Colorado is taken into consideration, and is a serious bar to good progress.

## FINANCES.

The President of the College, having nothing to do officially with the finances of the College, does not report upon the receipts and expenditures; this information will be found in the annual report of the Secretary of State Board of Agriculture, who has this work in charge. To his report you will, therefore, refer.

## COURSE OF STUDY.

The course of study adopted in 1882 has remained until at the meeting held June 9, 1886, when it was reduced to

three recitations daily. To accommodate this new order of things, the Rhetoric was stricken from the course, other branches were given less time, electives were given in the last two years of the course, thus really expanding, and giving three general courses in the Junior year, viz: Irrigation Engineering, Mechanics and Drawing, and Language, and adding to these Veterinary Science in the Senior year.

The Language course gives one year of French, and two years of German, in place of Agriculture, Horticulture, and Applied Chemistry, and is designed primarily for the young ladies, although no student is debarred from it.

All courses are parallel for the first three years. The courses at that point converge, and each has two studies in common, while the third study is in connection with the special department, which has the elected course.

Irrigation Engineering comprises the study of Hydraulics, Agricultural Chemistry, Reservoirs, Canal Work, Irrigation Law, and Astronomy, running through two years.

Mechanics and Drawing comprise one exercise daily in Architectural and Machine Drawing, for one year, and lectures on the Steam Engine, Machinery, and Transmission of Power, in the second year.

The labor in the elected courses is in consonance with the studies taken up in the last two years. In the first three years, the time is nearly equally divided between farm, garden and shop, laboratory and field surveying.

The students in all courses, except the Mechanical, are required to take a course in Microscopy, consisting of two exercises each week, two hours each, in the Senior year, at the close of which each student is required to hand in a thesis on some topic embodying the work of the year, some of which work shall be original investigation in some special line chosen by such student.

## GRADUATES.

The total number of graduates to date of this report is ten. Of this number, one, and a graduate of Kansas Agricultural College, who spent a year of post-graduate work in Veterinary Science, have both graduated with honor from the Veterinary department of Iowa College, taking the degree of D. V. M. On their entrance there, the examination and work of our college was accepted without question. The present Senior class numbers four, and the lower classes are much larger, so that we are limited for room for proper efficiency in our work.

## ATTENDANCE.

TERM.	1885.			1886.		
	Males.	Females.	Total.	Males.	Females.	Total.
First (winter) term .....	38	42	80	37	31	68
Second (spring) term.....	27	38	65	26	27	53
Third (fall) term.....	40	40	80	51	37	88
Total .....	105	120	225	114	93	207
Average daily attendance .....	35	40	75	38	31	69
Total enrollment for year..	60	59	119	67	50	117

Scarlet fever breaking out in the College and town, materially reduced the attendance for two terms, and threatened to close the College, as it did close the city schools for several weeks.

## HISTORY.

1884. November 10. Professor Elwood Mead resigned. Professor L. G. Carpenter acceptably filled the chair until January 1, 1885, by appointment.
1885. January 1. Vasa E. Stolbrand, Lieutenant U. S. Army, elected to the chair of Mathematics and Military Science.
1885. September 1. Miss Elizabeth G. Bell, of Chester, N. H.,

elected to chair of English Literature and Modern Languages, which was created at that time.

1886. January 1. Professor Elwood Mead was re-elected to take charge of the newly created department of Physics and Irrigation Engineering.
1885. September 1. Miss Grace Patton was elected assistant in Chemistry for one year, and
1886. September 1, to be instructor for year ending June, 1887. Miss Patton is the second of our graduates who has thus been honored in her preparation and work.
1886. September 1. Professor Charles F. Davis resigned the chair of Chemistry and Geology.

The changes brought about by the enactment of the State sanitary and veterinary law, and the appointment of the professor of Veterinary Science, State Veterinarian, in accordance therewith, has worked better than the majority anticipated. The preference has always been given to the State work as the more important and required by law. The work at the College has not suffered, as there has been some one qualified to give some portion of the instruction, so that classes have not been without daily instruction.

The only failure of duty has been the presentation of the semi-annual report to the State Board of Agriculture on the date required by law.

The greater work has been accomplished—that of formulating and putting in motion the machinery of inspection upon our borders, and enlisting the active sympathy of stockmen and railroads in the enforcement of the law. We, as a State, may congratulate ourselves on freedom from infectious disease among our animals to this date, when there is so much of it elsewhere.

Slight questions having risen in regard to the discipline of the school, the whole matter was set right by resolution of the Board of Trustees endorsing the faculty, and placing the discipline in their hands, where, by law, it was assigned. The result is seen at once in the better order and progress of the school this year just begun (1886-7), and in the greater earnestness of all students enrolled.

The school has, during the two years, 1885 and 1886, made good solid growth, though it has often been pinched for actual necessities in its regular work and advancement. No single person has, probably, felt this more than the President, whose every anxiety has been that no false step be taken, and that every advantage be seized upon to promote the best interests of the school—that this school, almost the youngest of its class in the United States, should not wander over the tortuous road traveled by older institutions, but that, profiting by their failures, we might, in a few years, reach that perfection of work only attained by them in many years of labor.

The exhibits made by our college at the New Orleans Exposition, won for us a diploma that our mechanical work and products of the soil were seldom equalled and never excelled. The work done by our students in Microscopy received the following commendation on its receipt at Washington, where it was to form part of a collective exhibit from various colleges:

WASHINGTON, D. C., November 29, 1884.

PROFESSOR CHARLES G. INGERSOLL,

*President Colorado Agricultural College,*

*Fort Collins, Colorado:*

MY DEAR SIR:

Your letter of the twenty-first instant is received, also the bound copy of Theses in Scientific Work, Microscopy, with plates. I have given the volume all the examination my time at present will permit, and am greatly delighted. The President of the Maryland Agricultural College and Hon. J. O. Wilson, a most excellent judge of educational matters, and Superintendent of Schools here, were in while I was looking at it, and were surprised and delighted. I have also shown it to Secretary Teller, who expresses great pleasure at results so satisfactory. It will now be forwarded to New Orleans, to be returned to you at the close of the Exposition, as you desire.

Yours respectfully,

JOHN EATON, *Commissioner.*

The road of industrial education is not yet well defined and marked, but enough has been accomplished in Colorado to cause our legislators to pause and seriously reflect ere they lessen the efficiency by making less the income

of our college, or causing it to become less sure than to-day—to consider carefully ere they talk of consolidating this distinctive school with any other, or in any way to interfere with or disturb its work.

Perhaps I cannot better close this report than in the attempt to have you see us as we appear in our work to those outside our State, and who are in a position to look upon this plan and its working, with unbiased minds.

You will remember that prestige is in favor of older and well-established institutions; that people do not, as a rule, come to young States and Territories, somewhat removed from the older centers of civilization, in order to be taught the best way to do things in education, or in the arts; hence it is with a pardonable feeling of State pride, that I introduce the following testimony:

In March, 1885, a commission from Victoria, Australia, composed of three gentlemen, visited America, for the purpose, primarily, of inspecting and reporting upon our system of irrigation; but, secondarily, to examine the system of education practiced in the various Agricultural Colleges of the United States. After carefully examining several colleges, they unanimously reported on their return in favor of the system in operation in "Colorado Agricultural College," and inaugurated at the reorganization in 1882.

This endorsement was unlooked for and unasked, and was the more highly appreciated, as the commission came upon us without a moment's warning, and saw the college as it is in every day work.

In March, 1886, the President was asked to present the general plan, together with details of work in our college to a commissioner (Lieut. Francis Winslow, U. S. Navy), appointed by Gov. A. M. Scales, of the State of North Carolina, to investigate and report upon Industrial Education, for the benefit of that State, which proposes to establish an "Industrial College."

The Colorado plan was fully presented, and on June 15, 1886, after looking over data from various sources, reply was received as follows:

BEAUFORT, N. C., June 10, 1886.

MR. C. L. INGERSOLL, M. S.,

*President Colorado Agricultural College:*

DEAR SIR:—Press of work has delayed my reply to yours of the twenty-eighth instant sooner, and indeed I must beg you to accept my apologies for not acknowledging before the receipt of your previous letters and communications. I am not competent to express any opinion as to the merits of a particular plan—that is, an opinion that would be of any value. I am interested, as every one must be, in the industrial training of our rising generation, and manual training seems especially needful in newly-settled parts of the country like your State, or in those older sections, like the South, where the conditions are, in practice, very similar. It has struck me, as well as others, that you in Colorado had managed to accomplish a good deal on a very small expenditure, and I think your success had its influence in determining the authorities of this State to institute the industrial system of education. Upon what plan the school will be modeled I cannot say. The funds at the disposal of the State will not permit a very elaborate establishment. I presume whatever action is taken will have the same end in view that is contemplated by yourself—that is, the making of good, thrifty citizens, intelligent in the concerns of daily life, and fitted to develop along some particular line of action other than that of brain work, pure and simple. The progress of the age demands that all one's faculties should be developed while plastic and capable of development, and the value of technical education, especially practical manual education, is shown clearly by the fact that pupils of industrial and technical schools rarely wait long for places or employment. As a graduate of one of the oldest technical schools in the country, the United States Naval Academy, I can testify as to the great improvement wrought, by the special training there given, in the whole mass of the navy. I have also had several years' experience as an officer and instructor on board one of our training ships for seamen apprentices. They are floating technical schools, or, better, manual training schools for common seamen. That the navy should be greatly benefitted by the introduction of these especially trained youngsters is not surprising, and the whole service will testify that the benefit is great; but so far as we can learn, the large percentage of boys who leave when their apprenticeship expires generally do very well, and are in demand for positions on shore for which their naval training would not, presumably, in any way fit them. I consider this to be due to the habit of following intelligent mental action by equally intelligent manual action. The boy is not only quicker of mind, but quicker and handier with his body. People like that kind of a boy,



and he has no difficulty in finding a place. I regret that my study of this important matter has necessarily been of late so superficial that my opinion is of little value, but I am sure that no better work than that you are doing can be instituted in your section of the country.

Wishing you every success, I am,

Respectfully yours,

FRANCIS WINSLOW,

*Lieut. U. S. N.*

(Original on file.)

Let us then briefly summarize this outside testimony, and see the results:

The Province of Victoria, in Australia, has gone forward, and, acting under the report received, the present Parliament has set aside 150,000 acres crown lands to endow agricultural education; a council of agriculture has been created to take charge, and the Colorado plan has been adopted almost in detail for the central college of their system.

We also see that the State of North Carolina is well pleased with what we are doing, and there are strong probabilities of her endorsing and adopting the same system.

I wish to call attention to the fact that these conclusions have been reached by these outside and widely distant parties only after careful study and comparison of systems and plans.

And now, in closing this report, I wish again to emphasize the thought that we seem to be on the right track, and if we are in error, we err in exceedingly good company—the distinguished gentleman from Melbourne, Australia, and an excellent officer and teacher in our United States Navy. I, therefore, appeal to all friends of education, to all who have State pride, to assist those in charge of this school to go forward with the work so well begun and from which we are already gathering the first fruits.

I have the honor to be, very respectfully,

Your obedient servant,

C. L. INGERSOLL,

*President.*

STATE SCHOOL OF MINES.  
GOLDEN, COLORADO.

DECEMBER 1, 1886.

*To the Superintendent of Public Instruction  
of the State of Colorado:*

SIR:—I have the honor, in compliance with law, to submit the following biennial report of the condition and management of the State School of Mines:

The financial condition of the institution is shown by the reports of the secretary and treasurer, submitted herewith. They show that the outstanding indebtedness at date of last report, \$6,005.14, has been entirely paid, and that the cash balance in the hands of the Treasurer, at this time, is \$1,526.42. The value of the grounds, buildings, apparatus and library now attached to the school, and fully paid for, is \$50,717, divided as shown in the inventory.

The financial standing of the institution, and the fact that no new buildings were needed during the past two years, has enabled the board of trustees to carry out a design entertained for some time, that of employing the faculty of the school during the summer vacation months in original research pertaining to the mineral resources of the State, such as coal, iron, materials for manufacture and the precious metals. In accordance with this plan, Prof. Chauvenet, the president of the faculty, commenced, in June, 1885, an examination of the iron resources of southern Colorado, the result of which was printed in the report of the school to the Governor, December 1, 1885. The same volume, 1,500 of which were printed for distribution to other scientific institutions, and for general use, also contained a "Review of the Mining Interests of the San Juan Region," by Prof. M. C. Ihlseng, a "Report on the Oil Fields of Fremont County," by the same writer, and reports

on the Trinidad and Crested Butte coal regions, by Prof. Arthur Lakes. The reports of Prof. Ihlseng and Prof. Lakes were accompanied by complete maps and diagrams illustrating the topics in hand. The field work for 1886 includes a review of "The Iron Prospects of Northern Colorado," by Professor Chauvenet, made at the special request of the Denver Chamber of Commerce. Professor Ihlseng continues his observations on mining and ore treatment in the San Juan region, and Professor Lakes gives "The Geology of the Aspen District," accompanied by maps and charts. The present development of the Eagle county mines is described by Professor George C. Tilden, who passed the summer months in that part of the State, and Professor Van Diest, of the Board of Trustees, reviews "The Mineral Resources of Boulder County." The papers mentioned are published for distribution as an appendix to this report. This field work for the past two years, including cost of engraving and printing, has entailed an expenditure of some \$2,000, a sum which contrasts more than favorably with the large amounts paid out in other States for geological surveys.

During the past two years the board has made persistent efforts to raise the standard of the school as to course of instruction, and has been encouraged in this direction by an increase in the number of students in the regular four-year course, from eight at date of last report to seventeen at the present time, of whom nine are in the first year, four in the second, three in the third and one in the fourth, two having graduated in the full course in June, 1885, with the degree of "Engineer of Mines," and eight in the special assaying course. In the special assay course there are now five students, and four in the preparatory or irregular course, preparing to take places in the regular line of study. This makes the present total attendance forty-nine, ranging in age from seventeen to twenty-three years, against a total attendance of thirty-three two years ago. The present attendance is classified as follows:

Technical Course . . . . .	26
Drawing . . . . .	16
High School Course . . . . .	7
Total . . . . .	<hr/> 49

The faculty at the present time is organized as follows:

Regis Chauvenet (President), Professor of Chemistry and Assaying, salary . . . . .	\$3,000
Arthur Lakes, Professor of Geology and Drawing, Curator of the Museum . . . . .	1,500
Magnus C. Ihlseng, E. M., C. E., Ph. D., Professor of Engineering . . . . .	1,800
Paul Meyer, Ph. D., Professor of Mathematics . . . . .	1,200
P. H. Van Diest, M. E., Lecturer on Metallurgy . . . . .	
George C. Tilden, C. E., Laboratory Instructor . . . . .	1,200

Professor Van Diest has no salary, his services being needed only at stated times, in connection with the graduating class, and are paid for as rendered.

The Professor in Charge, during the past two years, in his capacity as *ex officio* Commissioner of Mines—there being no commissioner and no apparent need for any—has made a number of expert examinations in different districts of the State, at the request of Eastern and St. Louis capitalists, the good effects of which are already seen.

Besides the iron analyses in connection with Professor Chauvenet's reports, which have occupied a portion of the laboratory for several weeks, examinations have been made during the past two years of mineral waters, tin ores, supposed nickel ores, and other materials that are out of the general run, requiring extensive apparatus for their proper determination.

#### RECEIPTS AND EXPENDITURES.

In the books of the Secretary of the State School of Mines, the following receipts are shown for the two years beginning December 1, 1884 (date of last report to the General Assembly), and ending November 30, 1886:

#### RECEIPTS.

To warrants drawn on State Auditor-----	\$35,500 00
Receipts from students-----	1,991 03
From the Everett estate-----	598 70
Total receipts-----	\$38,089 73
By transfer to M. Barth, Treasurer-----	38,089 73

From July 30, 1884, to November 30, 1886, the following were the receipts:

To warrants drawn on State Auditor .....	\$ 5,298 30
Receipts from students.....	286 70
Total receipts.....	\$ 5,585 00
By transfer to M. Barth, Treasurer .....	\$ 5,585 00
Transfers to November 30, 1886.....	38,089 73
Grand total of transfers .....	\$43,674 73

#### DISBURSEMENTS.

The books of the Professor in Charge show the following disbursements for the twenty-three months beginning December 1, 1884 (date of last report to the General Assembly), and ending October 31, 1886, the bills for November, 1886, being omitted, as they are not audited and allowed until the December meeting, which is held subsequent to the date when this report is called for by law:

Buildings and grounds .....	\$ 333 54
Furniture and fittings .....	750 92
Permanent apparatus .....	838 09
Library .....	1,238 33
Salaries .....	20,284 95
Repairs .....	249 00
Supplies, chemicals, etc .....	3,517 83
Fuel, light and incidentals .....	923 62
Printing, advertising and stationery .....	2,044 53
Interest, insurance, freight and express .....	3,157 00
Total paid out .....	\$33,337 81

Of the expenditures noted above, those designated as "Buildings and grounds," "Furniture and fittings," "Permanent apparatus," and "Library," amounting to \$3,160.88, are permanent in their nature, and add to the value of the inventory, thus reducing the actual expenditures of the twenty-three months to \$30,176.93. From the cost of supplies, etc., should also be deducted the receipts from students (\$1,991.03), making the net expenditures equal \$28,185.90.

JAMES T. SMITH,

*Secretary.*

**THE TREASURER'S REPORT.**

Statement of the Treasurer of the State School of Mines, of receipts and payments from July 30, 1884, date of assuming office, to November 30, 1886:

RECEIPTS.

	<i>Dr.</i>
Received from State Treasurer . . . . .	\$ 40,798 30
Received from James T. Smith, Secretary . . . . .	2,227 73
Received from Everett Estate . . . . .	598 70
	\$ 43,674 73

PAID OUT.

	<i>Cr.</i>
By Warrants paid between July 30, 1884, and December 1, 1886 . . . . .	\$ 42,148 31
By Cash on hand . . . . .	1,526 42
	\$ 43,674 73

MORITZ BARTH,

*Treasurer.*

The auditing committee met at the School of Mines, December 2, 1886, and checked paid warrants to the value of \$42,148.31, destroying the same. It was found that the warrants outstanding November 30, 1886, amounted in value to \$128, which should be taken from the balance in hands of Treasurer, making the actual cash balance, \$1,398.42. The indebtedness reported at date of last report (\$6,005.14), has entirely disappeared.

**INVENTORY OCTOBER 31, 1886.**

Buildings and grounds (estimated) . . . . .	\$ 30,000
Fixtures . . . . .	\$ 5,590
Furniture . . . . .	3,880
Tools and appliances . . . . .	624
	10,094
Library . . . . .	2,702
Mining and surveying instruments . . . . .	\$ 981
Mechanical instruments . . . . .	145
Physical and electrical apparatus . . . . .	2,550

Balances . . . . .	965
Chemical apparatus . . . . .	2,255
Mineral and geological collection . . . . .	1,025
	7,921
Total . . . . .	\$ 50,717

Respectfully submitted,

FREDERICK STEINHAUER,

*President Board of Trustees.*

JAMES T. SMITH, *Secretary.*

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## INSTITUTE FOR MUTE AND BLIND.

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### *Superintendent of Public Instruction:*

SIR:—It affords me pleasure, in compliance with the law, to hand you herewith a brief statement of the workings of the Institute for Mute and Blind during the past two years, for insertion in your biennial report.

The most important event of this period was the reorganization of the Institute by the last Legislature. The defective law under which it had struggled along for some years, was repealed, and another, embodying the good points of laws governing similar institutions in other States, passed. By this new law, every department of the school is placed under the control of the Superintendent, who is vested with all necessary authority, and held responsible both for his acts and those of his subordinates.

Another good feature of the law is the provision that the board shall never all go out at once, and leave the Institute in the hands of an entirely new administration.

The attendance has steadily increased, until there are now sixty-one pupils—forty-two deaf mutes and nineteen

blind. These are graded in four classes in the deaf mute department and two in the blind. Special classes among the deaf mutes are taught articulation and lip reading, while all the blind who are capable are given lessons in vocal and instrumental music.

It is imperative that the classes should be small in an institution of this size and character, if success is to be reached, and it is our ambition to do all for the mute and the blind children of Colorado that is possible.

The Institute is designed to be a home to the children nine months of each year. It therefore devolves upon us to provide not only for their mental advancement, but for their moral training as well. It is also incumbent upon us to lead them to form industrious habits. All these fields are covered by our arrangements, and we confidently hope that when these defective children go forth into the "world's broad field of battle," they may do so thoroughly equipped for the struggle.

The salaries of the officers and teachers are as follows:

Superintendent, (resident) . . . . .	\$ 1,500
Matron and Articulation Teacher, (resident) . . . . .	800
First Teacher, D. M. Department, (non-resident) . . . . .	1,200
Second Teacher, D. M. Department, (resident) . . . . .	500
Third Teacher, D. M. Department, (resident) . . . . .	500
Fourth Teacher, D. M. Department, (resident) . . . . .	225
First Teacher, Blind Department, (resident) . . . . .	600
Music Teacher, (resident) . . . . .	450

I am pleased to note that the secretaries of school districts are becoming more careful in the performance of their duty, as regards reporting the mute or blind children in their respective sections; still it is a matter of regret that, though a generous State has made the Institute entirely free to all who need its benefits, there are many whose parents fail to take advantage of the proffered assistance and retain their children at home.

Some do this because, being ignorant themselves, they do not appreciate the value of an education. Others are poor, and need the assistance of their children. The far



larger part, however, are those who are sensible of the benefit of an education and are abundantly able to provide well both for themselves and their children; but they are overmastered by a blind and selfish love for their unfortunate children, and cannot bear to have them out of their presence, even though to keep them there involve them in perpetual helplessness and ignorance. All that can be done in the case of such parents is to spread all necessary information before them, and leave the responsibility where it belongs.

The Institute is now as full as is consistent with health, and in our forthcoming report to the Governor we shall ask for another building. The State should not hesitate to make the necessary appropriation, as it will otherwise soon be our duty, in justice to those who are here, to refuse to admit others, except as vacancies occur. If the State assumes the burden of caring for *any* of the mute or blind children within its borders, it should see to it that *all* have the same opportunity.

Requesting a continuance of your interest in the Institute, I have the honor to be,

Yours, respectfully,

D. C. DUDLEY,

*Superintendent.*

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## STATE INDUSTRIAL SCHOOL.

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The printed report shows the school in a prosperous condition, but the institution is not able to provide for all who are sent to it. This institution should have a hearty and liberal support by the State. The printed report will be transmitted to the General Assembly, as required by law.

TABLE I.  
COMPARATIVE TABLE—SUMMARY.

ITEMS.	1885.	1886.	INCREASE.
Number of districts .....	645	685	40
Number of males of school age.....	29,279	30,690	1,414
Number of females of school age .....	28,676	30,105	1,429
Total school population .....	57,955	60,798	2,843
School population between 6 and 16.....	44,245	46,221	1,976
School population between 16 and 21.....	13,710	14,577	867
Number between 6 and 16 enrolled in school .....	35,208	36,999	1,791
Number between 16 and 21 enrolled in school.....	3,687	3,691	4
Number enrolled in graded schools .....	22,208	23,375	1,167
Number enrolled in ungraded schools.....	16,687	17,315	628
Number enrolled in public schools .....	38,895	40,690	1,795
Average daily attendance .....	24,747	26,428	1,681
Per cent. of school population enrolled in school .....	67	66	Dec. 1

Per cent. of school population under 16 enrolled in school .....	79	80	1
Per cent. of school population over 16 enrolled in school.....	26	25	Dec.
Per cent. of average attendance on enrollment .....	63	64	1
Volumes in school libraries.....	10,160	11,561	901
Number of school houses.....	525	631	106
Value of school houses and property .....	\$ 2,652,100 00	\$ 2,343,983 00	\$ 291,883 00
Number of male teachers in graded schools .....	78	76	2
Number of female teachers in graded schools.....	378	394	16
Average monthly salary of male teachers in graded schools .....	\$ 108 07	\$ 113 25	\$ 5 18
Average monthly salary of female teachers in graded schools.....	67 63	72 99	5 36
Average monthly salary of male teachers in ungraded schools.....	54 78	51 03	3 75
Average monthly salary of female teachers in ungraded schools .....	49 37	45 46	3 91
Received from county tax (general fund).....	382,766 17	346,738 19	36,027 98
Received from district tax (special fund) .....	380,290 59	366,755 71	53,534 85
Received from district tax (building fund) .....	189,132 98	141,450 58	47,682 40
Received from all sources, including amount on hand at beginning of year .....	1,220,464 87	1,217,008 80	3,476 07
Expended for teachers' wages .....	447,161 95	497,968 30	50,798 35
Expended for current expenses.....	161,755 52	144,345 36	17,410 16
Expended for buildings, sites and furniture.....	160,797 98	163,047 80	2,249 82
Total expenditure.....	934,726 83	905,622 57	29,104 26
* Expenditure per capita of school population.....	13 57	10 78	2 79

COMPARATIVE TABLE—CONCLUDED.

ITEMS.	1885.	1886.	INCREASE.
Expenditure per capita of enrollment .....	20 22	18 57	Dec. 1 65
Expenditure per capita of average attendance.....	31 79	28 59	Dec. 3 20
Expenditure per capita of population between 6 and 16 .....	17 78	16 34	Dec. 1 44

\* In calculating these per capita expenditures, only interest on amount for buildings, sites, etc., is added to the other amounts expended.

TABLE III.

## EXAMINATION OF TEACHERS.

COUNTIES.	1885.							1886.						
	CERTIFICATES GIVEN.							CERTIFICATES GIVEN.						
	First Grade.		Second Grade.		Third Grade.			First Grade.		Second Grade.		Third Grade.		
	Male.	Female.	Male.	Female.	Male.	Female.	Total.	Male.	Female.	Male.	Female.	Male.	Female.	Total.
Arapahoe	8	13	6	38	3	23	91	3	10	5	37	2	18	75
Archuleta		1					1				4		1	5
Bent	1	1	4	4		1	11	4	3	1	5	2		15
Boulder	6	11	5	13	7	31	73	5	21	2	12	7	31	78
Chaffee	8	11	3	11		3	36	4	8	1	5		2	20
Clear Creek	1	2	1	13		1	18	2	5		16		9	32
Conejos	1	1	3	6	9	5	25	1	4	4	1	8	3	21
Costilla	1	1	4	1	5		12	7	1	3		4		15
Custer	5	2	3	6	1	6	23	5	1	1	10	2	5	24
Delta		1	3	5			9	2	2	2	1	1	7	15
Dolores	1	1		1			3	1	1					2
Douglas	2	2	8	5	3	5	25	2	2	2	11	2	2	21
Eagle				3	2	2	5				1	1	1	3
Elbert	1	1	3	5	2	2	14	1	3	2	4	1	1	12
El Paso	3	3	9	15	2	3	35	7	6	3	16	1	17	50
Fremont	4	4	1	7	5	5	30	2	5	3	11	1	8	30
Garfield	3	4		1			8	1	1				1	3
Gilpin	1	4	1	13		4	23	1	4	1	11		11	28
Grand			1	1	1	2	5					1		1
Gunnison		7		3		1	11	1	4		2		3	10
Hinsdale		2					2		1		3			4
Huerfano	3	4	2	3	1	1	14			1	2	1	2	6
Jefferson	7	9	6	14	4	15	55	3	5	5	12	6	14	45
Lake		5		2			7		3		5		1	9
La Plata	2	2	4	7	2	1	18		2	4			4	10
Larimer	3	7	5	25	1	29	79	2	4	7	29	2	26	70
Las Animas	3	5	11	4	6	12	41	3	5	4	8	8	7	35
Mesa		3		8		6	17	1	1		3		3	8
Montrose	2	4		2	3	2	13	1	8	2	3	2	5	16
Ouray		1	1		1		3	1	2		1		2	6
Park	3	3	5	10		10	31	3	4		4		2	13
Pitkin			2	4			6	1	3		3			7
Pueblo	1	17	5	23	1	9	56	2	10	6	18		11	47
Rio Grande	2		1	1	2	6	12	1	2	4	3	2	3	15
Routt	3	1		1	1	6	11			2	1	1	1	5
Saguache	1	1	4	3	1	5	15	3	1	1	4	1	4	14
San Juan				2		1	3		2				2	4
San Miguel				1		2	3		2				1	3
Summit	1			1	8		11	1	1		4	1	4	11
Weld	3	5	14	20	11	30	83	5	18	8	31	4	26	92
Total	80	143	116	287	73	225	924	76	151	74	281	61	237	880

TABLE III.

COUNTIES.	CENSUS—1885.								
	BETWEEN 6 AND 16.			BETWEEN 16 AND 21.			TOTAL BET. 6 AND 21		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Arapahoe .....	5138	5716	10854	1877	1814	3691	7015	7530	14545
Archuleta .....	38	22	60	40	9	49	78	31	109
Bent .....	177	234	411	99	64	163	276	298	574
Boulder .....	1248	1200	2448	387	397	784	1635	1597	3232
Chaffee .....	553	597	1150	190	192	382	743	789	1532
Clear Creek .....	645	690	1335	248	183	431	893	873	1766
Conejos .....	730	751	1481	234	206	440	964	957	1921
Costilla .....	340	357	697	111	85	196	451	442	893
Custer .....	458	456	954	146	118	264	604	614	1218
Delta .....	132	138	270	65	35	100	197	173	370
Dolores .....	35	26	61	23	13	36	58	39	97
Douglas .....	250	268	518	75	66	141	325	334	659
Eagle .....	79	66	145	29	17	46	108	83	191
Elbert .....	164	150	314	65	37	102	229	187	416
El Paso .....	778	810	1588	253	273	526	1031	1083	2114
Fremont .....	737	721	1458	201	185	386	938	906	1844
Garfield .....	64	50	114	32	15	47	96	65	161
Gilpin .....	589	629	1218	203	171	374	792	800	1592
Grand .....	28	39	67	14	12	26	42	51	93
Gunnison .....	239	371	710	124	101	225	463	472	935
Hinsdale .....	60	70	130	15	9	24	75	79	154
Huerfano .....	778	744	1522	264	236	500	1042	980	2022
Jefferson .....	804	719	1523	258	218	476	1062	937	1999
Lake .....	1086	1051	2137	201	204	405	1287	1255	2542
La Plata .....	387	313	700	98	93	191	485	406	891
Larimer .....	904	842	1746	302	265	567	1206	1107	2313
Las Animas .....	1405	1283	2688	430	322	752	1835	1605	3440
Mesa .....	181	102	343	50	40	90	231	202	433
Montrose .....	196	147	343	56	34	90	252	181	433
Ouray .....	117	124	241	71	48	119	188	172	360
Park .....	213	233	446	92	94	186	305	327	632
Pitkin .....	176	164	340	49	42	91	225	206	431
Pueblo .....	1186	1189	2375	293	278	571	1479	1407	2946
Rio Grande .....	318	253	571	93	81	174	411	334	745
Routt .....	32	33	65	18	14	32	50	47	97
Saguache .....	306	286	592	87	62	149	393	348	741
San Juan .....	50	62	112	49	22	71	99	84	183
San Miguel .....	42	31	73	7	15	22	49	46	95
Summit .....	162	155	317	36	49	85	198	204	402
Weld .....	1082	1046	2128	387	319	706	1469	1395	2834
Total .....	22007	22238	44245	7272	6438	13710	29279	28676	57955

TABLE III—CONCLUDED.

COUNTIES.	CENSUS—1886.								
	BETWEEN 6 AND 16			BETWEEN 16 AND 21.			TOTAL BET. 6 AND 21		
	Male.	Female.	Total.	Male	Female.	Total.	Male.	Female.	Total.
Arapahoe .....	5494	5947	11441	1961	1961	3922	7455	7908	15363
Archuleta .....	37	22	59	16	6	22	53	28	81
Bent .....	219	270	489	105	88	193	324	358	682
Boulder .....	1223	1583	2808	441	434	875	1664	2019	3683
Chaffee .....	576	533	1109	189	140	329	765	673	1438
Clear Creek .....	679	675	1354	241	195	436	920	870	1790
Conejos .....	710	726	1436	241	210	451	951	936	1887
Costilla .....	371	366	737	130	91	221	551	457	958
Custer .....	399	442	841	159	129	286	558	571	1129
Delta .....	178	177	355	84	60	144	262	237	499
Dolores .....	35	21	56	21	9	30	56	30	86
Douglas .....	249	290	539	97	81	178	346	371	717
Eagle .....	108	114	222	38	18	56	146	132	278
Elbert .....	171	166	337	66	39	105	237	205	442
El Paso .....	842	840	1682	286	289	575	1128	1129	2257
Fremont .....	776	763	1539	237	271	508	1013	1034	2047
Garfield .....	106	89	195	55	41	96	161	130	291
Gilpin .....	625	625	1250	171	183	354	796	808	1604
Grand .....	17	21	38	12	18	30	29	39	68
Gunnison .....	288	312	600	113	105	218	401	417	818
Hinsdale .....	50	56	105	11	2	13	61	57	118
Huerfano .....	811	709	1520	236	202	438	1047	911	1958
Jefferson .....	809	770	1579	261	194	455	1070	964	2034
Lake .....	1217	959	2176	177	166	343	1394	1125	2519
La Plata .....	415	310	725	110	97	207	525	407	932
Larimer .....	930	850	1780	362	273	635	1292	1123	2415
Las Animas .....	1336	1287	2623	444	367	811	1780	1654	3434
Mesa .....	209	179	388	67	43	110	275	223	498
Montrose .....	263	230	493	78	51	129	341	281	622
Ouray .....	110	124	234	56	38	94	166	162	328
Park .....	256	281	537	86	82	168	342	363	705
Pitkin .....	250	226	476	46	50	96	296	276	572
Pueblo .....	1066	1139	2205	349	352	701	1415	1491	2906
Rio Grande .....	328	273	601	83	64	147	411	337	748
Routt .....	50	50	100	17	18	35	67	68	135
Saguache .....	264	240	504	74	62	136	338	302	640
San Juan .....	62	78	140	24	19	43	86	97	183
San Miguel .....	24	25	49	9	8	17	33	33	66
Summit .....	162	165	327	45	56	101	207	221	428
Weld .....	1309	1263	2572	472	395	867	1781	1658	3439
Total .....	23024	23197	46221	7670	6907	14577	30693	30105	60798

TABLE IV.

ENROLLMENT AND ATTENDANCE.

COUNTIES	PUPILS—1885.						PERCENTAGES				
	Enrolled in Graded Schools.	Enrolled in Ungraded Schools.	Under 16 enrolled in Public Schools.	Over 16 enrolled in Public Schools.	Whole No. Enrolled in Public Schools.			Average Daily Attendance.	Enrollment on Whole Number.	Daily Attendance on Enrollment.	No. Mills County Tax Levy.
					Male.	Female.	Total.				
Arapahoe.....	8713	713	8626	800	4747	4679	9426	6307	64	66	3½
Archuleta.....		109	60	49	78	31	109	24	100	22	.....
Bent.....	238	141	357	22	169	210	379	235	66	62	2
Boulder.....	1123	1381	2333	171	1276	1228	2504	1431	77	57	3
Chaffee.....	545	420	890	75	498	467	965	620	62	64	3
Clear Creek.....	360	886	1205	41	592	654	1246	880	70	70	2½
Conejos.....	188	908	961	135	590	506	1096	543	51	49	2
Costilla.....		247	205	42	153	94	247	181	27	73	2
Custer.....	479	395	792	82	429	445	874	553	70	63	2
Delta.....	68	173	216	27	140	103	243	174	65	71	5
Dolores.....		56	48	8	31	25	56	33	57	59	3
Douglas.....		511	450	61	255	256	511	302	77	59	3
Eagle.....		116	115	1	59	57	116	39	60	33	2
Elbert.....	75	221	254	42	162	134	296	189	71	64	2
El Paso.....	880	733	1398	215	823	790	1613	1129	76	69	2
Fremont.....	406	1032	1375	63	723	715	1438	818	77	56	2
Garfield.....		57	*47	*10	*35	*22	57	41	35	72	2
Gilpin.....	764	392	*1110	*46	*370	*586	1156	710	72	61	2
Grand.....		52	*42	*10	*22	*30	52	44	56	84	4
Gunnison.....	456	213	614	55	309	360	609	429	71	64	2
Hinsdale.....	145	6	145	6	80	71	151	94	97	62	5
Huerfano.....	240	1104	*1089	*255	*766	*578	1344	850	66	63	3½
Jefferson.....	491	1038	1386	143	766	763	1529	1014	76	66	3
Lake.....	1026	144	1117	53	594	576	1177	960	46	82	2
La Plata.....	347	254	551	50	328	273	601	349	67	58	3½
Larimer.....	685	1066	1594	157	900	851	1751	1088	72	62	4
Las An mas.....	578	1109	1509	178	972	715	1687	919	48	54	2
Mesa.....	155	117	246	26	148	124	272	160	62	59	2
Montrose.....	116	120	*215	*21	137	99	236	111	54	47	2
Ouray.....	115	108	190	33	113	110	223	137	62	61	2
Park.....	87	354	315	126	226	215	441	315	69	71	2
Pitkin.....	275		265	10	134	141	275	180	63	65	2
Pueblo.....	2027	589	2344	272	1250	1366	2616	1532	88	58	2
Rio Grande.....	220	209	385	44	244	185	429	263	57	61	2
Routt.....		77	*56	*21	39	38	77	55	79	71	5
Saguache.....	157	360	463	54	258	259	517	344	69	66	2
San Juan.....	80		77	3	33	47	80	58	43	72	2
San Miguel.....		43	41	7	21	27	48	26	49	54	2
Summit.....	112	185	*232	*95	145	152	297	187	73	62	3
Weld.....	943	1150	1890	208	1064	1034	2098	1413	74	67	3
Total.....	22208	16687	35208	3687	19879	19016	38895	24747	67	63	...

\* Estimated.



TABLE IV—CONCLUDED.

## ENROLLMENT AND ATTENDANCE.

COUNTIES.	PUPILS—1886.										Percent-ages.		
	Enrolled in High Schools.	Enrolled in Graded Schools.	Enrolled in Un-graded Schools.	Under 16 Enrolled in Public Schools.	Over 16 Enrolled in Public Schools.	Whole No. Enrolled in Public Schools.			Average Daily Attendance.	Enrollment on Whole Number.	Daily Attendance on Enrollment.	No. Mills County Tax Levy.	
						Male.	Female.	Total.					
Arapahoe .....	469	8425	945	9099	740	4888	4951	9839	7108	64	72	3	
Archuleta .....			53	48	5	35	18	53	32	65	60	2	
Bent .....		270	138	367	41	203	205	408	245	58	60	2	
Boulder .....	23	1079	1401	2284	219	1284	1219	2503	1772	67	70	3	
Chaffee .....	15	601	366	918	64	499	483	982	603	68	61	3	
Clear Creek .....		619	599	1139	79	608	610	1218	776	68	63	2½	
Conejos .....		362	853	1027	188	669	546	1215	680	64	56	5	
Costilla .....			417	337	80	285	132	417	233	43	55	2	
Custer .....		446	434	803	77	428	452	880	523	77	59	2	
Delta .....			379	316	63	200	179	379	219	75	57	5	
Dolores .....			51	47	4	26	25	51	25	59	49	2	
Douglas .....			491	446	45	228	263	491	314	68	64	3	
Eagle .....			107	104	3	51	50	107	69	38	64	2	
Elbert .....		68	234	284	18	160	142	302	188	68	62	3	
El Paso .....	76	1208	515	1601	198	890	909	1799	1064	79	59	2	
Fremont .....	20	386	1144	1468	82	770	780	1550	910	75	58	4	
Garfield .....			209	173	36	118	91	209	96	72	45	2	
Gilpin .....		794	412	1160	46	594	612	1206	759	75	63	2	
Grand .....			36	29	7	15	21	36	20	53	55	4	
Gunnison .....	17	495	230	608	44	309	343	652	401	79	61	2	
Hinsdale .....		102	6	164	4	47	61	108	75	91	69	5	
Huerfano .....			847	709	138	484	363	847	417	43	49	3½	
Jefferson .....	50	597	691	1375	163	793	745	1538	992	75	64	3	
Lake .....	19	1036	196	1121	130	645	606	1251	952	49	76	2	
La Plata .....		393	485	777	101	506	372	878	491	94	45	5	
Larimer .....	55	696	1074	1622	203	965	866	1825	1110	75	60	4	
Las Animas .....		568	1049	1491	126	927	690	1617	839	47	51	2	
Mesa .....		177	184	325	36	209	152	361	212	72	58	2	
Montrose .....		202	214	378	38	227	189	416	237	66	57	2	
Ouray .....		113	119	205	27	122	110	232	138	70	59	2	
Park .....		200	308	469	39	239	269	508	359	72	70	2	
Pitkin .....		462		441	21	254	208	462	309	80	66	2	
Pueblo .....	113	1575	716	2221	183	1215	1189	2404	1753	82	72	3	
Rio Grande .....		196	278	433	41	273	201	474	319	63	67	2	
Routt .....			75	55	20	40	35	75	41	58	53	2	
Saguache .....		157	272	391	48	216	223	439	266	68	60	2	
San Juan .....		105		104	1	48	57	105	53	57	59	2	
San Miguel .....			39	39		20	19	39	22	59	54	2½	
Summit .....		89	176	201	54	122	133	255	182	59	71	3	
Weld .....	108	977	1472	2280	279	1303	1256	2559	1395	74	54	3½	
Total .....	965	22410	17315	36999	3691	20915	19775	40690	26428	66	64	.....	

TABLE V.

NUMBER OF TEACHERS IN GRADED AND UNGRADED SCHOOLS, AND AVERAGE MONTHLY SALARIES.

COUNTIES.	1885									
	GRADED SCHOOLS.					UNGRADED SCHOOLS.				
	Teachers.			Salaries.		Teachers.			Salaries.	
	Male.	Female.	Total.	Male.	Female.	Male.	Female.	Total.	Male.	Female.
Arapahoe.....	20	153	173	\$ 112 50	\$ 66 20	10	22	32	\$ 51 00	\$ 57 00
Archuleta.....							2			50 00
Bent.....	3	3	6	100 00	66 66	3	8	11	60 00	47 46
Boulder.....	3	18	21	106 25	69 20	15	44	59	48 41	46 89
Chaffee.....	5	7	12	87 91	70 00	9	16	25	60 00	51 73
Clear Creek.....	1	6	7	150 00	79 16	5	16	21	70 00	53 79
Conejos.....	1	3	4	166 66	75 00	13	14	27	66 68	58 05
Costilla.....						8	2	10	37 18	45 00
Custer.....	4	7	11	87 57	59 18	9	11	20	45 12	39 65
Delta.....	1	2	3	66 66	52 50	4	4	8	53 75	47 50
Dolores.....						1	1	2	90 00	58 00
Douglas.....						12	14	26	48 46	41 39
Eagle.....							6	6		53 33
Elbert.....	1	1	2	65 00	50 00	6	8	14	52 14	47 25
El Paso.....	1	16	17	150 00	66 87	15	20	35	48 65	42 81
Fremont.....	2	7	9	96 00	53 00	13	27	40	51 00	43 00
Garfield.....						1	1	2	50 00	41 66
Gilpin.....	2	11	13	153 50	72 66	3	6	9	60 00	50 00
Grand.....						2	5	7	45 00	50 00
Gunnison.....	2	9	11	100 00	68 66	1	19	20	50 00	51 48
Hinsdale.....	2		2	75 00			2	2		50 00
Huerfano.....						16	9	25	53 17	48 57
Jefferson.....	1	8	9	130 00	69 81	20	30	50	48 70	41 39
Lake.....	1	20	21	150 00	80 00	1	9	10	75 00	60 00
La Plata.....	2	6	8	92 50	68 33	9	10	19	53 88	53 00
Larimer.....	6	20	26	78 92	63 49	7	50	57	45 70	42 00
Las Animas.....	1	9	10	125 00	56 66	24	11	35	46 56	46 81
Mesa.....		4	4		80 00		8	8		49 70
Montrose.....	1	1	2	70 00	55 00	4	3	7	62 50	50 00
Ouray.....	1	2	3	104 00	75 50	2	5	7	54 00	52 00
Park.....	1	1	2	100 00	60 00	6	20	26	50 00	40 00
Pitkin.....	2	4	6	103 33	88 75					
Pueblo.....	5	39	44	131 45	63 72	5	15	20	46 66	48 98
Rio Grande.....	3	2	5	143 33	75 00	8	8	16	44 58	49 79
Routt.....						2	1	3	50 00	50 00
Saguache.....	1	2	3	75 00	60 00	5	12	17	59 00	47 50
San Juan.....		2	2		81 94					
San Miguel.....						1	2	3	80 00	70 00
Summit.....		2	2		75 00	1	5	6	60 00	55 62
Weld.....	5	19	24	97 29	56 75	17	44	61	45 40	45 89

TABLE V—CONCLUDED.

NUMBER OF TEACHERS IN GRADED AND UNGRADED SCHOOLS, AND AVERAGE MONTHLY SALARIES.

COUNTIES.	1886.									
	GRADED SCHOOLS.					UNGRADED SCHOOLS.				
	Teachers.			Salaries.		Teachers.			Salaries.	
	Male.	Female.	Total.	Male.	Female.	Male.	Female.	Total.	Male.	Female.
Arapahoe.....	21	163	184	\$ 132 30	\$ 76 71	11	30	41	\$ 53 40	\$ 49 68
Archuleta.....						1	3	4	48 00	46 20
Bent.....	2	3	5	95 00	68 75	4	6	10	55 00	50 25
Boulder.....	4	18	22	109 50	66 00	9	58	67	50 09	42 65
Chaffee.....	3	9	12	91 38	63 50	11	18	29	52 50	46 84
Clear Creek.....	1	10	11	156 00	76 25	2	13	15	85 00	47 32
Conejos.....	3	4	7	84 45	71 25	16	10	26	53 12	45 50
Costilla.....						11	2	13	38 79	49 00
Custer.....	3	5	8	83 33	53 70	16	9	25	46 50	40 63
Delta.....						5	7	12	63 33	46 87
Dolores.....						1	2	3	90 00	90 00
Douglas.....						11	20	31	50 75	43 60
Eagle.....						4	4	8	49 16	58 75
Elbert.....	1	1	2	66 66	50 00	6	9	15	54 16	46 07
El Paso.....	5	23	28	103 50	66 42	9	25	34	47 00	40 00
Fremont.....		7	7		70 71	11	18	29	62 00	43 30
Garfield.....						1	4	5	60 00	49 79
Gilpin.....	2	12	14	155 00	72 92	2	7	9	70 00	52 50
Grand.....						1	2	3	40 00	45 00
Gunnison.....	2	6	8	94 37	65 33	1	17	18	60 00	48 43
Hinsdale.....	1	1	2	80 00	40 00	1		1	50 00	
Huerfano.....						20	15	35	49 63	45 43
Jefferson.....	2	11	13	107 50	62 50	15	32	47	45 61	40 79
Lake.....	1	16	17	187 50	81 25		7	7		53 00
La Plata.....	1	6	7	155 44	64 25	9	10	19	60 66	51 85
Larimer.....	3	14	17	98 66	62 50	11	61	72	49 93	42 20
Las Animas.....	1	10	11	125 00	56 25	32	7	39	47 89	44 77
Mesa.....	1	5	6	100 00	76 00		8	8		52 50
Montrose.....	1	2	3	85 00	55 00	4	7	11	43 95	50 54
Ouray.....	1	2	3	100 00	75 00	1	5	6	50 00	45 16
Park.....	2	4	6	77 50	50 00	2	27	29	47 50	44 40
Pitkin.....	1	7	8	150 00	97 63					
Pueblo.....	5	29	34	136 40	71 32	3	45	48	53 33	48 19
Rio Grande.....	2	2	4	125 00	75 00	7	7	14	45 60	44 16
Routt.....						4	2	6	60 00	50 00
Saguache.....	2	1	3	70 00	60 00	7	10	17	51 58	49 10
San Juan.....		2	2		80 00					
San Miguel.....							2	1		80 00
Summit.....	1	2	3	70 00	65 00	1	6	7	60 00	52 60
Weld.....	4	19	23	99 91	62 60	21	50	71	50 09	43 82

TABLE VI.

DISTRICTS, SCHOOL HOUSES AND TUITION.

COUNTIES.	1885.									
	Districts.	No. of Days of School.		SCHOOL HOUSES.					Av. cost per month for each pupil.	
		Graded Schools.	Ungraded Schools.	Number.	Valuation.	Sittings.	Volumes in Libraries.	By enrollment.	By av. daily attendance.	
Arapahoe .....	34	184	140	49	\$ 1,037,100	8695	5620	\$2 98	\$4 48	
Archuleta .....	1	.....	120	1	200	40	.....	1 85	2 08	
Bent .....	13	200	122	9	19,725	723	.....	3 22	6 81	
Boulder .....	47	178	106	43	69,345	2870	490	2 43	3 55	
Chaffee .....	21	160	100	15	46,927	1359	.....	4 00	7 29	
Clear Creek .....	14	200	125	10	21,600	1077	200	1 94	2 91	
Conejos .....	16	180	104	10	19,150	733	150	2 22	3 37	
Costilla .....	13	.....	84	5	1,829	445	.....	2 37	3 68	
Custer .....	22	153	77	18	11,135	931	34	2 65	3 72	
Delta .....	8	156	88	7	7,665	141	.....	2 89	4 01	
Dolores .....	1	.....	194	1	2,000	50	.....	2 89	4 90	
Douglas .....	22	.....	110	21	13,665	614	.....	2 96	4 61	
Eagle .....	3	.....	121	1	1,000	42	.....	2 69	5 35	
Elbert .....	12	165	144	15	10,640	396	.....	2 66	4 66	
El Paso .....	28	186	110	34	71,879	1736	535	2 66	4 25	
Fremont .....	19	180	114	21	44,041	1438	68	1 60	2 10	
Garfield .....	2	.....	80	.....	.....	.....	.....	2 01	4 07	
Gilpin .....	8	191	110	8	49,975	936	1768	1 77	2 76	
Grand .....	4	.....	80	3	600	150	.....	5 43	7 64	
Gunnison .....	17	195	91	12	46,350	1155	.....	2 53	3 63	
Hinsdale .....	3	160	65	2	4,485	166	.....	1 56	2 50	
Huerfano .....	25	.....	.....	12	8,050	400	.....	3 02	.....	
Jefferson .....	34	177	124	20	43,237	1805	290	1 73	2 95	
Lake .....	8	90	60	8	141,290	1670	50	1 10	1 21	
La Plata .....	13	152	106	11	17,710	627	.....	3 52	5 22	
Larimer .....	48	175	120	39	46,770	1757	450	2 50	4 46	
Las Animas .....	30	191	100	21	37,840	650	.....	2 99	8 95	
Mesa .....	8	160	146	6	12,600	301	.....	2 18	3 98	
Montrose .....	8	135	91	6	11,300	275	.....	3 17	6 27	
Ouray .....	8	200	69	5	11,200	425	.....	6 32	7 83	
Park .....	21	190	102	16	11,225	540	.....	7 00	7 75	
Pitkin .....	3	180	.....	1	5,198	160	45	97	1 48	
Pueblo .....	34	180	113	28	157,256	2165	520	2 59	4 76	
Rio Grande .....	11	160	95	10	17,785	522	.....	4 39	7 43	
Routt .....	6	.....	60	4	250	50	.....	3 84	5 55	
Saguache .....	16	137	101	10	10,755	404	.....	2 45	3 80	
San Juan .....	1	180	.....	2	11,000	100	.....	5 05	6 96	
San Miguel .....	2	.....	202	1	4,000	40	.....	2 91	5 42	
Summit .....	7	160	79	6	10,500	355	25	2 78	4 06	
Weld .....	54	185	124	49	115,632	2539	415	2 76	4 26	
Total .....	645	171	108	525	\$ 2,052,100	38482	10660	.....	.....	

TABLE VI—CONCLUDED.

## DISTRICTS, SCHOOL HOUSES AND TUITION.

COUNTIES.	1886.										
	Districts.	No. of Days of School.		SCHOOL HOUSES.						Av. cost per month for each pupil.	
		Graded Schools.	Ungraded Schools.	Number.	Number of Rooms.	Sittings.	Valuation.	Volumes in Libraries.	By enrollment.	By av. daily attendance.	
Arapahoe .....	38	187	152	54	177	889 <sup>8</sup>	\$ 1,108,000	5742	\$2 60	\$3 61	
Archuleta .....	2	.....	120	2	2	106	750	.....	2 13	3 72	
Bent .....	12	200	98	11	16	535	21,050	.....	5 34	7 07	
Boulder .....	49	177	125	46	58	2711	74,667	412	2 31	3 63	
Chaffee .....	22	178	99	17	31	1551	45,725	100	2 72	4 40	
Clear Creek .....	14	195	125	10	22	1225	36,850	200	2 26	3 18	
Conejos .....	15	105	111	9	12	859	18,385	115	1 80	3 37	
Costilla .....	12	.....	95	7	8	55	1,860	.....	1 93	2 89	
Custer .....	21	132	88	18	25	1123	11,837	50	2 40	3 62	
Delta .....	12	.....	102	9	11	439	8,175	.....	3 15	5 15	
Dolores .....	1	.....	199	1	1	50	2,000	50	2 28	4 45	
Douglas .....	23	.....	116	21	22	630	13,600	.....	3 58	4 55	
Eagle .....	6	.....	117	2	2	87	1,030	.....	2 98	5 50	
Elbert .....	12	180	159	14	15	463	11,675	.....	3 61	8 14	
El Paso .....	30	173	104	33	45	1593	88,820	590	2 51	3 96	
Fremont .....	20	180	127	21	34	1639	46,100	58	1 23	2 43	
Garfield .....	4	.....	88	3	4	148	2,400	.....	1 98	3 47	
Gilpin .....	7	194½	128	9	20	993	38,130	1788	1 33	2 09	
Grand .....	4	.....	88	1	1	20	270	.....	5 43	8 91	
Gunnison .....	17	195	90	15	24	1047	44,400	.....	3 30	5 51	
Hinsdale .....	3	120	60	2	3	162	29,086	.....	8 99	9 18	
Huerfano .....	24	.....	97½	15	17	973	8,365	.....	2 08	4 20	
Jefferson .....	35	178½	130	32	50	1882	45,966	350	2 11	3 83	
Lake .....	7	120	71	9	32	2125	141,550	.....	1 28	1 68	
La Plata .....	15	180	109	15	22	610	27,475	.....	1 92	4 07	
Larimer .....	50	170	118	44	50	1853	57,205	808	2 82	4 77	
Las Animas .....	30	196	120	23	29	1220	35,445	25	1 70	3 04	
Mesa .....	9	168	82½	7	10	460	13,500	74	2 76	6 35	
Montrose .....	13	180	98	9	13	610	12,260	.....	2 78	4 33	
Ouray .....	7	200	79	4	6	302	10,900	75	2 44	3 82	
Park .....	20	137	108	23	26	660	17,150	.....	4 55	6 02	
Pitkin .....	4	170	.....	5	12	48	15,200	92	2 38	3 55	
Pueblo .....	36	180	107½	39	65	2763	173,910	700	3 48	6 24	
Rio Grande .....	13	180	105	12	16	552	14,295	.....	3 56	5 23	
Routt .....	6	.....	65½	4	4	116	260	.....	4 29	7 80	
Saguache .....	15	153	110	10	13	524	10,600	.....	3 38	4 27	
San Juan .....	1	180	.....	2	5	75	11,000	.....	2 02	4 01	
San Miguel .....	1	.....	160	1	2	40	4,000	.....	3 86	6 83	
Summit .....	8	140	81	6	9	372	11,500	32	2 12	4 22	
Weld .....	67	179½	127½	56	75	2907	128,592	300	2 76	4 53	
Total .....	685	172	106	631	989	42864	\$ 2,343,983	11561	.....	.....	

TABLE VII.

FINANCIAL STATEMENT FOR 1885.

COUNTIES.	RECEIPTS.					
	Amt. on hand Sept. 1, 1884.	From General Fund.	From Special Fund.	From Building Fund.	From all other sources.	Total Receipts
Arapahoe .....	\$ 65630 78	\$138345 00	\$142998 10	\$ 68231 70	\$ 13189 60	\$ 428395 18
Archuleta .....						
Bent .....	9149 50	8181 94	3483 79		12 00	20827 23
Boulder .....	5118 90	15774 35	15230 69	4423 07	1407 55	41954 56
Chaffee .....	4396 19	9967 43	4924 96	3164 20	497 34	22950 12
Clear Creek .....	7267 10	6633 34	11797 65	15367 21	648 12	41713 42
Conejos .....	5266 67	7844 52	2848 25	434 19	1268 13	17661 76
Costilla .....	1689 11	2710 84	549 98	377 89	32 50	5360 32
Custer .....	1897 30	5482 80	2294 77		242 18	9916 93
Delta .....	847 70	2297 75	786 01			3931 46
Dolores .....	794 40	592 34	995 65	11 54	50 80	2444 73
Douglas .....	3440 38	4801 15	1930 04	2949 50	3075 97	16197 04
Eagle .....	608 71	688 22	643 11	98 42	265 12	2303 58
Elbert .....	4845 60	6560 95	4001 76		8 30	15416 61
El Paso .....	4407 33	12444 25	18784 75	2204 74	55 41	37896 48
Fremont .....	4369 51	11036 71	7389 66		3271 25	26067 13
Garfield .....	143 47	783 12	26 48		27 70	980 77
Gilpin .....	634 45	5599 07	12606 15		72 65	18913 22
Grand .....	224 51	1210 86	285 13			1720 50
Gunnison .....	4481 19	7300 37	12505 91	1182 29	6734 19	32203 95
Hinsdale .....	478 57	2637 31	3 19			3119 07
Huerfano .....	2544 43	6190 05	2098 79		15 00	10848 27
Jefferson .....	4454 61	9810 27	10542 50	1408 58	4378 99	30594 95
Lake .....	685 73	6096 39	17618 81		1930 96	26931 89
La Plata .....	2312 17	7148 31	4500 18	113 08	21 35	14095 99
Larimer .....	7673 53	17221 77	10998 38	2823 34	5152 94	43869 96
Las Animas .....	16809 61	10241 61	4845 61	646 74	4224 57	36796 94
Mesa .....	1946 64	2721 92	1976 46	2603 51	148 46	9939 19
Montrose .....	3237 39	1389 60	2074 30	834 33	2984 72	10520 34
Ouray .....	763 79	1172 45	6095 75		416 34	8454 33
Park .....	3288 77	3878 36	2516 17	314 81	1022 44	11020 55
Pitkin .....	227 06	489 87	1737 47		1611 45	4065 85
Pueblo .....	10527 43	25343 43	40999 84	73102 51		149973 21
Rio Grande .....	4018 68	2857 10	5394 84	3143 24	1138 18	16552 04
Routt .....	168 38	788 50	215 48		1 75	1174 11
Saguache .....	3173 65	3661 06	3398 99	2000 00	839 13	13072 83
San Juan .....	727 75	2069 50	24		300 00	3697 56
San Miguel .....	1015 29	947 24	689 79	521 21	204 21	3407 74
Summit .....	1818 16	2841 74	1045 65	1504 63	92 75	7302 93
Weld .....	12831 55	26402 71	19455 31	1672 25	9011 19	69373 01
Totals .....	\$203921 99	\$382766 17	\$380290 59	\$189132 98	\$64353 14	\$1220464 87

TABLE VII—CONCLUDED.

FINANCIAL STATEMENT FOR 1885.

COUNTIES.	EXPENDITURES.					Balance in hands of County Treasurer, August 31, 1885.
	For Teachers' Wages.	For Current Expenses.	For Sites, Buildings, Furniture, etc	For Temporary Loans Paid.	Total Expenditures.	
Arapahoe .....	\$142176 93	\$65023 39	\$32825 14	\$18742 78	\$ 508768 24	\$119626 94
Archuleta .....						
Bent .....	6795 75	1391 30	1647 67	601 50	10436 29	10390 94
Boulder .....	23332 81	4428 94	6235 00	2596 32	36593 13	5301 43
Chaffee .....	12579 09	3185 62	1839 68	8 99	17613 38	5336 74
Clear Creek .....	14317 00	3048 33	6314 30		23769 72	18033 70
Conejos .....	7984 42	1182 65	2221 40	201 26	11589 73	6072 03
Costilla .....	2028 91	882 08	250 00		3160 99	2199 33
Custer .....	6774 84	1283 10	319 35	17 44	8394 73	1522 22
Delta .....	2428 82	678 22	166 40	81 88	3355 32	576 14
Dolores .....	1100 00	379 94			1479 94	964 79
Douglas .....	5608 80	459 83	2523 66	3346 15	11938 44	4258 60
Eagle .....	945 15	183 85	137 48	203 99	1470 47	833 11
Elbert .....	5244 55	1796 73	2049 03		9081 31	6335 30
El Paso .....	17152 00	5788 52	5889 12	1305 13	30134 77	7701 71
Fremont .....	12409 59	3595 60	2010 34	2757 21	20853 74	5213 39
Garfield .....	490 00	116 75			606 75	374 02
Gilpin .....	13686 96	2099 89	104 40	436 64	16327 89	2585 33
Grand .....	540 00	58 60			598 60	1121 90
Gunnison .....	9020 81	2718 20	6650 95	9239 40	* 28745 44	3458 51
Hinsdale .....	1525 00	1282 95	21 80		2829 75	289 32
Huerfano .....	6630 27	304 91	1148 75		8083 93	2764 34
Jefferson .....	15315 97	3581 39	2045 71	5235 57	26178 04	4416 31
Lake .....	7483 00	6744 17	743 29	11195 15	26165 61	766 28
La Plata .....	7995 37	1509 21	362 94		9867 52	4227 57
Larimer .....	19970 81	5555 19	5295 94	3904 49	34726 43	9143 53
Las Animas .....	13515 17	3537 18	1467 65	7235 46	25755 46	11013 68
Mesa .....	3239 00	1188 55	2122 54		6550 09	2846 90
Montrose .....	2193 65	300 76	4590 69	16 71	7101 81	3418 53
Ouray .....	3577 35	858 72	2157 27	143 79	6737 13	1717 20
Park .....	5538 54	1156 01	861 62		7556 17	3464 38
Pitkin .....	1695 22	858 99		889 18	3443 39	622 46
Pueblo .....	29666 55	23175 02	1556 54	86221 41	140619 52	9353 69
Rio Grande .....	6603 00	1831 65	1956 00	1908 72	12299 37	4252 67
Routt .....	649 50	87 20			736 70	437 41
Saguache .....	5125 19	1379 34	2351 63	206 20	9062 36	4010 47
San Juan .....	1475 00	1158 40			2633 40	464 16
San Miguel .....	690 00	458 01	361 00		1509 01	189 73
Summit .....	2793 67	942 00	628 25		4363 92	2939 01
Weld .....	26789 96	7544 26	11951 29	7392 23	53677 74	15695 27
Totals .....	\$447169 95	\$161755 52	\$160797 98	\$163887 60	*\$934726 83	\$485738 04

\* Includes \$1,116.03 not itemized.

TABLE VIII.

FINANCIAL STATEMENT FOR 1886.

COUNTIES.	RECEIPTS.					Total receipts.
	Amt. on hand Sept. 1, 1885.	From General Fund.	From Special Fund.	From Building Fund.	From all other sources.	
Arapahoe .....	\$119626 94	\$113161 83	\$100719 61	\$84306 06	\$ 5496 10	\$ 423310 54
Archuleta .....	60 99	489 64	477 04			1027 67
Bent .....	10390 94	9558 20	109 89			23430 56
Boulder .....	5196 29	14499 42	18865 28	4640 32	4989 90	48191 21
Chaffee .....	5461 35	7062 41	6586 59	1243 78	716 43	21070 56
Clear Creek .....	17127 38	5384 54	11190 44	234 83	7009 67	40946 86
Conejos .....	6072 03	6115 71	3421 31		3094 23	18703 28
Costilla .....	2047 65	1803 19	409 65		132 00	4392 49
Custer .....	1922 91	4365 13	2938 93		606 70	9841 32
Delta .....	595 62	2800 99	1173 80	1183 44	147 40	5901 25
Dolores .....	964 79	539 63	548 82			2055 69
Douglas .....	4386 35	4152 70	2068 39	1325 61	167 24	12100 29
Eagle .....	833 11	550 48	331 72	220 00	239 55	2174 86
Elbert .....	6153 86	5717 04	2956 23	240 71		15067 84
El Paso .....	8381 78	10041 50	20544 44	22652 24	239 00	61858 96
Fremont .....	4740 56	9804 04	7808 44		2152 17	24505 21
Garfield .....	702 33	1822 34	1248 83	2035 00	191 26	5099 76
Gilpin .....	2756 67	4187 16	16058 92	289 85	897 79	24190 39
Grand .....	2706 82	995 97	212 00			3914 79
Gunnison .....	3000 14	4471 64	9256 09	206 94	90 35	17925 16
Hinsdale .....	282 58	2088 44				2371 02
Huerfano .....	2912 10	5469 22	2525 84	1377 20	181 75	12466 11
Jefferson .....	4461 34	9032 40	12294 14	1307 74	4595 51	31691 13
Lake .....	597 69	16722 28	4326 16		262 26	21908 39
La Plata .....	4229 25	7927 04	3002 47	300 03	158 34	15617 13
Larimer .....	7574 43	16092 15	14564 13	445 74	4189 24	42865 69
Las Animas .....	11066 89	9957 68	2994 07	21 55	3616 64	27656 83
Mesa .....	2459 52	2479 04	2784 82	2590 49	138 82	10458 69
Montrose .....	1831 24	1833 28	2637 86	1519 78	1540 06	9362 22
Ourray .....	1753 49	864 92	2136 37		269 21	5023 99
Park .....	3530 01	4063 75	4428 27	284 03	3070 32	15376 38
Pitkin .....	234 53	1625 75	10457 55		2429 80	14747 63
Pueblo .....	8038 89	23998 68	27185 27	2046 62	61562 17	122831 63
Rio Grande .....	4262 67	2118 74	6125 87	2448 01	2532 32	17487 61
Routt .....	756 94	968 50	57 15	21 64	63 66	1867 89
Saguache .....	3583 51	4309 27	2960 49		1265 68	12118 95
San Juan .....	523 74	1594 11			63 49	2181 34
San Miguel .....	1833 09	1060 95	727 99	365 33	36 64	4024 00
Summit .....	1553 86	1448 68	1502 25		1058 61	6563 40
Weld .....	16250 99	24559 75	19118 62	6756 01	7994 71	74680 08
Totals .....	\$280865 27	\$346738 19	\$326755 74	\$141450 58	\$121199 02	\$1217008 80



TABLE VIII—CONCLUDED.

## FINANCIAL STATEMENT FOR 1886.

COUNTIES.	EXPENDITURES.					Balance in hands of County Treasurer, August 31, 1886.
	For teachers' wages.	For current expenses.	For sites, buildings, furniture, etc.	For temporary loans paid.	Total expendi- tures.	
Arapahoe .....	\$157289 20	\$ 37896 39	\$ 59840 41	\$ 28185 81	\$ 283211 81	\$140098 73
Archuleta .....	347 60	257 74	58 00	.....	663 34	364 33
Bent .....	6319 20	1529 12	7578 05	224 29	15850 66	7579 90
Boulder .....	26009 88	4534 10	7718 76	1217 07	39479 81	8711 40
Chaffee .....	12134 05	1898 96	1933 26	402 27	16368 48	4702 68
Clear Creek .....	14856 37	3572 22	16368 00	1172 43	35969 02	4977 84
Conejos .....	9442 80	2426 67	673 63	654 00	13196 10	5507 18
Costilla .....	2263 50	754 16	.....	.....	3017 66	1374 83
Custer .....	6188 33	1273 41	534 11	618 22	8614 07	1227 25
Delta .....	3061 25	988 79	815 79	.....	4865 83	1035 42
Dolores .....	900 00	245 25	11 78	.....	1157 03	898 66
Douglas .....	6311 00	570 73	565 41	802 84	8249 98	3850 31
Eagle .....	1270 00	132 05	145 45	120 00	1667 50	507 36
Elbert .....	5437 37	638 41	1338 05	.....	7413 83	7654 01
El Paso .....	21950 96	6404 13	20286 68	556 07	49197 84	12661 12
Fremont .....	13166 69	2300 66	737 96	2656 45	18861 76	5643 45
Garfield .....	1080 99	466 60	2151 61	91 96	3791 16	2208 05
Gilpin .....	14677 00	2797 52	2030 69	224 68	19729 89	4460 50
Grand .....	590 00	110 05	.....	.....	700 05	3214 74
Gunnison .....	8479 17	4990 73	222 47	387 81	14680 18	2944 98
Hinsdale .....	870 00	414 06	890 00	.....	2174 06	196 96
Huerfano .....	6817 28	732 04	559 33	372 70	8481 35	3984 76
Jefferson .....	16165 64	3559 09	1243 07	4213 63	25181 43	6509 70
Lake .....	9899 50	9290 58	.....	70 03	19260 11	2648 28
La Plata .....	8432 48	3150 17	105 78	.....	11688 43	3928 70
Larimer .....	21283 84	5511 10	3903 68	3695 47	34394 09	8471 60
Las Animas .....	14181 27	1792 89	1053 89	3501 35	20529 40	7127 43
Mesa .....	3738 00	960 96	2369 05	698 63	7766 64	2692 05
Montrose .....	3614 23	2111 52	541 41	69	6267 85	3094 37
Ouray .....	3420 00	535 05	728 04	42 69	4725 78	298 21
Park .....	6589 28	1323 31	3525 17	154 90	11592 66	3783 72
Pitkin .....	5787 85	6455 79	1470 80	.....	13714 44	1033 19
Pueblo .....	36552 72	19483 10	4751 82	44953 06	105740 70	17090 93
Rio Grande .....	6403 60	3452 24	1910 86	463 66	12230 36	5257 25
Routt .....	1142 15	.....	49 58	.....	1191 73	676 16
Saguache .....	5915 87	498 67	388 93	1214 56	8018 03	4100 92
San Juan .....	1440 00	475 12	.....	.....	1915 12	266 22
San Miguel .....	735 00	576 27	274 64	361 60	1947 51	2076 49
Summit .....	2833 62	1745 05	1327 84	.....	5906 51	656 89
Weld .....	30170 61	8491 66	14943 86	3204 24	56810 37	17869 71
Totals .....	\$497968 30	\$144345 36	\$163047 80	\$100261 11	\$ 905262 57	\$311386 23

TABLE IX.

## FINANCIAL SUMMARIES.

1885.	RECEIVED.	PAID.
Amount on hand September 1, 1884 .....	\$ 203,921 99	
From General Fund .....	382,766 17	
From Special Fund .....	380,290 59	
From Building Fund .....	189,132 98	
From all other sources .....	64,353 14	
Total receipts .....	\$ 1,220,464 87	
For teachers' wages .....		\$ 447,169 95
For current expenses .....		161,755 52
For sites, buildings, furniture, etc .....		160,797 98
For temporary loans paid .....		163,887 60
Expenditures not itemized .....		1,116 08
Total expenditures .....		\$ 934,726 83
Balance in hands of County Treasurer, August 31, 1885 .....		\$ 285,738 04
Totals .....	\$ 1,220,464 87	\$ 1,220,464 87
1886.	RECEIVED.	PAID.
Amount on hand September 1, 1885 .....	\$ 280,865 27	
From General Fund .....	346,738 19	
From Special Fund .....	326,755 74	
From Building Fund .....	141,450 58	
From all other sources .....	121,199 02	
Total receipts .....	\$ 1,217,008 80	
For teachers' wages .....		\$ 497,968 30
For current expenses .....		144,345 36
For sites, buildings, furniture, etc .....		163,047 80
For temporary loans paid .....		100,261 11
Total expenditures .....		\$ 905,622 57
Balance in hands of County Treasurer, August 31, 1886 .....		\$ 311,386 23
Totals .....	\$ 1,217,008 80	\$ 1,217,008 80

TABLE X.

## APPORTIONMENT OF STATE FUND.

COUNTIES	1885			1886.		
	70 CENTS PER CAPITA.			22 <sup>6</sup> / <sub>10</sub> CENTS PER CAPITA.		
	Amount Ap- portioned,	Deducted for Blanks.	Balance certi- fied to Auditor	Amount Ap- portioned,	Deducted for Blanks.	Balance certi- fied to Auditor
Arapahoe.....	\$ 11359 50	\$ 18 84	\$ 11340 66	\$ 3294 44	\$ 36 23	\$ 3258 21
Archuleta.....				24 68	19 38	5 30
Bent.....	396 75	15 42	381 33	130 00	17 76	112 24
Boulder.....	2360 25	57 54	2302 71	732 04	84 31	647 73
Chaffee.....	1280 50	40 81	1238 69	346 99	30 40	216 59
Clear Creek.....	1275 00	25 24	1249 76	399 99	19 22	380 77
Conejos.....	1190 25	26 20	1164 05	435 10	18 83	416 27
Costilla.....	723 00	10 71	712 29	202 36	17 37	184 89
Custer.....	691 75	22 09	869 66	275 87	13 57	262 30
Delta.....	169 50	18 80	150 70	83 80	30 90	52 90
Dolores.....	53 25	2 45	50 80	21 96	35	21 61
Douglas.....	11 25	16 62	474 63	149 26	12 48	156 78
Eagle.....		1 32	112 68	43 26	5 32	37 94
Elbert.....	2 75	20 46	245 79	94 22	3 40	90 82
El Paso.....	1530 00	1 60	1528 40	478 84	32 61	446 03
Fremont.....	1359 75	21 52	1338 23	417 06	24 17	333 49
Garfield.....	51 75	16 68	35 07	36 46	10 90	25 56
Gilpin.....	1182 75	20 26	1162 49	360 58	20 22	340 36
Grand.....	146 50	20 00	128 50	21 06		21 06
Gunnison.....	837 75	23 15	814 60	211 78	40 06	171 72
Hinsdale.....	136 50	2 65	133 85	34 87	5 49	29 38
Huerfano.....	1471 50	11 28	1460 22	457 97	60 58	397 39
Jefferson.....	1452 00	5 10	1446 90	452 77	48 68	404 09
Lake.....	1924 50	25 57	1898 93	575 75	11 79	563 96
La Plata.....	681 75	17 34	664 41	201 61	13 70	188 11
Larimer.....	1506 00	83 26	1422 74	523 89	43 18	480 71
Las Animas.....	2334 00	26 32	2307 68	779 16	65 81	713 35
Mesa.....	249 75	6 35	243 40	98 07	22 82	75 25
Montrose.....	171 00	16 39	154 61	98 07	31 05	67 02
Ouray.....	222 00	23 00	199 00	81 54	5 93	75 61
Park.....	571 50	20 09	551 41	143 14	30 00	113 14
Pitkin.....	133 50	10 39	123 11	97 62	16 59	81 03
Pueblo.....	2213 25	44 39	2168 95	667 26	44 95	622 31
Rio Grande.....	457 50	29 76	427 74	168 74	22 89	145 85
Routt.....	69 75	7 11	62 64	21 96	21 96	
Saguache.....	537 75	12 80	524 95	167 83	20 48	147 35
San Juan.....	119 25	1 84	117 41	41 45	1 65	39 80
San Miguel.....	69 75	7 90	61 85	21 57	1 80	10 72
Sunmit.....	320 25	8 45	311 80	91 04	12 26	78 78
Weld.....	1829 25	93 65	1735 60	641 89	81 54	560 35
Total.....	\$ 42181 50	\$ 833 26	\$ 41348 24	\$ 13126 60	\$ 1060 83	\$ 12065 77



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APPENDIX.

STATE TEACHERS' ASSOCIATION

1885-1886.

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# State Teachers' Association.

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PRESIDENT'S ADDRESS,

1885.

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"INDEPENDENCE OF THOUGHT AND CHARACTER."

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L. S. CORNELL.

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In the use of the time allotted to the President for the opening address, it seems important to direct your attention to the necessity of cultivating in the youth the habit of independent thought as a prerequisite to the formation of good and noble character and useful lives. Among those who have charge of the intellectual and moral training of the youth the question should often arise: "What is most needed for the child, society, and the government in which he is to exercise the functions of citizenship?" It is evident that whatever is best for the child will be best for the society and government of which he is a factor.

It is the duty of those who have the direction of habits of thought and life largely under their control to know the qualities that constitute the valuable and noble citizen.

Duty requires those who give shape to thought and character to know what system of training is necessary to develop the most valuable possibilities of the child, thereby preparing him to be a desirable member of society and State. To do this well requires knowledge of the child, as well as a knowledge of what constitutes the basis of a great and permanent people. If we determine what is desirable

for the individual, we shall know what is desirable for society and the State, and *vice versa*.

Especially should the American teacher ask what is most needed to insure the purity, prosperity and safety of the American people, and what can be done by our schools to supply that need. In making this inquiry, it will be well to remember that the glory and stability of a nation do not depend upon the wealth of its citizens, nor upon the rush of its people for places of distinction and honor, but that the life of a nation is preserved or destroyed by the thought and character of its people.

#### THE RICH INHERITANCE.

Wealth of pure, independent thought and noble character is the richest inheritance a nation can possess. To secure these, much labor is required on the part of those who direct the thoughts and habits of childhood. Educators should carefully study the thought and character of the American people, and note the condition and tendencies of the same. By doing so they should be able to determine whether or not the conditions of a great and permanent people are met. It does not answer to say that teachers have little or nothing to do with the habits of thought and character of the people. It is fully time that educators realized the importance of the school in the formation of habits, whether mental or moral. If these two factors are the life preservers of the nation, then the schools are responsible if they fail to do their part in producing them. The mental and moral habits of life are adopted in childhood, and the direction those habits assume depends upon the training. This divides the responsibility between the home and the school. In many homes the training is anything but desirable, and this increases the labor and responsibility of the teacher.

Educators are largely responsible for the mental tastes and habits of the people, therefore responsible for the tendency of character, also; for the tendency of thought indicates the tendency of character. It has been said: "Tell me what one delights to read, and I will tell you his



character." Teach a child to think right, and fix the habit, and you have, in a large measure, taught him to act right. Right thought, however, must include both manner and substance of thought. As a person thinks in his heart, so will he do. Our life work is composed of the execution of thought, good or bad. The ultimatum of education is reached when the child is taught to think right and do right. In the study of the tendency of American thought and character, do we find them all that is desirable? Is there a prevalence of pure and independent thought, joined with strength and uprightness of character? I think not. There is a want of the formation of independent opinions on the part of the people. They are swayed to and fro by ranting leaders. In a country like ours, such a condition is dangerous. The people are wild with a desire for wealth, position and display. These are elements of weakness, and will lead to decay and death.

The tide of American desire must be turned from these things, toward the essential elements of permanency and greatness, nobleness of character and independent thought. Restless discontent is the spirit that rules. It is a disease that must be healed by a return to sober thought and simple habits. The people must be made to feel that a pure life, crowned with noble thought, is more to be desired than riches, honor or display. The individual must be taught to form opinions for himself, and act accordingly.

#### THE WELFARE OF THE REPUBLIC.

That which is most conducive to the welfare of the Republic should be earnestly sought for until obtained, and the work can be best accomplished by a judicious training of the young. The saying, that intelligence is the safeguard of the Nation, is true only when that intelligence produces independent thought and action; for a Nation's safety cannot be divorced from the character of the people, whatever their intelligence may be. As character is the true test of the individual, so must it be in the aggregation of individuals.

Thought precedes action, and right thought precedes

right action. To procure that which is needed, the mental training must be such as to set the habit of thought in the right direction, and this training should give the mind power and inclination to think for itself. Without independent thought there can be no independent action. A few years ago, I read of a man who was trying to get his cow upon the top of his house that she might eat a bountiful crop of grass that had grown upon the dirt roof. He was rigging up some kind of a contrivance for elevating the cow to the desired position, when one of his neighbors, observing his purpose, said: "Why don't you cut the grass and throw it down to the cow?" "Oh," said the man, "I hadn't thought of that." There is a great lack of independent thought in the world, and always has been.

The first object of education should be the development of thoughtfulness, and this should begin in the primary department, for if it is neglected at first it will always be apparent in the work that follows. A teacher in the upper grades can determine, with considerable accuracy, what the primary training has been. The power and inclination to exercise independent thought should be developed in the child from the first. One author has wisely said: "Mental training should produce mental muscle, and not mental fat." Creative or productive minds, rather than acquisitive, should be the object. A pupil may commit to memory all the facts in a course at college, but if he has not become an independent thinker, he has simply acquired "metal fat," and not "mental muscle." He may have mental size, but no mental force. He may have a large, intellectual hand, but no mental grip. Educated in this way, he has a warehouse full of material which he cannot use. A man may own a prodigious lumber yard, and not be able to erect a single building. It is this system of educating the mind that has caused the people to ask for a more practical education; and in many places, manual labor has been introduced to satisfy this demand. When you have taught the child to exercise his own thoughts, and connect those thoughts with the activities of real life, you have met this want. Without this, the pupil enters real life as a machine, waiting to be acted upon—a flat-car on the track, waiting to be attached to a locomotive. It is astonishing to observe the number of flats that are in America, to day, attached,

or waiting to be attached to some leader. It is for you to judge what the training has had to do with this state of things. The child educated by merely committing to memory the contents of the text books, finds himself unable to take hold of life in a practical way.

#### THE MERE CAMP-FOLLOWER.

He is helpless and dependent, a mere camp-follower. He does not know the value of an independent thought; he will possess no independent opinion or character, but will think and do what those think and do with whom he associates. The rule with this class is: "Do as others do, for you had as well be out of the world as out of fashion." This tendency indicates the training, for the action discloses the mind. Any system of education that is mechanical, and has for its object the mere acquisition of knowledge, has this tendency, and produces helpless imitators who are slaves to the thoughts and opinions of others. China has neither invented nor discovered anything for the last 500 years. Living, progressive, independent thought has no existence in the nation, because there is nothing in their system of education to inspire creative or productive thought. Education there consists mostly in committing to memory records of ancient Chinese history and the dogmas of their religious system. Such a system of education destroys the plasticity of the mind, and leaves it rigidly fixed in slavery to the past. The moral qualities of this people very fully and justly reflect the mental condition, for thought and action go hand in hand. Thought has been enslaved in all ages. Every age has had its limit of thought, beyond which it desired no one to go, and he who dared to express an opinion in advance of the age met with opposition and suffering.

Each age has endeavored to enslave the thought of the one that followed, and only through the heroes of thought, who dared to maintain opinions in advance of the times, has the world progressed. Conceptions that over-reach the common boundary of thought are startling to a prosy, self-satisfied people, and require courage on the part of the thinker, for opposition is aroused in proportion to the

importance of the advance. There has been the slavery of conservatism born of prejudice, all along the ages, and our own country is not free from it. As a result, the advance of science, art, philosophy and religion has been through much tribulation. Slaves to the opinion of the majority, but few have the courage to advance. Christ suffered opposition and death because He dared to teach a system of religion in advance of the age in which He lived. Socrates must die, because he thought in advance of his time. Galileo suffered on the rack because he dared to teach that "the earth moves." Columbus was thought beside himself when preparing to sail westward in search of the Indies. Fulton was thought foolish and visionary when planning the navigation of the Hudson by the steamboat. Morse was considered wild and chimerical when proposing to send messages from city to city by means of the telegraph. Patrick Henry must be greeted with the word "treason," because he dared to make a speech in favor of liberty on American soil. These, with many others, "were men of whom the world was not worthy."

#### THE WORLD MOVING ONWARD.

But, notwithstanding the opposition met by the heroes of thought, the world has moved onward in science, invention, philosophy and religion. As age has succeeded age, evolution has succeeded evolution in the realm of thought and action, and to-day the world has a higher and broader conception of life and its relations and duties than in the ages gone. The highest conception that a little boy had of power was his father, so when asked who made the world he replied, "My father." As he grew older his idea of power underwent a change. So, too, the little boy may think his father's farm forms a large part of the world, until his point of observation has been elevated and broadened.

About three and one-half centuries before the Christian era, and during the reign of the Ptolemies in Egypt, there was erected on the coast of the Mediterranean, near the mouth of the Nile, the Pharos of Alexandria. It was 350 feet in height, and was built for the purpose of lighting vessels

safely into harbor. Its light could be seen 100 miles at sea. This lighthouse was such a wonderful production for the age that it is known as one of the seven wonders of the world. This structure was of commercial value only, being material in its conception and design, and tends to show the spirit of the age in which it was built. Recently there has been placed on Bedloe's island, in New York harbor, a work of art which represents, "Liberty Enlightening the World." In this statue, by Bartholdi, is centered one of the grandest conceptions of human thought, and is the legitimate product of the series of evolutions that have grown out of the conflicts and experiences of the ages since the fires of the Pharos guided the mariner into port. The nations of to-day are radiating the light from fires kindled by a higher conception of man and his necessities than was known in the age of the Ptolemies; and America stands at the head, for upon her is conferred the honor of being represented by the statue of Liberty enlightening the world. The conception of Liberty, as represented by this statue, should mean more than freedom of body. It should convey the idea of a higher order of liberty—the emancipation of the mind. If the conception is in advance of the age, the people must be brought up to it by those whose duty it is to direct and encourage mental growth. For a long time the world has been making vigorous efforts to abolish human slavery, and it is now time to begin in earnest the emancipation of thought and character from the mechanical and treadmill conditions in which we find them, into the realm of independence, where the mind may act as a living force and the character have sufficient strength to stand alone.

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#### MUST BEGIN WITH THE YOUTH.

If this emancipation is to take place, it must begin with the youth in those places where habits of thought and character are trained. If a people of independent thought and character in the next generation is desirable, the foundation must be laid in the children now. It must be thought no crime to have opinions at variance with those commonly accepted.

It is not the intention to encourage the rejection of old

thought, but to inspire the mind to think for itself, whether the subject be new or old. We need a people who will think for themselves, and form opinions upon questions of science, art, politics and religion.

The people of the world have always been too ready to permit a few to do their thinking on these great subjects. The teacher and pupil who are content to let the text book furnish the limit of thought on a given subject, and believe duty performed when the contents are committed, are under the same spirit of bondage. It does not meet the case to say that the thoughts of the few have been good. The mere memorizing of those thoughts does not produce the quality of mind needed. Such a course leaves the mind unproductive, and the person devoid of individual thought or character.

The teacher who enters the school room with the idea that he or she is an enormous reservoir of knowledge, and the pupils in charge are but so many empty little jugs to be filled by the overflowing abundance of the teacher's wisdom, has no place in the schools of to-day.

The coming system of education is the one that shall induce the child to think independently, and act uprightly and conscientiously.

A period has been reached in the educational work, when a knowledge of the human mind is regarded as an essential qualification on the part of the teacher. The time has arrived when the child is regarded as possessing mental and moral faculties, the same as other people. The teacher now needed is the one who knows something of the order of mental development. To meet this demand, the teacher must study the unfoldings of the child-mind in the order of nature, and lead it out into the realm of independent thought, where it can walk alone. That training which teaches the child to think for himself is the only true or valuable one.

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#### INDEPENDENT THOUGHT.

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The training that induces the child to exercise one independent thought is of far more value to himself and the world than the one that merely induces the child to commit

volumes of existing thoughts to memory. The mind that simply acquires and never gives is of but little value. The impression should be thoroughly implanted in the minds of those who instruct the youth, that whatever tends to hold the mind to mechanical conditions and fix the limit of thought, saying: "Thus far shalt thou go and no farther," is detrimental to the world's best interests, and is a slavery that destroys the growth and activity of the intellect. The work of lifting society above the shadows of this mental bondage must be done by the leaders of thought and action. Teachers should enter into this work with hearts of courage and hopefulness, for the reward is sure. I know of nothing better with which to close this address than the lines of Charles Mackay:

Men of thought be up and stiring night and day;  
Sow the seed—withdraw the curtain—clear the way!

Men of action aid and cheer them as ye may!  
    There's a fount about to stream,  
    There's a warmth about to glow,  
    There's a flower about to blow.

There's a midnight blackness changing into gray;  
Men of thought and men of action, clear the way!

Once the welcome light has broken, who shall say:  
What the unimagined glories of the day?  
What the evil that shall perish in its ray?

    Aid the dawning, tongue and pen,  
    Aid it, hopes of honest men  
    Aid it, paper; aid it, type,  
    Aid it, for the hour is ripe,

And our earnest must not slacken into play;  
Men of thought and men of action, clear the way!

Lo! a cloud's about to vanish from the day,  
And a brazen wrong to crumble into clay.

Lo! the right's about to conquer, clear the way!  
    With the right shall many more  
    Enter smiling at the door;  
    With the giant wrong shall fall  
    Many others, great and small,

That for ages long have held us for their prey;  
Men of thought and men of action, clear the way!





# President's Address.

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H. F. WEGENER, *Superintendent Schools,*

WEST DENVER.

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*Fellow Teachers, Ladies and Gentlemen:*

On looking over the programme of the present meeting as prepared by the Executive Committee, I am much pleased with the division of the work into sections, the many new topics selected for consideration, and especially the lectures on pedagogy. I believe it can be taken as a fair measure of the general desire to get a better insight into the principles and maxims which form the basis of our work as teachers.

I have therefore prepared a few thoughts suggested by this programme.

We have often, at the close of our meetings, heard the remark, "What is the use of attending these conventions?" Year after year, we hear the same subjects treated in about the same way. Very few new and original thoughts are offered. Those subjects in which we are most directly interested are rarely touched, and if they are, it is in such an unsatisfactory way that it affords us little new and available knowledge. The men who have the largest experience and from whose lips we should expect words of wisdom and advice, sit here day after day and say nothing. Or, if perchance they are aroused from their moody silence, they speak with such exasperating brevity, or in such a vague, non-committal manner, that it forms rather a conundrum than a means of information.

More than one teacher went away from our last meeting with the feeling that he had not received an adequate equivalent for the expense incurred and time lost by his attendance.

I hope that the meetings which we are to-day inaugurating shall not merit such a criticism. That they shall be characterized by such a breadth and variety of thought, shall call out so much enthusiasm that everyone shall go away with a conviction that his attendance has been the means of giving him, not only new light, but also inspired him with a higher and nobler view of his calling.

If we look over the columns of our many educational journals, a noticeable feature is the frequency with which we meet articles on industrial education, temperance, teaching, spelling reform, kindergarten, the new education and popular science. If we read the review notices, the large number of new books on the theory and art of education and educational methods, is particularly striking. Now and then, a work on pedagogy is beginning to appear. The question, Is pedagogics a science? seems to receive in this country, the same positive answer which it has received long ago in Germany and France.

Among many thoughtful men outside of the profession, as well as among prominent educators, doubt is beginning to arise regarding the educational values of the subjects we teach. The suggestion that we stop and take new bearings is one which should receive the thoughtful attention of every earnest teacher.

I believe that this tendency to look with distrust upon historic methods and views, this seeking after better methods, this testing and this review, in order to see whether we have varied enough to keep pace with the progress of civilization—whether we have resisted the law of evolution to accommodate ourselves to our ever-changing environment and conditions of society—is a healthful sign of the vigor and vitality of our professional body. So strong has this movement become, that even our great universities, which are monuments to conservatism, have found it necessary to rearrange and modify their courses of study to meet this new demand. This movement is not

one which has suddenly sprung up; it is the result of a steady growth, whose germ began many years ago.

Many of the questions at issue will no doubt receive the consideration, which their importance deserves, at our present session. A few which may not be suggested, but which I think should not be overlooked, I shall venture to notice.

One of these, is the subject of temperance teaching in our public schools. In a number of our States, the Legislatures have passed laws reading substantially as follows: "Teachers shall give instructions in physiology and hygiene, with special reference to the effects of alcoholic drinks, stimulants and narcotics upon the human body." As soon as one or two States had added this requirement to the other duties of the teacher, enterprising publishers stood ready to furnish the necessary text books containing this speciality. It is not unusual to find text books, which have been gotten up on the spur of the moment, to be defective, and often not trustworthy. Such is the case with these text books. If we compare them with standard authors on physiology, we are very forcibly impressed with the general conservative statements of the latter, and the positive specific language of the former. Our highest authorities on physiology confine themselves strictly to the physiological effects. The moral effect is a matter belonging in another field. Every teacher who attempts to teach the physiological effects of alcohol, should get his information from the best sources. He should make a clear distinction between the two effects. He should present both effects strictly in accordance with facts, and free from personal bias. I believe fanaticism, in any cause, more often retards than facilitates a reform movement.

The evil effects of intemperance on the human race are so obvious that no sane man can have the temerity to defend them. The question with us should be, how can we contribute to the reform? How can we mould the character and sentiment of the rising generation that it shall be as much a part of their nature to abhor and avoid alcoholic stimulants as it is to shun deadly poison. Temperance, like every other social reform, in order to be permanent, must be a growth extending through generations. I believe the common

school teacher can do more to bring about the solution of this problem than all the anti-license laws and prohibition parties combined. The firm, strong, consciously determined "I will," carries with it a force that no amount of coercive "You shall" can hope to achieve.

The existence in our country of an association having for its object the reformation of our spelling, is known to most of our teachers. It was my good fortune to be permitted to listen to the deliberations and discussions of this organization at their eleventh annual session, last summer. It may not be generally known that this association is composed of many of the most prominent philologists of both England and America. The large array of eminent men who support this movement gives to it a character which, it seems to me, is not appreciated as fully as its object deserves.

By common consent, all teachers who are required to teach spelling agree that the orthography of the English language is an abomination. Now, it would seem natural that no person could be more directly interested in this movement than the English speaking teacher. Such, however, is not the fact. To what cause this apathy among teachers, to whom the simplification of our spelling should be a matter of gratitude, is due, it is hard to understand.

Many years of fruitless effort to find some easy way of mastering the intricacies of English orthography, many failures to get as satisfactory results in the school room, as the time expended would warrant one to expect, has prepared me to embrace its spirit. The assertion has been made that, if all the teachers in the United States would take the interest in this matter which its importance demands; if every teacher would make himself thoroughly familiar with its object, its aim and the means to be used, and if he would take every opportunity to explain and expound to the intelligent people of the community in which he lives the advantages of such a change, reformed spelling would be an accomplished fact within ten years.

Probably, not one of the many subjects which have sprung up in the course of the last few years, has attracted the attention of so many teachers, as the so-called New

Education. It is a matter of interest for us to know what this new education is. How does it differ from the old? Does it possess the merit which some of its enthusiastic supporters claim? What new principles form its basis? In one of our journals, which may be called the organ of its chief advocate, we get a kind of an answer to our queries.

It says: The new education is distinguished from the old by the spirit it breathes. It says: Education is due to man, no matter what his occupation in life is to be; no matter what the color of his skin; no matter where he lives. As God is no respecter of person, neither should education be. That a man is ignorant is enough; give him education. Here we have the whole matter in a nut shell. It is not necessary to offer any comment.

In the days of Pestalozzi, such statements might have been accepted as new, but in our age, in which almost every civilized nation has a system of schools, free to every man and child, we must respectfully beg leave to say that it is not new. Have we nothing, then, which justifies this name? If the question is asked, what new truths have been discovered, what new principles formulated, then we must say that the new education has no foundation in fact. There is another sense, however, in which this term is used. The last decade has witnessed among all our best teachers, a renewed spirit of inquiry into fundamental principles. The best thoughts and aims of our greatest reformers have been gathered up and arranged in a more available form. What was once the property of the few is now the property of the many.

The study of Psychology, in its bearing upon education, is receiving marked attention everywhere. Teachers are beginning to learn that the evolution of the mental faculties follows a natural law. That this law cannot be ignored, if we expect to reach the best results, is an accepted principle of our age. We know that there is a certain sequence in which the faculties develop, and that certain kinds of knowledge are acquired more readily during certain stages of this development than at any other time. In this sense, then, that we have made great progress in the knowledge of the principles which form the foundation of our work, and that this knowledge is more generally diffused, we

may say that we have a new education compared with our methods and views fifty years ago.

Finally, it is not my intention to make any extended remarks, or encroach upon the subjects of the programme; but I wish to express the hope that the time is not far distant when the profession of teaching shall receive the same recognition that is accorded to law, theology and medicine.

We know that our art is based upon a science, whose foundation rests upon well-established principles. It is true that these principles have not yet received a distinct enunciation, have not been formulated into a well-defined system.

It is also true that we are, to some extent, following empirical laws, but the same is true of all the other professions. Yet, we do not hesitate to accord to them the dignity of such a name.

May not the parent place his child in the hands of a skillful, conscientious teacher, with as much confidence in his ability to develop and train all his faculties, as he does when he places him in the care of a physician for the healing of his bodily ailments.

My experience and observation lead me to believe that there is no profession whose members, as a rule, display a greater willingness to do their duty, who are more conscientious and painstaking in their work, who try harder to meet the wishes and expectations of those who employ them, than the American public school teacher.

The teachers assembled here to-day, in many respects, have reason to feel gratified that their lot is cast in a State in which the subject of education receives so much attention and appreciation. For where do we find more healthful, commodious and conveniently arranged school buildings? Where do we find a people who are more willing to pay heavy taxes to support good schools than in our own beautiful Colorado?

It behooves us then, as teachers, to make the character of our work commensurate with our surroundings. Let us be animated by a spirit of firm determination to reach

the highest degree of excellence attainable. A teacher should not be contented with the thought that he is doing the best he can do. He should ask himself the question: Am I doing the best that can be done by any teacher?

Make yourselves more and more masters of principles. Study the nature of the being confided to your skill in all its bearings. Remember, before you can hope to harmonize your methods with the matter you teach, it is necessary to obtain a knowledge of the way in which the faculties of the child develop. Remember that a complete education is one in which the child is so trained that, in the acquisition of knowledge, he secures such a mastery over all his faculties that they respond instantly to his will whenever he desires to use them.

One more point needs our attention. On every side we hear a clamor for a practical education. There is a constant demand to clip off everything that is not of direct utility as a means of gaining a livelihood. There is danger in our efforts to compromise with this demand that we lose sight of one function of education—the cultivation of the moral faculties. We should not neglect to train our children in that which is human. We should not forget the culture of their æsthetic nature. We should not forget to reach the feelings and the soul.









SIXTH BIENNIAL REPORT  
OF THE  
SUPERINTENDENT  
OF  
PUBLIC INSTRUCTION

OF THE  
STATE OF COLORADO,

FOR  
BIENNIAL TERM ENDING JUNE 30, 1888.

TO THE GOVERNOR.



DENVER, COLO.:  
THE COLLIER & CLEVELAND LITH. CO., STATE PRINTERS.

1889.

THE HISTORY OF THE

REIGN OF

CHARLES THE FIRST

BY

JOHN BURNET



DEPARTMENT OF PUBLIC INSTRUCTION, }  
DENVER, COLO., December 10, 1888. }

*To His Excellency,*

ALVA ADAMS,

*Governor of Colorado.*

SIR:—In accordance with the requirements of law, I have the honor to submit to you the Sixth Biennial Report of the Department of Public Instruction, for the biennial term ending June 30, 1888.

LEONIDAS S. CORNELL,

*Superintendent of Public Instruction.*



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# State Board of Education.

1887 TO 1889.

LEONIDAS S. CORNELL,  
*Superintendent of Public Instruction.*

JAMES RICE,  
*Secretary of State.*

ALVIN MARSH,  
*Attorney General.*

1889 TO 1891.

FRED DICK,  
*Superintendent of Public Instruction.*

JAMES RICE,  
*Secretary of State.*

SAMUEL W. JONES,  
*Attorney General.*

# State University.

BOULDER.

## BOARD OF REGENTS.

	<i>Term Expires</i>
R. W. WOODBURY . . . . .	1891
D. E. NEWCOMB . . . . .	1891
WOLFE LONDONER . . . . .	1893
E. J. TEMPLE . . . . .	1893
S. A. GIFFIN . . . . .	1895
CHARLES E. DUDLEY . . . . .	1895

HORACE M. HALE, President.

# State School of Mines.

GOLDEN.

## BOARD OF TRUSTEES.

	<i>Term Expires</i>
C. C. WELCH . . . . .	1889
J. T. SMITH . . . . .	1889
FRED. STEINHAUER, Pres't of Board . . . . .	1891
A. A. BLOW . . . . .	1891
E. L. BERTHOUD . . . . .	1891

REGIS CHAUVENET, President.

# State Industrial School,

GOLDEN.

## BOARD OF CONTROL.

	<i>Term Expires</i>
J. C. HUMMEL . . . . .	1893
M. N. MEGRUE . . . . .	1891
A. L. EMIGH . . . . .	1889
W. C. SAMPSON, Superintendent.	

# State Agricultural College,

FORT COLLINS.

## BOARD OF TRUSTEES.

	<i>Term Expires</i>
JOHN J. RYAN . . . . .	1889
R. C. NISBET . . . . .	1889
B. S. LAGRANGE . . . . .	1891
W. F. WATROUS . . . . .	1891
GEORGE WYMAN . . . . .	1893
R. A. SOUTHWORTH . . . . .	1893
F. J. ANNIS . . . . .	1895
CHARLES H. SMALL . . . . .	1895
C. L. INGERSOLL, President.	

# Deaf Mute and Blind Institute,

COLORADO SPRINGS.

## TRUSTEES.

	<i>Term Expires</i>
HENRY BOWMAN . . . . .	1889
DANIEL HAWKS . . . . .	1889
H. R. FOSTER . . . . .	1891
J. W. STILLMAN . . . . .	1891
A. L. LAWTON . . . . .	1893
JOHN E. RAY, Superintendent.	

# State Home and Industrial School for Girls

## BOARD OF CONTROL.

	<i>Term Expires</i>
MRS. JOHN L. ROUTT . . . . .	
MRS. A. JACOBS . . . . .	1889
MRS. C. S. MOREY . . . . .	1890
MRS. J. McLENE . . . . .	1891
REV. P. F. CARR . . . . .	1892

SYNOPSIS  
OF THE  
Public School System of Colorado.

**OFFICERS.**

Superintendent of Public Instruction.  
State Board of Education.  
County Superintendents.  
District Boards.

**SCHOOLS.**

Ungraded District Schools.  
Town and City Graded Schools, with  
High School Courses.

**HIGHER AND SPECIAL SCHOOLS.**

University, Boulder.  
School of Mines, Golden.  
Agricultural College, Fort Collins.  
Mute and Blind Institute, Colorado Springs.

**OTHER AGENCIES.**

District Normal Institutes.  
State Teachers' Association, voluntary.  
County Teachers' Association, voluntary.

**SCHOOL AGE.**

Between six and twenty-one; attendance voluntary.

**SCHOOL YEAR.**

Begins July 1, ends June 30.

**SUPERINTENDENT OF PUBLIC INSTRUCTION.**

Elected by the people for two years. Has general supervision of the public schools; collects and tabulates the school statistics of the State; apportions the State school fund to the counties, gives information to school officers upon construction of school law; prepares and furnishes blanks for use of school officers and registers for teachers; also furnishes questions for teachers' examinations; visits annually such counties as most need his personal attendance, inspecting schools and making public addresses; is President of the State Board of Education, and a member of the State Board of Land Commissioners; makes biennial report to the Governor, in December previous to each session of the Legislature; causes school law to be published and distributed in pamphlet form; is *ex-officio* State Librarian.

**STATE BOARD OF EDUCATION.**

Consists of Superintendent of Public Instruction, Secretary of State and Attorney General; issues State diplomas to such teachers as may pass examination, after having taught successfully in the State for two years; tries appeals from the decision of County Superintendents, but can not render a judgment for money.

**STATE BOARD OF EXAMINERS.**

The Superintendent of Public Instruction, the President of the State University, the President of the Agricultural College and the President of the State School of Mines, constitute a State Board of Examiners, having entire control of the examination for State diplomas.

**COUNTY SUPERINTENDENTS OF SCHOOLS.**

Elected by the people for two years. Compensation, \$5 per day, and 15 cents for each mile necessarily traveled; but such compensation may not exceed \$100 in one year for each school in the county; holds quarterly examination for teachers, and grants certificates to successful applicants; apportions the county school fund to the districts; visits each district at least once each quarter while school is in session, for the purpose of inspecting the schools, advising with teachers and school officers, and examining the books and accounts of the latter, to see if the same are properly kept, and the district funds accounted for; receives reports from district secretaries and makes report annually to Superintendent of Public Instruction; hears appeals from decisions of district boards; supplies districts and teachers with copies of the school law and all needed blanks and registers; is Land Commissioner of the county.

**DISTRICT BOARDS.**

In districts of the first class: *i. e.*, those which have a school population of one thousand or more, the district board is composed of five directors, one of whom is elected annually on the first Monday in May, and holds office five years. In all other districts the boards consist of three members, term three years, one elected each year. These district boards are the executive officers of the districts which are bodies corporate, created by law.

The directors are custodians of the district property of all kinds; they employ and discharge teachers and laborers, and fix the salaries of the same; make rules for the government of the schools, and prescribe the course of study and the text books; suspend or expel

pupils; disburse all school money; keep district records; take school census; report annually to county superintendent; enforce the rules and regulations of the Superintendent of Public Instruction, and in general do all things necessary to carry on the schools.

In districts with a school population of three hundred and fifty or more, the directors fix the amount of the special tax levy, if any, for such purposes. In smaller districts the question is submitted to a vote of the people, if more than two mills is to be levied.

The Constitution of the State provides: "That no person shall be denied the right to vote at any school district election, or to hold any school district office on account of sex."

#### SCHOOLS.

No district is entitled to any portion of the State or county fund, unless it maintains a school, taught by a licensed teacher for at least sixty days in each year. In the county districts, schools are maintained from sixty to one hundred and sixty days, sometimes prolonged even to two hundred days. In cities and towns the schools are from one hundred and twenty (in a few) to two hundred days in length; those in which is enrolled a majority of the pupils of graded schools are in session at least one hundred and ninety days; while those in which is enrolled a majority of the pupils of ungraded schools are in session about one hundred days.

Many of the graded schools have a High School course, open to all, while Denver is the only city sufficiently populous as yet to require a High School with a full and entirely distinct faculty.



**TEACHERS.**

All teachers engaged in public schools must hold a certificate from the county superintendent, or a State certificate issued by the State Board of Education. Neither county nor State certificates are granted, except upon a thorough examination in the branches required.

**HIGHER AND SPECIAL INSTITUTIONS OF LEARNING.**

The State has made ample provision for the higher and special education of its youth. The State University, at Boulder, under the control of a board of six Regents, elected by the people; the Agricultural College, at Fort Collins; the School of Mines, at Golden, and the Deaf, Mute and Blind Institute, at Colorado Springs, are controlled by boards of management appointed by the Governor. These institutions are supported by the State, by an annual tax levy of one-fifth of one mill.

**REFORMATORY INSTITUTIONS.**

The State Industrial School, at Golden, is a reform school for boys. It has been managed from the first on the modern family plan, nothing prison-like in its appearance or its discipline, and its success has been gratifying.

The State Home and Industrial School for Girls was established by the last Legislature, and is located at Denver. It has already accomplished some good work, and promises to be of great value to the State.

**SCHOOL REVENUE.**

The public school revenue of Colorado is derived from taxation and revenue from State lands. Interest

on permanent funds received for school lands sold, and rentals received from leased school lands constitute the State land revenue. The statute provides for the annual levy of a county tax for school purposes of not less than two nor more than five mills; this, with the penal fines, constitutes the county school fund. To this is added whatever may be received from the State as revenue from lands and permanent fund.

In many States there is a "Teachers' Wages Fund," which can not be used for any other purpose. There is no such fund known to the laws of Colorado. What is known as the "General Fund," derived, as above stated, from the county tax, from fines and estrays, and from the State fund, is available for all legitimate expenses of the district, except purchasing sites, erecting and furnishing buildings, making permanent improvements. The proceeds of a special school tax, when collected, are practically added to the general fund, because available for precisely the same purposes. The excess of the special bond tax, if any, after paying the interest coupons due, can be used for the same purposes. None of these moneys can be used for building, enlarging or furnishing school houses, or purchasing sites, except the unexpended balance remaining to the credit of the district any year, after paying the expenses of a ten months' school for that year. Repairs rendered necessary by the ordinary wear and tear of the buildings can be paid from this fund. If a district is to build, enlarge, furnish, or purchase site, it must tax itself for that purpose. There is no statutory limit to the rate of taxation which a district may vote, either for school or building purposes, except third-class districts, which are limited to fifteen mills, and in districts of first and second classes it is the duty of the board to fix the rate, and any board may also order the levy of one-tenth of a mill to be expended for a library.

# REPORT

OF

## Superintendent of Public Instruction

During the biennial period, which this report covers, there has been much advancement in the school work of the State. This activity in the school work has not been confined alone to those parts of the State recently settled, but has existed in all parts of the State.

The following table will show the growth in some of the more important departments during the past two years:

	1886.	1888.	INCREASE.
Number of children of school age . . . . .	60,798	76,212	15,414
Number of school districts . . . . .	685	990	305
Number of school houses . . . . .	631	820	189
Number of pupils enrolled . . . . .	40,690	50,745	10,055
Average daily attendance . . . . .	26,428	31,516	5,088
Number of teachers employed . . . . .	1,304	1,704	400
Value of school property . . . . .	\$ 2,343,982 00	\$ 3,238,021 00	\$ 894,039 00
Total receipts . . . . .	1,217,008 80	1,548,104 58	331,095 78
Total expenditures . . . . .	905,622 57	1,152,411 78	246,789 21
Balance on hand . . . . .	311,386 23	395,692 80	84,306 57
Volumes in school libraries . . . . .	11,561	17,375	5,817

### SCHOOLS.

The schools of our State give evidence of advancement in quality as well as in number. There is a determination on the part of most school boards to make the

schools better every year. This is evident from the increased attention and care given to the building and furnishing of school houses and the selection of teachers. It is further evident from the efforts that are being made to adopt a definite and somewhat uniform course of study, for where a course of study has been adopted some effort at grading or classification follows. This tends to systematize and make definite the school work and can not fail to be of value.

#### HIGH SCHOOLS.

Many of our towns and villages are making an effort to sustain high schools, and while the effort is commendable it must be made under great difficulties. The number of high school pupils in many of the towns are necessarily few, and the teachers have but little time to give to this department in connection with the regular grade work which can not be neglected. Yet it is better perhaps to carry forward the high school work in this way rather than have no such work done. Yet it would be better if all our high schools could be graded up to a uniform standard and course so as to meet the conditions of admission into our State University. A few of our high schools are so situated that they can do this work without great difficulty, because they are located in cities or towns of sufficient size to bear the expense, but how to make the high schools of the weaker towns and villages a success is the important question. In our school law there is a provision which doubtless was intended to meet these cases, but the law or provision is incomplete in that it does not provide means for building up and maintaining what it proposes. I refer to the law relating to union high schools. I believe it will be a wise provision in the law to grant the right not only of establishing union high schools but of maintaining

them by a direct local tax upon the property of the districts united. Under the present law there is no means provided for erecting buildings for high school purposes or for levying a tax on the property of the districts interested, for the support of such union high school. Many of the high schools which are now weak and incomplete, would, under some better arrangement, become strong and prosperous.

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#### SCHOOL HOUSES.

During the past year there have been built in the State one hundred and thirty-four school houses. Many of these buildings have been constructed with reference to style, convenience and comfort, and are a credit to the communities in which they are located. The improvement in the style of school houses is pleasing to note. The fact that Denver has as fine and well constructed school buildings as any city east or west, is well known, but other places in the State have good school buildings, and some of the smaller towns have recently erected elegant houses for their schools. La Veta, Las Animas, Colorado City, Manitou, Monte Vista and other towns, have erected buildings within the last two years of which their citizens may well be proud. There is no reason for school boards making mistakes in the construction of school buildings in these days, when the most approved plans may be had and considered at a small cost.

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#### SCHOOL ENROLLMENT.

In some counties the per cent. of enrollment in the public schools is very good, while in others it is entirely too low. In Boulder and El Paso counties, for instance, the enrollment of the school population in the public

schools is 78 per cent., while in Huerfano it is only 42 per cent. I mention these counties in order to show the extremes, although one or two small counties show a still greater per cent. of enrollment than those mentioned. The enrollment for the whole State is 66 per cent. of the school population, which shows an increase of 3 per cent. in the last two years; but still a larger enrollment is desirable.

How to secure a larger per cent. of enrollment and how to have a better daily attendance, are questions that have long been asked and variously answered, and seldom have the answers been satisfactory.

A law making attendance at school compulsory may answer these questions in some communities, but not in all. Yet, perhaps, most communities would be benefitted to some degree by a compulsory law of some kind.

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#### FREE TEXT-BOOKS.

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The last Legislature amended the school law so as to permit school districts to purchase and own the text-books for the use of all the children in the schools. Quite a number of the districts in the State have already availed themselves of this provision, and are well pleased with the results. In my opinion free text-books owned by the district is the only solution of the text-book problem. The anxiety to have all the schools of the county or the State use the same books ceases when each district owns its own books.

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#### SCHOOL LIBRARIES.

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By virtue of the present law any school board can levy a tax of one-tenth of a mill for library purposes. This provision, if used, would soon establish in all our

districts, libraries which would greatly aid in the educational work. But up to this time but few districts have availed themselves of this means of building up a library. I trust the importance of good reference libraries for all of our schools will not be overlooked by the school boards.

#### TEACHERS.

Colorado has always been an attractive spot to teachers, not only because the wages paid are better than in the States east of us, but because of our excellent climate and beautiful mountain scenery. Hundreds of teachers who lost their health in the Middle or Eastern States have come here and regained it. Many such teachers are doing good work in our schools now, but the number of our schools is limited, and the numbers that come every year seem to be unlimited; hence the supply is greater than the demand. Many teachers in the East, who do not understand the situation, write me that if I will engage a school for them at a salary sufficiently in advance of the one they are getting to pay them to make the change, they will come on a short notice. To such the following letter is usually sent:

OFFICE OF THE  
SUPERINTENDENT OF PUBLIC INSTRUCTION, }  
DENVER, COLORADO, ..... 188.. }

Mr. -----

DEAR SIR:—I will state for your information that Colorado is full of excellent teachers, for all grades of school work. If you want to come and take your chances with them do so, and you will find it a pleasant and healthful State in which to work. You can not well hope to be employed unless you are in this State, but first-class teachers will usually get employment, although they may be compelled to wait awhile after getting here. All teachers employed in this State must take an examination here, whatever be your standing in other States, for this is the law. Wages are from \$35 to \$75 per month in ungraded, and from \$50 to \$150 per month in graded schools.

Yours Truly,

L. S. CORNELL,  
*Superintendent of Public Instruction.*

## TEACHERS' EXAMINATION.

The law provides that teachers' examinations shall occur quarterly on the last Fridays of February, May, August and November, and at no other time, and the questions used are those prepared by the Superintendent of Public Instruction. This make the examination uniform throughout the State, both in regard to time and in the examination itself. In addition to the above examinations, districts of the first class may conduct their own examinations for filling vacancies.

In order to give to those who may desire to know an idea of the scope of a regular county examination, the following instructions, rules and questions are inserted:

OFFICE OF  
SUPERINTENDENT OF PUBLIC INSTRUCTION, }  
DENVER, COLORADO.

*Circular to County Superintendents concerning the Quarterly Examination of Teachers.*

GENTLEMEN:

By virtue of law I am now required to prepare questions for your use in quarterly examination of teachers. In sending these questions I desire to make the following suggestions as to their use:

The questions will be forwarded to you in sealed packages. I recommend that you open them on the morning of the examination, in the presence of the applicants. There is work for two days of five or six hours each for the average applicant, and I recommend a two days' session, at least in the more populous counties. Applicants should have time to do themselves justice. Let it be understood by all, that to receive a certificate the applicant **MUST DO THE WORK** at the time and in the manner prescribed for all. If one can do it in half a day, well,—but let it be known that a certificate will *never* be given for a part of the work. Absentees must take the consequence of their own misfortune, however imperative the cause of their absence. This is not given as a rule, but merely the plain statement of a fact.

By dividing the slips, you can give out a half day's work at a time, and I urge this plan as much fairer to all than giving the topics singly, as some will gain time in one branch, others in another, but no applicant should be allowed to leave the room after seeing any



questions, until such questions are answered, that there may be no opportunity or temptation to consult authorities.

The topics are numbered from one to twelve. For the first day use Nos. 1 to 6, inclusive; second day, Nos. 7 to 12, inclusive. Take up questions and answers promptly at the expiration of each session. If you wish an oral examination, take sufficient time for that and for reading before or after the time allotted to the session.

Do not take a *minute* of the session for general exercises or *talk*, or allow any one else to do so.

Take such *further time* as you wish to satisfy yourself as to the moral character of the applicants, and as to their experience in and aptitude for the business of teaching, and also time to give such counsel concerning their duties as you may think helpful.

For marking applicants, divide the topics into two groups: First group, Nos. 1, 2, 3, 4, 5, 10, 11 and 12; second group, Nos. 6, 7, 8 and 9. Give certificates as follows:

FIRST GRADE CERTIFICATE:

*First Group*—Average 90%; no branch below 75%.

*Second Group*—Average 75%; no branch below 60%.

SECOND GRADE CERTIFICATE.

*First Group*—Average 75%; no branch below 60%.

*Second Group*—Average 60%; no branch below 40%.

THIRD GRADE CERTIFICATE.

*First Group*—Average 60%; no branch below 50%.

*Second Group*—Average 50%; no branch below 40%.

Provided that a certificate shall not be refused for failure in Nos. 8 and 9.

All answers to be filed and retained in your office for six months. *Number* the applicants, but take no names.

Give each a blank envelope and paper sufficient for the work. Examine and grade all papers by number before opening the envelopes to learn the names. (If you can get a committee of competent persons to examine and grade the papers, it will guard you still further from any charge of unfairness, which disappointed applicants are apt to make.)

*A high degree of practical success in teaching should be accepted as a sufficient reason for issuing a certificate of a higher grade than is warranted by the percentage upon examination, and inexperience or want of success should lower the grade of the certificate given, while failure as a teacher might be so marked as to make it your duty to refuse a certificate, whatever the percentage obtained.*

I earnestly recommend that certificates of the *first* grade be given only to teachers who have earned it by success in the school-room as well as at examination. I also recommend the addition of ten to the

grade earned on Theory and Practice, for the regular reading of some good educational periodicals, or of one or more reliable books on the subject.

Refuse certificates to applicants of whose moral character you have a reasonable doubt.

PLEASE REPORT to me as soon as convenient after your examination, on the blanks furnished for the purpose, giving the names of all applicants.

Preserve these instructions for future reference.

Take great pains that none of these questions go out of your hands until the end of the quarter.

No private examinations are lawful except for temporary certificates, valid only until next public examination.

Respectfully yours,

L. S. CORNELL,  
*Superintendent of Public Instruction.*

#### RULES FOR THE CONDUCT OF THE EXAMINATION.

(This slip to be given to each applicant with the first question.)

\* 1. Provide yourself with a lead pencil.

Write your name, age, nativity and post-office address on a slip of paper and answer the following questions:

1. How long have you taught, and where?
2. In what schools were you educated?
3. What educational papers or journals do you read regularly?

2. Place the answers in the envelope, seal it, and put your *number*, but not your name on the back.

3. Write your *number* on each paper.

4. Take a different paper for each branch, write the subject at the head of each paper, and write on but one side of the paper.

5. Number your answers to correspond with the questions, but do not repeat the questions.

6. Read all the questions on a topic before answering any of them.

7. All communication during examination is absolutely forbidden.

8. Do not take the questions from the room. Any applicant who violates this rules will forfeit all right to a certificate.

\* If the Superintendent conducting the examination prefers to have the work done with pen and ink he will provide them.

9. When possible, abbreviate. Give *short but complete solutions* to arithmetical problems.

10. ASK NO QUESTIONS. If you have doubts as to the meaning of any question, let them be submitted in writing, so that the Superintendent may examine them when he examines the answers to the questions.

11. Omissions will be considered as failures, and in estimating your rank the general appearance of the papers, as well as the correctness of the answers, will be considered.

QUESTIONS FOR THE EXAMINATION OF TEACHERS, SECOND QUARTER, 1888. PREPARED BY THE SUPERINTENDENT OF PUBLIC INSTRUCTION, DENVER, COLORADO.

1. PENMANSHIP.

1. What system of penmanship do you use? Write all the elementary forms as given in this system.

2. Name the different movements, and give an example of the use of each.

3. Write all the letters that contain the capital stem.

4. What is the unit of measurement? What is the height of the extended or looped letters?

5. Analyze *m, l, d, q*.

2. ARITHMETIC.

1. Define cancellation, division, greatest common divisor, ratio and interest.

2. Subtract 394 from 783, and explain each step as you would to a class beginning the subject.

3. How many yards of carpet  $\frac{3}{4}$  of a yard wide are required to cover a floor measuring 21x25 ft., if the carpet is so laid as to cause the least possible waste? Explain.

4. In 1886 the school census of Colorado showed a population of 60,798 between the ages of 6 and 21; in 1887 this was increased to 65,216. What was the rate per cent. of increase?

5. If 5 per cent. more be gained by selling a wagon for \$98.00 than for \$95.00, what was the cost of the wagon?

6. How many acres are there in a rectangular field measuring 50 rods on one side and 75 rods on the diagonal?
7. Write a promissory note for \$500, dated Jan. 15, 1887; endorse on it a payment of \$125, Sept. 10, 1887; find the amount due May 1, 1888. Interest, 8 per cent.
8. The difference in time between two places on the equator is 4 hours and 20 minutes; how many miles apart are they?
9.  $(\frac{4}{5} - \frac{2}{3}) \times (\frac{5}{9} \div \frac{20}{27}) = ?$
10. What sum of money must be invested in 4 per cent. bonds, selling at 125, to give an annual income of \$2,500? What rate of interest is received on the investment?

### 3. READING.

1. Define reading and elocution.
2. What are the qualifications of a good reader?
3. How may distinct articulation be secured?
4. Name the different kinds of inflection, and give examples in which each should be used.
5. What plans do you use to secure natural tones and delivery?
- 6-10. An exercise in reading conducted by the examiner.

### 4. UNITED STATES HISTORY.

1. Why was this continent called America?
2. Give brief accounts of the connection of the following persons with American history: De Soto, Sir Walter Raleigh, Henry Hudson and Patrick Henry.
3. *a*—Describe the capture of Quebec. *b*—In what war did it occur?
4. Name the most important events in Jackson's administration.
5. *a*—What were the Alien and Sedition Laws? *b*—Why were they enacted?
6. What part of the United States was especially in favor of the Mexican war? Why?
7. Name the important improvements in methods of travel and communication introduced during this century.

8. Name the principal events of 1865.
9. Describe fully the method of electing the President and Vice President.
10. What is meant by "Civil service reform?"

#### 5. ORTHOGRAPHY.

1. Give two rules of spelling that you have found useful.
- 2-3. Name five prefixes and five suffixes, and give the meaning of each.
4. *a*—What is diacritical spelling? *b*—Of what use is it?
5. Correct the spelling and indicate the pronunciation of the following: Audacious, camelia, comunist, errudition, gangreen, gibbous, greivous, hipocracy, silouette, unizon.
- 6-10. Write twenty words dictated by the examiner.

#### 6. PHYSIOLOGY.

1. Name three kinds of joints in the human skeleton and give an example of each.
2. Define absorption, secretion, gland, artery and vein.
3. How many teeth are there in the "temporary" set? How many in the "permanent" set?
4. Distinguish a food from a stimulant.
5. Why is proper ventilation of a school room so important? Explain fully.

#### 7. SCHOOL LAW.

1. What records and reports is a teacher required to make?
2. *a*—When may applicants for license to teach be examined?  
*b*—What is the penalty for teaching without a license?
3. What provision is made for appeals for County Superintendents' decisions?
4. *a*—When does the annual school election occur? *b*—When does the school year end?
5. How may a State diploma be obtained in Colorado, and what is the character of such a diploma?

**8. BOTANY.**

1. Define tuber, root and bulb.
2. To what order do most of the trees in our mountain forests belong?
3. Describe some wild flower now in bloom, with which you are familiar.
4. State the principal difference between exogens and endogens, and give examples of each.
5. *a*—What are the principal characteristics of the order *composite*? *b*—Give the common names of five plants belonging to this order.

**9. NATURAL SCIENCES.**

1. Define physics, chemistry and geology.
2. What is gained by the use of the so-called Mechanical Powers?
3. Describe the essential features of a steam engine.
4. *a*—What is the mean distance of the sun from the earth?  
*b*—At what time of the year is it nearest?
5. What is a chemical element? Name ten elements.
6. How does a compound differ from a mixture?
7. What is chalk? Of what are the common blackboard crayons made?
8. Name in their order the "ages" of geological time.
9. Classify the rocks of the earth's crust according to the mode of their formation.
10. To what division of the animal kingdom does each of the following belong: Sponge, coral, crayfish, ant, man?

**10. GRAMMAR.**

1. Name the principal divisions of grammar, and define each.
- 2-3. Name and define each of the parts of speech.
4. Give rules for the formation of the possessive case.

5. Write a compound imperative sentence.
6. Analyse or diagram : *Teaching men to live more nobly is an occupation worthy of the highest talent.*
- 7-8. Parse the italicised words in the above sentence.
9. Correct if necessary and give reasons for each change: "I think I have saw you before," "In old English this species of words were numerous," "All debts are cleared between you and I."
10. What is the difference between grammar and language lessons.

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### 11. THEORY AND PRACTICE.

1. What methods of discipline have you found efficient?
2. What are the objects of a recitation?
3. How may the observing powers of children be cultivated?
4. What is the "Grube method" in primary arithmetic?
5. Is it a good plan for pupils to commit to memory the words of the text-book, in geography and history, for example?
- 6-10. Let the examiner grade the applicant from 0 to 50, according to experience and success as a teacher.

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### 12. GEOGRAPHY.

1. Describe the motions of the earth.
2. What is the season now in the Argentine Republic?
3. How does the climate of the eastern coast of the United States compare with that of the Pacific coast in the same latitude? Give reasons for the difference
4. Describe the southern part of the Pacific Ocean.
5. What peninsula in the southern part of Russia? What has made it famous?
6. Name and locate the principal capes on the Atlantic coast of the United States.
7. Name five leading powers of Europe and give their capitals.
8. In what States and Territories is irrigation necessary?

9. Locate the following cities : Baltimore, Tacoma, New Orleans, Birmingham, Chicago, Omaha, Helena, Fort Worth, Memphis, Louisville.

10. Bound Colorado, give the number of counties, describe its surface and name the principal products.

#### EXAMINATIONS FOR STATE DIPLOMAS.

Examinations for State diplomas for teachers have been held once every two years, but few have taken this examination. Mrs. Cornelia Miles, of Denver, and Mr. S. A. Wilson, of Weld county, completed the examination last spring and received State diplomas. In order that all may have an understanding of the nature and conditions of a State examination, the following circular is inserted, after which will be found a list of the questions used in the State examination:

#### STATE EXAMINATION.

OFFICE OF  
SUPERINTENDENT OF PUBLIC INSTRUCTION, }  
DENVER, COLORADO, March 1, 1888. }

The State Board of Education is authorized to grant State diplomas to teachers eminent in their profession by reason of character, scholarship and successful experience, by virtue of the following provisions of the school law, viz :

SEC. 3. The State Board of Education is hereby authorized to grant State diplomas to such teachers as may be found to possess the requisite scholarship and culture, and who may also exhibit satisfactory evidence of an unexceptional moral character, and whose eminent professional ability has been established by not less than two years' successful teaching in the public schools of this State. Such diplomas shall supersede the necessity of any and all other examinations of persons holding the same, by county, city, or local examiners, and shall be valid in any county, city, town or district in the State, unless revoked by the State Board of Education.

SEC. 4. But State diplomas shall only be granted upon public examination, of which due notice shall be given, in such branches and upon such terms, and by such examiners, as the Superintendent of Public Instruction, the President of the State University, the President of the State Agricultural College, and the President of the State School of Mines may prescribe.



The committee of examination, constituted by Sec. 4, above quoted, after carefully considering the provisions of the statute, has decided that applicants for State diplomas should be required to comply with the following:

#### TERMS AND CONDITIONS.

1. To furnish to the State Superintendent, prior to examination, satisfactory evidence of good moral character.
2. To furnish to the State Superintendent satisfactory evidence of having taught, with decided success, not less than two years in this State.
3. To pass a very thorough examination in Reading, Mental and Written Arithmetic, English Grammar, Modern Geography, Physical Geography, History of the United States, the Constitution of the United States, and the Constitution of Colorado, with the elements of Civil Government, and Theory and Art of Teaching.
4. To pass a satisfactory examination in the elements of Physics, Anatomy and Physiology, Botany, Zoology, Chemistry, Astronomy, Geology, Mineralogy and Psychology. The examination in these branches will embrace the rudimentary principles only. Also in School Law of Colorado, Algebra, the elements of Plane and Solid Geometry, not including Spherical Geometry, and English Literature.
5. To pass a satisfactory examination in one of the following branches, choice to be made by the candidate:

Latin, to be limited to the first four books of Cæsar, the first two books of the *Æneid* of Virgil, questions upon grammatical principles involved in the passages translated, and Latin composition; German, to be limited to translations from German into English, and from English into German, with questions on German grammar.

#### MODE OF EXAMINATION.

The questions to be answered under each branch embraced in the written examination will be printed on slips of paper and consecutively numbered. Each applicant will be furnished with one of these slips and with pen and paper. A definite time will be allowed to each branch. Each answer must bear the number of the corresponding question. In questions requiring demonstration or analysis, the entire work must be given, and not merely the result or answer, so that the several steps of the process may appear, and the examiners be better enabled to judge of the candidate's habits of thought and reasoning.

In addition to writing answers to the printed questions, candidates will be examined orally in reading.

## MODE OF AWARD.

In determining the merits of the papers, the examiners will be guided by the following rules: Scale, 100. In Zoology, Physics, Chemistry, Astronomy, Geology, the *minimum* will be 60; in all other branches, 70. Certificates will be recommended when the candidate's average for the whole examination does not fall below 75. The candidate will be graded in spelling by noting the accuracy of the spelling in several pages of his papers written at this examination.

If a candidate reaches the required average for the examination, but falls below the *minimum* in one or more branches, he will be required to take those branches only at the next examination, and will be recommended for a diploma, when he has passed in each with a grade of 75. Candidates who fail to reach the required average will be allowed credit for topics on which they rank 95 or more, and at the next examination will be excused in such topics.

## TIME AND PLACE.

The examination will begin June 26, and continue four days, at the office of the Superintendent of Public Instruction, Denver.

## GENERAL REMARKS.

Punctual attendance upon all four of the days will be very important.

All necessary directions will be given at the beginning of the examination, and will not be repeated.

Inasmuch as the State diploma supersedes "the necessity of any and all other examinations of persons holding the same, by county, city or local examiners," and is valid for life, unless revoked for cause, it is, therefore, not only the highest known to our system of public education, and an honor to those receiving it, but it has also an important business value to all professional teachers. It is the object of the law, in providing for these examinations, specially to recognize and honor those experienced and successful teachers who have given character and dignity to the profession in this State, and to furnish to young teachers a stimulus to honorable exertion.

By order of the committee.

L. S. CORNELL,

*Superintendent of Public Instruction.*

## READING.

- I. What is embraced in expression?
- II. Name and illustrate the inflections.

- III. What is the value of teaching pupils to define words by the study of synonyms?
- IV. What are the general rules to be observed in good reading?
- V. Define emphasis, accent, articulation, elementary sound.

### ARITHMETIC.

1. A man bought 3 tracts of land containing 112, 144 and 176 acres, respectively, which he fenced into equal fields of the greatest possible number of acres; how many acres did each contain?
2. Divide ( $\frac{3}{4}$  of  $\frac{5}{8}$  of  $\frac{2}{3}$ ) by  $3\frac{4}{5}$  and add the quotient to  $\frac{3}{4} - \frac{7}{15}$ .
3. Cube .01. Extract the square root of 1.001 to three decimal places.
4. Define: An abstract number, the prime factors of a number, a mixed number, percentage and bank discount.
5. Find the surface and diagonal of a cube of granite containing 162,144 cubic inches.
6. Received 6 per cent. interest on stock bought at 25 per cent. below par; what rate of interest did the investment pay?
7. What is the difference between the true and bank discount of \$250 due 10 months hence at 7 per cent?
8. I owe a debt of \$325.50 due in 1 yr. and 5 mo., without interest; what will pay the debt now, money being worth 6 per cent. per annum?
9. Required the solidity of a cone the diameter of whose base is 30 feet and whose height is 96 feet.
10. The signal service reports that  $3\frac{1}{2}$  inches of rain fell in 24 hours; how many cubic yards fell on an acre of ground.

### ENGLISH GRAMMAR.

1. (10) Define and illustrate the object of a verb; showing all the varieties in which it appears.
2. (5) Use of *it* in the following:  
*It* will rain. *It* is they. *It* is no light thing to undertake this task. He lords *it* over all his fellows. *It* is not known where he died.

3. (8) "Far from the madding crowd's ignoble strife,  
Their sober wishes never learned to stray."  
Construction of *far*? What does the phrase "from—strife" modify?
4. (6) "And many a holy text around she strews  
That teach the rustic moralist to die."  
Antecedent of *that*? Is the form *teach* grammatically correct?
5. (10) "*Save* where the beetle wheels its droning flight."  
"The paths of glory lead *but* to the grave."  
"*Hard* by yon wood."  
"If *chance*, by lonely contemplation led  
Some kindred spirit shall inquire thy fate."  
Construction of the italicized words in the above.
6. (6) "To be a Roman was greater then a king."  
Subject of the above sentence, and construction of *Roman* and *king*.
7. (15) Correct or justify the following. Reasons:  
I saw a young and old man walking together.  
I hoped to have seen you sooner.  
Having failed in this attempt, no further trial was made.  
She always looks very amiable.  
Nothing but grave and serious pursuits delight him.  
This work did not end with the night as it might have done.  
His verse and prose run into one another.
8. (6) Is the expression, "Some one else's book," correct? If not, how should it be? What part of speech is *else*?
9. (14) Distinguish carefully the correct use of *shall* and *will*, with examples; and correct or justify the following:  
I think I will certainly have a chill to-day.  
If he had had good sense, this should not have happened.  
Soldiers of Italy! shall you be found wanting?  
He told them that he should be glad to hear them.  
If you would be respected, you should be in earnest.
10. (20) Punctuate, capitalize and arrange in metrical order the following:  
Cromwell I did not think to shed a tear in all my misery but thou hast forced me out of thy honest truth to play the woman lets dry our eyes and thus far hear me Cromwell and when I am forgotten as I shall be and sleep in dull cold marble where no mention of me must more be heard of say I taught thee say Wolsey that once frod the ways of glory and sounded all the wrecks and shoals of honor found thee a way out of his wrack to rise in a sure and safe one though thy master missed it.

**GEOGRAPHY.**

1. Of what value is map drawing in teaching geography?
2. Name the political divisions of South America.
3. Name in order of size the ten largest cities in the United States.
4. *a*—What is the cause of ocean currents? *b*—Where are the principal currents?
5. Name the countries and States in the same latitude as France.
6. Name the principal islands of the West Indies and give the government to which each belongs.
7. What and where are the following: Honolulu, Nicaragua, St. Helena, Aetna, Baton Rouge, Lima, Geneva, Po, Biscay, Shasta?
8. Locate Australia and name its principal cities and most important products. To what government does it belong?
9. Describe Alaska and name its products and principal river.
10. Write a topical outline for the study of the geography of Colorado.

**PHYSICAL GEOGRAPHY.**

1. State some of the reasons for regarding the earth as a spheroid.
2. Account for the variations in the seasons. Explain why day and night are not of equal duration.
3. What are "trade winds" and "gulf stream?" How produced?
4. Explain the development of rain storms.
5. What effect has latitude upon climate, and why? Ditto, altitude?
6. Why do rivers flow to the ocean?
7. Define volcano, geyser, cloud, aurora borealis, meridian, longitude and gravitation.
8. What agents are at work in constantly changing the configuration of the surface of the globe?
9. How many races of men occupy the globe? Give their main characteristics.
10. What are the resources of the State of West Virginia; of Germany; and of the Hawaiian Islands.

**PSYCHOLOGY AND PEDAGOGY.**

1. Define psychology.
2. Of what value is the knowledge of psychology to a teacher?
3. What is a mental faculty or power? Explain and give an example.

4. Define perception; conception.
5. Give the order of mental development in a child.
6. How would you develop and strengthen a child's observing power?
7. Give two objects of a class recitation.
8. Compare the merits of the "topical" and the "question" methods of conducting a recitation.
9. Give your idea of the value of written examinations.
10. What is the educational value of "manual training?"

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#### NATURAL PHILOSOPHY.

1. Give and illustrate the laws of motion.
2. A body is acted upon by four forces, A. B. C. and D. A. tends to move it to the east with a force of 100 pounds; B. tends to move it to the south with a force of 75 pounds; C. tends to move it to the north-west with a force of 110 pounds, these three forces act in the same plain, while D. tends to move the body in an upward direction in right angles to the plain of the first three forces, with a force of 80 pounds. Produce the formulæ by which to determine the direction in which the body will move and the force of its movement.
3. A stone weighing 40 pounds strikes the earth, having fallen from rest, with a force of 60,000 pounds. How far did it fall?
4. Explain the principle of action of an aneroid barometer.
5. How does heat of high refrangibility differ from heat of low refrangibility? What bodies emit rays of each kind?
6. Explain the principle of the suction pump.
7. Explain the mode of action of each of the simple machines.
8. Explain the law which is illustrated by the mirage.
9. Upon what does the pitch of a musical tone depend? Give proof.
10. Explain the cause of a flash of lightning with reference to the electrical condition.

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#### ANATOMY AND PHYSIOLOGY.

1. State how many bones there are in the skull (cranium and face), and name the bones of the cranium.
2. What are the functions of the pancreatic juice?

3. Give the course of the circulation of a drop of blood passing from the Superior (Descending) Vena Cava to the Aorta, naming the valves of the heart in the order passed.
4. What changes does the blood undergo in passing through the lungs?
5. What effect has the gastric juice on
  - a—Starchy (amyloid) foods;
  - b—Fats;
  - c—Albuminoid (proteid) foods?
6. What is the chemical reaction of the gastric juice?
7. Name the divisions of the small and large intestines.
8. What is the name of the valve at the junction of the small and large intestines, and what is its use?
9. Name the humors of the eye; give the shape of the crystalline lens, and the position of the lens in relation to the humors.
10. What is the name of the first pair of cranial nerves; to what organ are they distributed; what is their function?

#### BOTANY.

1. Define botany.
2. Describe the different methods of propagation in plants.
3. Distinguish between annuals, biennials and perennials, and give an example of each.
4. Write of the arrangement of leaves on the stem.
5. Describe the order *Leguminosæ*.
6. What is the function of the leaf?  
In leafless plants, what parts may perform this function?
7. Describe fully the process of germination.
8. Define monœcious, diœcious and polygamous.
9. What are the characteristic features of ferns?
10. a—What is meant by the flora of a country? b—Name five Colorado plants, and give order to which each belongs.

#### ZOOLOGY.

- I. Distinguish between Mammals, Birds, Reptiles and Fishes.
- II. To what sub-kingdoms do the following animals belong?  
Snake, Rat, Grasshopper, Seal, Oyster, Spider.

III. Describe the methods of breathing of Insects, Fishes and Mammals.

IV. Of what substance is bone mainly composed?

V. Name some animals which have become extinct during the present geological epoch.

### CHEMISTRY.

1. Have we any evidence that matter is ever destroyed?
2. What property of matter persists throughout all physical and chemical changes?
3. Define "Solid," "Liquid," "Gas."
4. What is meant by an element?
5. What is the difference between a "mixture" and a "compound?"
6. Take the equation:  

$$\text{Zn} + \text{H}_2 \text{SO}_4 = \text{ZnSO}_4 + 2\text{H}$$
 name each term and describe the nature of the whole reaction.
7. What are the relative volumes of the two following gases as expressed by the symbols, viz: "O," and "NH<sub>3</sub>?"
8. A certain oxide has the symbol "RO" ("R" being used as a symbol for an unknown element). Its composition is as follows, by weight, viz: "R" 60 per cent., "O" 40 per cent. What is the combining weight of "R," that of "O" being 16?
9. What is the composition of the atmosphere, and of water?
10. What is the function of CO<sub>2</sub> in animal and vegetable life?

### ASTRONOMY.

1. Starting at the sun, name the planets in order. Which is the smallest? The largest? The distance of the outermost from the sun is how many times the distance of the earth from the sun?
2. What planets are attended by satellites, and by how many?
3. Draw a pencil sketch illustrating the path annually traversed by the earth, and locate the sun with reference to that path.
4. Account for the phases of the moon.



5. What causes an eclipse of the moon? Of the sun? What is meant by a Transit of Venus?
6. Answer briefly: What is the sun? What are the stars? What are the important differences between the planets and the stars?
7. What and where are the Asteroids? Mention one theory accounting for their origin.
8. Describe the physical condition of the surface of the moon?
9. What are the Nebulae? How has the Spectroscope assisted in their study?
10. What is the Nebular Hypothesis?

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### GEOLGY AND MINERALOGY.

1. State and explain the general influences of atmospheric agencies on rocks. Explain the usual origin of canyons.
2. Describe and explain the phenomena of glaciers; what traces have they left of their former presence in localities where they are no longer found?
3. What do you mean by sedimentary stratified rocks, and how are they formed? Name some of them.
4. Explain the origin of coal.
5. What are fossils, how are they formed, of what important use are they in geological history?
6. Name in order the seven principal geological ages.
7. In what form does "Galena" crystalize?
8. What is the mineralogical name of Silica?
9. What is the composition of "Fluor-Spar"?
10. What is meant by the term: "native" as used in Mineralogy?

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### SCHOOL LAW.

- I. Into how many classes are the school districts of the State divided?
- II. What constitutes districts of the first class, and in what respects do they differ from others?

III. From what sources are the funds for the support of public schools derived in this State, and how are they distributed?

IV. When does the law require the county examination of teachers to be held?

V. How many grades of certificates may the county superintendent of schools issue, and what is the length of each?

VI. What reports must be made by the principal teacher in each school, and to whom?

VII. What is necessary before a teacher can be legally employed?

VIII. By whom are the text books for the schools adopted?

IX. Who constitute the State Board of Education?

X. How many days' school during the year is required by law in order to entitle the district to public money?

#### HISTORY OF THE UNITED STATES.

1. State at what points on the eastern shores of North America discoveries were made by different European nations, and the results.

2. When were the settlements made within the United States which have most specially influenced the destinies of the Nation? State some of the causes which led the people of the several European nations to make each settlement, and briefly mention the results or effects of these settlements on the history of the United States.

3. How did the Virginia and New England settlements become involved in Indian wars, and what results grew from those wars?

4. Give an account of Braddock's campaign, its purpose and results.

5. State what occurred at the close of 1776 and the beginning of 1777, and the effects of these events on the war.

6. Name the cause of the Mexican war and what were its most important battles? What were the terms of the treaty at its close?

7. Name four of the most prominent men in the Revolution and state what was the distinguishing trait in the character of each, and in what did each most influence our history.

8. Do the same for four men in the Civil war.

9. State the alleged reasons for Secession, and give your opinion of the real ones.

10. Name four naval battles in the war of 1812. What was the effect on the history and character of the people?

**CONSTITUTION OF UNITED STATES AND CONSTITUTION  
OF COLORADO.**

1. The United States Constitution was the outgrowth of what two ideas, and how were these blended in it?
2. What three divisions in governmental function and what check does each have upon the other?
3. What qualifications must the President have and how elected at first? Now?
4. Who compose the Cabinet? What are their duties and what departments do they represent?
4. About what time and for what purpose were the Thirteenth, Fourteenth and Fifteenth Amendments adopted. How is the Constitution amended?
6. State the principal powers of Congress; of the United States Senate?
7. Give the main features of the Constitution of Colorado.
8. Give a list of the State offices, and state briefly the duties of the person filling each office.
9. How is the Legislature elected? What are the powers of the two houses and the length of the session?
10. State briefly the routine of a bill introduced before a legislative body before it can become a law?

**ALGEBRA.**

1. If  $m$  and  $n$  be positive integers, prove that  $a^m \times a^n = a^{m+n}$ ; and assuming this formula to be true for all values of the indices, deduce the meanings of  $a^{\frac{m}{n}}$ ,  $a^0$  and  $a^{-n}$ .
2. Divide  $x^4 + y^4 + z^4 - 2(x^2y^2 + y^2z^2 + z^2x^2)$  by  $x^2 + 2yz - y^2 - z^2$ , and multiply  $a^{\frac{m}{n}}b^{-\frac{t}{3}} - a^{\frac{m}{n}}b^{-\frac{t}{3}} + 1$  by  $a^{\frac{m}{n}}b^{-\frac{t}{3}} + 1$ .

3. Prove that the L. C. M. of any two algebraic expressions is equal to their product divided by their G. C. M. Find G. C. M. and L. C. M. of  $c(x^2+b^2) + x(b^2+c^2)$  and  $c(x^2-b^2) + x(b^2-c^2)$ .

4. Simplify  $\frac{\sqrt[2]{a-b}}{\sqrt[3]{(a+b)^{\frac{1}{2}}-2\sqrt{a-b}}} + \frac{\sqrt[3]{(a+b)^{\frac{1}{2}}}}{\sqrt[3]{(a+b)^{\frac{1}{2}}+2(a-b)^{\frac{1}{2}}}}$

5. Solve  $\left(\frac{x+\sqrt{x^2-9}}{x-\sqrt{x^2-9}}\right) = x-2$  as a quadratic.

6. Extract sq. roots of  $9-4\sqrt{\quad}$  and  $x^2-6x+13$   
 $12-x^{-1}+4x^{-2}$ .

7. What is the term to be added to  $9x^4+12x^3+20x$  + to 25 make it a complete square? Show method of solution.

8. Of two squares of carpet, one is 44 feet more in perimeter than the other and 187 square feet more in area. What are their sizes?

9. Express  $\log. \sqrt[3]{\frac{ab^2c^4}{d^5}}$  in a form adapted to computation.

10. From a  $\sqrt{\frac{b^2z+b^2}{z-1}}$  take  $b\sqrt{\frac{a^2z-a^2}{z+1}}$  and express result in simplest form. Solve  $3y^m\sqrt[3]{y^m} + \frac{2y^m}{\sqrt[3]{y^m}} = 16$ .

#### GEOMETRY.

1. In an isosceles triangle A B C, the sides A B, and B C, being equal, show that the bisector of the exterior angle at B is parallel to the side A C.

2. Show that the three bisectors of the angles of a triangle meet in a point, and that this point is the center of the inscribed circle.

3. What is the sum of the angles of a pentagon?

4. How is the area of a trapezoid expressed?

5. Demonstrate that the diagonals of a parallelogram bisect each other.

6. Is an equiangular polygon always equilateral? Why or why not?

7. Prove that all angles inscribed in the same arc are equal.
8. Show that any triangular prism can be divided into three pyramids of equal volume.
9. Prove that triangles having an angle in each equal are to each other as the rectangles of their including sides.
10. In what ratio are the surfaces of a sphere and its circumscribing right cylinder?

### ENGLISH LITERATURE.

[Accurate answers to fifty per cent. of the questions pass the candidate. Number answers and each part of an answer as the questions are numbered. Place a dash on your manuscript after the number of each question that you decline to answer.]

#### I. *Literary history before 1066.*

1. Name the chief epic poem in English.
2. Name a poet who paraphrased the Scriptures.
3. Name a writer of church history who translated the Gospel of John.
4. Name a chief writer of prose.
5. What foreign language and literature had most influence on English.

#### II. *Literary history from 1066 to the present time.*

1. What foreign literature had most influence over English from 1066 to 1400?
2. What foreign influence was introduced by Wyatt and Lurrey?
3. What foreign influence was pre-eminent from 1660 to 1700?
4. To what nation of Modern Europe has English poetry been most deeply indebted?
5. What contemporary literature has most influence over English thought?

#### III. *Literary chronology and authorship.*

1. Classify the following works by centuries, and name the author of each: Every Man in His Humour; Atalanta in Calydon; Ralph Royster Doyster; Eve of St. Agnes; Ancient Mariner; Hudibras; Confessio Amantis; Gulliver's Travels; Brut; Ring and the Book; Tristram Shandy; The Newcomes; Manfred; Adam Bede; Tom Jones; Aurora Leigh.

#### IV. *Course of reading.*

Name the author and work in which the following passages occur:

1. Know then thyself; presume not God to scan.

2. Yet I doubt not thro' the ages one increasing purpose runs,  
And the thoughts of men are widened with the process of the suns.
3. Reading maketh a full man, conference a ready man, and writing an exact man
4. But Christes lore, and his apostles twelve  
He taught, but first he followed it himselfe.
5. Heaven lies about us in our infancy.
6. There C. stepped a little aside to his fellow Hopeful, saying, "It runs in my mind that this is one By-ends of Fair-speech; and if it be he, we have as very a knave in our company as dwelleth in these parts."
7.               None but the brave,  
                  None but the brave,  
                  None but the brave deserves the fair.
8. Sweet Auburn! loveliest village of the plain.
9. Ye banks and braes o' bonnie Doon.
10. Some mute inglorious Milton here may rest.

V. *Criticism.*

1. The plan of the Faerie Queene.
2. The characters of Hamlet, Portia of Belmont, and Desdemona; or one character from each of any three of Shakespeare's plays.
3. The plan of Paradise Lost.
4. One of Scott's longer poems, or one of the Waverly novels.

LATIN.

No one will pass who omits the parsing. Great importance will be attached to accuracy and elegance of translation.

CÆSAR.

1. Book I. Translate Chapter XVII.
2. Explain the chief syntactical difference between Direct and Indirect Discourse.
3. Turn the Latin of the Indirect Discourse in this chapter into the corresponding Latin of the Direct Discourse.
4. Give an historical sketch that will explain the allusions in this chapter.

5. Give the rule for the cases of *oratione, nonnullos, imperia, hostibus, periculo*. Principal parts, active and passive, of *conferant, gerantur, coerceri, intelligere, tacuisse*.

If the candidate prefer, instead of answering questions 1 and 3 in Book I., Chapter XVII., he may answer these same questions relative to Book II., Chapter XV.

## VIRGIL.

1. What is the story of the Aeneid?
2. Book I. Translate lines 254-266.
3. Divide into feet the first three lines of this passage, and define hiatus, caesura, crasis and spondiac line. Give the derivation of *promissa* and *transterint*.
4. Book II. Translate lines 544-553.
5. Give a brief account of Pyrrhus, Achilles, Hector and Ulysses.

## GERMAN.

## I. Grammar.

1. Inflect *Mann, Mutter*; inflect together *der runde Tisch*.
2. Full inflection of *uns* and the relative pronoun *welcher*.
3. Inflect the imperfect, perfect and future tenses of *sein*.
4. Inflect the imperfect of *geben, nehmen*.
5. Write the principal parts of *bleiben, denken, essen, fahren, graben, helfen, rufen, schneiden, tum, sterben*.

## II. Translate into German.

1. We shall set out for France on the fifth of June.
2. The author of the work has been rewarded by the king.
3. The merchant promised to send me the cloth to-day.
4. The bird flies through the air; the fishes swim in the water, and the worms crawl upon the earth.
5. I have not received a letter from my brother this week.

III. Translate into English: "Es war in einem Provinzialstaedchen," sagte der Mond, "freilich war es im vergangeneim Jahre, aber das thut nichts zur Sache, ich sah es sehr deutlich; heute Abend las ich in den Zeitungen davon, aber da war es lange nicht so deutlich. In der Gaststube sass der Baerenfuehrer und ass sein Abendbrod; der Baer stand draussen hinter dem Holzstosse angebunden, der arme Petz, der Niemand etwas zu leide that, obwohl er grimmig genug aussah. Oben in der Dachkammer spielten in meinen Strahlen drei kleine Kinder; das aelteste mochte sechs Jahre alt sein, das juengste nicht mehr als zwei. "Klatsch, Klatsch!" kam es die Treppe hinauf;

wer konnte das wohl sein? Die Thuere sprang auf—es war der Petz, der grosse, zottige Baer! Er hatte Langeweile gehabt unten im Hofe, und hatte nun den Weg zur Treppe hinauf gefunden. "Ich habe alles gesehen," sagte der Mond. "Die Kinder erschrecken sehr ueber das grosse zottige Thier; jedes kroch in seinen Winkel, er entdeckte sie alle drei, that ihnen aber nichts zu leide.—(*Andersen.*)

#### TEMPERANCE INSTRUCTION.

The temperance law passed by the last Legislature has been generally observed throughout the State. In all of our schools instruction as to the effect of alcohol and narcotics on the human system has been given. The law, as passed, is somewhat vague and indefinite, yet it has been obeyed as the school boards understood it. It would be well, perhaps, if the next Legislature would make the law more definite, yet in its present form it may accomplish all that is desired.

#### NORMAL INSTITUTES.

By an act of the last Legislature the State was divided into six Teachers' Normal Institute districts. This, I believe, was a wise step, and had for its object the good of those who are engaged in teaching. These Institutes are to be held for the purpose of developing the best methods in teaching, and are of great value to all teachers, and especially to beginners.

These Institutes should be held annually for a period of not less than two weeks, but as yet only Normal District No. 1 has organized. This district has held two very successful Institutes. It is to be hoped that in the near future all of the districts will organize, and hold their Institutes annually for two weeks. Thus far the State has failed to make an appropriation for aiding the Institute work. The law provides for an appropriation



of \$50 for each district, but even this small amount has not been provided by an appropriation. It would pay the State to do much more than this to aid in the Institute work.

In the absence of Institutes, County Teachers' Associations have been held, with good results.

#### STATE SCHOOL FUND.

The amount of permanent School Fund in hands of State Treasurer November 30, 1888, was \$488,684.85; amount due on deferred land payments, \$112,507.20; making a total to the credit of the State of \$601,192.05.

The revenue derived from permanent fund as interest and the rentals on school lands have amounted during the past year to a fraction over \$2.00 *per capita* for all persons of school age, or the sum of \$143,141.70. Such an amount as this brings a much needed aid to the school work, and reduces in a measure the rate of taxation.

#### STATE LIBRARY.

During the past two years there has been a marked increase in the number of readers who patronize the Library. Its convenient location, and the fact that its doors are open from 9 a. m. to 4 p. m., have done much to increase the number.

An attempt has been made to fill the gaps in a number of incomplete sets of publications. The attempt has met with considerable success. Through the kindness of the Honorable Secretary of the Interior, one hundred and thirty-eight volumes have been received in exchange during the past two years. By this means a number of valuable sets have been completed. There is now in the Library a complete set of Patent Office

Records, from 1847 to the present time; a complete set of Annals of Congress, Congressional Globe and Congressional Record, and almost a complete set of Hayden's Geological Survey. A number of volumes have been added to other valuable sets.

Many of the States and Territories send all of their publications to the Library, and it would be nothing more than right to send them the Journals and Official Reports of this State in return. Only the laws and Supreme Court Reports are now exchanged. It would be well to provide that the Secretary of State furnish the Library with forty or fifty copies of each public document for exchange with other Libraries. This would insure us a complete series for our own Library in the future.

The Library ought to have a small appropriation for the purchase of reference books, and works on Colorado, and for the binding of some books in the Library that sadly need it. A State Library should be a complete reference Library, and should contain every book pertaining to the State.

The following will show the increase and present condition of the Library:

Number of volumes catalogued November 30, 1886 . . . . .	8,223
Number of volumes received from States and Territories . . . . .	231
Number of volumes received from United States (regular series) . . . . .	348
Number of volumes received from United States (in exchange) . . . . .	138
Number of volumes received from all other sources . . . . .	99
Total receipts . . . . .	816
In Library November 30, 1888 . . . . .	9,309

Six hundred and forty-eight volumes of Supreme Court Reports and laws have been received and turned over to the Supreme Court Library, including one hundred Colorado documents.

The following periodicals have been donated by the publishers and kept on file in the Library:

1. The Christian Register.
2. Unitarian Review.
3. Journal of Franklin Institute.
4. Polyclinic.
5. The American Exchange and Mart.
6. Boulder News.
7. Rocky Mountain Herald.
8. Local Miner.
9. Martha's Vineyard Herald.
10. The Mining Industry.
11. Holyoke Tribune.
12. Colorado Farmer.
13. Denver Republican.
14. Denver News.
15. Denver Times.
16. Patent Office Gazette.
17. The World.

These papers are received regularly and are valuable to many readers. It is to be regretted that so few are received. It would be well if every county in the State could be represented by its leading paper. In this matter the Library depends entirely upon the generosity of the publishers, and any contribution of papers would be highly acceptable.

## COUNTY SUPERINTENDENTS OF SCHOOLS.

FROM JANUARY, 1888, TO JANUARY, 1890.

COUNTY.	NAME.	POST OFFICE.
Arapahoe . . . . .	A. D. Shepard . . . . .	Denver
Archuleta . . . . .	Charles Harpst . . . . .	Amargo, N. M.
Bent . . . . .	John A. Murphy . . . . .	Las Animas
Boulder . . . . .	Dr. F. A. Shute . . . . .	Boulder
Chaffee . . . . .	Rev. Jacob Kagey . . . . .	Buena Vista
Clear Creek . . . . .	Henry Bowman . . . . .	Idaho Springs
Conejos . . . . .	Charles Brickenstein . . . . .	Alamosa
Costilla . . . . .	Frederick Etter . . . . .	Fort Garland
Custer . . . . .	J. P. Wright . . . . .	Silver Cliff
Delta . . . . .	J. B. McGinty . . . . .	Hotchkiss
Dolores . . . . .	J. O. Campbell . . . . .	Rico
Douglas . . . . .	P. H. Hammond . . . . .	Castle Rock
Eagle . . . . .	James Dilts . . . . .	Dotsero
Elbert . . . . .	B. C. Killin . . . . .	Kiowa
El Paso . . . . .	Reuben Berry . . . . .	Colorado Springs
Fremont . . . . .	B. G. Woodford . . . . .	Cañon City
Garfield . . . . .	Samuel M. White . . . . .	Carbondale
Gilpin . . . . .	Wm. J. Thomas . . . . .	Central City
Grand . . . . .	Walker McQueary . . . . .	Grand Lake
Gunnison . . . . .	S. D. Carroll . . . . .	Crested Butte
Hinsdale . . . . .	W. S. Elmendorf . . . . .	Lake City
Huerfano . . . . .	Fred Pischel . . . . .	La Veta
Jefferson . . . . .	J. S. Eagleton . . . . .	Golden
Lake . . . . .	Rev. A. E. Armstrong . . . . .	Leadville
La Plata . . . . .	T. J. Jackson . . . . .	Durango
Larimer . . . . .	S. T. Hamilton . . . . .	Fort Collins
Las Animas . . . . .	Dr. M. Beshoar . . . . .	Trinidad
Logan . . . . .	Oscar Trego . . . . .	Sterling
Mesa . . . . .	D. T. Stone . . . . .	Grand Junction
Montrose . . . . .	J. J. Tobin . . . . .	Montrose
Ouray . . . . .	Rev. O. E. Ostenson . . . . .	Ouray
Park . . . . .	I. S. Smith . . . . .	Fairplay
Pitkin . . . . .	J. W. Deane . . . . .	Aspen
Pueblo . . . . .	Dr. C. F. Taylor . . . . .	Pueblo
Rio Grande . . . . .	Sigel Heilman . . . . .	Monte Vista
Routt . . . . .	John T. Whyte . . . . .	Yampa
Saguache . . . . .	C. M. Herren . . . . .	Saguache
San Juan . . . . .	Dr. J. W. Brown . . . . .	Silverton
San Miguel . . . . .	H. C. Lay . . . . .	Telluride
Summit . . . . .	Dr. B. A. Arbogast . . . . .	Breckenridge
Washington . . . . .	W. Curtiss . . . . .	Akron
Weld . . . . .	Rev. A. K. Packard . . . . .	Greeley

STATEMENT  
OF THE  
SCHOOL WORK

IN THE VARIOUS COUNTIES, BY THE COUNTY SUPERINTENDENTS.

ARAPAHOE COUNTY.

A. D. SHEPARD, *Superintendent.*

Arapahoe county commences the school year of 1888 with seventy-six organized school districts, containing a school population of nineteen thousand five hundred. Districts Nos. 1, 2 and 17 are districts of the first class, and are for the most part situated in the city of Denver. Each of these districts are called upon each year to expend large sums of money, that the ever-increasing population may be supplied with adequate facilities for the proper education of their children. At present District No. 17 is building one of the finest school houses in the country, containing sixteen rooms, at a cost of \$90,000. District No. 2 is building an eight-room house, at a cost of \$36,000, and District No. 1 is building a twelve-room house, at a cost of \$74,000, besides completing one of the largest and most complete high school buildings in the United States. The country schools are also coming to the front, and a general disposition is shown on the part of directors to improve their schools by increasing the length of time school shall be held, and also in providing the teacher with suitable apparatus for educational work. Districts Nos. 61, 71 and 21 are

each builing a new one-room brick, and have adopted the principle of our city schools in securing proper light, heat and ventilation. These buildings will cost about \$12,000 each. During the short time that I have been in this office I have found that a majority of the directors of our country schools are not only willing, but are ready to adopt any suggestions that are made to them that will be of advantage to the schools. True, there are some districts that can not afford to adopt many things that would tend to benefit the schools, but time will work its changes in this respect. We have in this county a room in the court-house known as the county school-room. It is furnished with sixty No. 1 single desks, chairs, office table, and plenty of black-board surface. This was done at my suggestion, by the Board of County Commissioners, in order that the educational work of the county might be advanced by having a permanent place to hold examinations, teachers' meetings, etc. Each year brings some improvements in our schools, and taking all things into consideration, I think we are making fair progress.

#### ARCHULETA COUNTY.

C. H. HARPST, *Superintendent.*

We have three school districts in Archuleta county, each district has one school. District No. 1 is now erecting a \$3,000 school-house, modern style, and altogether a very fine building; will be completed in November, 1888. During the last school year District No. 2 erected a good school building, costing about \$1,500, which is now thoroughly equipped throughout with modern apparatus and furniture. District No. 3, organized in February, 1888, will also build a first-class school-house at no distant date. As to our school work,

we believe it to be first-class. We aim at thoroughness in every particular, and to secure this end only the best teachers are employed, and with the best of results. Our young county is rapidly settling up, and the newcomers take hold with us in our educational work in a manner which is very gratifying. When we have sufficient population we expect to take our place among the first counties in educational work, and even now we claim a very good showing for our three years' work since the organization of our county.

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#### BOULDER COUNTY.

T. A. SHUTE, *Superintendent.*

I have the honor to supplement my report of September 1, 1888, with a few remarks. The report closes a prosperous year for the schools of Boulder county. We are getting a better class of teachers, with better organization. Our schools are having longer sessions. The directors of the several districts are men who wish to advance the standard of our public schools; they are employing only teachers of experience and ability. The people generally are manifesting a greater interest in educational work. There are several school buildings in process of erection in the county.

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#### CLEAR CREEK COUNTY.

HENRY BOWMAN, *Superintendent.*

I take pleasure in saying that the educational work in this county is steadily increasing in excellence, and that the progress made during the past two years is of a marked character; this is especially the case in our graded schools. Our people display a deep interest in educational matters, as shown by their liberality in the

payment of taxes for the support of schools, and our school boards have seen the importance of furnishing plenty of wall maps, charts, globes, and other necessary helps.

I am glad to report that we have many excellent teachers in this county, and that our school boards see the advisability of securing those of a high standard.

I hope that our next General Assembly will enact laws relating to compulsory education and truancy. This is essential in view of the fact that many parents do not realize the importance of their children possessing even the advantages of a common school course.

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#### CONEJOS COUNTY.

C. H. BRICKENSTEIN, *Superintendent.*

Conejos county schools are in a better condition than they ever were; there are more of them, and the people are taking a great deal more interest. Since January 1 I have established seven new districts among people who want schools, and will see that the educational interests of their districts are well looked after. A large proportion of our immigration this year has been of the class that appreciate our public schools, and almost their first move after settling is to have the school house located. It is the intention to hold an Institute here this winter, and a great deal of interest is being taken, both by the teachers and the public generally. Last year I had only two graded schools—this year I have four; everything, in fact, points to a greater degree of activity in educational work in Conejos county than has ever been known before.



## COSTILLA COUNTY.

FRED. ETTER, *Superintendent.*

In answer to your request asking for information regarding the schools of this county, I beg leave to submit the following:

It gives me much satisfaction to be able to inform you that the schools of this county have made considerable progress in the past two years. Better teachers have been employed, more school-houses built, and improved text-books, apparatus, etc., purchased than ever before in the history of this county, and I am glad to say this spirit of progress bids fair to continue.

Compulsory education is, in my estimation, a most needful measure for the future welfare of the rising generation. We should allow no boy or girl to reach maturity without being able to read, write, and compute such accounts as are liable to come in their way in the ordinary walks of life, and until compulsory education is a law this can not be accomplished, for no matter what educational facilities are placed within the reach of some people, they will allow their children to stay away on some frivolous pretext or other, when they should be at school.

Uniformity of text-books in the public schools of the State is, I think, most desirable. My ideas on this matter are that the State Board of Education should select the text books, purchase the same with money appropriated for the purpose, and furnish the County Superintendents with as many as are needed, who in turn would furnish the District Boards. Each county and district would be charged with the value of books received, and the same deducted from its apportionment. By this means a uniform set of text-books could be had

throughout the State. The very best would, of course, be procured, and at much less cost to the community than at present.

#### CUSTER COUNTY.

J. P. WRIGHT, *Superintendent.*

The educational interest of this county has about held its own. This is saying much when we consider that this is a mining county and that this industry has been almost at a stand-still the entire year.

An Institute of two days was held at Silver Cliff, and was attended by nearly all the teachers in the county at that time. An Institute fund was formed by each one wishing to be a member paying fifty cents. Money enough was raised to pay all expenses, and a few dollars left in the treasury.

An educational column is edited by the teachers of the county and published in the *Wet Mountain Tribune*, at West Cliffe.

The county superintendent can not give his entire attention to the office, as he is paid in county warrants, which sell at sixty-five cents on the dollar, and as most superintendents cannot live on climate and altitude alone, I would suggest a law be passed to pay them from the contingent fund.

Two new districts have been formed, and one old one re-organized, none of which have as yet held school, and unless the patrons of the schools make up money it will be hard for them to commence school in the prescribed limits of the law.

There is a tendency when building new houses to build of stone, which I think a move in the right direction. No. 8 will build a \$500 stone house this fall. The people of the district will do most of the work, which will make a house of \$1,000.

That most of the schools do good work is proven by the fact of the pupils, when moving from the county to well graded schools, enter the higher classes. This is more noticeable from the graded schools. One pupil writing me from the Pueblo Public Schools says, "I entered the High School, ninth grade." She says further, "My brother, who was in the intermediate grade at Silver Cliff, entered in the seventh, and in a week or so will be ready for promotion."

In conclusion, I will say, enact some law to put our county out of debt and compel people to pay their taxes, and pay the county superintendent dollar for dollar, and I will promise you, should an educational exhibit be on the programme of our next State Fair, that Denver, Pueblo and Aspen would have to look well to their laurels.

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#### DELTA COUNTY.

J. B. MCGINTY, *Superintendent.*

The schools of Delta county are progressing nicely. It is indeed gratifying to see the interest manifested in education.

Since my last report eight creditable school buildings have been erected, and furnished with the best modern school desks.

There seems to be a panic at present to secure globes, maps, charts, dictionaries, and new and improved apparatus in general.

Three years ago there was not a school in the county that was furnished with a *good* school desk. Nor was any school furnished with a globe, a map, a chart, a dictionary, or even a suitable black-board. Now there are only a few schools but what have all these appliances.

It has taken three years steady hammering to awaken the people to their needs and bring these results about. This has been accomplished principally through three channels, viz: By educational gatherings; by grading the schools; and by procuring more efficient teachers.

We now have seventeen schools in the county, and three more soon to be organized, all of which expect to have school from five to ten months the coming year, an increase of from one to three months in most of the districts.

And as our teachers are fifty per cent. better than at any previous time, good results must crown Delta county the coming year.

Our next efforts will be to procure a good, suitable library for each school.

#### DOLORES COUNTY.

J. O. CAMPBELL, *Superintendent.*

Your circular, requesting a report of school work in this county, received. We have but one school in this county, that located at Rico, ungraded; employs one male teacher, holding a first grade certificate, and is a first-class instructor; name, W. B. Hess; has enrolled fifty-seven scholars, nearly all of whom attend regularly; they range in age from six to eighteen years, and are taught all the branches required by law, and besides a class in book-keeping, which is taught partially out of school hours. Mr. Hess is a thorough instructor and disciplinarian, gives entire satisfaction, and receives a salary of seventy dollars per month, which is much less than it should be for the work performed.

#### EAGLE COUNTY.

JAMES DILTS, *Superintendent.*

There are ten organized school districts in Eagle county, four having been organized in the past year.

The contour of the county and its consequent chief industrial pursuits are not favorable to the growth of schools. High and rough mountains, valuable chiefly for mining and grazing, comprise almost its whole extent. The typical prospector is either unmarried or far from his family, and the cowboy loves the freedom of his reckless life more than the tame comforts of home. There are two permanently settled mining towns in the county—Red Cliff, the county seat, and Gillman, its younger rival in both business and population. The people in these are enterprising and prosperous; many of them well educated. Each of these towns supports a school for at least eight months each year. They employ trained and competent teachers at liberal salaries, provide comfortable and attractive rooms, and their schools are well attended. The other schools of the county are in thinly peopled districts—one near the Continental Divide, in a charcoal and mining camp, the others in the narrow limits of the agricultural area along the river courses. These are meeting the difficulties incident to new settlements. The actual necessities of life often cost all the energies of the people. A strong interest, however, in the growth of the school actuates the settlers, whether heads of families or unmarried men, and very praiseworthy progress is being made. Short terms of school are being taught in such houses as can be secured at small expense, and in many instances part of the cost is paid by voluntary contributions.

The value of the property in the county is advancing; nearly eighty miles of railroad have been constructed, and agricultural land is being patented. These resources, behind the present fostering interest everywhere felt, point toward better schools and higher culture and better morals in the future for the people of Eagle county.

**ELBERT COUNTY.**

B. C. KILLIN, *Superintendent.*

The annual report of Elbert county is herewith respectfully submitted. Also a brief statement of educational work for the year ending June 30, 1888:

Organization of districts has comprised a considerable portion of the work of this office during the past year. This was principally in the new settlements within the "rain belt" in the extreme eastern part of the county and near the State line. The great distance of those settlements from the county seat has made progress of organization somewhat slow; yet I believe every step taken has been strictly in accordance with law, and all remarkably harmonious with regard to boundary lines.

The new districts in that locality aggregate about five hundred persons of school age. Nealy all have sod school-houses, which are cheaply built, and quite comfortable both summer and winter.

Resident teachers of experience and ability are there in abundance. Eleven new school districts have been organized in the vicinity of Burlington since January 1, 1888.

**FINANCIAL.**

Notwithstanding the rapid increase in school population, the financial condition continues prosperous, the increase in taxable property more than keeping pace with the increase in population.

**BUILDING.**

Building has been confined principally to the newly organized districts, although District No. 7 (Hugo) has in process of erection a three-room brick school building, to cost, exclusive of furniture, \$7,300; this amount to be raised by special taxation the current year.

## TEACHERS' ASSOCIATIONS.

A meeting of the County Association was held at Elbert, June 28-29, 1888. A goodly number of teachers were present, and some earnest and beneficial work accomplished.

In September, 1887, an organization was formed at the town of Burlington, in the eastern part of the county, called the "Eastern Elbert County Teachers' Association." Twenty members were enrolled, and great earnestness in the work was manifested by the teachers and friends of education at that place. I may add, much profit is to be derived from these county associations, and teachers are awakening to the importance of becoming enrolled and attending each session.

We also intend to hold semi-annual meetings, and issue certificates of attendance. We expect also to have the name of every teacher in the county on our list before the present school year closes.

More work and better work is expected from the teachers, and those who are careless must soon drop out of the ranks.

The remarkable decrease in average monthly salary paid teachers in ungraded schools is not permanent, and by no means alarming; such a condition is not unusual where there is a large influx of population, and many new districts suddenly organized. Those best fitted for the work will remain with us, while many will turn their attention to other fields of labor.

Much credit is due our State Superintendent for his earnest work in advancing the school interests of the State, foremost among which I consider the organization and fostering of county associations.

## EL PASO COUNTY.

REUBEN BERRY, *Superintendent.*

It affords me great pleasure in being able to report to you, as Superintendent of Public Instruction that the public schools of El Paso county are in a most flourishing and prosperous condition. With rare exceptions, the schools of this county have been taught by capable, conscientious, earnest teachers, who seem to have been imbued with the *true spirit* of their profession, and hence a *marked progress* in all the branches taught, as well as in *method* and ethics, is apparent and most gratifying. This is especially true of our graded schools, in most of which the teachers employed last year have been retained for the current year.

The ready co-operation of school boards with teachers and County Superintendent has done much to advance and promote the educational work in our county. It has resulted in furnishing many of our schools with improved seats and desks, more blackboards, maps, charts, and other conveniences, for the comfort of scholars, and better facilities for imparting instruction.

The people of this county, as well as school officers, take great interest in the public schools. This is shown in part by their liberal provision for maintaining schools on an average in the entire county for over seven months during the year. Also in the erection of comfortable and convenient school-houses.

Six new school districts have been organized during the past year, four of which have had short terms of school, and the other two will soon have new school buildings completed, and commence a full term of school.

Three new two-story brick school-houses are now in course of construction, one of six rooms at Manitou, another of six rooms at Colorado City, and one of four



rooms in Colorado Springs. These buildings, with furniture, will cost about \$60,000.

Three Teachers' Association meetings have been held in the county during the year, at two of which our worthy State Superintendent of Public Instruction was present and delivered interesting and instructive lectures before the association. These association meetings have been of great benefit to the teachers--and especially so to those of limited experience. I am happy to say that our teachers are giving special attention to the recent enactment by our State Legislature, relating to the injurious effects of alcoholic stimulants and narcotics.

These schools which have adopted a regular course of study, such as that recommended in the *Daily Register*, show much better results than those which are conducted without any definite course of study.

A want of uniformity of text books in our schools is a source of great injury, and some means should be provided to remedy the evil. I know of no better or effective plan than the enactment of a law by our General Assembly empowering school boards throughout the State to adopt a uniform series of text books and provide for the payment of the same out of the public funds.

#### FREMONT COUNTY.

B. G. WOODFORD, *Superintendent*.

The schools of this county are in fair working order, and there is a perceptibly growing interest being taken by patrons and school officers.

Several districts have built new houses; others have repaired or enlarged. District No. 1 issued bonds to the amount of \$13,000, and has completed a fine stone addition to the school building, making it one of the best and most commodious in the State. District No. 2, Flor-

ence, has completed a \$7,000 brick school house, which is a fine structure and well arranged, and has a good system of ventilation. District No. 21, Rockvale, made improvements on the school building and provided better means of ventilation.

There is much work being done to raise the standard of the district schools by having a well-defined "Course of Study" and by grading them as far as is practicable, which we find a difficult problem.

Most of the school boards have been liberal in providing maps, charts, etc., and others are awakening to school interests and purchasing those essentials of a school-room.

We now have twenty-four school districts in the county, giving employment to forty-four teachers.

The village schools are prosperous, and the Cañon City schools are thoroughly graded and in fine condition.

During the past year two "County Teachers' Associations" were held, having been well attended and resulting in the manifestation of much interest in educational work.

We made an effort in this Institute District to hold a District Institute, but, for want of funds and lack of interest, failed.

As the Legislature makes no provisions for the Institutes, I would suggest that a law be passed requiring the payment of \$2 from each applicant for examination, which shall go into the Institute Fund.

#### GARFIELD COUNTY.

SAMUEL M. WHITE, *Superintendent.*

Garfield county may justly feel proud of her public school system. There is a constant growth of educational interest here, which manifests itself in different

forms. \* Not only are the heads of families interested, but the young men, the bachelors, all respond with open pocket-books to further the cause of education. At Rangely, the scene of the late Ute war, to-day there is a good log building and all the modern improvements within, and I must say that the young men assisted me in building up the school almost exclusively. A school district has been organized at the Old Agency farm, on White river, where the lamented Meeker was massacred by the Utes. The citizens of Meeker have built a ten thousand dollar (\$10,000) school building, with all the modern improvements. During the spring and summer I have organized eight (8) districts, with good, substantial school-houses, and most of them supplied with books, globes, maps, etc., etc. The young people have given entertainments from time to time, and purchased organs for the schools. Carbondale has an excellent school building, and I must here state, that the young men responded liberally towards the completion of the school building. Glenwood Springs has a magnificent school building, with an enrollment of one hundred and sixty pupils. The cost of the building, with all the modern improvements complete, was \$27,000.

Professor Kiggins has charge of the school, and, with his able assistants, everything moves like clock work. We have now twenty-one organized school districts in Garfield county. I must state that I am decidedly opposed to issuing temporary certificates, especially to residents of the county. As soon as a school district is organized, there is some one that wants to teach who resides in the district, and, as a matter of course, they teach for \$10 or \$15 on the month cheaper than a professional teacher, hence we have a little of the Chinese business even in our public schools. I have been annoyed considerably by some of these would-be local teachers, who will ask: "Mr. White, please send me a

temporary certificate, or send me your questions and I will send the answers." Well, such GALL! I might as well send them a United States history, and ask them who was George Washington. I have given my entire attention to the cause of education in Garfield county, and my salary is just barely enough to pay my expenses, but next year it will be quite DIFFERENT.

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#### GILPIN COUNTY.

W. J. THOMAS, *Superintendent.*

In answer to your request of recent date respecting the educational work of my county, would state that the outlook educationally was never brighter than at present.

I have endeavored through persistent efforts to make the question of education one of general interest to the public, and have met with such success that the welfare of our schools is now discussed in almost every household.

During the past year a new district was organized in the eastern portion of the county, and a school conducted there this summer. I am about to organize another district in the northern part of the county, and when this is accomplished every portion of little Gilpin that is available for school purposes will have been appropriated.

It has been my object to secure a uniform system or course of study throughout the county, and have met with every encouragement from school boards and teachers in the several districts. This has not yet been perfected, but it is only a matter of a few months before we shall have a perfect grade from the primary class in the remotest district to the finished grade in the high school.

The work of the Central City schools has never been better than at present, and through the efforts of our efficient superintendent, Mr. E. C. Stevens, the people may now boast of having a public school that is second to none in the State.

We shall strive to retain this interest, and by this means endeavor to do our share for the welfare of education in general.

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#### HUERFANO COUNTY.

FRED PISCHEL, *Superintendent.*

Additional to the tabulated annual report, allow me to say a few things in a more general direction regarding the educational condition of the county.

In 1885 twenty organized districts showed the valuation of school property to be \$8,050 (including one district with \$5,600). Two thousand and twenty persons of school age were enrolled. The total number of mills of special tax voted by all the districts was thirty and one-half mills, of which Walsenburg and La Plata alone are marked with fourteen mills. Two thousand ninety-eight dollars and seventy-nine cents of special taxes were paid that year. Now, with twenty-six districts and two thousand one hundred and fifty-one pupils enrolled, the total number of mills of special taxes voted is one hundred and seven. Four thousand nine hundred and twenty-seven dollars and seventy-one cents of special taxes were paid last year, and the valuation of school property has increased to \$22,656, or nearly \$12,000 since last year.

Some of our school houses are ornaments to any community or place, and are furnished and finished in modern style, with a view to comfort and beauty, and in themselves are aiding education by developing a taste for neatness, cleanliness and order, and a greater appreciation of the importance of the public school.

Our Mexican population is keeping well along in the line of progress, as evinced by a number of neat, well furnished school houses, and the per cent. of the average attendance to the enrollment. They are, however, not making as rapid an advancement in the mastery of the English language as the importance of the case would lead us to expect. By custom they live in settlements by themselves; the American business man is ready to learn the use of their language; the Mexican ladies apparently take a very slight active part in outside affairs, consequently the necessity of a knowledge of the American language does not as yet to them become very apparent. Mothers feel the want of its use least of all. The mother tongue is spoken exclusively, and but little inducement or encouragement for learning English is offered the children outside of the school room, and the efforts there made do not meet with the ready home appreciation so necessary to promote the interest.

Where lies the remedy?

I regret that my report does not show an increased percentage of average attendance to the number enrolled. In 1886 it was 49.2%, in 1887, 60.92%, and this year it is only 58.74%. The appearance and spread of scarlet fever during last fall and spring over the greatest part of the county closed entirely several schools before expiration of school terms, and in others reduced the attendance to such a point that school was kept up only as a matter of form. Such obstacles can not be avoided or controlled, but may next year be free from similar interference.

The schools of the county have been and are being graded and course of studies adopted, carrying with it a more thorough classification, records of classification at end of term, written monthly examination, a better supervision, and an expected greater efficiency from

teachers and increased interest of parent and scholars. Uniformity of text-books is growing rapidly.

Does it not seem that Colorado is now old enough—its educational interest far enough advanced—to increase the legal school term from three to at least four months? Our revenues from the public school lands are growing, and if the lands are manipulated to the best interests of the school fund, regardless of the wishes of ravenous speculators, they will yield increasing returns. The present appraisement of these lands as a basis for determining the rental value will bear a revision and advancement.

It is evident that the present law on Union high schools is inoperative, and *inoperative* because *impracticable*. Country high schools we must have; they afford advanced education to many whose financial condition now puts a peremptory halt; they will serve as an incentive to a better system of country grammar schools, and a more regular and longer attendance at these.

Can not the next Legislature be induced to thoroughly digest a feasible plan and put it in operation? Can not the next State Teachers' or Superintendents' Association formulate a practical plan which to lay for adoption before the Legislature? However it may be accomplished, let us have country high schools—schools that take up at least the first two years' work of the regular high school course, with such modifications as the particular location may seem to demand.

#### LA PLATA COUNTY.

T. J. JACKSON, *Superintendent*.

I have the honor to submit herewith my annual report for the year ending June 30, 1888. It has been somewhat delayed by difficulties in the county treasurer's office, of which I have already informed you.

All things considered, the schools of this county are doing exceedingly well. There is marked improvement in every department and district. Seven new districts have been organized, and all bid fair to do well.

The number of applicants for situations as teachers has increased very much, thereby giving wider scope for choice, and consequently a better corps of teachers throughout the entire county. This is a great advantage, and has already produced good fruit. There is such a demand for higher educational facilities that the city schools of Durango have responded with three additional grades and a regular high school course; while the Mancos valley has decided upon the immediate erection of a commodious building, and will, in a few weeks, have a regular high school in session.

It is a matter of regret that the attendance in our schools is no better. As may be seen from my report, the enrollment is only sixty-five and three-fourths per cent. of the population of school age; the daily attendance is less than thirty-seven per cent., and, worse still, the daily attendance is only fifty-six per cent. of the enrollment. This results, in part, from the shifting nature of the population in this western country, and its scattered condition in some parts; but it must be admitted that it is, in a large measure, due to indifference and a lack of appreciation of the advantages of education. It is a matter of the profoundest significance, and, in my humble judgment, calls for a compulsory statute. This is a time so critical in our State's history that it should command the most earnest attention of the law-making power. Such a law could be so framed as to prevent hardships in case of great distance from a school, and could be so tempered with other wholesome exceptions as not to do injustice to any.

The school officers are earnest and active in their endeavors to build up the schools of the county. The



teachers are earnest, painstaking and progressive. The most harmonious and pleasant relations exist between the officers, teachers and myself; and the next year bids fair to be one of great prosperity and success for the pride of our young State—the public schools.

#### LARIMER COUNTY.

S. T. HAMILTON, *Superintendent.*

Larimer county is divided into fifty-five districts, with a school population of two thousand, six hundred and ninety-seven, and is taxed about forty thousand (\$40,000) dollars a year for the support of schools.

In these districts are fifty-three school-houses, the majority of which are good and substantial structures, costing, in the country, from \$700 to \$1,500 each. This year nearly two thousand pupils received benefit from the schools at a cost of \$2.62 *per capita*, based on total enrollment.

Larimer county has two graded schools—one at Fort Collins and one at Loveland. Berthoud will soon increase the number to three.

The schools are doing good work, and have an excellent corps of teachers, the majority holding first and second grade certificates.

I would suggest that the law be so amended that only two grades of certificates—first and second—be issued.

With this change the schools can easily be supplied with teachers and the standard of teaching raised nearer to the demand of the times.

#### LOGAN COUNTY.

OSCAR TREGO, *Superintendent.*

The schools of Logan county are, on an average, prospering well. During the school year ending June

30, our county organized forty-two (42) new school districts and annulled but one.

The total number of districts in the county is eighty (80), all of which will have at least six (6) months' school during the coming year. Several have built new frame houses during the past year, others are building now, and several more will be built before winter. A majority of the remainder have good, comfortable sod buildings. Sterling, the county seat, is building a brick house, which will be open for the fall term. They have six teachers employed, and will open a high school department this year. I think that section ninety (90) of the school law should be amended by our next Legislature, allowing districts to issue bonds equal to five (5) per cent. of their assessed valuation, instead of three and one-half ( $3\frac{1}{2}$ ) per cent., as it now is. Under the existing law new districts are placed at a disadvantage, and prevented from making good and necessary improvements as soon as they are needed. One of our largest town districts would have built a \$15,000 house this summer if the limit had been five instead of three and one-half per cent.

Our Teachers' Association, which was organized in November, 1887, is doing well, with a membership of about one hundred (100) teachers. Meetings will be held semi-annually, or oftener, each meeting being called at a different point, thus bringing it near home to all teachers at some time during the year.

#### MESA COUNTY.

D. T. STONE, *Superintendent.*

Mesa county is divided into twelve school districts. It has at present a school population of 678. The people in almost every part of the county take an active

interest in the condition of their public schools. A special tax-levy of eight or ten mills is not unusual, in order that ample funds may be procured for the employment of good teachers. Several country districts pay \$65 and \$70 per month for their teachers. This enables the director to secure experienced and skilled instructors, as may be seen from the fact that of the fifteen teachers employed in the schools of Mesa county the past year, eleven held first grade and four second grade certificates.

The Grand Junction public school now has a corps of five teachers: David T. Stone, principal; Thomas H. Sweeney, Charles O. Beard, Ella J. Joseph and Rose Allison, assistants. The primary and grammar grades are on an equal basis with those in the best schools of the State, since pupils completing the eighth grade here are qualified to enter the Denver high schools.

A three years' high school course, including Algebra, Geometry, Rhetoric, Physics, Botany, Book-keeping and other branches has been recently adopted by the board. The high school department now contains sixteen pupils, and is meeting the hearty encouragement of patrons. The school for the past two years, under Prof. Stone's management, has been especially distinguished for the obedience and orderly conduct of its pupils.

The school at Fruita is presided over by Edward T. Fisher, principal, and Mabel C. Steele, assistant. Prof. Fisher, lately from Monroe, Iowa, has graded the school and is proving himself a successful teacher. Three pupils of the Grand Junction high school, Misses Avis Clark, Josephine Tonpain and Bertha Belknap have successfully begun the work of teachers in the county schools of the county. A County Teachers' Association was organized by the County Superintendent last spring, and held a highly interesting meeting on April 14.

Among our teachers now there are seven college and high school graduates, and all the schools are conceded to be in a healthy, prosperous condition.

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**MONTROSE COUNTY.**

JOHN J. TOBIN, *Superintendent.*

During the past year there have been seven new school houses constructed and fully supplied with all school apparatus.

Our school population has increased over twenty per cent. the last year.

Our schools have all adopted the same series of books, and both teachers and directors are endeavoring to thoroughly complete the grading system.

This year the Board of Education at Montrose have added two more grades to the ten grades established heretofore, now making a full high school course of twelve grades.

The District Normal Institute will be held at Montrose, and all the teachers seem to take a great interest.

The county and city teachers hold a monthly meeting on the second Saturday of each month in different parts of the county.

School boards and patrons are all anxious to secure good teachers, and willing to retain them and advance their wages when they prove themselves competent.

Teachers' wages advanced ten per cent. during the past year.

The terms of school are longer and all the districts will have a term from six to eleven months this coming year.

**OURAY COUNTY.**

O. E. OSTENSON, *Superintendent.*

I have the pleasure to report that this has been a prosperous year for the schools in Ouray county. They are forging to the front in numbers and efficiency. I began the year 1888 with eight school districts, with six school-houses, requiring ten teachers. Now there are nine districts with eight school-houses, requiring thirteen teachers. In every case a strict compliance with the law has been had. In every district the number of children of school age and percentage of attendance at school have been held, if not increased. Some of my country schools have been taught by teachers of great ability and long experience, holding first grade certificates. Our town school, now of four departments, has been supplied with teachers of exceptional ability and skill. And the scholarship is high. Still the average was no higher the past year than one of our country schools.

**PARK COUNTY.**

I. S. SMITH, *Superintendent.*

Two new school-houses have been built within a year. Others will be planned soon.

Teachers' aids and school-room appliances are on the increase. Several hundred dollars have been expended in this direction since last report.

Two districts now own the text-books for their schools, and the plan meets with general satisfaction.

Grading the country schools is a movement much encouraged and meeting with reasonable success.

The migratory life of the teacher causes financial waste and retards the advance of the pupil. This is an evil. The remedy is being sought after.

The funds of the various districts indicate wisdom on the part of the school boards. Some believe that the minimum school term annually should be four months, instead of three.

Better attendance is constantly urged and gradually secured. In this will be the solution of many vexed problems.

The County Teachers' Association is considered one of the permanent factors in educational advancement.

We are trying to give more time to the first five grades, and less attention to studies having no claims on the ordinary district school. Good citizenship is far preferable to ripe scholarship.

Park county is on the up grade. With a better class of teachers than usual, this year shall be the banner year in results.

#### PITKIN COUNTY.

F. G. SALMON, *Superintendent.*

The first school district organized in Pitkin county dates its existence from August 6, 1881, and includes within its limits the town of Aspen. The first term of school was held in a rented room, and was in session six months. The number of pupils enrolled during the term was fifty-eight. The following year a comfortable frame school-house of three rooms was erected. It soon became necessary to provide more room and better accommodations. This was promptly done. The original building was enlarged, and a new house of two rooms was built in the east end of town, giving, in all, a seating capacity of four hundred. For a time there was ample room for all who desired to attend, but at the beginning of the present school year the accommodations were found to be inadequate. Seats were at once ordered for two additional rooms, and the Christian

church was procured for the use of the school. Four hundred and eighty pupils are already enrolled, and eleven teachers are employed. The actual enrollment for the year promises to exceed the census list, which gives the whole number of school age to be five hundred and twenty-one. The excess of the enrollment over the census list can easily be accounted for when we consider the rapid growth of the town, and the development of the mines, ranches and other property surrounding it.

The officers of the district are efficient, progressive and thoroughly in earnest. They have the sympathy and support of the people of the town, and the confidence and respect of those in their employ.

The school is well organized, and is following an adopted course of study.

Such improvements will be made upon our present system, from time to time, as experience may suggest.

The library is small, but contains several valuable reference books, dictionaries and encyclopedias.

Apparatus of different kinds is needed, but is being supplied as fast as circumstances will permit.

There are five school districts in Pitkin county. In the First district (Aspen) are two schools, in Capital Creek, Moody, Emma and Aspen Junction, one each. In the Aspen district there are nine months of school in the year, and in the other districts school is kept open from three to five months in the year. In two of the country districts, Emma and Moody, they now rent their school buildings, and steps are being taken to purchase or build school houses in the other districts. None of the school districts, the First (Aspen) excepted, have any debt. In the country districts the same course of study, as far as practicable, and the same books are used as in the Aspen schools. There are now over one hundred scholars receiving tuition in the country district schools.

## ROUTT COUNTY.

JOHN T. WHYTE, *Superintendent.*

No backward steps have been taken by the people of this county in the line of school work. They have many hindrances, two of the greatest being an inadequate mail service and a sparsely settled country. Communications are long delayed, and settlers remote from the center of a district find it difficult to send their children to school. The winter snows in some localities and the high water of spring impede travel, and lessen the school attendance.

But, notwithstanding these hindrances, good progress is being made. Within the past two years the number of the school districts has been doubled. In 1886 no district reported having held during the previous year more than three months of school; but five months will be the average length of the term for the year through which we are now passing. Since the last published report, four school houses have been erected, and provision for building is now being made in several districts.

Egeria Creek District (No. 8) deserves especial mention, and furnishes a striking illustration of the grit of our pioneers.

An organization was effected in that valley two years ago. Work upon a school building was begun at once, and the school was opened in due time. Last year this building caught fire and was reduced to ashes, not even the books of the pupils being saved. Deeply grieved, but not disheartened, these friends of education proved equal to the occasion. Strong, willing hands began work upon a second structure and, ere long, this building, larger and better than the first, was ready for occupancy, thus making two school houses erected during the first year and a half of this district's history.



Routt county is destined to be one of the garden spots of the West. People who contemplate making it their future home need no longer be deterred by the idea that their children would, if living here, be debarred from school privileges. Our aim for the coming year is to have in each and every school district, not less than six months of school, under a good teacher, in a comfortable building, properly furnished. We are moving in the right direction, and hope to continue making "progress all along the line."

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#### SAGUACHE COUNTY.

C. M. HERREN, *Superintendent.*

The schools of this county are flourishing. The corps of teachers is such that any county would be proud to possess. Two new school houses are in course of construction, and more are to be built.

An effort is being made to induce the several Boards of Education to supply their districts with more school apparatus.

The Teachers' Associations promise excellent results, the grade of work being such that every teacher feels the benefit. Although the teachers are doing good work, they are still striving to improve it.

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#### SAN MIGUEL COUNTY.

H. C. LAY, *Superintendent.*

The school population of this county is yet so small that I have but little to report. There are this month, for the first time in the history of the county two, schools in operation, one at Telluride and one at Wright's Mesa, in the cattle region. The Telluride school is also now changed to a graded institution, and two teachers will

henceforth be employed in it. I hope also that a third school will be started in a short time in the village of San Miguel.

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#### SUMMIT COUNTY.

B. A. ARBOGAST, *Superintendent.*

The schools of Summit county are increasing in usefulness every year. We have money enough to pay good salaries to teachers, thereby insuring good, competent, earnest, healthy and ambitious teachers; teachers who are alive to their work; teachers who did not come up here for their health, but teachers who are abreast of the times; teachers who "are full of the subject," and not burdened with the "fullness" of "the new idea" in school teaching, but teachers who have *all* the BEST methods. Our schools are longer by almost a month than ever before. On August 31 and September 1 we were able to have the first Teachers' Association in the county, and was attended by every teacher in the county, and was largely attended by the citizens, that was encouraging to teachers and school officers. The State Superintendent, Hon. L. S. Cornell, was with us one day and assisted in the discussions, which were both animated and instructive. Altogether, we are proud of the progress of the school work for the past year; we have much still to do.

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#### WASHINGTON COUNTY.

W. CURTIS, *Superintendent.*

This county was organized in February, 1887, from a part of Weld county. At that time there were nine (9) school districts in that part of Weld county now embraced in Washington county. To-day (October 11,

1888,) there are forty-three (43) districts. The census lists of 1887 showed a school population of 640; that of 1888 showed a population of 1,020, and since such census was taken fifty more have been added, making in all as reported 1,070. About one-third of the county still remains as unorganized territory.

The tide of immigration has brought to this county the very best of citizens—citizens who are anxious for school privileges for their children—hence the rapid formation of districts. New school-houses are going up all through the county, the one just completed at Akron being an ornament to the town and a credit to the people.

Several of our school districts have adopted the plan of purchasing their own text-books, and, so far as reported, it has been a grand success. A number more will do so in the near future or at the next annual meeting. We are attempting to have a uniform system of text-books throughout the county. I am urging all districts to adopt Barnes' system, as, so far as I can learn, it is more generally used than any other.

As to teachers, I would say we have the cream of the teachers of the East. Our teachers are wide awake, energetic and ambitious. We have several who are graduates of Eastern colleges and Normal schools, and "progress" is their watchword. We have a fully organized Teachers' Association, which is doing valiant work for the cause of education in the county. With particular pride I refer to the work of Miss Mary E. Elmore, in the Yuma school; Mrs. S. Cordeal, in Akron; Miss Mary E. Barnes, in Otis, and Miss Jennie Corbett, also in Akron. Our schools, being so new, are but slightly graded, but we are gradually forming them into grades, especially in the towns, and are doing something in this line in our country schools.

One detriment to the securing of the best teachers has been the temporary certificate. I consider this, on the whole, an injury to our school system. It allows directors to choose teachers from *favoritism* rather than from *scholarship*. I am endeavoring to overcome some of its objectionable features by being entirely satisfied of the applicant's competency—and, of course, the only true way of doing this is by a thorough examination—which I do as far as is practicable. I would wish, also, that the grade of marking for certificates might be raised.

To my fellow Superintendents I say, "Let us speed the good work of education," and may the work prosper in this great and glorious Centennial State.

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#### WELD COUNTY.

A. K. PACKARD, *Superintendent*.

It is difficult to write definitely of the condition of the schools in the county, and to say generally that they are increasing in number and improving in character would not be useful, perhaps.

Within a few years there has been direct effort toward improvement in the school-houses of the county, as respects lighting, heating, ventilation and the arrangement of entries and cloak closets in relation to each other and to the school-rooms. All teachers assent to what may be said of the importance of pure air in the school-room; but comparatively few take anything like the necessary pains to secure it in the ordinary school-room. The school-house should be so constructed as, without the care of the teacher constantly, to inhale fresh air and expel the used air—taking in the air at the heater and allowing it to escape through the floor into the chimney. This, of course, has reference to ventilation in the win-

ter. In most of the houses lately built the attempt has been made to secure good ventilation; in some the plan has been carried out so as to secure success. One sometimes goes into a school in the morning and sees the windows on the west side remain covered as they were the previous afternoon, and the sun shining in at the east windows, till the scholars complain. In the afternoon the east windows are curtained and the sun shines through the west windows on the scholars' desks. Most school houses built now in the county have windows only on the north and south sides, those on each side in one body, and the middle of them, in some instances, to the rear of the middle of the room. The north windows furnish the best light and never need to be curtained. The south windows admit so much sunshine as may be desired for health and cheerfulness.

One difficulty in the way of the improvement of schools is sometimes in the carelessness, or the amiableness, of directors in engaging teachers. Strangers, of whom the directors have no, or little, knowledge, are taken because the first to apply, or because somebody's cousin wants to come to Colorado, when known successful teachers might have been secured.

Mentioning directors, reminds me of what seems a reasonable complaint on the part of secretaries who are remote from a justice or notary, that, after they have sworn and given bonds that they will perform their duties faithfully, they should be put to expense in time and money and trouble every time they make a census list or annual report, to swear that they have done their duty in it.

I shall be glad if this supplement to my report is allowed.

TABLE I.  
COMPARATIVE TABLE—SUMMARY.

ITEMS.	1887.	1888.	INCREASE.
Number of districts . . . . .	779	990	211
Number of males of school age . . . . .	33,325	39,235	5,910
Number of females of school age . . . . .	31,891	36,977	5,086
Total school population . . . . .	65,216	76,212	11,229
School population between 6 and 16 . . . . .	49,183	56,537	7,354
School population between 16 and 21 . . . . .	16,033	19,575	3,542
Number between 6 and 16 enrolled in school . . . . .	38,601	45,293	6,692
Number between 16 and 21 enrolled in school . . . . .	4,300	5,452	1,152
Number enrolled in High School . . . . .	1,130	1,153	23
Number enrolled in graded schools . . . . .	24,471	27,986	3,515
Number enrolled in ungraded schools . . . . .	17,300	21,606	4,306
Number enrolled in public schools . . . . .	42,901	50,745	7,844
Average daily attendance . . . . .	27,147	31,516	4,369

Per cent. of school population enrolled in school . . . . .	66 +	1
Per cent. of school population under 16 enrolled in school . . . . .	80 +	1½
Per cent. of school population over 16 enrolled in school . . . . .	22 +	*4½
Per cent. of average attendance on enrollment . . . . .	62 +	*1
Volumes in school libraries . . . . .	17,375	3,642
Number of school-houses . . . . .	820	134
Value of school-houses and property . . . . .	\$ 3,238,021 00	\$ 745,320 00
Number of male teachers in graded schools . . . . .	102	7
Number of female teachers in graded schools . . . . .	447	5
Average monthly salary of male teachers in graded schools . . . . .	\$ 108 20	\$ * 6 08
Average monthly salary of female teachers in graded schools . . . . .	64 40	* 9 07
Number of male teachers in ungraded schools . . . . .	242	18
Number of female teachers in ungraded schools . . . . .	599	291
Average monthly salary of male teachers in ungraded schools . . . . .	\$ 50 81	\$ 51 72
Average monthly salary of female teachers in ungraded schools . . . . .	47 74	50 55
Received from county tax and State fund (general fund) . . . . .	\$ 326,324 96	\$ 414,650 10
Received from district tax (special fund) . . . . .	471,317 48	624,873 02
Received from all sources, including amount on hand at beginning of year . . . . .	1,233,348 57	1,548,104 58
Expended for teachers' wages . . . . .	499,187 09	586,242 12
Expended for current expenses . . . . .	120,918 23	204,250 96
Expended for buildings, sites and furniture . . . . .	193,287 89	306,771 16
Total expenditure . . . . .	865,028 76	1,152,411 78

COMPARATIVE TABLE—CONCLUDED,

ITEMS.	1887.	1888.	INCREASE.
Expenditure per capita of school population . . . . .	\$ 13 26	\$ 15 12	\$ 1 96
Expenditure per capita of enrollment . . . . .	20 16	22 71	2 75
Expenditure per capita of average attendance . . . . .	31 86	36 57	4 71
Expenditure per capita of population between 6 and 16 . . . . .	22 41	25 44	3 03

\*Decrease.



TABLE II.

## EXAMINATION OF TEACHERS.

COUNTIES.	1887.							1888.						
	CERTIFICATES GIVEN.							CERTIFICATES GIVEN.						
	First Grade.		Second Grade.		Third Grade.			First Grade.		Second Grade.		Third Grade.		
	Male.	Female.	Male.	Female.	Male.	Female.	Total.	Male.	Female.	Male.	Female.	Male.	Female.	Total.
Arapahoe	2	8	4	16	2	12	44	13	19	7	47	11	25	122
Archuleta		1					1	1			1			2
Bent		2	4	6	2	2	16	10	2	5	11	3	11	42
Boulder	5	12	7	27	3	28	82	5	23	3	30	4	20	85
Chaffee	2	11		9		4	26	5	4	4	6	4	13	36
Clear Creek		2	1	9		3	15	3	7	2	7	2	5	26
Conejos	1	2	3	3	4	6	19	2	3	5	2	7	6	25
Costilla	2	2	2		1		7	3	2	4		1		10
Custer	2	1		3		2	8	3	3	1	5	6	8	26
Delta			2		1	7	10	4		2	2	4	9	21
Dolores														
Douglas	1	2	4	9		5	21	4	5		6		6	21
Eagle		4		3		1	8	1	1	1	2		3	8
Elbert		1	4	3	2	2	10	1	7	5	5	1	8	27
El Paso	3	2	3	18	2	8	36	3	8	2	15	3	10	41
Fremont		3	3	8	2	4	20	5	9	6	19	1	14	54
Garfield								1	4	1	7			13
Gilpin	1	4		5		6	16	2	1	1	5		8	17
Grand	1	1	1	1			4				2	1		3
Gunnison		5		7		11	23		1		13		6	20
Hinsdale				2			2	1			2			3
Huerfano		3	1	6	2	3	15	1	1	4	5	3	6	20
Jefferson	5	2	2	9	4	13	35	5	6	5	30	6	28	80
Lake		5		2			7	1	2		5	2	1	11
La Plata	2	1	1	6	2	7	10	3	5	2	7	2	10	29
Larimer	2	1	4	14	3	13	37	4	14	12	29	4	20	83
Las Animas	1	3	4	7	4	3	22	5	4	7	9	10	16	57
Logan			1	3		3	7	2	5	7	15	7	23	59
Mesa	1	4	1	6	2	5	19	2	7	2	4	4	4	23
Montrose	1	3	3	3	2	1	13	2	3	3	1	2	5	16
Ouray	1	1	1	2		3	8	3	1		1		4	9
Park	1	6		4		2	13	2		1	7	1	1	16
Pitkin	1	3	1	6		5	16		7	1	6		1	15
Pueblo	1	10	4	18		8	41	3	8	5	16	3	20	55
Rio Grande	1	2	2	3	3	9	20	2	6	1	9	1	6	13
Routt	1		1		1		3	1		2		3	8	14
Saguache		1	1	2	1	5	12	3	5	2	7	1	4	22
San Juan		2		2			4	1	1				1	3
San Miguel								1					1	2
Summit				6	1	3	10		1	10	1	5	17	
Washington	1	1		2		3	7	3	5		11	4	16	39
Weld	11	18	8	28	4	17	86	5	10	6	15	5	21	62
Totals	50	129	75	258	46	204	762	113	190	105	364	105	348	1225

TABLE III.

## SCHOOL POPULATION.

COUNTIES.	CENSUS 1887.								
	BETWEEN 6 AND 16.			BETWEEN 16 AND 21.			TOTAL BETWEEN 6 AND 21.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Arapahoe . . . . .	6,023	6,220	12,243	2,151	2,051	4,202	8,174	8,271	16,445
Archuleta . . . . .	35	21	56	17	9	26	52	30	82
Bent . . . . .	370	371	741	142	140	282	512	511	1,023
Boulder . . . . .	1,320	1,351	2,671	486	430	916	1,806	1,781	3,587
Chaffee . . . . .	566	540	1,106	197	153	350	763	693	1,456
Clear Creek . . . . .	674	728	1,402	223	170	393	897	898	1,795
Conejos . . . . .	729	765	1,494	230	224	454	959	989	1,948
Costilla . . . . .	444	406	850	158	101	259	602	507	1,109
Custer . . . . .	422	421	843	133	117	250	555	538	1,093
Delta . . . . .	218	214	432	99	58	157	317	272	589
Dolores . . . . .	30	17	47	11	7	18	41	24	65
Douglas . . . . .	249	283	532	104	94	198	353	377	730
Eagle . . . . .	136	124	260	38	19	57	174	143	317
Elbert . . . . .	223	217	440	84	41	125	307	258	565
El Paso . . . . .	882	908	1,790	288	276	564	1,170	1,184	2,354
Fremont . . . . .	861	822	1,683	279	248	527	1,140	1,070	2,210
Garfield . . . . .	120	112	232	60	54	114	180	166	346
Gilpin . . . . .	619	649	1,268	148	136	284	767	785	1,552
Grand . . . . .	25	36	61	19	8	27	44	44	88
Gunnison . . . . .	315	350	665	115	112	227	430	462	892
Hinsdale . . . . .	51	51	102	12	7	19	63	58	121
Huerfano . . . . .	749	657	1,406	301	235	536	1,050	892	1,942
Jefferson . . . . .	882	764	1,646	275	254	529	1,160	1,018	2,178
Lake . . . . .	919	856	1,775	199	199	398	1,118	1,055	2,173
La Plata . . . . .	518	456	974	144	125	269	662	581	1,243
Larimer . . . . .	912	873	1,785	417	298	715	1,329	1,171	2,500
Las Animas . . . . .	1,335	1,269	2,604	576	396	972	1,911	1,665	3,576
Logan . . . . .	507	476	983	117	112	229	624	588	1,212
Mesa . . . . .	262	210	472	87	63	150	349	273	622
Montrose . . . . .	280	241	521	102	83	185	382	324	706
Ouray . . . . .	126	128	254	39	42	81	165	170	335
Park . . . . .	255	285	540	100	85	185	355	370	725
Pitkin . . . . .	236	226	462	61	44	105	297	270	567
Pueblo . . . . .	1,128	1,208	2,336	417	388	805	1,545	1,596	3,141
Rio Grande . . . . .	281	253	534	81	70	151	362	323	685
Routt . . . . .	82	70	152	28	34	62	110	104	214
Saguache . . . . .	313	265	578	89	62	151	402	327	729
San Juan . . . . .	44	82	126	15	6	21	59	88	147
San Miguel . . . . .	24	18	42	6	4	10	30	22	52
Summit . . . . .	160	174	334	54	5	109	214	229	443
Washington . . . . .	257	236	493	59	54	104	307	290	597
Weld . . . . .	1,151	1,097	2,248	437	377	814	1,588	1,474	3,062
Totals . . . . .	24,733	24,450	49,183	8,592	7,441	16,033	33,325	31,891	65,216

TABLE III—CONCLUDED.

COUNTY.	CENSUS 1888.								
	BETWEEN 6 AND 16.			BETWEEN 16 AND 21.			TOTAL BETWEEN 6 AND 21.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Arapahoe . . . . .	6,887	6,722	13,609	3,068	2,796	5,864	9,955	9,518	19,473
Archuleta . . . . .	61	29	90	20	14	34	81	43	124
Bent . . . . .	741	688	1,429	254	220	474	995	908	1,903
Boulder . . . . .	1,337	1,301	2,638	475	424	899	1,812	1,725	3,537
Chaffee . . . . .	576	566	1,142	204	154	358	780	720	1,500
Clear Creek . . . . .	680	720	1,400	165	137	302	845	857	1,702
Conejos . . . . .	928	835	1,763	309	297	606	1,237	1,132	2,369
Costilla . . . . .	502	475	977	104	103	207	666	578	1,184
Custer . . . . .	409	417	826	156	137	293	565	554	1,119
Delta . . . . .	237	235	472	82	61	143	319	396	615
Dolores . . . . .	23	14	37	8	5	13	31	19	50
Douglas . . . . .	258	285	543	127	93	220	385	378	763
Eagle . . . . .	153	154	307	45	32	77	198	186	384
Elbert . . . . .	350	323	673	108	75	183	458	398	856
El Paso . . . . .	1,057	1,132	2,189	383	350	733	1,440	1,482	2,922
Fremont . . . . .	917	915	1,832	327	284	611	1,244	1,119	2,443
Garfield . . . . .	352	381	733	149	154	303	501	535	1,036
Gilpin . . . . .	621	658	1,279	163	179	342	784	837	1,621
Grand . . . . .	36	34	70	16	13	29	52	47	99
Gunnison . . . . .	287	319	606	126	118	244	413	437	850
Hinsdale . . . . .	46	47	93	10	10	20	56	57	113
Huerfano . . . . .	845	749	1,594	304	253	557	1,149	1,002	2,151
Jefferson . . . . .	1,072	597	1,669	132	252	584	1,384	849	2,233
Lake . . . . .	987	1,031	2,018	127	147	274	1,114	1,178	2,292
La Plata . . . . .	603	514	1,117	188	149	337	791	663	1,454
Larimer . . . . .	967	945	1,913	462	322	784	1,429	1,268	2,697
Las Animas . . . . .	1,997	1,916	3,913	600	645	1,245	2,597	2,561	5,158
Logan . . . . .	669	727	1,396	212	194	406	881	921	1,802
Mesa . . . . .	271	747	518	80	80	160	351	327	678
Montrose . . . . .	312	271	583	105	75	180	417	346	763
Ouray . . . . .	155	179	334	59	41	100	214	220	434
Park . . . . .	260	274	534	92	103	195	352	377	729
Pitkin . . . . .	268	214	482	66	66	132	334	280	614
Pueblo . . . . .	1,297	1,271	2,568	421	412	833	1,718	1,683	3,401
Rio Grande . . . . .	332	282	613	93	72	165	425	354	779
Routt . . . . .	113	101	214	37	34	71	150	135	285
Saguache . . . . .	361	310	671	105	93	198	466	403	869
San Juan . . . . .	43	64	107	13	5	18	56	69	125
San Miguel . . . . .	41	30	71	12	7	19	53	37	90
Summit . . . . .	151	164	315	58	67	125	209	231	440
Washington . . . . .	386	386	772	127	121	248	513	507	1,020
Weld . . . . .	1,238	1,188	2,426	557	452	1,009	1,795	1,640	3,435
Totals . . . . .	28,806	27,731	56,537	10,429	9,146	19,575	39,235	36,977	76,212

TABLE IV.

## ENROLLMENT AND ATTENDANCE.

COUNTIES.	PUPILS—1887.						PERCENT-AGES.					
	Enrolled in High Schools.	Enrolled in Graded Schools.	Enrolled in Un-graded Schools.	Under 16 Enrolled in Public Schools.	Over 16 Enrolled in Public Schools.	Whole No. Enrolled in Public Schools.			Average Daily Attendance.	Of Enrollment on Whole Number.	Of Daily Attendance on Enr'llm't No. Mills County Tax Levy.	
						Male.	Female.	Total.				
Arapahoe . . . . .	481	9,117	1,009	9,549	1,058	5,246	5,361	10,607	7,055	64½	67	3
Archuleta . . . . .			46	40	6	32	14	46	25	56	54	2
Bent . . . . .		266	279	483	62	258	287	545	405	53	74	2
Boulder . . . . .	25	1,127	1,559	2,396	315	1,367	1,344	1,711	1,831	55	68	2
Chaffee . . . . .		601	400	904	97	489	512	1,001	769	68	77	5
Clear Creek . . . . .	40	623	608	1,204	67	636	635	1,271	790	70	62	
Conejos . . . . .		349	744	962	131	675	418	1,093	729	56	67	5
Costilla . . . . .			468	369	99	291	177	468	235	42	50	2
Custer . . . . .		449	482	837	94	441	490	931	523	85	56	5
Delta . . . . .		153	268	357	70	226	195	421	242	71	57	5
Dolores . . . . .			44	37	7	24	20	44	24	67	55	
Douglas . . . . .		79	454	462	71	268	265	533	342	73	64	3
Eagle . . . . .			164	156	8	84	80	164	101	51	62	2
Elbert . . . . .		65	287	318	34	180	172	352	200	62	57	3
El Paso . . . . .	97	1,233	458	1,593	195	916	872	1,788	1,192	76	66	2
Fremont . . . . .	32	684	867	1,497	86	722	861	1,583	928	71½	58	4
Garfield . . . . .												
Gilpin . . . . .		973	132	1,075	30	532	573	1,105	732	71	66	2
Grand . . . . .			41	27	14	20	21	41	27	46	65	2
Gunnison . . . . .	15	411	221	592	55	319	328	647	419	73	64	2
Hinsdale . . . . .		104		102	2	53	51	104	29	86	28	4½
Huerfano . . . . .			870	712	158	524	346	870	530	45	60	3½
Jefferson . . . . .	45	575	866	1,299	187	761	725	1,486	944	68	63	3
Lake . . . . .	45	1,183	241	1,413	56	769	700	1,469	884	68	66	
La Plata . . . . .		483	343	787	39	428	398	826	541	66	65	5
Larimer . . . . .	28	751	1,142	1,711	210	979	942	1,921	1,164	76	60	4
Las Animas . . . . .	48	616	1,077	1,521	220	989	752	1,741	913	48	52	2
Logan . . . . .		244	211	391	64	230	225	455	242	37	53	
Mesa . . . . .		208	241	398	51	229	220	449	249	72	55	2
Montrose . . . . .		217	282	454	45	285	214	499	305	70	61	2
Ouray . . . . .		138	126	246	18	144	120	264	168	78	63	2
Park . . . . .		237	245	440	42	233	249	482	303	66	62	2
Pitkin . . . . .		432	43	458	32	256	234	499	405	86	83	3
Pueblo . . . . .	15	1,525	657	2,156	230	1,206	1,180	2,386	1,459	76	61	3
Rio Grande . . . . .	204	180	285	415	50	245	220	465	317	68	67	2
Routt . . . . .		108	90	18	54	54	54	108	76	50	70	3
Saguache . . . . .		168	332	438	62	267	233	500	321	68	64	2
San Juan . . . . .		91		90	1	38	53	91	61	62	66	5
San Miguel . . . . .			27	25	2	17	10	27	16	52	59	2
Summit . . . . .		95	139	197	37	109	125	234	153	52	65	3
Wash'ngtn . . . . .			274	267	7	141	133	274	155	46	56	2
Weld . . . . .	55	1,094	1,260	2,139	270	1,230	1,179	2,409	1,384	78	57	3
Totals . . . . .	1,130	24,471	17,300	38,601	4,300	21,913	20,988	42,901	27,147			

TABLE IV.—CONCLUDED.  
ENROLLMENT AND ATTENDANCE.

COUNTIES.	PUPILS—1888.						PERCENT-AGES.					
	Enrolled in High Schools.	Enrolled in Graded Schools.	Enrolled in Un-graded Schools.	Under 16 Enrolled in Public Sch'ls.	Over 16 Enrolled in Public Sch'ls.	Whole Number Enrolled in Public Schools.			Average Daily Attendance.	Of Enrollment on Whole Number.	Of Daily Attendance on Enrollment.	No. Mills County Tax Levy.
						Male.	Female.	Total.				
Arapahoe .	599	10,872	1,335	11,000	1,517	6,263	6,254	12,517	8,026	64½	64	2½
Archuleta .			79	63	16	49	30	79	43	63½	54	
Bent .		587	457	956	88	502	542	1,044	634	54	60	2
Boulder .	47	1,114	1,622	2,473	310	1,422	1,361	2,783	1,808	78	65	2
Chaffee .		627	462	999	90	569	530	1,089	713	72	65	3
Clear Creek	92	547	613	1,172	80	597	655	1,252	859	73	68	
Conejos .		411	881	1,157	135	717	575	1,292	689	54	53	2
Costilla .			531	446	85	267	264	531	298	45	56	2
Custer .		372	436	697	111	412	396	808	521	72	64	5
Delta .		116	335	388	63	231	220	451	276	73	61	5
Dolores .			35	28	7	20	15	35	23	70	66	
Douglas .		91	485	491	85	271	305	576	363	75	63	3
Eagle .			211	194	17	105	106	211	116	55	55	2
Elbert .		77	513	546	44	317	273	590	379	69	64	3
El Paso .	69	1,638	574	2,099	182	1,156	1,125	2,281	1,393	78	61	2
Fremont .			905	1,691	128	908	911	1,819	1,106	74	60	3
Garfield .		914	830	680	150	412	418	830	480	80	59	2
Gilpin .		970	178	1,109	39	557	591	1,148	580	70	50	2
Grand .			52	33	19	25	27	52	35	53	67	1½
Gunnison .		360	216	523	64	277	310	587	344	69	59	2
Hinsdale .	11		93	86	7	46	47	93	33	82	35	4
Huerfano .		310	608	488	30	540	378	918	539	42	58	3½
Jefferson .	47	581	882	1,358	152	790	720	1,510	1,046	67	69	3
Lake .	31	1,183	495	1,559	60	825	794	1,619	1,359	73	84	
La Plata .		494	462	849	107	518	438	956	537	65	56	5
Larimer .		873	1,110	1,755	228	1,043	940	1,983	1,083	74	54	4
Las Animas	8	834	1,565	2,084	323	1,330	1,077	2,407	1,097	46	45	
Logan .		332	1,031	1,230	133	755	608	1,363	969	75	71	5
Mesa .	9	205	288	443	59	258	244	502	302	74	60	
Montrose .		235	315	495	55	288	262	550	330	72	66	
Ouray .		169	183	326	26	178	174	352	209	81	59	2
Park .		209	284	376	124	246	253	499	265	68	73	2
Pitkin .	25	496	93	482	134	334	280	614	385	100	62	
Pueblo .	150	1,779	716	2,357	288	1,308	1,337	2,645	1,499	77	57	3
Rio Grande		182	366	508	49	267	271	548	366	71	66	2
Routt .			142	119	23	77	65	142	106	50	74	4
Saguache .		174	322	444	52	267	229	496	304	57	68	2
San Juan .	*	91		90	1	30	53	91	61	73	66	
San Miguel			52	52		30	22	52	33	88	60	2
Summit .			272	234	40	126	148	274	169	62	66	3
Washi'g'tn			534	456	78	269	265	534	374	52	70	2
Weld .	65	1,050	1,507	2,358	264	1,303	1,349	2,622	1,067	76	63	3½
Total . .	1,153	27,986	21,606	45,293	5,452	25,923	24,822	50,745	31,516			

\*Estimated.

TABLE V.

NUMBER OF TEACHERS IN GRADED AND UNGRADED SCHOOLS, AND AVERAGE MONTHLY SALARIES.

COUNTIES.	1887.									
	GRADED SCHOOLS.					UNGRADED SCHOOLS.				
	Teachers.			Salaries.		Teachers.			Salaries.	
	Male.	Female.	Total.	Male.	Female.	Male.	Female.	Total.	Male.	Female.
Arapahoe	22	159	181	\$ 131 00	\$ 74 00	10	19	29	\$ 55 00	\$ 52 00
Archuleta							2	2		47 50
Bent	3	3	6	85 00	62 00	3	6	9	55 28	45 00
Boulder	4	17	21	86 50	67 00	11	41	52	49 82	40 75
Chaffee	2	9	11	100 00	65 72	5	18	23	67 50	52 18
Clear Creek	2	10	12	125 00	70 00	3	12	15	81 66	45 75
Conejos	3	3	6	97 12	61 67	7	11	18	58 93	38 63
Costilla						12	2	14	40 00	40 00
Custer	2	4	6	90 85	53 00	12	10	22	49 64	41 25
Delta	1	1	2	80 00	60 00	5	7	12	53 89	44 17
Dolores							1	1		90 00
Douglas	1	1	2	100 00	57 50	10	17	27	53 63	42 77
Eagle							21	21		55 83
Elbert	1	1	2	72 77	50 00	4	11	15	51 00	40 00
El Paso	6	23	29	102 57	65 83	8	17	25	45 00	59 56
Fremont		12	12		66 25	10	16	26	59 75	44 82
Garfield										
Gilpin	2	13	15	155 00	72 65	1	5	6	50 00	49 57
Grand						2	2	4	50 80	50 00
Gunnison	2	6	8	97 37	62 50		15	15		50 00
Hinsdale		2	2		65 00					
Huerfano						10	17	27	53 97	45 90
Jefferson	3	9	12	84 45	49 54	10	27	37	45 90	40 12
Lake	1	18	19	180 00	72 22	1	6	7	60 00	55 00
La Plata	2	8	10	104 16	64 37	7	8	15	55 97	51 00
Larimer	5	13	18	88 75	63 33	9	39	48	46 24	41 98
Las Animas	1	10	11	125 00	68 50	23	12	35	43 33	34 45
Logan	2	3	5	82 50	52 50	4	10	14	53 13	32 00
Mesa	1	3	4	100 00	70 00	1	9	10	50 00	53 33
Montrose	1	3	4	100 00	53 33	4	8	12	55 04	51 03
Ouray		3	3		83 33	1	5	6	60 00	54 67
Park	3	3	6	85 00	50 00	3	12	15	45 00	45 00
Pitkin	2	7	9	132 50	100 00	1	3	4	50 00	52 50
Pueblo	5	29	34	136 00	70 00	4	33	37	50 00	45 00
Rio Grande	2	2	4	120 00	75 00	6	9	15	50 00	40 25
Routt						6	4	10	59 17	44 25
Saguache	2	1	3	70 00	60 00	2	12	14	52 00	46 50
San Juan		2	2		80 00					
San Miguel							1	1		80 00
Summit							6	6		60 00
Washington	1	2	3	75 00	72 50		8	11	26 67	37 00
Weld	5	19	24	80 85	51 20	13	43	56	49 00	44 25
Total	102	447	549			242	599	841		

TABLE V—CONCLUDED.

NUMBER OF TEACHERS IN GRADED AND UNGRADED SCHOOLS, AND AVERAGE MONTHLY SALARIES.

COUNTIES.	1888.									
	GRADED SCHOOLS.					UNGRADED SCHOOLS.				
	Teachers.			Salaries.		Teachers.			Salaries.	
	Male.	Female.	Total.	Male.	Female.	Male.	Female.	Total.	Male.	Female.
Arapahoe	25	167	192	\$ . . .	\$ . . .	18	50	68	\$ 54 50	\$ 43 00
Archuleta	1	2	3						50 00	48 33
Bent	3	10	13	83 33	57 78	3	10	13	46 40	45 20
Boulder	3	18	24	99 30	65 50	9	60	69	53 80	40 80
Chaffee	2	10	12	100 00	66 25	8	30	38	57 67	53 70
Clear Creek	3	14	17	126 25	73 50	5	19	24	78 13	46 25
Conejos	1	3	4	87 00	65 00	5	19	24	51 00	42 00
Costilla	3	4	7	78 33	51 25	11	5	16	41 67	41 90
Custer	3	4	7	80 00	55 00	13	24	37	46 90	46 20
Delta	1	2	3			7	12	19	50 71	47 00
Dolores						1	1	2		74 33
Douglas	1	1	2	100 00	60 00	9	20	29	50 00	44 00
Eagle						3	10	13	54 42	54 42
Elbert	1	1	2	75 00	55 00	15	27	42	37 64	32 84
El Paso	8	32	40	98 12	67 06	10	34	44	46 36	41 85
Fremont	4	15	19	75 00	63 25	11	19	30	55 00	48 00
Garfield						3	16	19	75 83	53 70
Gilpin	3	13	16	119 91	69 06	1	6	7	72 77	39 90
Grand						3	2	5	46 67	45 00
Gunnison	1	7	8	100 00	65 00	2	17	19	61 87	49 50
Hinsdale									75 00	
Huerfano	2	3	5	82 50	50 00	10	18	28	50 19	45 93
Jefferson	4	11	15	92 00	57 70	15	45	60	41 10	37 90
Lake	3	16	19	131 48	76 67	1	6	7	75 00	60 00
La Plata	2	11	13	117 50	72 90	7	23	30	59 00	50 17
Larimer	7	16	23	76 32	52 54	7	67	74	42 70	49 72
Las Animas	2	12	14	112 50	58 46	31	16	47	48 00	35 00
Logan	2	3	5	82 50	53 33	12	54	66	35 85	25 12
Mesa	1	3	4	100 00	70 00	1	10	11	45 00	54 25
Montrose	1	3	4	100 00	66 67	9	8	17	55 63	50 00
Ouray	1	2	3	100 00	75 00	4	6	10	58 75	54 58
Park	5	8	13	85 00	55 00	2	21	23	35 00	40 00
Pitkin	1	8	9	150 00	82 50	1	4	5	55 00	55 00
Pueblo	5	32	37	162 33	69 20	7	33	40	49 00	46 75
Rio Grande	1	2	3	150 00	75 00	4	13	17	50 00	43 00
Routt							10	5	53 12	50 40
Saguache	2	1	3	70 00	60 00	5	15	20	53 12	47 05
San Juan	2	3	5	126 64	77 81					
San Miguel							2	2		65 00
Summit							11	11		60 00
Washington						4	43	47	26 25	28 69
Weld	5	21	26	79 58	52 35	19	67	86	49 56	43 26
Total	109	452	561			253	890	1143		

TABLE VI.

DISTRICTS, SCHOOL HOUSES AND TUITION.

COUNTIES.	1887.										
	Districts.	No. Days of School.		SCHOOL-HOUSES.						Av. cost per month for each pupil	
		Graded Schools.	Ungraded Schools.	Number.	Number of Rooms.	Sittings.	Valuation.	Volumes in Libraries.	By enrollment.	By av. daily attendance.	
Arapahoe	47	190	140	60	174	9,106	1,130,600	6,553	2 20	2 90	
Archuleta	2		90	2	2	100	2,069		4 29	6 35	
Bent	17	180	100	12	17	563	21,675		3 78	5 72	
Boulder	50	178	107	49	69	3,070	70,158	613	1 90	2 80	
Chaffee	22	177	89	20	38	1,663	43,600	87	3 52	4 03	
Clear Creek	14	197	113	11	24	1,213	38,217	432	2 32	3 77	
Conejos	15	140	94	11	19	992	18,639	120	2 74	3 73	
Costilla	14		80	9	12	265	3,500	3	1 95	2 90	
Custer	22	160	84	20	27	1,100	13,412	44	2 56	4 00	
Delta	12	160	99	12	14	651	12,432	105	2 93	4 51	
Dolores	1		169	1		60	1,000	75	1 60	4 66	
Douglas	25	180	114	21	22	615	13,788		3 02	4 30	
Eagle	6		83	2	2	70	1,200		4 44	7 15	
Elbert	15	176	151	14	15	424	11,385		3 09	4 67	
El Paso	31	155	100	36	58	2,224	152,000	531	2 73	4 17	
Fremont	21	177	114	27	44	1,705	46,500	65	2 30	3 88	
Garfield											
Gilpin	7	193	108	9	20	1,043	46,564	1,788	2 26	3 26	
Grand	4		95	1		14	150		7 35	9 83	
Gunnison	17	192	80	15	24	1,162	46,200	60	5 59	8 64	
Hinsdale	3	140		2	3	182	29,685		2 28	8 17	
Huerfano	24		85	19	22	970	10,995		1 93	3 25	
Jefferson	37	180	112	42	50	1,912	47,180	450	2 46	4 23	
Lake	8	160	62	10	33	1,705	141,550		2 11	3 02	
La Plata	18	180	94	16	23	694	29,045		3 78	6 20	
Larimer	51	166	124	49		2,402	72,680	808	2 60	4 23	
Las Animas	37	195	101	24	34	1,139	36,430	97	1 81	2 91	
Logan	36	172	84	7	10	393	12,150	1			
Mesa	11	169	85	8	12	494	20,369	92	2 84	5 33	
Montrose	15	180	98	15	18	496	17,684		2 75	3 99	
Ouray	8	190	65	4	7	430	10,800	100	3 18	4 64	
Park	17	168	119	23	26	601	15,320		3 35	4 83	
Pitkin	4	143	80	3	10	480	175,000	111	2 52	2 71	
Pueblo	37	178	114	39	66	2,630	172,005	1,200	3 45	7 99	
Rio Grande	14	154	103	12	18	596	21,235		4 94	5 70	
Routt	10		53	6	6	97	785		4 94	7 00	
Saguache	17	140	76	11	15	505	11,860	46	1 10	1 72	
San Juan	1	176		1	4	75	11,000		2 15	3 21	
San Miguel	1		199	1	2	50	4,000		2 88	9 37	
Summit	9	160	100	6	8	368	11,300	30	6 42	10 62	
Washington	20		90	1	1	40	500		4 12	7 33	
Weld	59	178	128	54	75	2,777	125,578	303	2 76	4 73	
Total	779			686	1,002	45,093	\$ 2,492,701	13,733			
Average	172		102								



TABLE VI—CONCLUDED.

## DISTRICTS, SCHOOL HOUSES AND TUITION.

COUNTIES.	1888.									
	No. days of school.		SCHOOL-HOUSES.					Av. cost per month for each pupil		
	Districts.	Graded Schools.	Ungraded Schools.	Number.	Number of Rooms.	Sittings.	Valuation.	Volumes in Libraries.	By enrollment.	By av. daily attendance.
Arapahoe . . . . .	70	186	123	73	185	11,988	\$ 1,636,103	10,600	3 10	5 20
Archuleta . . . . .	3		118	2	2	28	1,920		5 09	9 08
Bent . . . . .	32	163	99	17	32	987	34,750		3 11	5 13
Boulder . . . . .	51	173	105	52	74	3,338	76,308	600	2 14	3 48
Chaffee . . . . .	22	183	105	21	32	1,463	45,025	12	2 22	4 88
Clear Creek . . . . .	14	195	114	12	27	1,171	38,717	582	2 32	3 22
Conejos . . . . .	18	149	110	12	21	1,035	18,135	265	1 70	3 31
Costilla . . . . .	17		83	10	12	422	6,315	14	1 78	2 92
Custer . . . . .	24	132	88	18	24	1,118	11,040	69	2 22	3 44
Delta . . . . .	12	200	107	13	15	585	14,000	70	2 30	3 88
Dolores . . . . .	1		157	1	1	60	1,200	89	2 68	4 26
Douglas . . . . .	26	180	120	24	25	700	16,300		2 50	5 65
Eagle . . . . .	10		79	2	2	75	1,100		2 12	3 79
Elbert . . . . .	32	146	93	31	32	829	12,575		2 44	4 14
El Paso . . . . .	37	167	114	40	68	2,326	154,700	550	3 11	5 10
Fremont . . . . .	24	172	119	30	48	2,460	65,100	76	2 54	3 97
Garfield . . . . .	21		80	11	18	900	39,200		6 40	11 08
Gilpin . . . . .	8	193	113	9	20	1,078	46,514	1,488	1 70	3 42
Grand . . . . .	5		95	1	1	14	175		7 35	9 83
Gunnison . . . . .	13	185	76	17	26	1,266	39,450	75	4 26	6 35
Hinsdale . . . . .	3	157		2	3	182	39,000		5 07	14 59
Huerfano . . . . .	26	125	84	22	28	1,130	22,656		2 64	4 42
Jefferson . . . . .	39	180	179	43	51	1,773	49,570	601	2 19	3 16
Lake . . . . .	7	160	90	9		2,125	141,350	147	3 46	5 20
La Plata . . . . .	23	189	110	21	30	923	35,245	100	3 07	5 47
Larimer . . . . .	55	180	121	53	53	2,437	84,880	809	2 62	4 79
Las Animas . . . . .	58	192	60	23	35		36,531		1 53	2 97
Logan . . . . .	75	173	82	32	37	1,026	16,380		2 10	3 47
Mesa . . . . .	11	177	123	9	14	684	19,225	135	3 02	5 76
Montrose . . . . .	15	180	112	15	18	579	18,491	20	1 53	2 55
Ouray . . . . .	8	177	67	9	9	330	11,150	100	2 51	4 13
Park . . . . .	19	186	108	20	21	599	13,825		5 25	6 95
Pitkin . . . . .	5	168	73	3	13	577	17,479	130	3 15	5 06
Pueblo . . . . .	43	183	103	44	78	2,797	172,215	500	3 15	5 31
Rio Grande . . . . .	14	160	108	14	20	630	22,100		3 00	4 82
Routt . . . . .	12		80	6	6	146	1,200		4 30	5 75
Saguache . . . . .	19	160	104	12	14	456	12,575	200	3 00	4 90
San Juan . . . . .	1	176		1	4	300	16,000		2 13	3 21
San Miguel . . . . .	2		204	8	2	50	4,000		7 46	11 27
Summit . . . . .	8		118	8	10	373	11,225	44	2 94	3 94
Washington . . . . .	38		92	10	17	560	21,352		3 83	7 63
Weld . . . . .	64	181	133	65	88	3,147	136,945	520	3 39	6 07
Total . . . . .	990	5,492	4,199	820	1,316	52,607	\$ 3,238,021	17,375		
Average . . . . .		172	105							

TABLE VII.

FINANCIAL STATEMENT FOR 1887.

COUNTIES.	RECEIPTS.					
	Amt. on hand Sept. 1, 1886.	From General Fund.	From Special Fund.	From Building Fund.	From all other Sources.	Total Receipts
Arapahoe . . .	\$ 140,098 73	\$ 113,493 33	\$ 212,069 99	\$ 783 95	\$ 11,597 98	\$ 478,043 98
Archuleta . . .	356 90	431 67	708 47	510 02		2,016 06
Bent . . .	7,579 90	8,830 98	2,144 97	10,387 02	186 44	29,129 31
Boulder . . .	9,008 81	9,633 22	18,231 09	6,454 03	2,243 50	45,570 65
Chaffee . . .	4,477 23	6,475 02	8,046 10	2,670 92	356 05	22,025 32
Clear Creek . .	4,746 51	4,077 49	15,614 16	169 21	258 76	24,866 13
Conejos . . .	5,507 18	5,456 58	2,426 10	565 03	2,600 13	16,555 62
Costilla . . .	1,362 48	1,128 95	871 31		113 00	3,475 74
Custer . . .	1,218 90	4,386 06	3,361 82		664 79	9,631 57
Delta . . .	1,214 63	3,268 14	3,739 65	990 01	729 83	9,942 26
Dolores . . .	898 66	3 36	591 99	172 71	9 40	1,676 12
Douglas . . .	4,012 51	4,325 43	2,949 97	589 92	185 71	02,063 54
Eagle . . .	487 99	685 23	790 59	745 15		2,708 96
Elbert . . .	7,693 47	5,322 60	3,279 02	19		16,293 28
El Paso . . .	5,803 06	9,595 35	20,605 94	3,197 05	2,721 00	41,922 40
Fremont . . .	5,730 79	9,689 77	12,861 40		2,846 00	31,127 96
Garfield . . .						
Gilpin . . .	4,454 28	4,252 94	15,851 57		687 25	25,246 04
Grand . . .	922 32	840 08				1,762 40
Gunnison . . .	2,938 93	4,202 55	8,493 22	262 62		15,897 32
Hinsdale . . .	198 50	1,705 76				1,904 26
Huerfano . . .	4,019 03	5,284 52	2,664 15	1,239 13	474 46	13,681 29
Jefferson . . .	6,485 04	7,780 64	11,314 83	242 77	4,206 73	30,030 01
Lake . . .	546 69	4,360 63	14,425 00		105 35	19,437 67
La Plata . . .	3,521 56	9,739 75	5,891 92		30 75	11,186 98
Larimer . . .	8,733 14	14,369 25	14,490 39	3,604 65	19,936 80	61,140 23
Las Animas . .	7,046 44	14,476 37	13,071 03	1,412 27	4,813 81	40,819 92
Logan . . .	923 9	853 86	3,689 86	1,597 61	390 24	7,454 96
Mesa . . .	2,661 25	2,027 21	3,423 26	1,153 26	199 00	9,463 98
Montrose . . .	1,192 46	2,225 14	4,446 19	2,072 54	18 11	9,954 44
Ouray . . .	295 90	695 65	3,123 82	193 98	1,118 14	5,428 49
Park . . .	3,451 48	3,543 37	3,397 46	271 12	449 46	11,112 89
Pitkin . . .	1,253 34	1,217 70	12,605 17	129 79	1,684 58	16,890 58
Pueblo . . .	16,687 83	22,492 44	19,941 51	737 18	13,105 79	72,964 75
Rio Grande . .	5,257 25	2,010 04	4,997 64	1,182 82	8,888 44	22,337 09
Routt . . .	676 16	2,253 60	64 76	649 53	8 24	3,652 29
Saguache . . .	4,098 40	3,388 01	1,848 45	451 35	1,264 81	11,050 98
San Juan . . .	266 22	1,842 53	1,584 72		490 74	4,184 21
San Miguel . .	661 91	2,595 92	389 96			3,647 09
Summit . . .	867 51	2,463 78	2,041 41	1,237 34		6,610 04
Washington . .	111 26	504 87	1,400 47		15 95	2,032 55
Weld . . .	16,302 00	24,394 27	13,859 82	12,095 62	3,755 60	70,407 21
Total . . .	\$ 293,771 04	\$ 326,324 96	\$ 471,317 48	\$ 55,778 25	\$ 86,156 84	\$ 1,233,348 57

TABLE VII.—CONCLUDED.

FINANCIAL STATEMENT FOR 1887.

COUNTIES.	EXPENDITURES.					Balance in hands of County Treasurer, June 30, 1887.
	For teachers wages.	For current ex- penses.	For sites, build- ings and furni- ture.	For temporary loans paid.	Total expendi- tures.	
Arapahoe . . .	\$159,794 74	\$ 31,700 43	\$ 94,053 41	\$ 12,242 46	\$297,791 04	\$ 180,252 95
Archuleta . . .	540 00	61 50	476 00	257 93	1,335 43	680 63
Bent . . .	7,372 40	2,099 46	2,313 46	20 90	11,806 22	17,323 09
Boulder . . .	24,168 32	5,591 15	6,579 34	419 88	36,758 69	8,811 96
Chaffee . . .	11,093 90	2,223 74	1,468 72	1,061 19	15,847 55	6,177 77
Clear Creek . . .	15,361 12	4,751 25	865 38	1,134 50	22,112 25	2,753 88
Conejos . . .	7,522 70	2,124 56	524 93	1,745 13	11,917 32	4,638 30
Costilla . . .	2,221 50	558 19	1 00	102 65	2,883 34	592 40
Custer . . .	6,019 40	1,369 56	442 71	212 55	8,044 22	1,587 35
Delta . . .	4,567 92	886 89	1,615 11	878 36	7,948 28	1,993 98
Dolores . . .	638 00	157 54	60 00		855 54	820 58
Douglas . . .	6,232 70	780 00	184 59	98 80	7,296 19	4,767 35
Eagle . . .	1,394 75	536 40	173 37		2,104 52	604 44
Elbert . . .	6,214 60	1,351 55	321 30		7,887 46	8,407 82
El Paso . . .	23,037 50	3,706 83	9,303 42	1,219 46	37,267 21	4,655 19
Fremont . . .	15,437 53	2,471 43	3,733 77	3,070 89	24,713 62	6,414 34
Garfield . . .						
Gilpin . . .	13,773 85	3,481 21	360 46	3,135 18	20,750 70	4,495 34
Grand . . .	958 00	205 85			1,163 85	598 55
Gunnison . . .	8,269 53	3,538 80	829 03	57 70	12,695 06	3,202 26
Hinsdale . . .	910 00	764 41			1,674 41	229 85
Huerfano . . .	5,659 06	507 95	2,127 34	534 17	8,828 52	4,852 77
Jefferson . . .	16,024 66	2,183 69	1,018 73	1,052 68	20,279 76	9,750 25
Lake . . .	12,770 15	5,005 65			17,785 90	1,661 77
La Plata . . .	10,096 80	1,762 50	662 41		12,521 71	6,665 27
Larimer . . .	20,960 29	5,018 37	21,063 08	1,312 62	49,354 37	11,785 86
Las Animas . . .	15,042 71	2,707 29	11,838 00	1,735 45	31,323 45	9,496 47
Logan . . .	2,180 36	724 43	1,435 66		4,340 45	3,114 51
Mesa . . .	5,074 00	1,197 24	786 41	224 44	7,282 09	2,181 87
Montrose . . .	4,327 12	914 91	2,571 97		7,814 00	2,140 44
Ouray . . .	3,251 96	676 31	24 90	294 27	4,247 44	1,181 05
Park . . .	5,990 45	789 42	385 42	9 40	7,054 69	4,028 20
Pitkin . . .	9,165 98	4,383 28	19 40		13,768 66	3,121 92
Pueblo . . .	28,134 68	14,247 37	3,247 71	15,079 87	60,709 63	12,255 12
Rio Grande . . .	6,152 75	1,852 91	6,300 82	2,411 23	16,717 71	5,619 38
Routt . . .	873 40	64 07	420 92		1,358 39	2,293 90
Saguache . . .	4,111 40	581 36	1,246 50	693 50	6,632 76	4,418 22
San Juan . . .	1,440 00	522 97	1,584 72	1 51	3,549 20	635 01
San Miguel . . .	560 00	479 31	317 50		1,356 81	2,290 28
Summit . . .	2,150 25	1,088 98	1,186 73		4,425 96	2,184 08
Washington . . .	791 00	406 92	64 68		1,262 60	769 95
Weld . . .	27,991 51	7,242 44	13,678 99	2,628 82	51,541 76	18,865 45
Totals . . .	\$499,187 09	\$120,918 23	\$193,287 89	\$ 51,635 55	\$865,028 76	\$ 368,319 81

TABLE VIII.

FINANCIAL STATEMENT FOR 1887.

COUNTIES.	RECEIPTS.				
	Balance in hands of Co. Treas., June 30, 1887.	From general fund.	From special fund.	From all other sources.	Total receipts.
Arapahoe . . . . .	\$ 180,138 83	\$ 134,858 76	\$ 218,264 99	\$ 8,441 46	\$ 541,704 04
Archuleta . . . . .	1,697 12	782 49	1,137 66		3,617 27
Bent . . . . .	17,323 09	10,639 03	11,666 60	11,905 63	51,534 35
Boulder . . . . .	8,779 21	13,365 14	25,343 18	4,324 56	51,812 49
Chaffee . . . . .	6,653 41	9,493 77	13,125 73	3,517 18	32,790 09
Clear Creek . . . . .	2,652 60	6,948 96	19,995 78	1,562 39	31,159 73
Conejos . . . . .	4,371 06	4,331 08	4,292 03	2,826 39	15,820 56
Costilla . . . . .	561 75	1,447 84	1,609 75	262 60	3,881 94
Custer . . . . .	988 09	5,480 86	3,835 43	894 08	11,198 46
Delta . . . . .	2,154 53	4,733 89	4,507 81	789 94	12,186 17
Dolores . . . . .	820 58	59 34	592 64	21 16	1,493 72
Douglas . . . . .	4,634 86	5,869 84	4,633 20	506 38	15,644 28
Eagle . . . . .	604 44	1,339 42	1,956 09	79 09	3,979 04
Elbert . . . . .	6,804 46	7,389 07	2,889 99	757 89	17,841 41
El Paso . . . . .	5,142 90	15,273 55	32,922 87	17,343 88	70,683 20
Fremont . . . . .	6,341 27	7,768 06	17,916 36	9,604 71	41,630 47
Garfield . . . . .	1,761 17	4,136 23	5,873 82	508 46	12,279 68
Gilpin . . . . .	4,495 34	6,187 97	14,590 97	422 57	25,695 85
Grand . . . . .	690 93	586 92	477 13	39 16	1,794 14
Gunnison . . . . .	2,835 11	5,168 47	8,735 52	13 73	16,752 83
Hinsdale . . . . .	450 49	1,292 11			1,742 60
Huerfano . . . . .	4,970 97	7,785 77	4,027 71	1,293 42	18,977 81
Jefferson . . . . .	9,784 43	12,413 30	11,305 56	2,648 60	36,151 29
Lake . . . . .	566 22	6,752 08	21,891 23	125 15	29,334 68
La Plata . . . . .	7,160 32	10,289 46	6,578 44	86 37	24,114 59
Larimer . . . . .	12,515 39	19,863 62	18,197 24	8,418 37	58,994 62
Las Animas . . . . .	9,185 55	13,422 69	20,052 61	1,342 51	44,003 36
Logan . . . . .	3,404 88	8,070 87	10,247 93	7,064 43	28,788 11
Mesa . . . . .	2,581 69	3,722 62	8,733 75	1,632 30	16,670 56
Montrose . . . . .	2,983 97	3,570 91	10,023 97	483 16	17,063 01
Ouray . . . . .	1,188 14	1,692 92	6,189 64	655 00	9,725 70
Park . . . . .	4,112 82	4,761 69	4,759 83	94 36	13,728 70
Pitkin . . . . .	3,122 02	2,280 73	15,300 20	119 27	20,822 22
Pueblo . . . . .	11,736 48	28,075 50	29,943 04	22,637 33	92,392 35
Rio Grande . . . . .	5,597 32	2,935 87	10,162 73	3,540 09	22,236 01
Routt . . . . .	2,293 90	2,425 75	398 53	10 00	5,128 18
Saguache . . . . .	4,086 30	3,231 33	3,187 27	1,001 72	11,566 62
San Juan . . . . .	635 01	1,395 36	288 39		2,318 76
San Miguel . . . . .	2,290 28	1,344 88	456 29		4,091 45
Summit . . . . .	980 73	1,974 58	3,130 65	2,097 52	8,183 48
Washington . . . . .	120 15	2,693 33	9,079 92	15,367 07	27,260 47
Weld . . . . .	18,567 09	28,794 04	35,650 55	8,357 61	91,369 29
Totals . . . . .	\$ 367,784 90	\$ 414,650 10	\$ 624,873 03	\$ 140,796 55	\$ 1,548,104 58

TABLE VIII—CONCLUDED.

FINANCIAL STATEMENT FOR 1888.

COUNTIES.	EXPENDITURES.						
	For teachers' wages.	For current expenses.	For sites, buildings and furniture.	Temporary loans paid.	Total expenditures.	Balance in hands of Co. Treas. June 30, 1888.	
Arapahoe . . .	\$ 175,246 18	\$ 72,979 97	\$ 164,801 41	\$ 5,209 77	\$ 418,237 33	\$ 12,3466 71	
Archuleta . . .	731 68	348 36	1,116 96		2,197 00	1,427 00	
Bent . . . . .	11,398 04	3,688 40	17,170 36	155 87	32,412 67	19,121 68	
Boulder . . . .	26,464 82	5,766 69	9,136 45	2,238 23	43,006 19	8,806 30	
Chaffee . . . .	12,380 65	3,168 69	3,668 52	1,561 20	20,779 06	12,011 03	
Clear Creek . .	16,959 66	7,336 32	1,359 30		25,655 28	5,504 45	
Conejos . . . .	6,538 03	1,318 55	716 91	2,314 17	10,887 63	4,932 93	
Costilla . . . .	2,677 10	636 17	104 30		3,417 57	464 37	
Custer . . . . .	6,560 16	1,694 51	307 64	642 44	9,204 75	1,993 71	
Delta . . . . .	4,795 80	2,034 39	1,565 73	451 11	8,847 03	3,339 14	
Dolores . . . .	603 75	147 30			751 14	742 58	
Douglas . . . .	7,670 43	708 40	1,585 72	387 72	10,352 27	5,292 01	
Eagle . . . . .	2,059 75	677 03	31 00		2,767 78	1,211 26	
Elbert . . . . .	7,698 50	1,036 29	1,021 25	79 55	9,835 59	8,005 82	
El Paso . . . .	28,994 17	12,933 78	4,516 07	630 27	47,074 29	23,608 91	
Fremont . . . .	18,667 27	2,931 85	11,517 28	2,496 69	35,613 09	6,017 38	
Garfield . . . .	5,071 33	2,271 04			7,342 37	4,937 31	
Gilpin . . . . .	14,903 23	4,003 99	72 47	1,022 64	20,002 33	5,694 52	
Grand . . . . .	1,080 00	383 39			1,463 39	330 75	
Gunnison . . . .	8,415 87	3,907 07	912 77	88 17	13,323 87	3,428 96	
Hinsdale . . . .	1,160 09	240 60			1,400 69	342 00	
Huerfano . . . .	6,445 12	1,043 65	3,718 51	15 30	11,222 78	7,755 09	
Jefferson . . . .	16,887 15	3,951 80	3,315 86	5,044 41	29,199 22	6,952 07	
Lake . . . . .	14,551 60	6,524 29			21,075 89	8,258 79	
La Plata . . . .	11,731 51	1,806 95	1,730 18	6 03	15,274 67	8,839 92	
Larimer . . . .	24,418 64	5,518 43	10,932 72	6,242 40	47,112 19	11,882 43	
Las Animas . . .	16,167 20	3,579 50	2,516 50	6,535 57	28,798 77	15,204 59	
Logan . . . . .	9,418 59	2,311 48	5,518 88	1,507 63	18,756 58	10,031 53	
Mesa . . . . .	6,033 64	2,906 72	1,342 43	34 60	10,317 39	6,353 17	
Montrose . . . .	7,248 97	1,737 35	2,599 73		11,586 05	5,476 96	
Ouray . . . . .	3,957 70	721 43	598 60	1,165 02	6,442 75	3,282 93	
Park . . . . .	6,874 62	1,168 02	914 09	20 88	8,977 61	4,751 09	
Pitkin . . . . .	7,919 50	8,065 13	1,521 39		17,536 02	3,286 20	
Pueblo . . . . .	36,113 10	10,626 20	15,042 41	8,606 96	70,388 67	22,003 68	
Rio Grande . . .	5,651 24	8,519 22	1,600 61	2,247 26	18,018 33	4,217 68	
Routt . . . . .	2,776 00	103 40	140 74		3,020 14	2,108 04	
Saguache . . . .	5,342 16	666 86	433 60	988 35	7,430 87	4,075 75	
San Juan . . . .	1,716 50	458 77			2,175 27	143 49	
San Miguel . . .	960 00	201 94	223 41	427 04	1,812 39	2,279 06	
Summitt . . . .	3,137 45	2,713 57			5,851 02	2,332 46	
Washington . . .	5,171 73	3,160 80	14,876 11	219 42	23,428 06	3,832 41	
Weld . . . . .	33,613 32	10,852 57	20,141 25	4,808 74	69,415 88	21,953 41	
Totals . . . . .	\$ 586,242 12	\$ 204,250 96	\$ 306,771 16	\$ 55,147 54	\$ 1,152,411 78	\$ 395,692 80	

TABLE IX.

## FINANCIAL SUMMARIES.

1887.	RECEIVED.	PAID.
Amount on hand September 1, 1886 . . . . .	\$ 293,771 04	
From General Fund . . . . .	326,324 96	
From Special Fund . . . . .	471,317 48	
From Building Fund . . . . .	55,778 25	
From all other sources . . . . .	86,156 84	
Total receipts . . . . .	\$1,233,348 57	
Teachers' Wages . . . . .		\$ 499,187 09
For Current Expenses . . . . .		120,918 23
For Sites, Buildings and Furniture . . . . .		193,287 89
For Temporary Loans Paid . . . . .		51,635 55
Total Expenditures . . . . .		\$ 865,028 76
1888.	RECEIVED.	PAID.
Amount on hand June 30, 1887 . . . . .	\$ 367,784 90	
From General Fund . . . . .	414,650 10	
From Special Fund . . . . .	624,873 03	
From all other sources . . . . .	140,796 55	
Total Receipts . . . . .	\$1,548,104 58	
For Teachers' Wages . . . . .		\$ 586,242 12
For Current Expenses . . . . .		204,250 96
For Sites, Buildings and Furniture . . . . .		306,771 06
For Temporary Loans Paid . . . . .		55,147 54
Total Expenditures . . . . .		\$1,152,411 78
Balance on hand June 30, 1888 . . . . .		\$ 395,692 80

TABLE X.

## APPORTIONMENT OF STATE FUND.

COUNTIES.	1887. .328 PER CAPITA.			1888. 2.008 PER CAPITA.		
	Amount ap- portioned.	Deducted for blanks.	Balance cer- tified to Aud- itor.	Amount ap- portioned.	Deducted for blanks.	Balance cer- tified to Aud- itor.
Arapahoe . . . . .	\$5,347 66	\$ 57 39	\$5,290 27	\$ 36,334 48	\$ 145 93	\$ 36,088 55
Archuleta . . . . .	26 85		26 85	210 64	1 05	209 59
Bent . . . . .	421 50	33 34	388 16	3,018 69	95 70	2,922 29
Boulder . . . . .	1,176 85	29 03	1,147 82	7,136 08	24 93	7,111 15
Chaffee . . . . .	478 24	5 27	472 97	2,956 68	8 95	2,947 73
Clear Creek . . . . .	588 55	8 54	580 01	3,502 52	12 64	3,489 88
Conejos . . . . .	636 37	6 10	629 97	4,378 05	31 24	4,346 81
Costilla . . . . .	357 41	5 17	352 24	2,308 99	29 37	2,279 62
Custer . . . . .	360 01	16 74	343 27	2,223 22	3 84	2,219 38
Delta . . . . .	189 70	11 92	177 78	1,212 10	54 53	1,157 57
Dolores . . . . .	3 61	25	3 36	114 09		113 24
Douglas . . . . .	240 60	23 50	216 80	1,507 46	25 73	1,481 73
Eagle . . . . .	102 34	16 22	87 94	709 90	10 38	699 32
Elbert . . . . .	178 72	22 00	156 72	1,459 55	99 70	1,359 85
El Paso . . . . .	768 03	20 92	747 11	5,335 65	83 76	5,251 87
Fremont . . . . .	716 31	9 32	706 99	4,684 05	68 18	4,615 87
Garfield . . . . .	111 17	27 00	84 17	1,449 61	52 21	1,397 21
Gilpin . . . . .	511 24	10 77	500 47	3,179 92	10 29	3,169 63
Grand . . . . .	28 02		28 02	188 75	1 19	187 56
Gunnison . . . . .	289 47	6 99	282 48	1,748 43	8 50	1,739 93
Hinsdale . . . . .	39 56	3 18	36 38	235 40	1 70	234 70
Huerfano . . . . .	637 65	14 80	622 85	4,105 39	15 68	4,189 71
Jefferson . . . . .	708 33	9 20	699 13	4,433 65	28 55	4,405 10
Lake . . . . .	722 13	4 90	717 23	4,477 25	2 98	4,474 27
La Plata . . . . .	371 75	16 72	355 03	2,647 38	36 74	2,610 64
Larimer . . . . .	816 43	10 19	806 24	5,235 72	45 69	5,090 03
Las Animas . . . . .	1,158 95	31 82	1,127 13	8,987 33	153 35	8,733 78
Logan . . . . .	346 63	31 77	314 86	3,490 37	268 91	3,221 46
Mesa . . . . .	198 81	14 52	184 29	1,311 39	19 26	1,292 13
Montrose . . . . .	228 02	15 52	212 51	1,080 07	5 13	1,074 94
Ouray . . . . .	119 31	4 98	114 33	812 12	2 51	809 61
Park . . . . .	236 10	4 25	230 85	1,455 25	15 70	1,439 55
Pitkin . . . . .	186 46	13 85	172 61	1,190 91	14 97	1,175 94
Pueblo . . . . .	1,019 80	31 90	987 90	6,595 47	36 54	6,558 93
Rio Grande . . . . .	227 33	13 45	213 88	1,478 41	9 53	1,468 88
Routt . . . . .	67 16	11 92	55 24	508 37	13 37	495 00
Saguache . . . . .	235 08	8 10	226 98	1,621 69	16 96	1,604 73
San Juan . . . . .	49 73	1 23	48 50	271 09	85	270 24
San Miguel . . . . .	17 64	15	17 49	146 02	2 25	143 77
Summit . . . . .	144 67	3 01	141 66	886 26	3 31	882 95
Washington . . . . .	170 74	46 84	123 90	1,661 96	95 57	1,566 37
Weld . . . . .	1,017 88	55 44	962 44	6,549 63	80 63	6,469 00
Totals . . . . .	\$21,152 82	\$ 659 79	\$20,494 85	\$143,141 70	\$1,648 47	\$141,493 23





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Reports  
OF  
State Institutions.

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# State University.

HON. LEONIDAS S. CORNELL,  
*Superintendent of Public Instruction:*

SIR:—I have the honor herewith to submit the following biennial report of the State University for the two years ending September 30, 1888.

HORACE M. HALE,  
*President.*

BOULDER, COLO., November 29, 1888.

The Constitution of the State of Colorado provides for the election of a Board of Regents of the State University, and defines its duties. While the boards of control of the other educational institutions of the State are appointed by the Governor, the members of the Boards of Regents are elected directly by the people (Constitution, Article IX., Sections 12, 13 and 14), thus bringing the management of the University as near the people as practicable. The organic act, establishing and providing for the maintenance of the University, was passed by the General Assembly of Colorado, March, 1877, and provides as follows:

“The University shall include a classical, philosophical, normal, scientific, law, and such other departments, with such courses of instruction and elective studies as the Board of Regents may determine, and a department of the physical sciences. The Board shall have authority to confer such degrees and grant such diplomas as are usually conferred and granted in other universities. And the Board of Regents are hereby authorized and required to establish a preparatory de-

partment, which shall be under the control of said Board of Regents, as are the other departments of the University. Nothing in this section shall be so construed as to require the Regents to establish the several departments, other than the normal and preparatory, as herein provided, until such time as, in their judgment, the wants and necessities of the people require."

In accordance with the foregoing provisions there is now maintained a Preparatory, a Normal, a Classic, a Scientific and a Medical Department.

## SUMMARY OF ATTENDANCE.

	1886-7.	1887-8.
DEPARTMENT PHILOSOPHY AND THE ARTS . . . . .	18	31
DEPARTMENT OF MEDICINE . . . . .	7	12
NORMAL DEPARTMENT . . . . .	8	22
PREPARATORY DEPARTMENT: First Class . . . . .	11	4
Second Class . . . . .	14	12
Third Class . . . . .	45—70	55—71
	<u>103</u>	<u>136</u>

The following are the names and titles of the present members of the faculty, with the salary of each:

HORACE M. HALE, A. M. . . . .	\$ 2,500
President.	
I. C. DENNETT, PH. D. . . . .	1,900
Professor of Latin.	
MARY RIPON . . . . .	1,600
Professor of German and French.	
J. RAYMOND BRACKETT, PH. D. . . . .	1,900
Professor of English Literature and Greek, LIBRARIAN.	
JAMES H. KIMBALL, M. D. . . . .	800
Professor of Principles and Practice of Medicine, Materia Medica, and Therapeutics.	
H. W. MCLAUTHLIN, M. D. . . . .	600
Professor of Obstetrics and Diseases of Women and Children.	
GEORGE CLEARY, M. D. . . . .	500
Professor of Ophthalmology, Otology, and Laryngology.	
W. J. WAGGENER, A. M. . . . .	1,800
Professor of Natural Philosophy.	
L. M. GIFFIN, M. D. . . . .	600
Professor of Anatomy and Physiology.	
CHARLES PALMER, PH. D. . . . .	1,700
Professor of Chemistry.	

L. DUP. SYLE, M. A. (Yale) . . . . .	\$1,600
Professor of Political Economy and History.	
S. A. BONESTEEL, M. D . . . . .	550
Professor of Surgery.	
IRA M. DELONG, M. A . . . . .	1,600
Professor of Mathematics.	
R. N. MAYFIELD, M. D. . . . .	250
Lecturer on Pathology and Hygiene.	
J. M. NORTH, A. M., LL. B . . . . .	100
Lecturer on Medical Jurisprudence.	
S. E. SOLLY, M. R. C. S. M. D . . . . .	50
Lecturer on Climatology.	
G. B. BLAKE, M. D . . . . .	50
Lecturer on Materia Medica and Demonstrator of Anatomy.	
P. V. CARLIN, M. D. . . . .	50
Lecturer on Physical Diagnosis.	
CHARLES RICHARD, M. D. U. S. A. . . . .	100
Lecturer on Military, Medicine and Surgery.	
EDITH STYLE . . . . .	per month 25
Assistant Librarian.	
H. N. WILSON . . . . .	per month 15
Tutor in Greek.	
HENRY FULTON . . . . .	per month 15
Assistant in Chemistry.	

## SECRETARY'S REPORT.

The following orders were drawn between September 30, 1886, and September 30, 1888, inclusive, for the purposes set forth below:

Regents . . . . .	\$ 1,323 60
Salaries of professors, academical department . . . . .	26,872 18
Janitor and janitor's supplies . . . . .	1,366 30
Fuel and oil . . . . .	807 83
Furniture . . . . .	1,030 68
Chemical laboratory and apparatus . . . . .	1,204 62
Physical apparatus . . . . .	1,185 61
Library and reading room . . . . .	2,206 76
Buildings and grounds and insurance . . . . .	11,241 83
Advertising, printing and stationery . . . . .	820 24
Horses and keeping . . . . .	351 64
Salaries and incidentals, medical department . . . . .	5,457 40
New medical hall . . . . .	2,540 20
Sundries . . . . .	1,581 14
Total . . . . .	\$57,990 03

S. A. GIFFIN,

*Secretary.*

## TREASURER'S REPORT.

Statement of Charles L. Spencer, Treasurer, from October 1, 1886, to January 31, 1887, both dates inclusive:

GENERAL FUND.	
Balance as per report to October 1, 1886 . . . . .	\$ 11,948 14
Received from Treasurer State, current expense fund . . . . .	157 00
Received from Treasurer State, land income fund . . . . .	21 00
Received from Dr. Sewall, matriculation fees . . . . .	115 00
Total receipts . . . . .	\$ 12,241 14
CONTRA.	
Disbursed, as per vouchers . . . . .	\$ 8,723 61
Turned over to C. G. Buckingham, Treasurer . . . . .	3,517 53
Total . . . . .	\$ 12,241 14
SPECIAL FUND.	
Balance as per report to October 1, 1886 . . . . .	\$ 2,285 20
Received from Treasurer State . . . . .	25 00
Total receipts . . . . .	\$ 2,310 20
CONTRA.	
Disbursed as per vouchers . . . . .	\$ 237 84
Turned over to C. G. Buckingham, Treasurer . . . . .	2,072 36
Total . . . . .	\$ 2,310 20
RECAPITULATION.	
Total receipts account general fund . . . . .	\$ 12,241 14
Total receipts account special fund . . . . .	2,310 20
Total receipts . . . . .	\$ 14,551 34
CONTRA.	
Disbursements account general fund . . . . .	\$ 8,723 61
Disbursements account special fund . . . . .	237 84
Turned over to C. G. Buckingham, Treasurer . . . . .	5,589 89
Total . . . . .	\$ 14,551 34

Statement of C. G. Buckingham, Treasurer, from February 1, 1887, to September 30, 1888, both dates inclusive:

GENERAL FUND.	
RECEIPTS.	
From C. L. Spencer, Treasurer . . . . .	\$ 3,517 53
From State Treasurer, current expense fund . . . . .	47,800 00
From State Treasurer, land income fund . . . . .	10,339 46
From H. M. Hale, matriculation, library and tuition fees . . . . .	467 00
From right of way, D., M. & B. R. R . . . . .	425 00
From overdrawn warrants (error) . . . . .	1 75
From sale of old wagon . . . . .	36 00
From medical department . . . . .	16 15
From J. A. Sewall, furniture sold to . . . . .	90 00
From U. P. R. R., rebate on freight . . . . .	26 46
From C. G. Buckingham, donation to library . . . . .	200 00
Total . . . . .	\$ 62,919 35

## DISBURSEMENTS.

Disbursements, as per vouchers . . . . .	\$ 46,411 45
Balance, cash on hand . . . . .	16,507 90
Total . . . . .	\$ 62,919 35

## SPECIAL FUND.

## RECEIPTS.

From Charles L. Spencer, Treasurer . . . . .	\$ 2,072 36
From State Treasurer . . . . .	162 16
From boot on exchange of horses . . . . .	150 00
	\$ 2,384 52

## DISBURSEMENTS.

Disbursements as per vouchers . . . . .	\$ 2,384 52
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## RECAPITULATION.

## TOTAL RECEIPTS.

General Fund . . . . .	\$ 62,919 35
Special Fund . . . . .	2,384 52
	\$ 65,303 87

## TOTAL DISBURSEMENTS.

General Fund . . . . .	\$ 46,411 45
Special Fund . . . . .	2,384 52
Balance, cash on hand . . . . .	16,507 90
	\$ 65,303 87

## LIBRARIAN'S REPORT.

H. M. HALE, *President*:

SIR:—I have the honor of submitting the following report of the Buckingham Library:

Number of volumes in general library, September 30, 1888 . . . . .	3,259
Number of public documents . . . . .	1,450
Number of volumes unbound . . . . .	108
Total . . . . .	4,817
Number of volumes September 30, 1886 . . . . .	3,349
Volumes purchased September 30, 1886, October 1, 1888 . . . . .	627
Presented by Mary Rippon . . . . .	1
Presented by J. R. Brackett . . . . .	3
Presented by W. J. Waggener . . . . .	4
Presented by Public Library, St. Louis . . . . .	1
Presented by A. S. Barnes & Co., New York . . . . .	29
Presented by Ivers Phillips, of Boulder . . . . .	77
Presented by the United States Government . . . . .	552
Bound volumes from the reading room . . . . .	91
Unbound volumes from reading room . . . . .	83
Increase in two years . . . . .	1,468

During the year ending September 30, 1887, no appropriation was made for the Library. The purchases were confined to a few necessary books, being for the most part publications already subscribed for. The sum expended was \$87.78.

For the year ending September 30, 1888, there was an appropriation of \$1,000.

Orders have been drawn on the University funds on account of the library as follows:

From April 28, 1877, to April 30, 1880 . . . . .	\$ 100 00	.00½—
From September 30, 1880, to October 1, 1882 . . . . .	333 80	.01 +
From September 30, 1882, to September 30, 1884 . . . . .	149 00	.00½ +
From September 30, 1884, to September 30, 1886 . . . . .	2,523 04	.05½
From September 30, 1886, to October 1, 1888 . . . . .	1,349 90	.02 —
Total . . . . .	\$ 4,456 64	

The sum spent during the last two years is not quite two per cent. of the income of the University; of this sum \$200 was presented by C. G. Buckingham.

The following is a fair estimate of the cost of the property belonging to the Library:

Books purchased by appropriations . . . . .	\$ 3,426 16
Books purchased by Buckingham fund . . . . .	2,200 00
Furniture . . . . .	333 40
Card cases and library supplies . . . . .	140 44
Type writer . . . . .	108 00
Total . . . . .	\$ 6,208 00

The books of the Buckingham Library have been selected with great care. Excluding public documents, there are three thousand three hundred and sixty-seven volumes. The library is too small for extended research in most departments, or for the proper illustration of studies in *belles lettres*.

The library is open to the public for consultation, and to students for consultation and drawing books, from 8:10 to 12:50 each school day.



In accordance with a request made in my first report, a room has been set apart for public documents, and it has been fitted with adjustable shelving.

The books on chemistry and geology has been removed to Room 8, and are under the care of Dr. C. S. Palmer.

I recommend the increase of the appropriation for the purchase of books to a sum of not less than \$2,500 per annum.

#### READING-ROOM.

The following periodicals have been purchased for the reading-room:

North American Review.	Fliegende Blaetter.
Contemporary Review.	Revue des Deux Mondes.
Fortnightly Review.	L'Art.
Edinburgh Review.	Journal of Philology.
Quarterly Review.	American Journal of Philology.
Westminster Review.	Anglia.
Blackwood's Magazine.	Englische Studien.
Nineteenth Century	Journal of Speculative Philosophy.
New Princeton Review	Quarterly Journal of Economics.
Scottish Review.	Political Science Quarterly.
Shakespeariana.	Nature.
Andover Review.	Science.
Atlantic Monthly.	American Journal of Science.
Harper's Monthly.	Popular Science Monthly.
Scribner's Magazine.	Comptes Rendus.
Century.	American Chemical Journal.
Nation.	London Chemical News.
Education.	Journal London Chemical Society.
New England Journal of Educa- tion.	Journal de Physique.
New Englander.	American Journal of Mathematics.
Library Notes.	Annals of Mathematics.
Library Journal.	Nouvelles Annales de Mathe- matiques.
Forum.	Mathesis.
Literary World.	Journal fuer die Reine und Ange- wandte Mathematik.
Deutsche Rundschau.	Rocky Mountain News.
Internationale Zeitschrift fuer Sprachwissenschaft.	Judge.
Harper's Weekly.	

The following have been presented by the publishers.

Challenge.	Boulder County Herald.
Co-Operative Index to Periodicals.	The Sentinel.
Literary News.	Boulder News.
Natural Science Bulletin.	The Local Miner.
Colorado School Journal.	

The Regents set apart for the support of the reading-room a sum equal to the matriculation fees and reading-room fees.

During the year 1886-1887 there was paid for periodicals, \$163.88; for care of reading-room, \$207.50.

During the year 1887-1888 there was paid for periodicals, \$184; for care of reading-room, \$220.22.

With the exception of three newspapers, all the periodicals purchased are bound and become the property of the Buckingham Library. These additions to the library during the two years represent a cost value of \$383.28.

For care of the room during the two years the sum of \$427.72 has been paid. The assistants who have had care of the reading-room have also performed all the hired work that has been done in the library.

I recommend that the reading-room fee be increased to \$3.00 per annum.

Respectfully submitted,

J. RAYMOND BRACKETT,

*Librarian.*

#### **NORMAL DEPARTMENT.**

A Normal course of four years is now established. The first three years of this course, so far as the branches of study are concerned, are identical with the Preparatory Course. Special lectures in didactics have been given, and exemplary work done by the presidents. This work will be continued during the fourth and last year of the course, in addition to academic work as prescribed in the catalogue.

#### **DEPARTMENT OF MEDICINE.**

Persistent efforts of a few of the older schools have for the past ten years been directed toward securing an

advance in the standard of medical education, and also, by preliminary examinations, toward selecting those only whose general knowledge was sufficient to form a proper foundation for professional teaching. They have been seconded in their endeavors by the school connected with State Universities, probably without exception, and notably by the Illinois State Board of Health, which has recently voted that after the session of 1890-91, a school to be in "good standing" must require four years of study and three courses of lectures. Graduates of schools, which after that date fail to adopt these requirements, will be debarred from practicing their profession in that State. This change will doubtless lessen the number of students, but must improve their quality, and it will be hailed with pleasure by colleges not dependent upon fees for their existence. The medical department of the University of Colorado has this year been placed upon a secure foundation. It has received the endorsement of the Board of Regents and of the people. It has been provided with a building especially constructed for its purposes, and the Faculty has been increased to twelve in number. The museum has received many interesting and valuable pathological specimens from members of the medical profession. The greater part of the present class, sixteen in number, are first year students who have entered upon a full three years' course, thus anticipating the action of the Illinois State Board.

Respectfully submitted,

J. H. KIMBALL, M. D.,

*Secretary.*

At the end of the calendar year, 1886, Dr. Joseph A. Sewall, who had filled the office of President from the opening of the University, in 1877, resigned. At the request of the Board of Regents, Dr. Sewall continued

in the chair of Chemistry, and also acted as President, until the close of the academic year, June 30, following, at which time his successor, Horace M. Hale, assumed the Presidency, and Dr. Charles S. Palmer was called to the chair of Chemistry. Since the last report, Dr. J. W. Bell, Professor of Political Economy and History; and Professor W. W. Campbell, of Mathematics, have resigned, and Professors L. D. Syle and Ira M. DeLong fill the respective chairs.

During the past two years there has been constructed a medical hall, an iron foot bridge, a beautiful little lake, and a horse shed with ten compartments. All of the buildings have been painted and thoroughly repaired, a new roof put upon, and new furnaces put into, the main building, and into the President's house. About seven hundred trees have been planted, several roadways and paths graded, and about six hundred loads of stone removed from the land.

#### REMARKS.

The University has fairly entered upon its second decennary, and with bright and encouraging prospects. It will be observed, by reference to the summary of attendance, that the increase of 1888 over that of 1887 is nearly  $33\frac{1}{3}$  per cent.—a growth fully commensurate with that of the State. More than this could not reasonably have been expected. Furthermore, it will be noticed that the increase in the number of students is almost entirely in the higher departments, indicating a growth in the right direction.

During the first ten years of its life, the University of Colorado has furnished no exception to the invariable rule that has obtained relative to all institutions of its kind. This has had to contend in kind and quantity, with the same opposition and antagonism that has been

met and overcome by all of the State colleges in the land; and not by the colleges only, but by the entire system of public education now so popular.

Criticisms of institutions of this character emanate from two distinct and opposite sources—one from friends, one from foes. The former, that progress may be made by correcting faults; the latter, that prejudice may be engendered and ruin result. The one is wholesome; the other selfish and vicious. All that fair-minded people need do in such cases is to analyze the antagonisms; trace them to their legitimate sources, and let their better judgment decide.

It is a trite saying that schools of this kind are not "made," they "grow," and that time must be given for their growth. This is true only in part. A century ago it was nearer true than it is to-day. Now, large and popular institutions of "first magnitude" spring into existence as if by magic, whenever and wherever sufficient endowments are furnished and judiciously used. Cycles of time avail but little if these are wanting. Some of the oldest colleges are to-day the weakest; some of the youngest are the strongest and best.

Considering the limited means at the disposal of our Board of Regents, it must be conceded that much has been accomplished. Colorado's climate and natural resources, the intelligence, liberality and enterprise of her people, the rapid and healthy increase in her population, the reputation she is acquiring abroad, the excellence of her public school system, with Boulder's beautiful and healthy location, all conspire to stimulate in the hearts of the friends of popular education among her citizens the hope that the State University may be permitted to keep, at least, even pace with the State's growth, and thus fulfill the destiny prescribed for it by the Constitution and the statutes.



# State Agricultural College.

HON. LEONIDAS S. CORNELL,

*Superintendent of Public Instruction.*

SIR:—I have the honor to submit for your consideration, and publication, the biennial report of the State Agricultural College for the years 1887–88.

The college was originally founded as the outgrowth of the act of July, 1862, and supplementary acts of Congress, having for their object the establishing of schools in the several States and Territories, “where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts in such a manner as the Legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life.”

The State, before taking the benefit of this act, had moved independently, and had founded this college, placing its control and management with the State Board of Agriculture, and that they have wisely and well fulfilled the trust imposed upon them the growth and prosperity of the institution will attest.

## THE STATE BOARD OF AGRICULTURE.

	<i>Term expires.</i>
Hon. Frank J. Annis, Fort Collins . . . . .	1895
Hon. Charles H. Small, Pueblo . . . . .	1895
Hon. R. A. Southworth, Denver . . . . .	1893
Hon. George Wyman, Longmont . . . . .	1893
Hon. B. S. LaGrange, Greeley . . . . .	1891
Hon. W. F. Watrous, Fort Collins . . . . .	1891
Hon. John J. Ryan, Loveland . . . . .	1889
Hon. Robert C. Nisbet, Del Norte . . . . .	1889
His Excellency Governor Alva Adams, President Charles L. Ingersoll, . . . . .	<i>Ex-Officio.</i>

OFFICERS OF THE BOARD.

Hon. GEORGE WYMAN . . . . . President  
 Hon. FRANK J. ANNIS . . . . . Secretary  
 Hon. PETER W. BREENE (*ex-officio*) . . . . . Treasurer

FINANCE COMMITTEE.

Hon. J. J. RYAN,      Hon. W. F. WATROUS,      Hon. C. H. SMALL.

EXECUTIVE COMMITTEE

OF  
 THE AGRICULTURAL EXPERIMENT STATION.

Hon. J. J. RYAN,      Hon. W. F. WATROUS.      Hon. G. WYMAN.

SECRETARY AND TREASURER OF STATION.

Hon. FRANK J. ANNIS.

The faculty of instruction has been subject to some changes from various causes, but through them all, by the willing co-operation and assistance of all the instructors, the college has suffered little. The most serious drawback has been that of lack of growth in departments, due to change of head, such as could have been secured by a continuous administration. This fact has been most noticable in the departments of Biology and Irrigation Engineering.

FACULTY CHANGES.

The following changes have taken place:

1886, December. Prof. Charles A. Crampton was elected to the chair of Chemistry and Geology; services to begin September 1, 1887.

1887, September 1. Prof. Crampton resigned to accept a position with Dr. H. G. Wiley, U. S. chemist.

1887, September 1. David O'Brine, E. M., M. D., D. Sc., was elected to the chair of Chemistry and Geology, and began work at once.

1887, April 9. Miss Elizabeth G. Bell resigned the chair of History, Literature and Modern Language on account of ill health, and Miss Maud Bell was elected to the same.



1888, April 2. Prof. Elwood Mead resigned the chair of Physics and Engineering to accept the position of Engineer in the Territory of Wyoming.

1888, June 9. William McEachran, M. D., V. S., was elected to the chair of Veterinary and Science and Zoology. The chair had been vacant nearly two years.

1888, June 9. Prof. Louis G. Carpenter, M. S., of Michigan Agricultural College, was elected to chair vacated by Prof. Mead.

The latter two men began their work on September 1, 1888.

The college thus began its school year of 1888-89 with a full corps of instructors, and fully prepared to do good, efficient work. The present faculty with the salaries paid each by the State, are as follows:

	<i>Salary.</i>
Charles L. Ingersoll, M. S., President . . . . .	\$ 2,250
Ainsworth E. Blount, A. B., Agriculture . . . . .	1,500
James Cassidy, B. S., Botany and Horticulture . . . . .	1,500
James W. Lawrence, Mechanics and Drawing . . . . .	1,500
Vasa E. Stolbrand (Major C. N. G.), Mathematics and Military Science . . . . .	1,500
Maud Bell, History, Literature and Modern Language . . . . .	1,200
David O'Brine, E. M., D. Sc., M. D., Chemistry and Geology . . . . .	1,500
Louis G. Carpenter, M. S., Physics and Engineering . . . . .	1,500
William McEachran, M. D., V. S., Veterinary Science and Zoology . . . . .	1,500
Grace Patton, B. S., Instructor in College and Preparatory . . . . .	900
Frank J. Annis, Secretary . . . . .	1,500

In this connection, let me take the opportunity to acknowledge the assistance rendered by the members of the faculty, each vieing with the other in attempting to do well the work intrusted to them, and to heartily co-operate in the execution of the general plan.

#### COURSE OF STUDY.

The course of study has had but slight change during this period. It has been made more distinctive, the better to subserve the intention expressed in the language quoted from the act, by the establishment of two courses after the completion of the Junior year, viz:

1. The Agricultural Course.

2. The Mechanical Course, with German, two years, as a distinctive feature for ladies; but no student is debarred from it. Other slight changes are, striking French from the course, and giving Agriculture in place of Penmanship in the Preparatory year's work.

#### GRADUATES.

The graduates of the College now number 18.

The class of 1887 . . . . .	4
The class of 1888 . . . . .	4
Total . . . . .	8

The higher classes of the institution are now more full than usual, with promise of more in the near future taking a full course.

The majority remain with us from two to three years, and without further preparation begin life-work.

It will be interesting to note the enrollment by years, and, hence, I introduce the following:

#### ENROLLMENT.

1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.
20	43	62	95	90	107	119	117	145	128

You will thus see that there has been a comparatively regular and healthy growth in development and attendance.

The present year has had the draw back of being a year of short water supply, and many who have been firm supporters of the school, and its patrons, have felt too poor to continue their children in school, or to send them for the first term.

Notwithstanding this, there is a goodly representation from different parts of the State. During the period covered by this report, the following counties have been represented:

Arapahoe, Bent, Boulder, Chaffee, Costilla, Custer, Douglas, El Paso, Fremont, Garfield, Gunnison, Jefferson, La Plata, Lake, Larimer, Las Animas, Park, Pitkin, Pueblo and Weld.

In addition to this, the College has had several students from the adjacent States and Territories of Nebraska and Kansas, Wyoming and New Mexico; also, a few from Eastern States, on account of adaptation of the course or salubrious climate, or both combined.

## ATTENDANCE.

TERM.	1887.			1888.		
	Males.	Females.	Total.	Males.	Females.	Total.
Winter term . . . . .	53	31	84	62	27	89
Spring . . . . .	41	18	59	44	24	68
Fall . . . . .	68	32	100	61	29	90
Totals . . . . .	162	81	243	167	80	247
Average attendance	54	27	81	55½	26¾	82
Year's enrollment .	96	49	145	89	45	135

In the early part of 1887, measles took a run among our students, and in 1888 the scarlet fever became epidemic in town (not in college), and these both in a measure influenced the attendance.

## EXPERIMENTS.

The College since its inception has put forth considerable effort in the way of experiment. At first for three years on the farm, then adding Horticulture, and at a later day experiments in flow of water and evaporation; and, also, in diseases of animals.

In Colorado the conditions are found to be so different that new experiments must be instituted, and those of other States repeated, in order to have the results of any value to the people of the arid region. In 1887, "The Hatch Experiment Station" bill passed Congress,

and at a later day, February, 1888, an appropriation was made to carry out the provisions of the act. This gives the sum of \$15,000 annually to support an experiment station in Colorado, in connection with the State Agricultural College.

The State Board of Agriculture met February 20, 1888, and proceeded to organize such a station as contemplated by law, and make it one department of the college. Its name is "The Agricultural Experiment Station." It is governed by an executive committee of three, but the experiments are decided by a council, composed of the officers and workers of the station, and are afterwards ratified by the committee in charge.

This department has auxiliary stations in other portions of the State, viz:

- "The San Luis Valley Station," near Del Norte, Colorado.
- "The Bent Agricultural Station," at Rocky Ford, Colorado.
- "The Divide Agricultural Station," near Eastonville, El Paso county, Colorado.

Experiments at these Stations will be in consonance with those of the college department, as above named, and under the same management.

The officers of the station and their salaries are as follows:

	<i>Salary.</i>
C. L. INGERSOLL, M. S., Director . . . . .	\$ 750
FRANK J. ANNIS, M. S., Secretary and Treasurer . . . . .	500
A. E. BLOUNT, A. B., Agriculturist . . . . .	500
JAMES CASSIDY, B. S., Horticulturist and Botanist . . . . .	500
DAVID O'BRINE, E. M., M. D., D. Sc. Chemist . . . . .	500
L. G. CARPENTER, M. S., Meteorologist and Engineer . . . . .	500
WM. MCEACHRAN, M. D., V. S., Veterinarian . . . . .	500

ASSISTANTS.

RANSOM H. MCDOWELL, B. S., Agriculture . . . . .	800
MAX C. BROSE, Horticulture . . . . .	800
ISAAC P. KEMOE, (Technical College, Drontheim, Norway), Chemistry . . . . .	350
HARVEY H. GRIFFIN, B. S., San Luis Valley Experiment Station . . . . .	800
FRANK WATROUS, Bent Agricultural Experiment Station . . . . .	800

## FINANCES.

The finances are in the hands of the Secretary of the Board and a Finance Committee. The Executive Committee has jurisdiction over that part pertaining to the Experiment Station. The Secretary makes a full report to the Governor of the State, which supercedes the necessity of any statement here. The one-fifth mill tax has kept our College in fair growing condition, but has not provided such facilities in the way of buildings and appliances as we desire, or the exigencies of the times demand.

We look to the next General Assembly to assist in this direction, and give to this school what so richly it deserves.

Since February 20, 1888, the Board of Agriculture has been actively engaged in formulating experiments and in preparing for the scientific as well as the routine work of the main station and its branches.

In the conditions which are found in Colorado, no more important field for experiment can be found, and the determination of the adaptability of certain crops to the soil and climate by the State Agricultural College Experiment Station will be worth far more to the people of the State than the school and station will cost for a quarter of a century. The determination, within three years past, of the value of the tobacco plant as a crop to be raised, will be worth a vast sum to the people of this State, and especially is this true when they know that the quality ranks beside the best in the Union.

Work in botany and forestry; in entomology, with reference to our noxious and beneficial insects, in insecticides for the same; work in chemistry and veterinary science, all, if well and thoroughly done, can not fail to be of inestimable value to the State.

In conclusion, then, let me say that the two years past have been years of prosperity and good solid growth.

They have shown the need of more room and a consequent stronger financial support. The next year will show the importance of the State supplementing the amount received under the Hatch act by about two-thirds the amount annually, in order that the work of experimentation may be pushed while the State is young, and thus its possibilities be brought to the front.

We believe, up to the present time, no serious criticism has been made on the methods or results of work here; but, on the contrary, we have, many times each year, received hearty and unsought commendation at the hands of those who have visited the school and inspected its work and results.

I have the honor to be

Very respectfully,

Your obedient servant,

C. L. INGERSOLL,

*President.*

## State School of Mines.

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No report of this institution was made to me in accordance with the provisions of section 2503 of the General Statutes. A printed report, made to the Governor, was placed in my hands, but I did not feel at liberty to reprint such report with the report of the office of Superintendent of Public Instruction.





# Institute for Mute and Blind.

## REPORT OF THE SUPERINTENDENT.

HON. LEONIDAS S. CORNELL,

*Superintendent of Public Instruction.*

SIR:—Permit me to hand you herewith a report of the conduct and operations of the Institution for the Education of the Mute and Blind of Colorado for the two years ending November 30, 1888. That it has been a period of unprecedented prosperity in the history of the school, you need only refer to the statistics accompanying, to be fully convinced. The faithfulness, efficiency, energy and earnestness of the teachers and officers have been an inspiration to the pupils, who have thereby been led to better habits of industry. There is no better organized, nor more competent corps of teachers, if I may be permitted to pass judgment, in any like institution west of the Mississippi. The obedience and gentlemanly bearing of the pupils, too, have been a source of gratification and encouragement to the Superintendent. There has been but one really serious hindrance to the progress of the institution, so far as the general work is concerned. The painful and continued illness of the former most excellent Superintendent, Mr. D. C. Dudley, to whose energy, devotion, executive ability and Christian conduct is due, more than to any thing else, the present prosperous condition of the institution, rendered it necessary, to the deep regret of all concerned, for him to resign the position which he had so acceptably filled for more than three years.

Among the pupils there has not been a single case of death, nor had there been a serious case of sickness dur-

ing the two years until the recent crowded condition of the building has rendered it almost dangerous. The loving hand of a kind Providence has shielded and protected us from pestilence and epidemics.

This is the fifteenth year of the history of this institution. During this period about one hundred and fifty children have been under instruction here, and yet only two deaths have ever occurred. This is, indeed, a remarkable record. I fear, however, that we shall not have so good a report to make very long, unless our present crowded condition is relieved.

In the institution there are three departments, viz: The Educational, the Domestic, the Industrial. From this it will be seen that we try to cultivate and develop to the highest possible degree the mind, the heart and the body. I will speak briefly of the departments in the order in which I have named them. First, then, the

#### EDUCATIONAL DEPARTMENT.

The work of the institution is simply a part of the general system of education which is provided for every child in the State. The children who receive instruction here are those whose total, or partial, deafness or blindness is such as to render it impossible for them to receive the benefits of the ordinary public schools near their homes. This has necessitated the establishment of a special school for these less fortunate ones, who are deprived of one, or more, of their senses. I will not stop here to say that it is one of the noble characteristics which distinguish civilized, Christianized nations from the heathen, that they do not treat such children as brutes, but as unfortunate members of the great human family, entitled to the same consideration, the same privileges, the same advantages that our more favored off-

springs enjoy. May I not say that we owe them a greater debt?

As the peculiar condition of these children renders it impracticable to give them an education in the general public schools, and as there are so few of them in any particular locality, it becomes necessary to have a special school for them, to which all who are similarly afflicted may come and receive the benefits to which they are justly entitled, and which they so much need.

The great object of this institution is to render the condition of these children, as nearly as possible, the same as that of their more favored fellow-beings—to put them as far as practicable, upon the same plane with their speaking, seeing and hearing brethren. To do this successfully, with the natural disadvantages under which they must labor, you will see at once that it is necessary to employ the best of teachers, and the most convenient and helpful appliances. Even with the most favorable conditions, it is a most laborious, and almost impossible undertaking.

## OFFICERS AND TEACHERS AND THEIR SALARIES.

NAME.	POSITION.	SALARY.
John E. Ray, resident . . . . .	Superintendent . . . . .	\$ 1,500
Miss L. K. Thompson, resident . .	Matron and Teacher of Articulation . .	800
D. C. Dudley non-resident . . . . .	Teacher of the Deaf . . . . .	1,200
H. M. Harber, non-resident . . . . .	Teacher of the Deaf and Printing . .	1,200
E. C. Campbell, non-resident . . . .	Teacher of the Deaf and Art . . . . .	900
G. W. Veditz, resident . . . . .	Teacher of the Deaf and Editor . . . .	700
Mrs. Annie C. Wing . . . . .	Teacher of the Deaf . . . . .	550
Mrs. C. C. Wynn, resident . . . . .	Teacher of the Blind . . . . .	600
Miss M. E. Churchman, resident . .	Teacher of the Blind and Music . . . .	550
Fred H. Manning, resident . . . . .	Teacher of the Blind . . . . .	450
Miss Mary Harbert, resident . . . .	Girls' Supervisor and Seamstress . . .	400
F. T. Brown, resident . . . . .	Boys' Supervisor . . . . .	450
Samuel Gale, non-resident . . . . .	Teacher of Carpentry . . . . .	675

**THE BLIND DEPARTMENT.**

As you will see at a glance, the difficulties referred to above, apply with less force to the blind than to the deaf. Through the ear the former drink in information and obtain a flow of language from which the deaf are entirely excluded, and being acquainted with spoken languages that knowledge is invaluable as a foundation upon which to build the superstructure of an extensive education. Although our blind department has been in operation only about five years, and there is but one of the pupils now here who came at the beginning, yet we have those among the present attendants whose progress and advancement will compare very favorably with the standing of children in the higher grades of our public schools. They read readily both the raised letters and the New York "point system;" the latter consisting of perforations made in thick, stiff paper, a certain number of these perforations occupying a certain position with relation to each other, representing the respective letters of the alphabet. Pupils are furnished with slates prepared for the purpose, by means of which they easily write and thus communicate with their parents and friends at a distance. They are taught spelling, grammar, geography, history, arithmetic and even some of the branches of science. And with almost amazing accuracy they work mentally very difficult problems in mathematics. There is now on foot a movement to secure an appropriation from Congress to aid in the higher education of the blind, which I greatly hope will be successful. This is the more important since the time allowed by most of the States for the schooling of the blind and the deaf is entirely too short for them to have the advantages of an advanced course.

In our school particular attention is given to music, vocal and instrumental. If there is one department in

which the blind, as a class, excel, and for which they have a peculiar fondness, it is in this. And it is by no means to be overlooked, since it is frequently the case that they can make a living in this way after leaving school, to say nothing of the pleasurable feature of it.

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#### THE DEAF MUTE DEPARTMENT.

The education of the deaf is attended with very much greater difficulty. The loss of hearing naturally entails the loss of speech. And where there has never been any hearing, there has naturally never been any speech. The deaf mute, then, is entirely cut off from the outside world, so far as communication by means of a spoken language is concerned. And, being unacquainted with a spoken language, he has no conception of a written language, until this is given him by constant and laborious effort.

#### ARTICULATION.

This system of instruction is used, to a greater or less extent, in nearly all the schools for the deaf in America and Europe. I will not stop here to discuss its merits, as it was so ably done by my predecessor in the last report of this institution. Suffice it to say that the success attained is such as to justify the effort to give every deaf child an opportunity to test his ability to speak and read the lips. And while the percentage of those who progress satisfactorily is comparatively small, it is sufficient to induce me to give each pupil who enters this school a fair trial to develop what powers to speak he may possess. Those whose progress warrants it are kept in this department, while those who do not succeed are put into the sign department, where all the deaf of sound mind and body can be taught a fair use of the English language.

## AURAL DEVELOPMENT.

A new feature has been added to our course of instruction since the issue of the last report—that of aural development. The object had in view is the testing of what power for hearing the deaf have, and improving that power as much as possible. There is a question in the minds of some as to whether the hearing is actually improved or the child is simply made cognizant of the fact of its possession. However, it has been found by actual experiment that some children thought to be almost totally deaf have a decided ability to hear, when the proper appliances are used, which ability has been allowed to lie dormant so long as to render the possessor almost unconscious of its existence. By the aid of the audiphone, the flexible tube, Currier's "duplex tube," etc., there have been developments which have astonished the most sanguine friends of this system.

The classes in the sign department are doing better than ever before. The earnestness with which they study and the success attained are sources of gratification, and I feel very much encouraged in the work of the institution.

There is a most serious drawback in the educational department because of a lack of suitable appliances, apparatus, school rooms, etc. In the deaf-mute department there is not a well-equipped school room. And the want of a good supply of scientific apparatus has materially retarded the progress of the more advanced pupils. May we not hope that the next Legislature will supply the means to remove these difficulties.

## ATTENDANCE.

The total attendance at the institution for the past two years has been just one hundred. Of this number eight have been enrolled the present session. The last

report showed an attendance at that time of fifty-nine, classified as follows:

Deaf-mute boys . . . . .	23
Deaf-mute girls . . . . .	17
Blind boys . . . . .	10
Blind girls . . . . .	9
Total . . . . .	59
Since that time we have added in all . . . . .	41
Making a total attendance, for the two years, of . . . . .	100
Of this number we have expelled . . . . .	2
Removed to other States . . . . .	2
Dismissed because of feeble-mindedness . . . . .	2
Voluntarily remained at home . . . . .	13
Total dismissions . . . . .	19
Present attendance . . . . .	81
These are classified as follows:	
Deaf-mute boys . . . . .	30
Deaf-mute girls . . . . .	25
Blind boys . . . . .	13
Blind girls . . . . .	13
Total . . . . .	81

#### DOMESTIC DEPARTMENT.

It is the desire of the officers of the institution to make this department as much like a home as is possible, and every effort is bent to that end. The Superintendent has done what he could to place himself in the attitude of father to the children. To all intents, the Matron stands in the place of mother. The necessity of this is apparent when you consider the fact that these children are not only far separated from their parents, but are rendered doubly dependant upon some kind protector by reason of their affliction. To supply this necessity is the great aim of the department.

The female officers take turns in carrying the girls out to walk at least once a week, thus giving them a good amount of healthful exercise and fresh air. They are not allowed to go out shopping, except in company with some officer. They are thus kept from any ex-

posure to outsiders. In the institution the boys and girls are kept as entirely separate as if they were in separate buildings, or even in separate schools, except in the school rooms and dining room, where they are under the watch care of the officers. The play grounds are divided by high, closely built fences. The sleeping apartments are in different wings of the building, with the rooms of the officers between them and among them. The door of approach to the girls' dormitories is secured by a strong wire shutter which is locked carefully every night. In addition to all this, we have a night watchman who is required to visit every part of the premises every hour during the night. It will be seen, then, that no danger can arise from that source.

The boys are encouraged to engage in athletic sports of various kinds, which inure to their health and physical development. This is sufficiently augmented by their work in the industrial department to free them from any danger which might arise from a neglect in this direction.

Among the deaf pupils who have attended our school during the past two years, seventy-one in all, I find the following facts relating to the causes of deafness:

Congenital (born deaf) . . . . .	17
Unknown . . . . .	14
Cerebro-spinal meningitis . . . . .	8
Brain fever . . . . .	6
Scarlet fever . . . . .	5
Teething . . . . .	4
Typhoid fever . . . . .	3
Cold . . . . .	2
Eruption . . . . .	2
Fall . . . . .	2
Throat trouble . . . . .	2
Whooping cough . . . . .	2
Lung fever . . . . .	1
Sun stroke, followed by fever . . . . .	1
Diphtheria . . . . .	1
Impure blood . . . . .	1



## CAUSES OF BLINDNESS.

There have been twenty-nine pupils in attendance in this department during the past two sessions, and the causes of their blindness are recorded as follows:

Unknown . . . . .	7
Inflammation . . . . .	6
Congenital . . . . .	5
Measles . . . . .	3
Small-pox . . . . .	2
Meningitis . . . . .	1
Blown out by giant powder . . . . .	1
Scarlet fever . . . . .	1
Ashes blown into the eyes of . . . . .	1
St. Vitus' dance . . . . .	1
Fall . . . . .	1

## INDUSTRIAL DEPARTMENT.

As nearly as possible, I believe it to be the duty of the management of an institution like ours to train the pupils, not only in the use of language, but also to make of themselves useful and self-sustaining citizens. For this reason the arrangement of this is different from that of the other departments of the public school system of the State. The pupils are all given instruction in some kind of work. A large class of the deaf-mute boys is in the carpenter shop three hours each day, including Saturdays. Here they are under the care of an experienced cabinet-maker, who takes a very deep interest in his pupils and instills much enthusiasm into them. There are several of the boys in the shop now who can make a good, comfortable living if it became necessary for them to suddenly stop school. And some of the work turned out by them would do credit to any cabinet-maker. A good deal of attention has been given by Mr. Gale for the past session to teaching two of the boys wood carving. The success attained is far above anything he had even hoped for. A talent and taste have been exemplified which will bring to these boys a handsome living.

The printing office is still presided over by Mr. H. M. Harbert, who teaches in the educational department in the forenoon, and devotes his afternoon hours to this department. He has a larger number of boys under his charge this session than ever before. Some of these have already earned good wages during their former vacations. It is greatly to be hoped that the Legislature will provide the necessary means for procuring a full line of such type as is necessary to the successful operation of a first-class job office, so that this important feature of the printing trade may be fully taught. If we had these we could realize a handsome income from the work thus done by our boys. The principal work of this department has heretofore been the type-setting necessary to the issue of the little weekly paper, the *Deaf-Mute Index*, which goes as a regular visitant to the homes of all the parents of all our children. The paper has not only paid its own way, but has been actually a source of small revenue to the institution, the subscriptions and advertisements more than paying the expenses of publication.

The blind boys are encouraged in their work at cane-seating, the only trade we have yet been able to teach them. With the increased attendance in the blind department and the growing number of large boys, it becomes a matter of the greatest importance that facilities be available for teaching these blind boys mattress-making and broom-making. These are really the only trades at which the blind can hope to make a livelihood after leaving school, and is it not criminal, really a shame, that they should not have the benefit of them? If we had the room this matter would receive immediate attention. As soon as this is done, we can not only make all our own mattresses and brooms, but can realize a considerable amount from sales. I believe in making our boys self-sustaining as far as is practicable. Shall we have the room?

The deaf-mute girls are instructed in needle-work, crocheting, dress-making, mending, etc., as well as in general house-work; while the blind girls devote a part of their time to bead work and such other things as they can do to advantage. I think it very important that we teach our girls the culinary art as well as needle-work. But the same serious difficulty stares us in the face—want of room and the proper appliances.

#### OUR URGENT NEEDS.

The growth of the institution has made it absolutely necessary to enlarge our facilities, or to have our work so crippled as to defeat the very end had in view in the establishment of the school. My predecessor wisely said in his last report: "The house is now full to overflowing, and it would be unwise to admit more pupils and endanger the health of all by overcrowding." If that was true when the actual attendance was fifty-nine, what must it be at present, when the enrollment for this fall session alone has reached eighty-three—nearly fifty per cent. larger? The prophecy of Prof. Dudley has been verified, too; for we have had more sickness this session than at any time since the establishment of the school. But how could we do otherwise than receive the children who were crying at our doors for admission to the privileges of an education, for the ability to become useful citizens and useful members of society?

Nor is this the worst feature of the situation. From information at hand I find that there are to-day sixty other children, deaf or blind, of proper age, in the State, who should be here at school. And these are simply those whose names I have. From circumstances which are trustworthy, I am convinced that there are not less than one hundred children in Colorado who should now be here at school. Our State can not afford to allow this condition of affairs to longer exist. We must have more

room, and in building we must keep an eye to the future. It is necessary that we erect at the earliest possible day a building just south of the present main building, seventy-five by one hundred and ten feet, three stories high, which shall be used for school-room purposes, a chapel, etc.

It is simply impossible to conduct the affairs of the school as they should be carried on without some means of heating the buildings. We now have to resort to the use of stoves in all the rooms, except in a part of the extreme south wing, where we are using an old furnace, whose worn-out condition makes it absolutely dangerous, to which we are exposed in having to use stoves among children, a part of whom can not hear, and the rest can not see, can only be imagined when you think of the calamity which a little carelessness or oversight would cause. Suppose a fire should break out. And this is only one side of it. The unusual amount of sickness in school this session may be largely due, must be due, almost wholly to our want of heating conveniences, coupled with the crowded condition of all the apartments.

We can no longer get along without a kitchen, dining-room, store-room and apartments for the domestics employed about the premises. We can arrange these all in the same building so as to make one do for all. From estimates I have received, the cost of the three buildings will be as follows:

For the school building, including the necessary furniture . . . . .	\$ 45,000 00
For the steam-heating apparatus, with building for the same . . . . .	10,000 00
For the kitchen, dining-room, domestics' quarters, etc. . .	20,000 00
Total amount needed . . . . .	\$ 75,000 00

## Itemized statement of expenses for the two years ending November 30, 1888:

Bread . . . . .	\$ 861 76
Books and stationery . . . . .	730 40
Boots and shoes . . . . .	365 35
Cows, horses and wagons . . . . .	687 75
Deaf-Mute Index . . . . .	210 41
Dry goods and clothing . . . . .	1,042 80
Fuel . . . . .	1,474 70
Furniture . . . . .	394 10
Groceries and provisions . . . . .	7,032 83
Hardware and stoves . . . . .	1,262 97
Hay and grain . . . . .	865 25
Household goods . . . . .	62 80
Improvements and repairs . . . . .	4,031 07
Insurance . . . . .	95 00
Interest . . . . .	1,240 93
Lighting . . . . .	1,058 91
Literature . . . . .	80 30
Livery . . . . .	31 25
Meat . . . . .	2,599 25
Medicine and medical attendance . . . . .	558 27
Miscellaneous . . . . .	1,430 76
Musical instruments . . . . .	351 46
Plumbing . . . . .	725 95
Postage, express and freight . . . . .	125 35
Printing . . . . .	56 59
Queensware . . . . .	102 34
Salaries . . . . .	17,582 85
Traveling expenses . . . . .	1,494 17
Vegetables . . . . .	15 80
Wages . . . . .	4,479 08
Water works . . . . .	100 00
Total expenses for the two years . . . . .	\$ 51,156 93
Total receipts . . . . .	7 . . . . .
Leaving a . . . . . of . . . . .	. . . . .

## VALUE OF BUILDINGS AND GROUNDS.

Value of buildings and grounds December 1, 1886 . . . . .	\$ 56,961 00
Improvements, December 1, 1886, to November 30, 1888 . . . . .	4,031 00
Value December 1, 1888 . . . . .	\$ 60,992 00

JOHN E. RAY,  
*Superintendent.*



FOURTH BIENNIAL REPORT

OF THE

State Industrial School,

TO THE

HON. L. S. CORNELL,

Superintendent of Public Instruction,

FOR 1887 AND 1888.

DENVER, COLO. :

THE COLLIER & CLEVELAND LITH. CO., STATE PRINTERS.

1888.

## Board of Control and Officers.

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HON. M. N. MEGRUE, PRESIDENT.

HON. A. L. EMIGH, SECRETARY.

HON. J. C. HUMMEL.

SUPERINTENDENT,

WM. C. SAMPSON.

MATRON,

RACHEL B. SAMPSON.

TREASURER, EX OFFICIO,

HON. PETER W. BREENE.

PHYSICIAN,

J. P. KELLY, M. D.



## ASSISTANT OFFICERS.

SAMUEL S. POE,  
Family Father, family one; detailing officer and charge of grounds.

S. EVANS DECKER,  
Family Father, family two; teacher and charge of house force.

JOHN S. CASE,  
Family Father, family three; teacher and charge of yard force.

ELIPHALET L. ABELL,  
Family Father, family five; teacher and charge of carpenter shop.

N. G. VOSLER,  
Clerk, book-keeper and teacher Grade A.

W. B. MILAM,  
Foreman broom shop, assistant in family two and teacher.

JOHN D. SLATER,  
Foreman shoe shop, leader band and assistant family three.

P. J. KEANE,  
Foreman baker, second night watch, assistant family five.

JOSEPH V. LINDER,  
Gardener, first night watch and assistant family one.

MARY BRECKELS,  
House Mother, family four and general charge girls work.

ROSE FISK,  
In charge of laundry and assistant in family four.

ANNA MARSHALL,  
In charge of boys' dining-room and officers' quarters.

BERTHA BUDER,  
In charge of kitchen and officers' dining-room.

JOHANNA WEIDEMAN,  
In charge of tailor shop.



FOURTH BIENNIAL REPORT  
OF THE  
STATE INDUSTRIAL SCHOOL.

HON. LEONIDAS S. CORNELL,  
*Superintendent of Public Instruction.*

DEAR SIR:—The Board of Control of the State Industrial School herewith presents its Fourth Biennial Report for the years 1887-8.

The law directs that the report be made November 10, but the fiscal term begins January 1 and ends December 31.

The last Legislature appropriated for the years 1887-8, for all purposes, fifty-four thousand (\$54,000) dollars, four thousand (\$4,000) dollars of which was set apart and used for the purchase of forty acres of land, and one thousand (\$1,000) dollars as directed was used for seeds, implements and improvements for the same, leaving for the maintenance of the school for the two years, forty-nine thousand (\$49,000) dollars, of which there remains six thousand four hundred and eighty-nine dollars and seventy-seven cents (\$6,408.77), which, with receipts from the broom and shoe shops, and other sources, will be ample to meet all the expenses of the school to the end of the year.

To work within the appropriation, it was found necessary to limit the number of children to ninety for the first eighteen months of the term; but for the last half year there has been no limit to the number received, and the school has now present one hundred and sixty-four pupils.

For the next two years the State will be called on to provide for an average of two hundred and twenty-five children, which, for maintenance alone, will require an appropriation of sixty thousand (\$60,000) dollars in excess of receipts.

The dormitories, school-rooms, etc., will only accommodate one hundred and forty boys and thirty-five girls, which necessitates additional buildings.

To accommodate the larger school of the near future, the Board and Superintendent have planned a new building which, when completed, will leave the present dormitories for shops, for which they will be needed and are well suited.

This plan is designed to accommodate girls and boys in the same building, but with entirely separate departments. Such a building can be constructed part at a time. The part for a girls' school, which is an immediate necessity, will cost about twenty-five thousand (\$25,000) dollars, for which a special appropriation is asked.

At present the only water supply is for domestic use. Water is needed in larger quantities for growing trees, and for ornamenting the grounds, to make the place heart-some and home-like.

There is a water power in a ditch near the grounds, which can be improved with pumps and other machinery in such a manner as to afford the needed supply, all to cost about twenty-five hundred dollars (\$2,500), as estimated by the State Engineer, who made the survey.

An appropriation for this purpose is earnestly asked.

It gives us great pleasure to report that the school has been in a very prosperous condition since the last report was made. The work done has been good in all departments, and most of the pupils who have received instruction here, and have gone out, are making good records for themselves and the school.

A reference to the report of the Superintendent, Wm. C. Sampson, herewith submitted, will show he recommends that the children should be committed during their minority, leaving it to the Board of Control to shorten the time, as the welfare of the children may demand.

The recommendation is fully conceded in by the Board.

Further reference is made in the report by the Superintendent as to the use made of the land obtained and the great benefit it is to the school, either in economic, sanitary or an esthetic sense.

The health of the school generally has been good, as evidenced by the report of the physician, Dr. J. P. Kelly.

In conclusion, it only remains to say that Mr. and Mrs. Sampson, as Superintendent and Matron of the Institution, have performed their work so faithfully and carefully as to merit the lasting remembrances of all committed to their care, and the gratitude of the State which they have served. Other officers and employés have done their work well. Some of them have rendered very valuable services.

Respectfully submitted,

M. N. MEGRUE,

*President.*

A. L. EMIGH,

*Secretary.*

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## SUPERINTENDENT'S REPORT.

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*To the Board of Control of the State Industrial School :*

GENTLEMEN:—I take much pleasure in presenting you my Fourth Biennial Report.

Several very desirable features have been added our school during the term. For a long time we experienced great inconvenience from an insufficient water supply,

even for most ordinary domestic purposes, so with delight we hailed the final completion of arrangements connecting us with the Holly system of Golden. First water was received on the twenty-eight of December, 1887. Since then the management of the Golden Water Works have cheerfully responded to our call for more water.

This term has afforded our first experience of the luxury of a garden and farm to supply our table and stock. Though we did not enter the new possessions until late in March, 1888, our added forty acres under ditch have proved very valuable to us, very pleasantly improving our table, and at the same time lessening the expense of the food item. (1. See Exhibit No. 19. 2. See Exhibit No. 21.)

During all previous terms the school has been limited in every department of its work by want of means, but during this term all children offered have been received, and improvement has marked every part of the work.

A girl's department (the need of which has been so pressingly felt in every city of the State) has been opened. This department has already twenty-five pupils in it, and is known as Family Four; is under the immediate care of Miss Mary Breckels, as Family Mother, assisted by Mrs. Fisk. The girls make and repair all their own clothing; keep in order their dormitories, dining-room, sitting-room and sewing-room, and do the inside work of the main building. They also do the laundry work for the school.

Our school, from its commencement, has been conducted on the open family or cottage system, as it is variously called, as distinguished from the congregate plan of management.

Under this plan the school is now divided into five families. Our dormitories hold but thirty-six, and as it is desirable that each boy should have a bed alone, the

families are limited to thirty-six. The plan of division is according to size and age.

The larger thirty-six boys are placed in Family One; the thirty-six next smaller in Family Two; the third division of thirty-six in Family Three, and the remainder of the boys in Family Five. Each family of boys is in charge of a teacher, who, as head of the family, is known as Family Father. There is an assistant attached to each, who takes charge of the family in the absence of his principal.

The Family Father has the same charge of his boys as a parent would have; calls them up in the morning, sees that each properly washes, cares for their clothing, is with them in their family rooms, on the play ground, accompanies them to chapel, seats them in the dining-room, and exercises a constant care over them at all times; gives special attention to their deportment; instructs them in morals, religion, declamation and vocal music, and leads them in family worship.

The children in school are classed as in all graded schools. Four hours of each day are spent in the school-room for eight months of the year. During June, July, August and September half an hour is taken from the evening school session and added to the play hour as vacation time.

Our school time is one hour before breakfast, which is devoted to arithmetic; one hour before supper (3:20 to 4:20) to penmanship and written exercises; two hours after supper (5:30 to 7:30) to reading, geography, history, oral spelling, language lessons, physiology, etc.

Each grade is taught by an experienced instructor, who observes a carefully prepared programme. Satisfactory progress has marked school work<sup>4</sup>.

To each family is given an average of three acres for play-ground. Base and foot-ball, marbles, top and the usual games of children are enjoyed to the fullest ex-

tent. Our girls' play-ground is supplied with swings, see-saws and croquet.

The clothing is always seasonable, neat and plain, and is kept clean and neatly repaired. All have Sunday and working suits, and the girls have, in addition, school dresses. The children do not go barefooted any part of the year.

Except stockings and socks, all clothing and shoes worn by them are made in our own shops by the pupils; under the instruction of skilled teachers<sup>6</sup>.

(<sup>6</sup>Exhibit 12. <sup>5</sup>Exhibits 15, 16 and 17.)

The great object of the school is to correct past looseness or crookedness in their lives and education, and, if possible, to prepare them for honorable, honest, industrious and useful citizens.

To this end, as far as time will permit, to give them a sound common school education; to elevate their moral principles to the full Christian standard; to teach them the fear and love of God, our Heavenly Father; to instill in their lives hatred of sin and meanness, and a longing for that which is honorable, pure and true; to teach them OBEEDIENCE, the keynote of all success in life; to teach them that WORK is honorable and desirable in all; to endeavor to give skill to their hands, correctness to their eyes, that distance, size, weight and color may readily be distinguished.

Trade and trade instruction would be most valuable in the work. A department large enough to receive one-third of our older boys, where practical, technical and scientific instruction should be given in any chosen trade in wood, iron, leather, stone, brick or mortar. Such departments have been added to a number of the reform schools of this country with telling effect for good.

We have practical commencements in the following trades and employments: Carpentering, painting, shoe-



making, tailoring, baking, broom-making, farming, gardening, care of horses and stock, and general work in houses and yards for our boys. Girls are instructed in housework, sweeping, cleaning, dusting, orderly arrangements, dish-washing, care of table and table-waiting, scrubbing, scouring, washing, ironing, sewing by hand and on machine, care of clothing and person, thus fitting them for usefulness and wage-earning when they return to their homes.

Reformation supposes the changing from a life of idleness, wickedness and sin to one of honesty, truthfulness and industry. This can not be given as one would measure merchandise, but must be wrought in the heart and life of the child by oft-repeated, long-continued, patient instruction and life examples. Discouragements mark every step of the way. That we thought completed is often found to be scarcely commenced; but faith in God and His grace will crown faithful work with these needy ones with final success.

It is not at all desirable that a child should be kept too long in a public institution, where others think for and supply their wants, without an effort on their part; and yet reformation, to be true to its name, should be able to hold the children until there is at least some evidence of having accomplished the work intended. With some children a few months of discipline accomplishes all we could desire; with others, years of most patient effort is required. It has often happened that very bad boys, for the worst crimes, have been given the shortest sentence, and comparatively innocent boys, guilty only of a technical offense, have received the full extent of the law.

I would respectfully recommend that all sentences be given for minority, unless sooner reformed, or that the law give the Board of Control the authority to extend sentences, when in their judgment the case requires it.

A study of Exhibits numbered Three and ten will show that such authority will be wisely used for the good of the children.

The great majority of our children have homes and are gladly received when we can endorse them as good boys, but some are not so fortunate, as will be seen by Exhibit No. 11. These we endeavor to find places for when their terms are nearly out, and they manifest the proper disposition. For thirteen such boys places have been found during this term; some in Golden and vicinity. Six boys, who were ready to return home, requested that I should try and find places for them in the glass factory at Golden. The opportunity offering, they went to work there. At first they came home to the school every night, but this was objected to as it was feared it would have a tendency to reduce wages, so boarding places were found for them, five with a widow lady and one in a private family, the boys paying their own board from their wages, which was in no case less than that earned by the town boys at similar work. While at work and living in Golden they were regularly visited, both at their boarding place and at the factory, by the Superintendent and Matron, and thus kept in view. A few weeks, however, ended the trial, and they all returned to the school preparatory to seeking other employment and homes. One went to Denver and found work there. The savings of another paid his fare to his friends in Pueblo, Colorado, where he has an excellent name; and another obtained work in Laramie City, Wyoming Territory. For another, a place was found with a dairyman near Denver. The parents of another finally obtained means to pay his car fare to their home in Leadville, and the last boy was recommended to the school.

In every instance I am glad to say a home and work has been found for the discharged one. To take boys,

when their course in school ends, to the gate and bid them begone, would be savage cruelty, unbecoming the character of the State, likely to defeat the *very* object for which they were sent here, and strangely at variance with every instinct of humanity.

Our school has now been in operation seven years and six months.

The State appropriations during that time have been . . . . .		\$204,000 00
Value of school property (See Exhibit No. 20) . . . . .	\$58,684 14	
Unexpended balance in Treasury (see Exhibit Nos. 13 and 20) . . . . .	6,498 77	
Turned back into the Treasury January 1, 1887 . . . . .	4,034 70	69,217 61
Showing net cost to the State to be . . . . .		\$134,782 39

A cost of \$185.18 *per capita* per year, or a little less than fifty-one cents per day for each pupil cared for by the school since its establishment.

Our school has outgrown its present very limited accommodations, and pressingly calls for permanent buildings in keeping with the rapid progress of the State and importance of the work.

The present brick structures will always be important in the work of the school. The administration building can be used as a family building for the smaller boys and store-rooms; the school buildings for the technical department, for which they are specially adapted; and the officers' quarters for a hospital.

By proper machinery, water can be raised from the ditch running through our premises, in sufficient quantities to irrigate the school grounds. This would enable us very quickly to change the present desert-like appearance of the *campus* and cover it with lawns, trees, shrubs and flowers, thus making this elevated site a most attractive one.

The general health of the school has been excellent, but we are pained to report the first death in its history, that of John McCourt, who has been most of the sum-

mer, and until the latter part of November 1887, working for a farmer a few miles from the school, but feeling sick, he came home, and was found to have the typhoid fever. He was carefully nursed and visited daily by Dr. Kelley; appeared to be getting along favorably, but peritonitis setting in, quickly proved fatal. John was a good boy, and firmly believed that his Saviour would take him to His bright, heavenly home.

We received one hundred and sixty-nine new commitments during this term, and will be called upon to receive at least two hundred and twenty-five during the coming one. This will leave in the school at the end of the next term two hundred and twenty-five children at least, and this number will make necessary enlarged school accommodations.

In addition to the regular duties of her position, Mrs. Sampson has given unremitting daily attention to the religious instruction of the children, and has exerted a very positive influence for good with every child who has been in the school.

Regular morning and evening worship is held in the chapel; correct deportment and good discipline is insisted upon in every place, and there is abundant evidence of a sound work of reform being accomplished.

Our grateful acknowledgments are due the Rev. William H. Green and the Rev. William M. Bewley, of the Methodist Episcopal Church; the Rev. Charles H. Jones, Rev. W. E. Orton and the Rev. Stokes, of the Baptist Church; the Rev. Eugene Brooks and the Rev. George M. Anderson, of the Christian Church; and Rev. McLean, of the Presbyterian Church, who have voluntarily maintained a very interesting and profitable Sunday afternoon service with the children.

The Rev. Martin O'Driscoll, of the Catholic Church, instructed and received into his church quite a large class.

Special attention is called to the twenty-one exhibits which follow. The first thirteen give a complete tabulated statement of matters of interest about the children, and the last eight give an exhaustive showing of the financial condition of the school.

**EXHIBIT NO. 1.**

Showing the number of pupils received during the term from November, 10, 1886, to November 10, 1888, with the numbers previously reported:

RECEIVED.	RECEIVED.
1886, November . . . . . 2	1887, December . . . . . 3
1886, December . . . . . 7	1888, January . . . . . 3
1887, January . . . . . 0	1888, February . . . . . 13
1887, February . . . . . 7	1888, March . . . . . 10
1887, March . . . . . 3	1888, April . . . . . 9
1887, April . . . . . 5	1888, May . . . . . 8
1887, May . . . . . 3	1888, June . . . . . 11
1887, June . . . . . 4	1888, July . . . . . 4
1887, July . . . . . 5	1888, August . . . . . 8
1887, August . . . . . 10	1888, September . . . . . 21
1887, September . . . . . 5	1888, October to . . . . .
1887, October . . . . . 9	1888, November 10 . . . . . 13
1887, November . . . . . 6	

Total received during the fourth biennial term . . . . .	169
Total received during the third biennial term . . . . .	115
Total received during the second biennial year . . . . .	116
Total received during the first biennial year . . . . .	80
Total received to date . . . . .	480

## EXHIBIT NO. 2.

Showing from what sources children were received, and who were complainants:

	Present Term.	Previous Term.	Total.
Sent by the Courts on complaint of parents . . . . .	49	105	154
Sent by the Courts on complaints of OTHERS than parents.	105	187	292
Placed in school as boarders . . . . .	15	19	34
Totals . . . . .	169	311	480

## EXHIBIT NO. 3.

Showing length of time given children sent during present and previous terms, with averages:

	Present Term.	Third Term.	Second Term.	First Term.	Total.
For term of minority . . . . .	1	0	12	40	53
For term of seven years . . . . .	0	0	2	1	3
For term of five years . . . . .	3	0	0	7	10
For term of four years. . . . .	1	0	2	2	5
For term of three and one-half years . . . . .	0	0	0	1	1
For term of three years. . . . .	121	80	67	12	280
For term of two and one-half years. . . . .	0	0	1	0	1
For term of two years . . . . .	14	16	6	8	44
For term of one and two-thirds years . . . . .	1	0	0	0	1
For term of one and one-half years . . . . .	2	0	3	1	6
For term of one year . . . . .	21	12	21	4	58
For term of ten months . . . . .	1	0	1	0	2
For term of nine months . . . . .	4	7	1	4	16
Totals . . . . .	169	115	116	80	480

Average time for present term, 2 years, 7 months, 22 days.

Average time for third term, 2 years, 6 months, 4 days.

Average time for second term, 1 year, 8 months, 24 days.

Average time for first term, 1 year, 2 months, 16 days.

## EXHIBIT NO. 4,

Showing from what counties children have been sent:

COUNTY.	Present term.	Previous term.	Total.	COUNTY.	Present term.	Previous term.	Total.
Arapahoe . . . .	56	108	164	Conejos . . . .	0	3	3
Pueblo . . . . .	22	35	57	Park . . . . .	3	2	5
Lake . . . . .	16	26	42	New Mexico . .	0	3	3
Boulder . . . . .	3	19	22	Saguache . . . .	0	2	2
Custer . . . . .	0	13	13	Rio Grande . . .	0	2	2
Clear Creek . . .	0	12	12	La Plata . . . . .	2	0	2
Weld . . . . .	10	11	21	Costilla . . . . .	0	1	1
El Paso . . . . .	4	9	13	Grand . . . . .	0	1	1
Fremont . . . . .	14	9	23	San Juan . . . .	0	1	1
Chaffee . . . . .	2	7	9	Douglas . . . . .	0	1	1
Gilpin . . . . .	2	6	8	Montrose . . . .	0	1	1
Larimer . . . . .	2	6	8	Montana . . . . .	0	1	1
Jefferson . . . .	14	6	20	Delta . . . . .	1	0	1
Gunnison . . . .	0	5	5	Mesa . . . . .	2	0	2
Summit . . . . .	1	5	6	Ouray . . . . .	1	0	1
Wyoming . . . .	8	6	14	Garfield . . . .	1	0	1
Las Animas . . .	2	4	6	Logan . . . . .	1	0	1
Huerfano . . . .	0	3	3	Archuleta . . . .	1	0	1
Bent . . . . .	1	3	4	Totals . . . . .	169	311	480

## EXHIBIT NO. 5,

Showing the age of children when received:

AGE.	Present term.	Previous term.	Total.
7 years . . . . .	0	4	4
8 years . . . . .	0	8	8
9 years . . . . .	0	10	10
10 years . . . . .	32	34	66
11 years . . . . .	22	42	64
12 years . . . . .	23	48	71
13 years . . . . .	27	40	67
14 years . . . . .	29	51	80
15 years . . . . .	15	54	69
16 years . . . . .	21	20	41
Totals . . . . .	169	311	480

Average age of those received during present term, 12 years, 9 mos., 3 days.  
 Average age of those received during previous term, 12 years, 7 mos., 11 days.  
 Average age of all received to present time, 12 years, 8 mos., 7 days.



## EXHIBIT No. 6.

Showing nativity of children received, etc.:

Colorado . . . . .	94	Maryland . . . . .	3
Illinois . . . . .	58	Wyoming Territory . . . . .	3
Missouri . . . . .	51	Connecticut . . . . .	1
Kansas . . . . .	42	Florida . . . . .	1
Iowa . . . . .	28	Indian Territory . . . . .	2
Pennsylvania . . . . .	29	Vermont . . . . .	1
New York . . . . .	16	Oregon . . . . .	1
Nebraska . . . . .	14	Washington Territory . . . . .	1
Michigan . . . . .	14	District of Columbia . . . . .	1
Ohio . . . . .	12	England . . . . .	14
Massachusetts . . . . .	8	Germany . . . . .	5
Texas . . . . .	8	Ireland . . . . .	5
Kentucky . . . . .	7	Canada . . . . .	5
Minnesota . . . . .	7	Wales . . . . .	2
Indiana . . . . .	6	Sweden . . . . .	2
California . . . . .	6	Italy . . . . .	2
Louisiana . . . . .	4	Scotland . . . . .	2
New Mexico . . . . .	4	Norway . . . . .	1
Utah . . . . .	4	France . . . . .	2
Arkansas . . . . .	3	Denmark . . . . .	1
New Jersey . . . . .	3	Mexico . . . . .	1
Tennessee . . . . .	3		
Wisconsin . . . . .	3	Total . . . . .	480
<hr/>			
Native of the United States . . . . .	438	White race . . . . .	442
Native of foreign lands . . . . .	42	Black race . . . . .	38
Males . . . . .	452	Females . . . . .	28

**EXHIBIT No. 7.**

Showing nativity of parents:

United States . . . . .	317	Mexico . . . . .	2
Ireland . . . . .	55	Nova Scotia . . . . .	1
England . . . . .	38	Norway . . . . .	2
Germany . . . . .	36	Italy . . . . .	2
Canada . . . . .	12	Denmark . . . . .	1
Scotland . . . . .	8	Holland . . . . .	1
France . . . . .	6	Switzerland . . . . .	1
Sweden . . . . .	4	Russia . . . . .	1
Wales . . . . .	3	Total . . . . .	480

**EXHIBIT No. 8.**

Showing previous social condition and habits:

Both parents living . . . . .	248
Father only living . . . . .	80
Mother only living . . . . .	122
Neither parent living . . . . .	30
Total . . . . .	480

Parents owning their own homes . . . . .	146
Parents owning household goods only . . . . .	272
Children without homes . . . . .	62
Total . . . . .	480

Attended school regularly . . . . .	17
Attended school irregularly, or not at all . . . . .	463
Total . . . . .	480

Had repeatedly been under arrest . . . . .	91
Had been inmates of other institutions . . . . .	17
Parents living, but separated . . . . .	42

## EXHIBIT NO. 9.

Showing the number of children in the school on the fifteenth of each month, from December, 1886, to October, 1888, and on November 10, 1888, with the general average for the whole term:

1886, December . . . . .	88	1887, December . . . . .	118
1887, January . . . . .	89	1888, January . . . . .	119
1887, February . . . . .	89	1888, February . . . . .	123
1887, March . . . . .	90	1888, March . . . . .	125
1887, April . . . . .	85	1888, April . . . . .	124
1887, May . . . . .	93	1888, May . . . . .	128
1887, June . . . . .	95	1888, June . . . . .	136
1887, July . . . . .	98	1888, July . . . . .	143
1887, August . . . . .	104	1888, August . . . . .	138
1887, September . . . . .	109	1888, September . . . . .	141
1887, October . . . . .	105	1888, October . . . . .	155
1887, November . . . . .	112	1888, November . . . . .	164

Average number in school during the term . . . . .	116
Highest number in school during term, November 4, 1888 . . . . .	164
Lowest number in school during term, April 11, 1887 . . . . .	84

## EXHIBIT NO. 10.

Showing the number of final discharges during the term:

DISCHARGED.	NO.	DISCHARGED.	NO.
1886, November . . . . .	0	1887, December . . . . .	4
1886, December . . . . .	3	1888, January . . . . .	6
1887, January . . . . .	1	1888, February . . . . .	5
1887, February . . . . .	7	1888, March . . . . .	8
1887, March . . . . .	2	1888, April . . . . .	5
1887, April . . . . .	4	1888, May . . . . .	0
1887, May . . . . .	1	1888, June . . . . .	6
1887, June . . . . .	2	1888, July . . . . .	9
1887, July . . . . .	0	1888, August . . . . .	6
1887, August . . . . .	1	1888, September . . . . .	11
1887, September . . . . .	4	1888, October . . . . .	0
1887, October . . . . .	4	Escaped—1886, 2; 1888, 3 . . . . .	5
1887, November . . . . .	0		
Died (in December, 1887) . . . . .	1	Total final discharges . . . . .	95

Received during term . . . . .	169
Number in school at last report . . . . .	90
Total number in school during term . . . . .	259
Less number discharged . . . . .	95
Present number in school . . . . .	164

Average time that boys discharged during the present term remained in the school, two years and two days. Previous terms, one year, eleven months and ten days.

**EXHIBIT No. 11.**

Showing the disposition of children discharged during the present term:

Sent to homes in Colorado . . . . .	69
Sent to homes in Nebraska . . . . .	1
Sent to homes in Wyoming Territory . . . . .	6
Sent to homes in Dakota . . . . .	1
Obtained work with farmers . . . . .	6
Obtained work in restaurant . . . . .	1
Obtained work at baking . . . . .	2
Obtained work in dry goods store . . . . .	1
Obtained work in grocery . . . . .	1
Apprenticed to family . . . . .	1
Died December 18, 1887 . . . . .	1
Escapes . . . . .	5
Remaining in school . . . . .	164
Total in school during term . . . . .	259

**EXHIBIT No. 12**

Gives the course of study, grade entered, promotions and present number in each grade.

The school is classed in four grades known as grade D. C. B. and A.

**GRADE D**

Takes the beginners through the First Reader, receives instruction in Spelling, Writing, with pen and on slates and in Notation, Numeration, Addition, Mental Arithmetic, Geography, and in the science of common things.

**GRADE C**

Takes the class through the Second Reader, reviews Addition, completes Subtraction and Multiplication; receives instruction in Mental Arithmetic, Spelling, Language Lessons, Penmanship, Geography, History of the United States, Physiology and Elementary Drawing.

**GRADE B**

Takes the class through the Third Reader, completes simple Division; receives instruction in the properties

of numbers; reduction of fractions, reviews the principles of Arithmetic and is instructed in Mental Arithmetic, Penmanship, Language Lessons, Composition, United States History, Physiology and Elementary Drawing.

## GRADE A

Reads in the Fourth Reader, commences with Common Fractions, completes Practical Arithmetic, receives instruction in Mental Arithmetic, Book-keeping, Spelling, Definition, Penmanship, History of the United States and General History, Language Lessons, Physiology and Elementary Drawing.

## GRADES ENTERED.

Entered Grade D . . . . .	79
Entered Grade C . . . . .	61
Entered Grade B . . . . .	20
Entered Grade A . . . . .	9
Total . . . . .	169

## PROMOTIONS.

Promoted from Grade D to C . . . . .	64
Promoted from Grade C to B . . . . .	82
Promoted from Grade B to A . . . . .	68
Total promotions . . . . .	214

## WHOLE NUMBER IN EACH GRADE.

There are now in Grade D . . . . .	44
There are now in Grade C . . . . .	42
There are now in Grade B . . . . .	38
There are now in Grade A . . . . .	40
Total . . . . .	164

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## EXHIBIT NO. 13.

State Industrial School in account with Hon. Peter W. Breene, State Treasurer, and Treasurer *ex officio*, of the State Industrial School:

*Dr.*

1886	Nov. 10	Balance of cash fund and appropriation to credit support account . . . . .		\$ 10,084 57
1887	May 1	To appropriation for support of school . . .	\$49,000 00	
		To appropriation for purchase of land . . .	4,000 00	
		To appropriation for farm implements and seeds . . . . .	1,000 00	54,000 00
1886		To collections for November, remitted . . .	614 57	
1886		To collections for December, remitted . . .	499 37	
1887		To collections for January, remitted . . . .	572 76	
1887		To collections for February, remitted . . . .	486 89	
1887		To collections for March, remitted . . . . .	533 92	
1887		To collections for April, remitted . . . . .	881 02	
1887		To collections for May, remitted . . . . .	418 08	
1887		To collections for June, remitted . . . . .	623 30	
1887		To collections for July, remitted . . . . .	701 10	
1887		To collections for August, remitted . . . . .	371 66	
1887		To collections for September, remitted . . .	583 84	
1887		To collections for October, remitted . . . . .	863 91	
1887		To collections for November, remitted . . .	192 66	
1887		To collections for December, remitted . . .	348 02	
1888		To collections for January, remitted . . . . .	1,263 14	
1888		To collections for February, remitted . . . .	303 60	
1888		To collections for March, remitted . . . . .	552 95	
1888		To collections for April, remitted . . . . .	1,434 02	
1888		To collections for May, remitted . . . . .	345 30	
1888		To collections for June, remitted . . . . .	335 05	
1888		To collections for July, remitted . . . . .	863 58	
1888		To collections for August, remitted . . . . .	355 66	
1888		To collections for September, remitted . . .	308 63	
1888		To collections for October, remitted . . . . .	882 27	
1888		To collections for ten days in November . .	69 40	
		Total amount subject to draft . . . . .		14,404 70
				\$ 78,489 27



## EXHIBIT NO. 13—CONCLUDED.

State Industrial School in account with Hon. Peter W. Breene, State Treasurer and Treasurer *ex officio* of the State Industrial School:

*Cr.*

1886 . . . . .	By amounts paid out for library account . .	\$ 250 22
-87 . . . . .	By forty acres farming land . . . . .	4,000 00
-88 . . . . .	By farm implements, seeds, wagons, harness, etc. . . . .	1,223 26
. . . . .	By repairs and improvements, shop tools, etc. . . . .	4,182 04
. . . . .	By water supply, connecting with the Golden Water Works . . . . .	1,172 23
. . . . .	By insurance (unexpired policies) . . . . .	723 15
. . . . .	By all ordinary expenses of the school classed under maintenance (See Exhibit No. 21.) . . . . .	47,008 85
. . . . .	By broom material . . . . .	9,396 05
. . . . .	By unexpended bal. in hands of Treasurer, Jan. 1, 1887, turned back into State treasury . . . . .	4,034 70
. . . . .	Balance of cash and appropriation now in hands of Treasurer . . . . .	6,498 77
Total appropriation and cash . . . . .		\$ 78,489 27

## EXHIBIT No. 14.

Showing from what sources moneys remitted were received:

Remitted from sales of broom shop . . . . .	\$ 8,515 11
Remitted for pupils' board . . . . .	5,100 19
Remitted for sales of bone ash product . . . . .	364 45
Remitted for shoe shop work done for officers and others . . . . .	278 90
Remitted from sales of pigs . . . . .	126 25
Remitted for calf sold . . . . .	15 00
Remitted amount refunded from library fund . . . . .	2 55
Remitted from plants sold . . . . .	2 25
Total amount remitted State Treasurer . . . . .	\$ 14,404 70

## EXHIBIT No. 15.

Showing stock, work and net cost of shoe shop during term:

*Dr.*

Value of stock, tools and machinery in shop, November 10, 1886 . . . . .	\$ 352 71
Leather findings and tools bought . . . . .	1,485 81
Total . . . . .	\$ 1,838 52

*Cr.*

Received for custom work . . . . .	\$ 260 05
Value of stock, tools and machinery, as per inventory, November 10, 1888 . . . . .	423 20
	683 25
Total net cost . . . . .	\$ 1,115 27
During the term there has been made 591 pairs shoes @ 90 cents . . . . .	\$ 495 90
4,955 pairs shoes repaired at a fraction less than 15 cents per pair . . . . .	659 37
Total . . . . .	\$ 1,155 27

## EXHIBIT NO. 16.

Giving work done in tailor shops, laundry and bakery.  
In the tailor shop there have been made:

Shirts . . . . .	1,271	Caps. . . . .	356
Pairs pants . . . . .	700	Pillow slips . . . . .	265
Towels . . . . .	225	Aprons . . . . .	43
Sheets. . . . .	316	Under shirts . . . . .	24
Vests . . . . .	178	Rag mats . . . . .	91
Pairs drawers . . . . .	30	Bed ticks . . . . .	179
Button-holes in new shoes . . . . .	112	Carpets . . . . .	5
Bed spreads . . . . .	158	Banners . . . . .	16
Wagon covers . . . . .	3	Bags. . . . .	14
Carpet rags, balls . . . . .	9	Table napkins . . . . .	246
Over jackets . . . . .	4		
Jackets . . . . .	656	Total pieces made. . . . .	4,901

There have been articles repaired as follows:

Jeans pants . . . . .	5,859	Pairs socks . . . . .	7,302
Jackets . . . . .	3,056	Sheets . . . . .	257
Pieces under-clothing . . . . .	3,144	Overcoats . . . . .	50
Pairs suspenders . . . . .	1,012	Caps. . . . .	164
Aprons . . . . .	63	Wagon covers . . . . .	6
Bed spreads . . . . .	48	Bed quilts . . . . .	2
Pairs mittens . . . . .	12	Towels . . . . .	12
Music books. . . . .	46	Officers' suits . . . . .	10
Pillow slips . . . . .	12		
Shirts . . . . .	5,797	Total pieces repaired . . . . .	16,852

Pieces laundried . . . . . 91,640  
Baked in bread, pie and cake during term (flour), pounds . . 89,625

## EXHIBIT No. 17.

Showing work done in girls' sewing room since May, 1888. There have been:

School dresses . . . . .	43	Underskirts . . . . .	20
Laundry dresses . . . . .	15	Pairs drawers . . . . .	28
Underskirts . . . . .	7	Chemise . . . . .	25
Pillow ticks . . . . .	125	Night gowns . . . . .	10
Pillow cases . . . . .	91	Waists . . . . .	2
Bed sheets . . . . .	131	Basques . . . . .	6
Aprons . . . . .	70	Total pieces . . . . .	573

There have been repaired:

Underskirts . . . . .	40
Pairs stockings . . . . .	179
Dresses . . . . .	130
Total . . . . .	349

## EXHIBIT No. 18.

Statement of broom business:

Stock, machinery and tools, as per inventory November 10, 1886 . . . . .	<i>Dr.</i>
Material purchased during 1887 and 1888 . . . . .	\$ 2,903 06
Surplus (profit) to balance . . . . .	9,396 05
Total . . . . .	\$12,842 66
Stock as per inventory November 10, 1888 . . . . .	<i>Cr.</i>
Tools as per inventory November 10, 1888 . . . . .	\$ 2,473 06
Cash from broom sales, remitted State Treasurer . . . . .	1,013 21
Ledger accounts outstanding . . . . .	8,515 11
Total . . . . .	841 28
Total . . . . .	\$12,842 66

## EXHIBIT NO. 19.

Showing cost of farm, fencing, trees, vines, plants, seeds, gates and bridging:

Forty acres of land . . . . .				\$ 4,000 00
Fencing . . . . .				150 00
Shade trees . . . . .			150	
Plum trees . . . . .			5	
Raspberry bushes . . . . .			400	
Red currant bushes . . . . .			1,015	
White currant bushes . . . . .			50	
Root rhubarb plants . . . . .			500	
Root asparagus plants . . . . .			500	
Root horse radish plants, lbs . . . . .			20	
Grape vines (assorted varieties) . . . . .			100	214 50
Seeds purchased . . . . .				181 20
Plows . . . . .	2	Harrow . . . . .	1	
Clod breaker . . . . .	1	Leveller . . . . .	1	
Cultivator . . . . .	1	Seed drill . . . . .	1	
Broadcast sower . . . . .	1	Marker . . . . .	1	
Mower . . . . .	1	Horse rake . . . . .	1	
Hand weeders, hoes, hand wheel weeders . . . . .				200 75
Gates, bridges and fluming . . . . .				165 50
Total . . . . .				\$ 4,911 95

## EXHIBIT No. 20.

Giving inventory of all property and balances belonging to the school, November 10, 1888:

Lands, building and fencing . . . . .	\$ 39,650 00
Dry goods, clothing and furnishing goods . . . . .	1,124 86
Groceries and provisions in store . . . . .	869 00
Glassware and queensware in store . . . . .	100 19
Hardware and woodenware in store . . . . .	256 22
Leather, findings, tools and machinery in shoe shop . . . . .	423 20
Lumber and tools in carpenter shop . . . . .	231 18
Furniture, carpets and fixtures in buildings, school requisites and office stationery in offices of main building . . . . .	\$ 513 55
Library and cases . . . . .	616 00
Furniture, fixtures and furnishing in main building . . . . .	1,567 95
Furniture and fixtures in officers' building . . . . .	560 00
Fixtures in store rooms . . . . .	127 50
Chapel and school rooms . . . . .	1,982 50
Kitchen, officers' and boys' dining room . . . . .	657 30
Tailor shop, tools and machines . . . . .	255 15
Watchman's cottage . . . . .	25 65
Bake shop . . . . .	130 30
Hospital building . . . . .	15 20
Laundry . . . . .	342 25
Oil storage . . . . .	17 70
Bedsteads in children's dormitory . . . . .	1,192 00

The garden and farm has given the following returns:

Beans, lbs . . . . .	2,365	Pumpkins, lbs. . . . .	2,050
Carrots, lbs . . . . .	1,924	Watermelons . . . . .	800
Peas, lbs . . . . .	3,447	Muskmelons . . . . .	2,500
Ears of Green Corn . . . . .	12,924	Radishes, lbs . . . . .	2,500
Heads of Cabbage . . . . .	2,504	Egg Plants . . . . .	150
Celery, bunches . . . . .	500	Cauliflower, heads . . . . .	350
Beets, lbs . . . . .	3,588	Turnips, lbs . . . . .	3,700
Bunches Green Onions . . . . .	582	Lettuce, heads . . . . .	5,084
Dry Onions, lbs. . . . .	2,500	Tomatoes, lbs . . . . .	4,000
Pie Plant, lbs. . . . .	1,200	Barrels of Pickles. . . . .	13
Squash, lbs . . . . .	3,588	Alfalfa, lbs . . . . .	4,000
Oats, cut green for feed, lbs . . . . .	8,000	Corn Fodder, lbs. . . . .	4,000

## EXHIBIT NO. 21.

Classified statement of expenditures for maintenance account; showing also the cost of each item *per capita* per term and day:

ON WHAT ACCOUNT.	AMOUNT.	PER TERM.	PER DAY.
Groceries and provisions . . . . .	\$11,657 17	\$ 100 49	\$ 0.137
Clothing material and dry goods . . . . .	4,939 72	42 58	0.058
Leather and findings . . . . .	1,485 81	12 81	0.017
Fuel and lights . . . . .	2,570 15	22 15	0.03
Laundry account . . . . .	503 38	4 34	0.006
School books and requisites . . . . .	1,059 91	8 98	0.012
Postage, telegrams and telephone . . . . .	548 76	4 74	0.006
Stoves and furnaces. . . . .	210 13	1 81	0.002
House furnishing goods. . . . .	1,800 93	15 52	0.021
Office printing and stationery. . . . .	821 53	7 08	0.01
Drugs and medicines . . . . .	98 92	85	0.001
Medical attendance . . . . .	501 00	4 32	0.006
Stable account, hay and grain . . . . .	1,405 71	12 12	0.016
Horseshoeing and blacksmithing. . . . .	569 79	4 91	0.006
Insurance of buildings and stock. . . . .	140 75	1 21	0.001
Police expense . . . . .	157 25	1 35	0.001
Officers' salaries. . . . .	15,827 44	136 44	0.186
Expense and salaries of Board of Control . . . . .	2,203 80	18 99	0.25
Furniture and fixtures . . . . .	506 70	4 36	0.006
Totals . . . . .	\$47,008 85	\$ 405 05	\$ 0.547



Band instruments and music . . . . .	\$ 217 51		
Bedding in institution . . . . .	1,387 75		
Fire escapes . . . . .	161 50	\$ 9,763 82	
Machinery, tools and stock in broom shop . . . . .		3,486 27	
Live stock, wagons, harness and farm utensils . . . . .		1,970 57	
Merchandise sold and not paid for . . . . .	\$ 997 15		
Merchandise bought and not paid for . . . . .	168 32	808 83	
Cash and appropriation in hand of Treasurer unexpended		6,498 77	
Total value of school property . . . . .			\$ 65,182 91

To my associate officers who have so nobly done their duty and thus made possible the successful work of the school, I desire to give most grateful thanks.

To you, gentlemen of the Board of Control, I desire to express my sincere gratitude for your kind consideration, wise counsel and patient support at all times, and trusting in the blessing of our loving Heavenly Father, we look for still greater success in our work for the children during the new term just entered.

Most respectfully,

WM. C. SAMPSON,

*Superintendent.*

#### PHYSICIAN'S REPORT.

GOLDEN, COLO., Nov. 10, 1888.

*To the Honorable Board of Control:*

GENTLEMEN:—The following report is respectfully tendered for your consideration.

It is impossible for me to make a complete report, as no record of minor cases was kept, but I will give a few facts relative to the sanitary condition of the school, with a tabulated statement of the recorded cases treated during the past two years.

I am satisfied the plan adopted, of isolating all contagious diseases, is working well.

The grounds and buildings were never in as good condition as at present.

The new water supply is an important factor among the many, going to make up a healthy school. Chemical analysis has demonstrated that it contains less impurities than the well water of our town; and I would recommend its use when possible.

The school-rooms and dormitories are fairly ventilated, and kept scrupulously neat and clean. This, with the persistent effort of the proper officers, has done much for the health of the inmates.

It is gratifying to note that we have had no epidemic of any serious nature, and the health of the school is far above the average in such institutions, as will appear from the subjoined table:

Remaining in Hospital from 1886 . . . . .	1
Admitted during 1887 and 1888 . . . . .	122
Discharged, cured . . . . .	112
Sent to State Asylum . . . . .	1
Surgical cases not requiring operation, but given proper instruments to wear . . . . .	5
Died . . . . .	1
Number remaining under treatment . . . . .	4
Total number treated . . . . .	123

The above death is the only one which has occurred in the school since its foundation.

JOHN P. KELLEY,  
*Physician for the School.*

#### A PASTOR'S REPORT.

GOLDEN, COLO., Nov. 10, 1888

GENTLEMEN:—For the past year and a half I have been visiting the Industrial School once a month to conduct Sunday afternoon chapel service, and have often visited the school in company with persons from different

parts of the State and of other States, and all have expressed themselves as being delighted with the school. Especially have they spoken of the neatness and cleanliness that was seen everywhere.

I visited the school some time ago with a minister. After having gone through all the different departments, he expressed his surprise at finding such an institution. Why, said he, "This is more like a happy home than a place of confinement."

Everything is done to give them a moral training.

If the boy or girl that spends any length of time in this institution is not made better, it will not be in the fault of the teachings.

This school is an honor to the State.

So far as I am able to judge, the management of the school is as near perfect as it can well be.

Respectfully,

W. M. BEWLEY,  
*Pastor M. E. Church.*







SEVENTH BIENNIAL REPORT

OF THE

SUPERINTENDENT

OF

# Public Instruction

OF THE

STATE OF COLORADO

FOR

BIENNIAL TERM ENDING JUNE 30, 1890.

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TO THE GOVERNOR.

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DENVER, COLORADO:  
COLLIER & CLEVELAND LITHOGRAPHING CO., PRINTERS.  
1891.





## LETTER OF TRANSMITTAL.

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DEPARTMENT OF PUBLIC INSTRUCTION, }  
DENVER, COLO., December 10, 1890. }

*To His Excellency,*

JOB A. COOPER,

*Governor of Colorado:*

SIR:—In compliance with the requirements of law, I have the honor to submit herewith the Seventh Biennial Report of the Department of Public Instruction for the biennial term ending June 30, 1890.

FRED DICK,

*Superintendent of Public Instruction.*



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# STATE BOARD OF EDUCATION.

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1889 TO 1891.

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FRED DICK,  
SUPERINTENDENT OF PUBLIC INSTRUCTION.

JAMES RICE,  
SECRETARY OF STATE.

SAMUEL W. JONES,  
ATTORNEY-GENERAL.

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1891 TO 1893.

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NATHAN B. COY,  
SUPERINTENDENT OF PUBLIC INSTRUCTION.

EDWIN J. EATON,  
SECRETARY OF STATE.

JOSEPH H. MAUPIN,  
ATTORNEY-GENERAL.



STATE UNIVERSITY, BOULDER.

BOARD OF REGENTS.

Term expires.

R. W. WOODBURY . . . . .	Denver . . . . .	1891
D. E. NEWCOMB . . . . .	La Jara . . . . .	1891
WOLFE LONDONER . . . . .	Denver . . . . .	1893
E. J. TEMPLE . . . . .	Boulder . . . . .	1893
S. A. GIFFIN . . . . .	Boulder . . . . .	1895
CHARLES E. DUDLEY . . . . .	Denver . . . . .	1895

HORACE M. HALE, President.

O. J. PFEIFFER . . . . .	Denver	} Elected Nov. 4, 1890
W. H. COCHRAN . . . . .	Del Norte	

STATE SCHOOL OF MINES, GOLDEN.

BOARD OF TRUSTEES.

FRED. STEINHAUER, President . . . . .	Denver
J. T. SMITH, Secretary . . . . .	Denver
M. BARTH, Treasurer . . . . .	Denver
DR. J. P. KELLY . . . . .	Golden
E. F. BROWN . . . . .	Aspen

REGIS CHAUVENET, President.

STATE NORMAL SCHOOL, GREELEY.

BOARD OF TRUSTEES.

Term expires.

JESSE HAWES . . . . .	Greeley . . . . .	1895
ISAAC GOTTHELF . . . . .	Denver . . . . .	1895
J. W. WALLACE . . . . .	Greeley . . . . .	1893
P. W. BREENE . . . . .	Leadville . . . . .	1893
E. E. NICHOLS . . . . .	Manitou . . . . .	1891
J. C. DAVIDSON . . . . .	Golden . . . . .	1891

FRED. DICK, State Superintendent, *ex officio*.

STATE HOME AND INDUSTRIAL SCHOOL  
FOR GIRLS, DENVER.

BOARD OF CONTROL.

MRS. AMELIA EDDY,                      MRS. A. JACOBS,  
MRS. THALIA RHODES,                MRS. JOHN ARRINS.

STATE INDUSTRIAL SCHOOL, GOLDEN.

BOARD OF CONTROL.

Term expires.

M. N. MEGRUE, President . . . . Pueblo . . . 1891  
J. M. MORRIS, Secretary . . . . Golden . . . 1895  
J. C. HUMMEL . . . . . Denver . . . 1893  
D. R. HATCH, Superintendent.

STATE AGRICULTURAL COLLEGE, FORT  
COLLINS.

BOARD OF TRUSTEES.

Term expires.

JOHN J. RYAN . . . . . Loveland . . 1897  
A. L. EMIGH . . . . . Fort Collins . 1897  
B. S. LAGRANGE . . . . . Greeley . . 1891  
W. F. WATROUS . . . . . Fort Collins . 1891  
GEORGE WYMAN, President . . . Longmont . 1893  
R. A. SOUTHWORTH . . . . . Denver . . . 1893  
F. J. ANNIS, Secretary . . . . . Fort Collins . 1895  
CHARLES H. SMALL . . . . . Pueblo . . . 1895

C. L. INGERSOLL, President.

GOV. JOB A. COOPER, *ex officio*.

W. H. BRISBANE, State Treasurer, Treasurer *ex officio*.

The school system of Colorado is continuous in its growth and development. Since statehood the school population has quadrupled, the enrollment and average daily attendance have increased five times, while the receipts and expenditures have multiplied the first totals by ten and nine respectively. Evidence of these facts is found at a glance in the following table:



YEARS	CENSUS	ENROLL- MENT	AVERAGE DAILY ATTEND	RECEIPTS	EXPENDITURES	NUMBER OF TEACHERS		AVERAGE MONTHLY SALARY	
						Male	Female	Male	Female
1877 . . . . .	21,612	14,085	8,141	\$ 245,145 00	\$ 215,225 00	233	297	\$ 56 10	\$ 51 45
1880 . . . . .	35,566	22,119	12,618	522,581 00	395,227 00	247	431	72 29	52 63
1885 . . . . .	57,955	38,895	24,747	1,220,464 87	934,726 83	336	870	81 43	58 50
1886 . . . . .	60,798	40,690	26,428	1,217,008 80	905,622 57	347	978	82 14	59 23
1887 . . . . .	65,216	42,901	27,147	1,233,348 57	865,028 76	344	1,046	79 50	60 60
1888 . . . . .	76,212	50,745	31,516	1,548,104 58	1,152,411 78	362	1,342	76 47	57 48
1889 . . . . .	85,715	59,113	35,054	2,037,251 98	1,602,288 78	587	1,567	74 40	55 08
1890 . . . . .	95,137	65,490	38,714.58	2,596,948 47	1,944,807 88	622	1,753	74 32	53 63

The number of school buildings has increased from 219 in the year 1877 to 1,182 at the present time, furnishing accommodations for 72,160 pupils. The number of teachers employed has advanced from 530 to 2,375. The valuation of school property has increased from \$472,983 to \$4,387,809.49. The annual cost of maintaining the public school system during the first year of statehood was \$215,225, as against \$1,944,807.88 during the school year of 1889 and '90. These figures indicate in no indefinite way that the educational facilities of the State have kept pace with its almost unprecedented material development.

#### ATTENDANCE.

By a careful examination of table one in this report it will be seen that the number enrolled in the public schools in the State during the school year ending June 30, 1890, was but 69 per cent. of the entire school population of the State, while the average daily attendance was but 59 per cent. of the enrollment or 40 per cent. of the total school population. No thoughtful person will question for a moment that more than 69 per cent. of our school population should be enrolled in the schools of the State. The present condition does not differ in any great degree from that which has existed for the past thirteen years and may be attributed to the following conditions, which from careful examination and personal inspection I know to exist at the present time.

*First*—The limited financial circumstances of a very large number of the patrons of our schools.

*Second*—The indifference of parents to the importance of education.

The first of these conditions is the natural outgrowth of circumstances peculiar to a new and undeveloped country. In Colorado the people are striving to develop the resources of the State. In a majority of the school districts the residents are in poor circum-

stances financially and any draft upon their financial resources outside of purchasing the necessary clothing and food for the family is a burden. In a number of the counties of the State the people are absolutely forced to call upon every member of the family of sufficient age to assist in maintaining the family and in providing for the comforts of a home.

---

## State Aid.

---

The State is the projector and protector of the Public School System, and has chosen the public free schools as the means by which it is to advance to the highest and most perfect condition of Statehood. For this reason it should make the burden of the support of the public schools by taxation as light as possible upon the people, and that assistance should be given when the schools and the people are in greatest need of it. Colorado, unlike many other States, has no provision in its Constitution which provides for the levying of a State tax for school purposes. Its only means of giving financial aid to the school system is by the sale and rental of its school lands, of which it owns at the present time upwards of three and one-half million acres. The sum apportioned from the State fund to each person of school age during the last school year was \$1.32, which is only a nominal sum when we consider that the cost *per capita*, based upon the school population during the last year, was \$19.77, leaving the cost *per capita* to be raised by direct tax upon the people, \$18.45. To illustrate: A district with a school population of fifty pupils will have \$922.50 to raise by direct tax. In such districts the valuation of taxable property does not in the majority of cases exceed \$40,000, thus requiring a tax of nearly two and one-fourth per cent. The amount received from the general fund of the county may possibly reduce

this one per cent., leaving a tax of  $12\frac{1}{2}$  mills to be raised by the district. It is evident that this is burdensome to any community, and ought not to be allowed to exist if assistance can in any way be legally given by the State. The only solution of this problem thus far has been to reduce the number of months that school is held each year, thereby depriving the pupils in more than one-half of the school districts of the State of just and reasonable educational advantages. Last year 620 out of 1,276 did not have to exceed 120 days of school. I therefore recommend that those who hereafter have charge of the school lands of the State, give earnest attention to devising some means by which assistance may be given the majority of school districts in the State.

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## Compulsory Law.

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Thus far no one has devised a successful plan by which the indifference of parents to the education of their children can be wholly overcome. Many of our leading educators have advocated the theory of bringing the schools to such a high degree of perfection in methods of instruction and special attractive features as to draw by the force of such attraction all young people into the schools. It is certainly conceded by all that at the present time no such condition has been reached, or will be for years to come. Other prominent educators, and those more especially who have recognized the intimate relation between the State and the public schools, have advocated the adoption of a compulsory educational law. Such a law was passed by the Seventh General Assembly. Its provisions are comprehensive and its enforcement not necessarily oppressive. Its weakest point is found in the manner prescribed for its enforcement, that feature being left very largely to

the directors of the different districts, or impliedly to the residents of the district. I am of the opinion that the success of such a law depends upon the appointment of a special officer for its enforcement, and, although this law has had the desired effect in many instances, much more could be accomplished by it were provision made for the appointment of a special officer in each district, whose duty it should be to attend to the enforcement of it. As will be seen by examination of Table "I," the total number of persons of school age in Colorado is 95,137, while the whole number enrolled in the public schools is 65,490, or 69 per cent. If we make the liberal allowance of .5 per cent. for those in attendance at other than public schools, we have twenty-six per cent. of our school population not in attendance at any school. Possibly one-third of this number are between the ages of six and twenty-one years, leaving about 18,000 persons between the ages of six and sixteen years of age not enrolled in any school during the last year. If, as has been asserted, the safety and preservation of a republican form of government lie in the virtue and intelligence of the people, then certainly a condition ought not to exist which allows nearly one-fifth of the school population to be deprived of the opportunity of obtaining an education.

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### Free Text Books.

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At the present time the school law of the State permits districts to own the text books used in school, and furnish them free to pupils in attendance. At the present time 201 districts have availed themselves of this privilege, and I have yet to hear a single complaint raised against the plan, while very many, both officers and parents, have expressed themselves in its favor. The arguments usually presented in its favor may be

summed up as follows, and these points are sustained by evidence gained from the experience of districts in other States throughout the Union, which have for years owned their text books:

*First*—A gain of from 25 to 40 per cent. on first cost.

*Second*—A gain of at least 33 per cent. in the time the book will be in proper condition for use.

*Third*—Considering first cost and time of use, there is a gain of about 50 per cent. in cost to the community.

*Fourth*—The classes are uniformly supplied at the proper time and with the proper text book.

*Fifth*—The very unpleasant distinction between rich and poor is avoided.

*Sixth*—Increased attendance.

*Seventh*—Schools are more successfully graded.

*Eighth*—A State or county system is more easily carried out.

*Ninth*—A very great and unnecessary expense to teachers is avoided. I recommend that every school district in the State, as far as possible, furnish its text books free to its pupils.

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## School Law Legislation.

---

The school laws of this State are strong in their simplicity. The less they are tampered with by legislators, the less liable is our present excellent system to be crippled. There will, from time to time, arise certain new conditions, which will necessitate slight changes, but, generally speaking, school legislation should be avoided. There is, at the present time, a Committee on School Law, appointed by the State Association of County Superintendents, and another by the State Asso-

ciation of Teachers, both of which Committees have for their chairman A. D. Shepard, County Superintendent of Arapahoe county. These committees, under his able direction, will prepare and present a bill making some alterations in the present law, among which will be the following:

*First*—An increase in the number of Normal Institute Districts.

*Second*—A classification of the counties of the State, with a provision for the payment of salaries to County Superintendents instead of a *per diem*, as at present.

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## Normal Institutes.

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A strong impetus has been given to the professional work in the State during the past two years, by the holding of Teachers' Institutes as provided by section 81 of the school laws. An institute has been held in each district during the month of August of the years 1889 and 1890. The following table will give the important features of each.

### NORMAL INSTITUTES—1890.

FIRST DISTRICT—At Fort Collins, August 18 to 29.  
Conductor, Ira M. DeLong, Boulder.

*Instructors*—C. S. Crandall, Fort Collins; Mrs. Scott-Saxton, Denver; Rev. W. O. Thompson, Longmont; Superintendent S. T. Hamilton, Fort Collins; E. L. Byington, Fort Collins; David O'Brien, Fort Collins; Superintendent W. V. Casey, Boulder; J. R. Whiteman, Greeley; Miss Carrie Leach, Boulder.

### ENROLLMENT.

Larimer, 61; Weld, 40; Boulder, 25; Morgan, 1; Sedgwick, 1; Washington, 0; Yuma, 0; Phillips, 0; Routt, 0; Grand, 0; Logan, 0. Total, 128.

## FINANCIAL STATEMENT.

RECEIPTS.		EXPENDITURES.	
Balance on hand, 1889. . . . .	\$ 143 84	Conductors . . . . .	\$ 114 10
Due from counties . . . . .	128 00	Instructors . . . . .	258 65
From registration . . . . .	133 00	Incidental expenses. . . . .	37 35
Entertainment . . . . .	46 85		
Received from State. . . . .	000 00		\$410 10
Total receipts . . . . .	\$451 69	Balance on hand . . . . .	\$ 41 59

SECOND DISTRICT—At Golden, August 11 to 23.  
Conductor, James H. Baker, Denver.

*Instructors*—L. P. Norvel, Denver; Miss Martha Pease, Denver; Fannie Mutchmore, Claremont.

## ENROLLMENT.

Arapahoe county, 63; Jefferson, 65; Clear Creek, 6; Gilpin, 9; Douglas, 7; Kit Carson, 2; Cheyenne, 0; Lincoln, 0; Elbert, 3. Total, 155.

## FINANCIAL STATEMENT.

RECEIPTS.		EXPENDITURES.	
Balance on hand . . . . .	\$ 24 75	Paid conductor . . . . .	\$ 119 60
Due from counties . . . . .	16 00	Paid instructors. . . . .	176 66
Rec'd from counties. . . . .	137 00	Incidental expenses. . . . .	36 25
Rec'd from registration fees . . . . .	155 00		
Rec'd from other sources . . . . .	35 75	Total expenditures . . . . .	\$ 332 51
		Due from counties . . . . .	16 00
Total receipts . . . . .	\$ 368 50	Balance on hand . . . . .	19 99

THIRD DISTRICT—At Pueblo, August 11 to 23.  
Conductors, P. W. Search, Pueblo; and A. B. Cope-land, Greeley.

*Instructors*—J. G. Draper, Pueblo; L. B. Grafton, Manitou; Miss Carrie Palmer, Manitou; Mrs. Ella Jeffreys, Cañon City.

## ENROLLMENT.

El Paso, 63; Pueblo, 80; Fremont, 28; Custer, 6; Bent, 9; Baca, 6; Huerfano, 3; Kiowa, 21; Prowers, 5; Otero, 3; Las Animas, 0. Total, 224.



FINANCIAL STATEMENT.

RECEIPTS.	EXPENDITURES.
Due from counties . . . . . \$ 52 00	Paid conductors . . . . . \$ 110 00
Rec'd from counties . . . . . 180 30	Paid instructors . . . . . 265 00
Rec'd from registration fees . . . . . 227 00	Incidental expenses . . . . . 90 75
Rec'd from other sources . . . . . 50 75	
	Total expenditures . . . . . \$ 465 75
Total receipts . . . . . \$ 510 05	Balance . . . . . 44 30

FOURTH DISTRICT—At Leadville, August 18 to 30.  
Conductor, W. T. Eddingfield, Aspen.

*Instructors*—Miss A. Holdredge, Leadville; Miss Lillian Pike, Montezuma; Rose Parker, Leadville.

ENROLLMENT.

Lake, 20; Park, 7; Pitkin, 5; Garfield, 12; Eagle, 10; Summit, 9; Rio Blanco, 6; Chaffee, 16. Total, 85.

FINANCIAL STATEMENT.

RECEIPTS.	EXPENDITURES.
Due from counties . . . . . \$ 85 00	Paid conductor . . . . . \$ 135 80
Received from registration fees . . . . . 91 00	Paid instructors . . . . . 105 00
Received from citizens of Leadville . . . . . 202 00	Incidental expenses . . . . . 23 00
	Lecture . . . . . 10 00
Total receipts . . . . . \$ 378 00	Total expenditures . . . . . \$ 273 80
	Balance . . . . . 104 20

FIFTH DISTRICT—At Montrose, August 18 to 30.  
Conductor, J. A. Guttery, Grand Junction.

*Instructors*—G. A. Thraikill, Ouray; Superintendent E. T. Fisher, Grand Junction; Mrs. E. H. Manhire, Montrose; Miss Wagner, Telluride; J. H. Allen, Montrose.

ENROLLMENT.

Ouray, 12; Montrose, 27; Mesa, 12; Hinsdale, 0; Gunnison, 0; Delta, 8; San Miguel, 3. Total, 62.

FINANCIAL STATEMENT.

RECEIPTS.	EXPENDITURES.
Due from counties . . . . . \$ 58 00	Paid for conductor . . . . . \$ 110 00
Received from registration fees . . . . . 56 00	Paid instructors . . . . . 71 00
Received from citizens of Montrose . . . . . 85 00	Incidental expenses . . . . . 5 00
	Total expenditures . . . . . \$ 186 00
Total receipts . . . . . \$ 199 00	Balance . . . . . 13 00

SIXTH DISTRICT—At Durango, August 4 to 15.  
Conductor, A. B. Copeland, Greeley.

*Instructors*—Mrs. F. E. Haffy, Del Norte; T. O. Baker, Durango.

ENROLLMENT.

Conejos, 3; Costilla, 2; Rio Grande, 1; La Plata, 45; Montezuma, 5; San Juan, 1; Dolores, 0; Archuleta, 2; Saguache, 0. Total, 59.

FINANCIAL STATEMENT.

RECEIPTS.		EXPENDITURES.	
Due from counties . . . . .	\$ 59 00	Paid conductor . . . . .	\$ 138 75
From registration fees . . . . .	59 00	Paid instructors . . . . .	150 94
From citizens of Durango . . . . .	187 00	Incidentals . . . . .	16 25
From State . . . . .	_____	Total expenditures . . . . .	\$ 295 94
Total receipts . . . . .	\$ 395 00	Balance . . . . .	9 06

With the rapid settlement of the State and the increase in the number of counties, some of these districts have become too large for the most profitable work. As one County Superintendent expressed it: "His teachers are one hundred miles from the railroad and his institute district extends from Utah to Nebraska." The small salary and the heavy expense incurred make it impossible for teachers in remote districts to avail themselves of the advantages of the institute. The importance of the work is such that the institutes should be sustained, hence the law should be so changed and such support given by the State as will make it possible for every teacher in the State to attend one institute during the school year. These institutes have thus far been maintained by membership fee paid by teachers, limited payments by the counties represented, and local private subscriptions. Although the law provides for a small appropriation by the State, it has not been made and therefore not received by the different institutes. Our teachers are entitled to great credit for the energy and interest they have displayed in supporting these institutes, and the State not only ought to make liberal appropriation for their future maintenance, but should make such appropriation as is necessary for the payment of money due for the past two years.

## The County Superintendent.

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So great has been the increase of the number of school districts in many of the counties of the State, that thirty of the thirty-five counties require all the time of their respective County Superintendents, in the proper supervision of their schools. Fifteen of them will require at least nine months of the attention of that officer, while ten counties which are mostly in the mountainous sections will require less of his time. Familiarity with educational work compels us to recognize the great importance of close inspection. Superintendents of Schools in large cities are employed with that in view, and to their efforts is due the excellency of most city schools. County Superintendents are doing an admirable work in this State. I believe there is greater interest manifested by them to-day than ever before. More time is devoted to direct supervision. A County Superintendent is elected by popular vote. He bears the same relation to all the schools of the county that a city superintendent bears to the schools of his city. He is to direct and visit schools, examine and advise teachers, report and make decisions in school matters. He can, by close attention to his duties, lead the schools to eminent success, or by carelessness and indifference permit them to fall into decay. But to meet with success, he must devote his time to the interest of the schools, and for that he is entitled to liberal compensation in accordance with the provisions of law. Could County Commissioners become thoroughly informed in regard to the many and various demands made upon a competent Superintendent and the urgent necessity of personal supervision over the schools, I can not help thinking that they would take a much broader view of the situation than is taken at the present time in many counties. Children in rural districts suffer

most by want of supervision or by inattention on the part of the County Superintendent. There is no place in county management where the commissioners can do as great permanent and lasting injury to their constituents as by checking honest energetic and intelligent action of a faithful County Superintendent in behalf of his schools, by disallowing his accounts, which are presented itemized and under oath.

I therefore recommend the passage of a law that shall provide for a proper classification of the counties of the State and payment of an adequate salary to County Superintendents of Schools in lieu of a *per diem* as at present.

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## State Certificates.

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Two examinations for State Certificates have been held during this biennial term. On June 24, 1889, there were four applicants, one of whom, Miss Atta L. Nutter, of Pueblo, was given a State Diploma. On June 26, 1890, there were three applicants, one of whom, Mr. Edward C. Hill, of Denver, was successful. At the present time the following named persons have received under the law State Certificates to teach:

### ISSUED PRIOR TO 1888.

H. M. Hale,	Ira W. Daris,	E. C. Stevens,
Aaron Gove,	A. E. Chase,	W. C. Thomas,
Justin E. Dow,	Robert Casey,	Miss N. O. Smith,
F. J. Annis,	F. E. Smith,	Mrs. Cornelia Miles,
I. C. Dennett,	P. H. Hanus,	S. A. Wilson,
J. H. Baker.	J. C. Shattuck,	Robert H. Beggs,
H. L. Parker,	F. B. Gault,	A. B. Copeland,
H. F. Wagener,	C. L. Ingersoll,	Miss A. E. De Lan.
Mary Thomas,	W. W. Remington,	
Adelle M. Overton,	J. S. McClung,	

### ISSUED DURING THIS BIENNIAL TERM.

E. I. Byington, Fort Collins.	E. C. Hill, Denver.
Wm. Eiseman, Loveland.	J. A. Guttery, Grand Junction.
J. H. Freeman, Saguache.	Mrs. E. K. La Barthe, Colorado Springs.
J. P. Jackson, Colorado City.	W. T. Eddingfield, Aspen.
C. V. Parker, Denver.	A. C. Courtney, Denver.
W. A. Lindsey, Denver.	Grace Patton, Fort Collins.
Miss Atta L. Nutter, Pueblo.	L. S. Cornell, Denver.

## Quarterly Examinations.

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During the present biennial term, 4,240 persons have applied for certificates to teach. Of that number, 641 certificates of the first-grade were issued, 1,199 of the second-grade, and 1,298 of the third-grade; in all, 3,138 persons were licensed to teach in the schools of the State. In addition to these, 844 temporary certificates were issued.

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## Temporary and Third-Grade Certificates.

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That provision of the law which allows a County Superintendent to issue a temporary certificate when, in his judgment, the applicant is entitled to one, has worked great injury in many cases, not alone to individual districts, but to the entire system of the State. The privilege has been abused by the misrepresentations of applicants for such certificates, and in too many cases wholly unqualified persons have been placed in charge of schools. In my opinion, County Superintendents would be justified in granting such certificates only in very urgent and unavoidable cases, such as sickness or accident, which have prevented the applicant from attending the regular examinations. At the last meeting of the State Association of County Superintendents, a resolution was passed recommending that only two third-grade certificates be issued to the same person, thereby indicating a desire to compel teachers to advance in scholarship. That resolution meets with my earnest approval. Young persons without experience cannot expect to receive, on their first application, much more than a third-grade certificate. If, after having had one year's experience in the school-room, they prove themselves competent to receive a higher grade by reason of

their success, it certainly is to their discredit if their scholarship does not indicate that they are entitled to a higher than the third-grade which they received on their first application. While persons who have been in the profession for two or more years certainly can give no good reason for not advancing beyond the requirements of a third-grade certificate.

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## Teachers' Associations.

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Teachers are practically members of one great order. Their interests are common. It is impossible for one to learn and acquire all of the best subject matter and best methods of instruction, by reading and study. If he attempts it he will become ratty and rusty. One secret of the success of schools in large towns is, that each teacher recognizes that he is a member of a great system, that he is one link of a chain whose strength and usefulness depend upon each link being perfect and without a flaw. Teachers throughout a county are bound to realize that they form a part of a much longer chain and one of greater strength and usefulness. The interests of one are the interests of every teacher in the county. He is by reason of his position obligated to give of his experience and knowledge to his associate teachers. He is at the same time bound to fit himself in the best manner possible to perform the work which he enters into a contract to do. He owes it to his directors, to the patrons of the school and to his pupils. There are associations of lawyers, doctors, ministers, of mechanics, of merchants, every profession and occupation has its organization for the purpose of discussion and comparison. Organized, harmonious action is the most intelligent and most successful—the most profitable. Teachers have not performed their whole professional duty unless they have attended once each year,

both the County and State Associations and the District Institute.

County Associations of teachers have been organized in forty-one counties of the State. Some of these organizations hold meetings quarterly while others meet semi-annually. They have proven to be of great value to teachers in comparing and discussing methods of instruction, in unifying county work, and in creating a more healthful public sentiment in favor of public schools.

The State Association of Teachers held its fifteenth annual session in the High School building in Denver, December 26-28, 1889. It was commonly remarked at the time that there was a larger number present and greater interest manifested than ever before.

I give a synopsis of the proceedings, for which I am indebted to the Colorado School Journal.

There is also a State Association of County Superintendents which meets semi-annually in different cities. The last meeting was held at Cañon City, May 15-17, 1890, and thirty-eight of the fifty-five Superintendents were present.

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## State Organization.

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In an address before the County Superintendents' Association, held at Glen Park in June, 1889, I used the following language:

“The County Superintendents should mark out a course of study as adapted as far as possible to both city and rural schools. Beginning with the primary grades it should gradually and naturally lead up to and through a high school course of three years. There should be the same general plan for all schools in a county. Examinations for promotion should be held at stated times. Promotion should be made upon the same basis,

test examinations should be held, using the same questions in every school, and all held on the same day, to insure uniformity of work. A system of reports should be adopted, one as a means of communication between the school and the parents, another, from the teacher to the County Superintendent. The former should indicate the monthly or quarterly standing of the pupil together with his deportment and attendance. By the latter the Superintendents should be able to learn of the attendance, the discipline and the advancement of each grade, of the transfers, withdrawals and promotions of students. As students advance, a certificate should be issued to each showing the branches studied, the standing in each, with a permit to enter the next grade if the required standard is reached."

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### State Course of Study.

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At that meeting a committee was appointed consisting of County Superintendents J. S. Eagleton, of Jefferson; S. T. Hamilton, of Larimer, and P. H. Hammond, of Douglas, to prepare a course of study for the public schools of the State. At the next meeting of the Association held in Cañon City in May, 1890, that committee made its report, which was amended in some respects and adopted as amended. The course of study has been printed and circulated very generally throughout the State, and is now in successful use by a large majority of the districts in every county. A copy of it is hereto annexed and marked "Exhibit VII."

At the same time I made the following additional recommendation. A high school should be established, or a high school department at least, should be organized at the earliest possible date in every county. This ultimatum of the course of study through the county should be kept constantly before the pupils in order that as many as possible may be led to finish the grammar grade and enter the high school.



## HIGH SCHOOL COURSE OF STUDY.

At the last meeting of the State Teachers' Association a committee was appointed to formulate a course of study for high schools which should form a fitting preparation for entrance to our State University. That committee, I am credibly informed, has performed its work and will be ready to make its report at the next meeting of the State Association, to be held December 30, of this year.

When these courses of study shall have been adopted by the various school authorities of the State, and this attempt at a more thorough organization of school work in the State shall have been perfected, I have reason to believe much better results will be obtained.

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## State Department.

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This department is not directly connected with any of the higher or special institutes of learning, except the State Normal School.

In my opinion, the State Superintendent should be a member, *ex officio*, of the Board of Regents of the University and of the Board of Trustees of the School of Mines, the Agricultural College, the Deaf, Mute and Blind Institute, as he is of the State Normal School.

While he is courteously received by the authorities of each and all of the State Institutions, there can not be the same active and personal interest on his part in their behalf unless he assumes some of the responsibilities of their management.

## State University.

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Our State University furnishes a fitting close to the facilities for a liberal education provided by the State. I spent twenty-four hours at the last commencement of that institution. To be interested in the University and to realize its capabilities, one has but to visit it. A beautiful and healthful location, appropriate and costly apparatus, a well-arranged curriculum and a faculty of undoubted character and scholarly attainments, give this institution an advanced position in the work of higher education.

With this connected and systematized work which unites the various departments of the State system of education, there will be and I believe has already been created a mutual and a close relationship which will be of great value to the entire state system.

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## The Normal School.

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We are coming to realize more and more each day the very great importance of having trained teachers in our schools. Colorado has heretofore been compelled to look to other States for its supply of professionally trained teachers. Young people, the graduates of our High Schools, who wished to specially prepare themselves for the profession, have sought such advantages as were afforded by Normal Schools outside of Colorado, or have assumed the grave responsibility of "practicing" upon pupils in districts whose trustees were willing to pay them for serving an apprenticeship in their schools.

By an act of the last Legislature, a Normal School for the training of teachers was established and located

at Greeley. The unexpectedly large attendance, as well as the age and scholarship of the students, give conclusive evidence of the demand for such an institution in this State. Its influence in raising the standard of the profession by giving to our schools teachers trained in the science of education, and whose lives have been largely passed in the State, thereby making them familiar with the peculiar conditions that surround us, will be of inestimable value. The first report of the school is hereto annexed, and I earnestly recommend that its interests be carefully and liberally fostered by both the Legislative and Executive Departments of the State.

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## The Agricultural College

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Has at present an enviable reputation, not only throughout the United States, but even States in foreign countries are watching its experiments and are profiting by its successes. It has successfully introduced, and is carrying on, a manual training department, which will, in my opinion, be of great assistance to the educational system of the State, when we shall have reached the time for its adoption as a part of the public school work.

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## The State School of Mines,

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Under the very able direction of its President, Prof. Regis Chauvenet, is certainly doing much towards accomplishing the object for which it was established. The attendance is steadily increasing, its field of usefulness is gradually expanding, while the high order of instruction given makes it an honor to the State. The report of Prof. Arthur Lakes, one of the

faculty, upon the Colorado coal deposits, is a document of untold value, giving, as it does, the location, extent and nature of our extensive coal fields.

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## Deaf, Mute and Blind Institute.

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The Deaf, Mute and Blind Institute forms an important element in the State system. It is not an asylum, nor a hospital nor a house of correction. But it is in every sense of the term a public school, with the addition of a cheerful, attractive and beautiful home. President Ray is doing an admirable work in developing the mental powers of the pupils under his charge. He is preparing them for and directing them into fields of labor adapted to their conditions and attainments. The results attained are marvelous when we consider the difficulties to be overcome.

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## Arbor Day.

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A law passed by the Seventh General Assembly designated the third Friday in April of each year as "Arbor Day." In compliance with its provisions an effort was made to have the day generally observed by the public schools of the State in the planting of trees on school and other public grounds, and in having appropriate literary exercises by the pupils. The reports sent in by the various school authorities indicate a high degree of interest in carrying out the spirit as well as the letter of this law.

Exhibit VI. is a copy of a circular issued by this department with a view to creating an active interest in Arbor Day.

## State Library.

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There are at present 10,080 volumes of books in the State Library. These comprise the session laws, official reports and other books of reference of like nature received from the different States; also the reports of the various departments of the General Government. In addition to these there are about 800 volumes of miscellaneous works by different authors. The usefulness of the library is materially crippled by the manner in which books are obtained, there being no provision made with which to meet the expense of exchange or to purchase such books as are reasonably expected to be found in a State Library, which is essentially one of reference.

TABLE I.

## COMPARATIVE TABLE—SUMMARY.

ITEMS	1889	1890	INCREASE
Number of school houses . . . . .	995	1,190	195
Value of school houses and property	\$ 3,838,353 00	\$ 4,387,809 40	\$ 549,456 49
Number of male teachers in graded schools . . . . .	134	144	10
Number of female teachers in graded schools . . . . .	536	614	78
Average monthly salary of male teachers in graded schools . . . . .	\$ 95 21	\$ 96 80	\$ 1 59
Average monthly salary of female teachers in graded schools . . . . .	\$ 63 50	\$ 62 78	\$ D 72
Number of male teachers in ungraded schools . . . . .	407	478	71
Number of female teachers in ungraded schools . . . . .	863	1,139	276
Average monthly salary of male teachers in ungraded schools . . . . .	\$ 51 08	\$ 51 84	\$ 76
Average monthly salary of female teachers in ungraded schools . . . . .	\$ 41 50	\$ 44 48	\$ 2 98
Received from county tax and State fund (general fund) . . . . .	613,589 76	640,485 99	26,896 23
Received from district tax (special fund) . . . . .	793,814 94	953,162 87	159,347 93
Received from all sources, including amount on hand at beginning of year . . . . .	2,037,251 98	2,596,948 47	559,696 49
Expended for teachers' wages . . . . .	713,971 78	818,604 65	104,632 87
Expended for current expenses . . . . .	241,965 51	255,270 71	13,305 20
Expended for buildings, sites and furniture . . . . .	550,205 63	607,503 32	57,297 69
Number of districts . . . . .	1,182	1,284	102
Number of males of school age . . . . .	43,780	48,500	4,720
Number of females of school age . . . . .	42,044	46,637	4,593
Total school population . . . . .	85,824	95,137	9,313
School population between 6 and 16 . . . . .	64,702	72,483	7,781
School population between 16 and 21 . . . . .	21,122	22,654	1,532
Number between 6 and 16 enrolled in school . . . . .	53,532	59,383	5,851
Number between 16 and 21 enrolled in schools . . . . .	5,581	6,107	526
Number enrolled in high school . . . . .	1,484	1,733	249

TABLE I—*Concluded.*

ITEMS	1889	1890	INCREASE
Number enrolled in graded schools .	32,580	36,347	3,767
Number enrolled in ungraded schools	25,049	27,410	2,361
Number enrolled in public schools . .	59,113	65,490	6,377
Average daily attendance . . . . .	35,054	38,714.58	3,660.58
Per cent. of school population enrolled in school . . . . .	68 87-100 %	68 83-100 %	D 4-100 %
Per cent. of school population under 16 enrolled in school . . . . .	82 73-100 %	81 92-100 %	D 81-100 %
Per cent. of school population over 16 enrolled in school . . . . .	26 42-100 %	26 95-100 %	53-100 %
Per cent. of average attendance on enrollment . . . . .	59 29-100 %	59 11-100 %	D 18-100 %
Volumes in school libraries . . . . .	20,916	26,516	5,600
Total expenditure . . . . .	\$ 1,585,519 44	\$ 1,944,807 88	\$ 359,288 44
Expenditure per capita of school population . . . . .	18 47	20 44	1 97
Expenditure per capita of enrollment	26 73	29 69	2 96
Expenditure per capita of average attendance . . . . .	44 57	50 23	5 66
Expenditure per capita of population between 6 and 16 . . . . .	24 54	26 83	2 29

TABLE II.

EXAMINATION OF TEACHERS.

COUNTIES.	1889.							1890.						
	FIRST GRADE		SECOND GRADE		THIRD GRADE		Total.	FIRST GRADE		SECOND GRADE		THIRD GRADE		Total.
	Male.	Female.	Male.	Female.	Male.	Female.		Male.	Female.	Male.	Female.	Male.	Female.	
Arapahoe . . . . .	3	13	5	45	6	50	122	6	12	13	50	25	60	166
Archuleta . . . . .	2	.	.	.	.	.	2	1	.	.	.	.	.	2
Baca . . . . .	1	1	.	2	3	3	10	4	7	11	12	8	9	51
Bent . . . . .	3	7	10	23	5	10	58	1	1	1	9	.	4	16
Boulder . . . . .	5	8	11	25	3	12	64	3	16	7	19	2	14	61
Chaffee . . . . .	2	8	5	6	.	8	29	1	2	1	3	.	37	44
Cheyenne . . . . .	.	.	.	.	.	1	1	.	.	3	4	2	4	13
Clear Creek . . . . .	3	5	2	9	.	7	26	1	2	.	6	.	2	11
Conejos . . . . .	4	2	4	2	9	7	28	4	3	2	5	7	7	28
Costilla . . . . .	4	3	5	.	1	1	14	3	5	2	1	2	3	16
Custer . . . . .	1	1	5	5	2	6	20	1	2	1	2	2	12	20
Delta . . . . .	2	5	2	4	.	1	14	3	4	12	6	10	4	39
Dolores . . . . .	.	.	.	.	.	.	.	.	1	.	1	.	.	2
Douglas . . . . .	2	2	2	15	.	8	29	2	3	3	6	2	18	34
Eagle . . . . .	1	.	.	1	3	5	10	1	1	.	3	2	13	20
Elbert . . . . .	1	6	10	13	6	9	45	1	1	2	7	2	6	19
El Paso . . . . .	.	.	2	16	7	25	50	3	8	1	18	5	35	70
Fremont . . . . .	8	7	7	6	3	7	38	2	8	5	12	4	18	49
Garfield . . . . .	2	9	2	15	.	.	28	2	11	1	18	.	.	32
Gilpin . . . . .	.	2	1	8	.	14	25	3	7	1	9	1	14	35
Grand . . . . .	.	1	.	4	.	4	9	.	2	.	.	.	1	3
Gunnison . . . . .	2	6	2	10	1	.	21	.	2	.	9	.	10	21
Hinsdale . . . . .	2	.	.	1	.	.	3	2	.	.	1	.	.	3
Huerfano . . . . .	3	6	3	4	2	6	24	3	5	2	8	5	11	34
Jefferson . . . . .	1	12	9	23	3	29	77	3	9	2	22	1	27	64
Kiowa . . . . .	2	2	2	2	1	6	15	4	.	4	10	6	10	34
Kit Carson . . . . .	4	3	3	6	3	6	25	2	1	7	5	9	21	45
La Plata . . . . .	6	1	5	10	1	2	25	.	6	5	7	2	11	31
Lake . . . . .	.	1	.	3	.	1	5	.	7	.	10	2	1	20



TABLE II—*Concluded.*

COUNTIES.	1889.							1890.						
	FIRST GRADE		SECOND GRADE		THIRD GRADE		Total.	FIRST GRADE		SECOND GRADE		THIRD GRADE		Total.
	Male.	Female.	Male.	Female.	Male.	Female.		Male.	Female.	Male.	Female.	Male.	Female.	
Larimer . . . . .	5	4	7	34	4	22	76	4	13	9	32	5	21	84
Las Animas . . . . .	13	16	12	17	9	18	85	9	12	5	8	5	6	45
Lincoln . . . . .				1			1	2		2		3		7
Logan . . . . .	3			8	2	6	19	5	1	10	16	10	23	65
Montrose . . . . .	7		3	3	1	2	16	4	4	3	3	5		19
Morgan . . . . .		3		2	1	1	7	1	3	1	3		2	10
Montezuma . . . . .		1	2	2		2	7	3	1	2	5		2	13
Mesa . . . . .	6	3	8	3	3	3	26	3	4		8		2	17
Otero . . . . .								3	6	2	2		5	18
Ouray . . . . .	4	2	1	3	1	2	13	4	6	1	5		2	18
Park . . . . .	1	8		10	1	2	22	2	5	4	5	3	7	26
Phillips . . . . .	2	1	1	1	2	5	12	3			5	12	32	52
Pitkin . . . . .	1	10		7		4	22	1	4		1	1	8	15
Prowers . . . . .		3	1	1	1	2	8	2	1	1	4	3	16	27
Pueblo . . . . .	2	4	3	26	3	22	60	3	2	12	14	10	34	75
Rio Blanco . . . . .								1		3		1		5
Rio Grande . . . . .	4	3	1	1	1	6	16	3	3	2	6	4	3	21
Routt . . . . .			3	4	3	7	17			2	7	2	9	20
Saguache . . . . .	1	2	1	5	1	9	19	2	2	1	5	3	8	21
San Juan . . . . .	1	3				1	5							
San Miguel . . . . .				1	1	2	4	1			1		3	5
Sedgwick . . . . .						1	1	2	2	5	13	1	14	37
Summit . . . . .		4		6		2	12		3		6		3	12
Washington . . . . .	1	3	4	8	13	18	47	3	1	3	7	6	16	36
Weld . . . . .	4	6	5	30	8	22	75	5	10	5	25	3	29	77
Yuma . . . . .								3	6	9	8	11	20	57
Totals . . . . .	119	187	149	431	114	387	1,387	122	218	163	457	183	623	1,766

TABLE III.

SCHOOL POPULATION—CENSUS 1889.

COUNTIES.	BETWEEN 6 AND 16.			BETWEEN 16 AND 21.			TOTAL BETWEEN 6 AND 21.		
	Male.	Fe-male.	Total.	Male.	Fe-male.	Total.	Male.	Fe-male.	Total.
Arapahoe . . . .	8,147	8,192	16,339	3,182	2,973	6,155	11,329	11,165	22,494
Archuleta . . . .	83	38	121	21	12	33	104	50	154
Baca . . . . .	505	426	931	122	108	230	627	534	1,161
Bent . . . . .	186	177	363	72	50	122	258	227	485
Boulder . . . . .	1,375	1,349	2,724	515	460	975	1,890	1,809	3,699
Chaffee . . . . .	646	606	1,252	190	122	312	836	728	1,564
Cheyenne . . . . .	32	47	79	8	15	23	40	62	102
Clear Creek . . . .	661	684	1,345	196	165	361	857	849	1,706
Conejos . . . . .	1,159	1,066	2,225	322	270	592	1,481	1,336	2,817
Costilla . . . . .	534	472	1,006	179	149	328	713	621	1,334
Custer . . . . .	383	377	760	148	119	267	531	496	1,027
Delta . . . . .	266	245	511	80	72	152	346	317	663
Dolores . . . . .	22	19	41	10	5	15	32	24	56
Douglas . . . . .	293	304	597	123	102	225	416	406	822
Eagle . . . . .	143	152	295	56	40	96	199	192	391
Elbert . . . . .	222	185	407	69	55	124	291	240	531
El Paso . . . . .	1,384	1,419	2,803	458	404	862	1,842	1,823	3,665
Fremont . . . . .	990	958	1,948	301	330	631	1,291	1,288	2,579
Garfield . . . . .	367	307	674	109	100	209	476	407	883
Gilpin . . . . .	611	628	1,239	183	203	386	794	831	1,625
Grand . . . . .	51	47	98	11	7	18	62	54	116
Gunnison . . . . .	352	356	708	111	91	202	463	447	910
Hinsdale . . . . .	50	53	103	16	17	33	66	70	136
Huerfano . . . . .	900	877	1,777	241	198	439	1,141	1,075	2,216
Jefferson . . . . .	859	765	1,624	348	289	637	1,207	1,054	2,261
Kiowa . . . . .	222	187	409	40	43	83	262	230	492
Kit Carson . . . . .	325	290	615	81	67	148	406	357	763
La Plata . . . . .	401	387	788	126	112	238	527	499	1,026
Lake . . . . .	837	922	1,759	343	373	716	1,180	1,295	2,495
Larimer . . . . .	1,013	1,000	2,013	403	296	699	1,416	1,296	2,712

TABLE III—*Continued.*

COUNTIES.	BETWEEN 6 AND 16.			BETWEEN 16 AND 21.			TOTAL BETWEEN 6 AND 21.		
	Male.	Fe- male.	Total.	Male.	Fe- male.	Total.	Male.	Fe- male.	Total.
Las Animas . . .	1,944	1,842	3,786	485	440	925	2,429	2,282	5,711
Lincoln . . . . .	49	48	97	11	6	17	60	54	114
Logan . . . . .	445	414	859	151	127	278	596	541	1,137
Montrose . . . . .	330	314	644	122	62	214	452	406	858
Morgan . . . . .	132	116	248	54	37	91	186	153	339
Montezuma . . .	213	188	401	85	57	142	298	245	543
Mesa . . . . .	285	257	542	93	94	187	378	351	729
Otero . . . . .	229	194	423	81	65	146	310	259	569
Ouray . . . . .	241	254	495	97	94	191	338	348	686
Park . . . . .	292	308	600	104	97	201	396	405	801
Phillips . . . . .	377	321	698	112	96	208	489	417	906
Pitkin . . . . .	402	416	818	69	75	144	471	491	962
Prowers . . . . .	224	237	461	66	72	138	290	309	599
Pueblo . . . . .	1,416	1,603	3,019	441	479	920	1,857	2,082	3,939
Rio Blanco . . .	86	89	175	30	13	43	116	102	218
Rio Grande . . .	368	341	709	96	80	176	464	421	885
Routt . . . . .	130	133	263	47	36	83	177	169	346
Saguache . . . .	407	372	779	121	117	238	528	489	1,017
San Juan . . . .	50	68	118	21	18	39	71	86	157
San Miguel . . .	52	43	95	19	14	33	71	57	128
Sedgwick . . . .	182	163	345	41	52	93	223	215	438
Summit . . . . .	166	164	330	64	67	131	230	231	461
Washington . . .	236	207	443	50	58	108	286	265	551
Weld . . . . .	1,138	1,144	2,282	532	393	925	1,670	1,537	3,207
Yuma . . . . .	270	327	597	80	95	175	350	422	772
Totals . . . . .	32,683	32,098	64,781	11,136	10,021	21,157	43,819	42,119	85,938

TABLE III—*Continued.*

SCHOOL POPULATION—CENSUS 1890.

COUNTIES.	BETWEEN 6 AND 16.			BETWEEN 16 AND 21.			TOTAL BETWEEN 6 AND 21.		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Arapahoe . . . .	10,924	10,906	21,830	3,046	3,224	6,270	13,970	14,130	28,100
Archuleta . . . .	81	58	139	23	13	36	104	71	175
Baca . . . . .	362	290	650	131	113	244	493	403	896
Bent . . . . .	165	176	341	60	51	111	225	227	452
Boulder . . . . .	1,479	1,443	2,922	512	447	959	1,991	1,890	3,881
Chaffee . . . . .	631	596	1,227	198	184	382	829	780	1,609
Cheyenne . . . .	52	46	101	18	18	36	70	67	137
Clear Creek . . .	659	695	1,354	202	183	385	861	878	1,739
Conejos . . . . .	1,174	1,118	2,292	352	309	661	1,526	1,427	2,953
Costilla . . . . .	546	493	1,039	228	204	432	774	697	1,471
Custer . . . . .	365	363	728	125	112	237	490	475	965
Delta . . . . .	290	279	569	121	85	206	411	364	775
Dolores . . . . .	43	43	86	23	15	38	66	58	124
Douglas . . . . .	292	295	587	139	109	248	431	404	835
Eagle . . . . .	169	167	336	65	36	101	234	203	437
Elbert . . . . .	232	210	442	89	80	169	321	290	611
El Paso . . . . .	1,616	1,618	3,234	508	459	967	2,124	2,077	4,201
Fremont . . . . .	903	880	1,783	309	307	616	1,212	1,187	2,399
Garfield . . . . .	366	428	794	93	135	228	459	563	1,022
Gilpin . . . . .	594	647	1,241	190	211	401	784	858	1,642
Grand . . . . .	60	46	106	11	12	23	71	58	129
Gunnison . . . .	355	319	674	142	128	270	497	447	944
Hinsdale . . . . .	59	70	129	7	9	16	66	79	145
Huerfano . . . . .	947	881	1,818	273	225	498	1,210	1,106	2,316
Jefferson . . . . .	733	847	1,580	340	275	615	1,073	1,122	2,195
Kiowa . . . . .	189	161	350	51	35	86	240	196	436
Kit Carson . . . .	291	278	569	85	79	164	376	357	733
La Plata . . . . .	423	409	832	122	102	224	545	511	1,056
Lake . . . . .	996	950	1,946	315	286	601	1,311	1,236	2,547
Larimer . . . . .	1,043	974	2,017	416	324	740	1,459	1,298	2,757

TABLE III—*Concluded.*

COUNTIES.	BETWEEN 6 AND 16.			BETWEEN 16 AND 21.			TOTAL BETWEEN 6 AND 21.		
	Male	Fe- male	Total	Male	Fe- male	Total	Male	Fe- male	Total
Las Animas . . .	1,925	1,782	3,707	594	464	1,058	2,519	2,246	4,765
Lincoln . . . . .	56	54	110	13	11	24	69	65	134
Logan . . . . .	415	409	824	144	136	280	559	545	1,104
Montrose . . . . .	382	346	728	110	83	193	492	429	921
Morgan . . . . .	121	128	249	74	36	110	195	164	359
Montezuma . . .	226	207	433	70	46	116	296	253	549
Mesa . . . . .	318	273	591	175	101	276	493	374	867
Otero . . . . .	281	279	560	110	93	203	391	372	763
Ouray . . . . .	258	288	546	99	58	187	357	376	733
Park . . . . .	290	286	576	110	102	212	400	388	788
Phillips . . . . .	393	344	737	111	78	189	504	422	926
Pitkin . . . . .	461	422	883	123	97	220	584	519	1,103
Prowers . . . . .	220	250	470	69	61	130	289	311	600
Pueblo . . . . .	2,122	1,927	4,049	607	742	1,348	2,729	2,669	5,398
Rio Blanco . . . .	79	92	171	49	24	73	128	116	244
Rio Grande . . . .	352	356	708	113	98	211	465	454	919
Routt . . . . .	197	174	371	69	55	124	266	229	495
Saguache . . . . .	381	344	725	137	100	237	518	444	962
San Juan . . . . .	70	58	128	12	13	25	82	71	153
San Miguel . . . .	94	78	172	27	17	44	121	95	216
Sedgwick . . . . .	164	134	298	56	52	108	220	186	406
Summit . . . . .	162	150	311	56	68	124	218	218	436
Washington . . . .	231	204	435	53	52	105	284	256	540
Weld . . . . .	1,198	1,186	2,384	511	410	921	1,709	1,596	3,305
Yuma . . . . .	298	300	598	91	80	171	389	380	769
Totals . . . . .	36,723	35,760	72,483	11,777	10,877	22,654	48,500	46,637	95,137

TABLE IV.

ENROLLMENT AND ATTENDANCE—PUPILS, 1889.

COUNTIES.	Enrolled in High School.	Enrolled in Graded Schools.	Enrolled in Un-graded Schools.	Under 16 Enrolled in Public Schools.	Over 16 Enrolled in Public Schools.	Whole Number Enrolled in Public Schools.			Average Daily Attendance.	Percentages		No. Mills County Tax Levy.
						Male.	Female.	Total.		Of Enrollment on whole No.	Of daily attendance on Enrollment.	
Arapahoe . . . . .	595	12,329	1,530	13,673	781	7,335	7,119	14,454	9,197	65	64	2.8
Archuleta . . . . .	..	..	103	26	7	68	35	103	54	66	52	2
Baca . . . . .	..	..	736	675	61	400	336	736	143	63	19	5
Bent . . . . .	..	213	43	237	19	131	125	256	*	53	..	3
Boulder . . . . .	40	1,422	1,397	2,568	291	1,438	1,421	2,859	1,936	77	68	2
Chaffee . . . . .	..	680	539	1,120	99	664	555	1,219	752	78	62	3
Cheyenne . . . . .	..	*	..	..	..	..	..	..	..	..	..	..
Clear Creek . . . . .	93	556	575	1,118	106	602	622	1,224	795	71	65	2.5
Conejos . . . . .	..	692	940	1,431	201	800	832	1,632	452	73	28	2
Costilla . . . . .	..	..	540	482	58	240	300	540	*	48	..	4
Custer . . . . .	..	272	521	675	118	420	373	793	516	77	65	3
Delta . . . . .	21	155	339	437	78	252	263	515	321	77	62	5

	50	42	8	23	27	50	24	89	49	2
Dolores . . . . .	50	42	8	23	27	50	24	89	49	2
Douglas . . . . .	533	571	75	308	338	646	440	78	68	3
Elbert . . . . .	257	226	31	100	157	257	160	65	62	3
Elbert . . . . .	249	225	92	173	144	317	199	59	62	3
El Paso . . . . .	952	2,724	228	1,468	1,484	2,952	1,700	80	57	2
Fremont . . . . .	699	1,889	233	1,059	1,063	2,122	1,254	82	59	..
Garfield . . . . .	495	613	106	319	400	719	396	81	55	2
Giipin . . . . .	203	1,104	33	560	577	1,137	735	70	64	2
Grand . . . . .	44	36	8	21	23	44	26	38	59	2
Gunnison . . . . .	233	598	51	307	342	649	383	71	50	2
Hinsdale . . . . .	136	103	33	66	70	136	71	100	52	4
Huerfano . . . . .	729	1,044	159	670	533	1,203	708	54	59	3
Jefferson . . . . .	957	1,415	181	843	753	1,506	1,105	70	69	3
Kiowa . . . . .	355	321	34	155	200	355	132	73	37	10.8
Kit Carson . . . . .	601	544	57	201	400	601	336	80	56	*
La Plata . . . . .	288	630	68	349	349	698	468	68	67	5
Lake . . . . .	278	1,285	109	703	691	1,394	826	56	59	..
Larimer . . . . .	1,177	1,816	183	1,000	999	1,999	1,211	94	60	4
Las Animas . . . . .	1,624	2,305	242	1,429	1,118	2,547	1,615	54	63	2
Lincoln . . . . .	78	72	6	40	38	78	43	68	55	2
Logan . . . . .	470	715	106	421	400	821	457	80	55	2.8

\* Report incomplete.

TABLE IV.—Continued.

## ENROLLMENT AND ATTENDANCE—PUPILS, 1889.

COUNTRIES.	Enrolled in High School.	Enrolled in Graded Schools.	Enrolled in Un-graded Schools.	Under 16 Enrolled in Public Schools.	Over 16 Enrolled in Public Schools.	Whole Number Enrolled in Public Schools.			Average Daily Attendance.	Percentages		No. Mills County Tax Levy.
						Male.	Female.	Total.		Of Enrollment on whole No.	Of daily attendance on Enrollment.	
Montrose . . . . .		274	387	560	161	331	330	661	407	77	61	2
Morgan . . . . .			266	242	24	136	130	266	20	78	8	
Montezuma . . . . .			279	257	22	125	154	279	129	51	46	*
Mesa . . . . .	18	288	261	477	90	292	275	567	332	77	58	2
Otero . . . . .		287	125	375	37	200	212	412	300	73	73	*
Ouray . . . . .		175	265	407	33	223	217	440	261	64	59	2
Park . . . . .		156	334	439	51	246	244	490	339	61	69	2
Phillips . . . . .		168	632	737	63	325	475	800	529	88	66	5
Pitkin . . . . .	30	690	59	736	43	300	479	779	443	81	56	2
Prowers . . . . .	76	129	293	410	83	238	260	498	269	83	54	6.5
Pueblo . . . . .	134	2,178	698	2,762	248	1,410	1,600	3,010	1,707	76	56	3
Rio Blanco . . . . .			218	175	43	116	102	218	110	100	50	4



Rio Grande . . . . .	391	311	660	42	344	358	702	523	79	74	2
Routt . . . . .	84	143	42	185	117	110	227	101	65	44	4
Saguache . . . . .	193	437	547	83	321	309	630	400	62	63	2
San Juan . . . . .	103	.. . . .	97	6	45	58	103	58	65	56	4
San Miguel . . . . .	67	20	85	2	50	37	87	51	68	58	2
Sedgwick . . . . .	.. . . .	372	333	39	172	200	372	233	81	62	2.5
Summit . . . . .	296	.. . . .	152	144	144	152	296	199	63	67	3
Washington . . . . .	166	303	431	38	241	228	469	214	85	45	2
Weld . . . . .	So	1,532	2,345	273	1,311	1,307	2,618	1,656	82	63	3
Yuma . . . . .	94	445	473	64	266	271	537	318	69	59	2
Totals . . . . .	1,484	25,049	53,532	5,581	29,518	29,595	59,113	35,054			

\* Report incomplete.

TABLE IV—Continued.

ENROLLMENT AND ATTENDANCE—PUPILS 1890.

COUNTIES.	Enrolled in High School	Enrolled in Graded Schools	Enrolled in Ungraded Schools	Under 16 Enrolled in Public Schools	Over 16 Enrolled in Public Schools	Whole No. Enrolled in Public Schools			Average Daily Attendance	Percentages		
						Male	Female	Total		Of enrollment on whole No.	Of daily attendance on whole No.	No. Mills County Tax Levy
Arapahoe . . . . .	797	14,706	1,903	16,515	891	8,841	8,585	17,406	10,611	61.9	37.7	2.8
Archuleta . . . . .			99	90	9	69	30	99	46	56.5	26.2	19
Baca . . . . .			698	570	128	390	308	698	*	*	*	3
Bent . . . . .		288	81	332	37	196	173	369	212.87	81.6	47	2
Boulder . . . . .	78	1,429	1,823	3,073	257	1,651	1,679	3,330	1,885.20	85.8	48.5	2
Chaffee . . . . .	44	573	504	987	134	576	545	1,121	747.90	69.6	46.4	2
Cheyenne . . . . .			127	91	36	60	67	127	46	92.7	33.5	2
Clear Creek . . . . .	89	847	378	1,247	67	637	677	1,314	853	75.5	49	2½
Conejos . . . . .		721	1,212	1,787	146	1,097	836	1,933	1,027.51	66.2	34.7	2
Costilla . . . . .			674	489	185	401	270	674	482	45.8	32.8	2
Custer . . . . .		205	478	599	84	340	343	683	461	70.7	47.7	*
Delta . . . . .	21	145	388	469	85	284	270	554	300	71.5	38.8	2

Dolores				73	63	10	42	31	73	27 1/2	58.8	22	*
Douglas		98		514	535	77	290	322	612	398	73.2	47.6	3.
Fagle		27		252	273	32	156	149	395	175.99	69.8	40.2	3.
Elbert				359	335	36	198	173	371	241	60.7	39.4	3.
El Paso		86		900	3,203	247	1,724	1,726	3,450	2,114	82.1	50.3	2.
Fremont				1,092	1,861	208	1,039	1,030	2,069	1,219	82	50.8	3.
Garfield				562	955	95	367	383	750	538.5	73.3	52.6	2 1/2
Gilpin				221	1,126	58	586	598	1,184	792.39	72.1	42.1	3.
Grand				59	54	5	27	32	59	*	45.7	*	2.
Gunnison		19		237	637	39	338	338	676	296.60	71.6	31.4	2.
Hinsdale				115	107	8	55	60	115	80	79.3	55.1	2 1/2
Huerfano		36		989	181	169	736	614	1,350	807	61.9	34.8	*
Jefferson		482		1,009	1,402	146	793	755	1,548	1,031	70.5	46.8	3.
Kiowa				411	358	53	224	187	411	224	94.2	51.3	*
Kit Carson				641	573	68	329	312	641	355	87.4	48.4	3.
La Plata		43		335	644	101	395	350	745	432.6	70.5	40.9	5.
Lake		31		1,070	1,252	57	661	648	1,309	921	51	36.1	9 1/6
Larimer		40		1,322	2,033	239	1,184	1,088	2,272	1,334	82.4	48.3	4.
Las Animas				456	1,658	186	993	851	1,844	964	38.7	20.2	2.
Lincoln				109	101	8	60	49	109	54	81.3	40.3	2.
Logan		37		710	759	114	452	421	873	566	79	45.8	4.
Montrose		4		342	667	79	398	348	746	396	83.1	42.9	2.

TABLE IV—Concluded.

COUNTIES.	Enrolled in High School	Enrolled in Graded Schools	Enrolled in Un-graded Schools	Under 16 Enrolled in Public Schools	Over 16 Enrolled in Public Schools	Whole No. Enrolled in Public Schools			Average Daily Attendance	Percentages		No. Mills County Tax Levy
						Male	Female	Total		Of enrollment on whole No.	Of daily attendance on whole No.	
Morgan . . . . .	147	168	284	31	146	169	315	182	87.9	50.8	3	
Montezuma . . . . .	40	326	286	80	192	174	366	192	73.8	34.9	*	
Mesa . . . . .	15	287	591	100	346	345	691	396.7	77.6	45.7	*	
Otero . . . . .	298	199	421	76	252	235	497	297	67.7	38.9	*	
Ouray . . . . .	8	250	547	39	284	302	586	364	79.9	49.6	2	
Park . . . . .	225	272	445	52	246	251	497	360.75	63	45.8	2	
Phillips . . . . .	164	613	679	98	416	361	777	491	83.9	53	5	
Pitkin . . . . .	13	984	900	200	595	595	1,100	689.31	99	62.5	2	
Prowers . . . . .	327	208	487	48	247	288	535	258	89	42.9	4	
Pueblo . . . . .	138	737	3,435	222	1,810	1,847	3,657	2,006	67.7	37.1	3	
Rio Blanco . . . . .	456	153	118	35	78	75	153	109.75	62.7	44.9	2	
Rio Grande . . . . .	456	361	704	113	448	369	817	504	88.9	54.8	2	
Routt . . . . .	338	338	256	82	204	134	338	169	68	34.1	*	
Saguache . . . . .	174	477	576	75	358	293	651	335.38	67.6	39	2	



TABLE V.

NUMBER OF TEACHERS IN GRADED AND UNGRADED SCHOOLS AND AVERAGE MONTHLY SALARIES.

COUNTIES	1889												1890												
	GRADED SCHOOLS						UNGRADED SCHOOLS						GRADED SCHOOLS						UNGRADED SCHOOLS						
	TEACHERS			SALARIES			TEACHERS			SALARIES			TEACHERS			SALARIES			TEACHERS			SALARIES			
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	
Arapahoe . . . . .	29	194	223	\$116 28	\$ 62 94	19	76	95	\$ 44 36	\$ 40 45	40	202	242	\$100 83	\$ 62 25	26	95	121	\$ 41 40	\$ 40 00	40	202	242	\$100 83	\$ 62 25
Archuleta . . . . .						4	3	7	53 33	50 10						4	2	6	51 66	45 00					
Baca . . . . .									27 60	25 55					*	18	25	43	36 71	27 00					
Bent . . . . .	1	4	5	100 00	63 33	1	3	4		46 66		6	7	100 00	57 14		7			43 33					
Boulder . . . . .	7	23	30	75 37	52 39	12	56	68	46 89	43 57	5	30	35	94 00	66 02	18	64	82	56 66	43 87					
Chaffee . . . . .	2	14	16	100 00	66 00	9	19	28	57 22	50 00	2	12	14	112 50	65 00	3	30	33	70 00	52 00					
Cheyenne . . . . .																5	4	9	87 50	40 25					
Clear Creek . . . . .	2	13	15	130 00	74 50	3	21	24	80 00	51 00	4	17	21	127 00	67 00	2	12	14	70 00	54 00					
Conejos . . . . .	9	2	11	68 19	60 00	12	12	24	48 98	42 25	7	2	9	77 25	52 50	15	20	35	51 37	38 62					
Costilla . . . . .						40	30	70	*	*						17	12	29	40 00	40 00					
Custer . . . . .	2	5	7	85 00	61 25	16	16	32	49 37	46 12	2	2	4	70 00	70 00	15	10	25	50 20	39 57					
Delta . . . . .	2	3	5	75 00	60 00	7	8	15	58 00	49 00	2	3	5	82 50	65 00	8	11	19	56 78	53 78					

Dolores	1	3	4	100 00	45 00	1	0	1	79 00	3	100 00	1	2	3	100 00	50 00	100 00	2	1	8	25	33	50 00	44 50	50 00
Douglas	1	3	4	100 00	45 00	8	29	37	53 12	44 00	1	2	3	100 00	50 00	50 00	50 00	50 00	1	2	13	13	13	56 10	56 10
-Eagle						11	3	14	40 50	49 75	1	1	2	90 00	50 00	50 00	50 00	50 00	1	1	17	24	24	54 00	41 41
Elbert	1	1	2	75 00	50 00	6	15	21	53 73	42 75	1	1	2	75 00	50 00	50 00	50 00	50 00	1	1	67	77	77	50 00	45 00
El Paso	8	32	40	120 00	67 00	10	56	66	49 00	44 00	9	46	55	120 00	60 00	60 00	60 00	60 00	9	46	10	67	77	50 00	45 00
Fremont	7	18	25	72 50	68 83	15	18	33	53 20	45 20	3	19	22	50 00	62 00	62 00	62 00	62 00	3	19	21	37	37	61 00	46 00
Garfield	1	4	5	133 00	90 00	3	29	23	50 00	58 37	1	6	7	150 00	90 00	90 00	90 00	90 00	1	6	29	31	31	53 41	58 00
Gilpin	3	18	21	130 00	70 33	1	10	11	72 80	40 00	4	14	18	125 45	75 00	75 00	75 00	75 00	4	14	11	13	13	73 00	46 49
Grand						1	4	5	50 00	42 00											5	5	5	46 66	46 66
Gunnison	2	5	7	110 00	62 62	4	17	21	50 00	52 00	2	6	8	105 00	62 56	62 56	62 56	62 56	2	6	27	28	28	50 00	51 28
Hinsdale						2	2	4	80 00	57 50	2	1	3	70 00	60 00	60 00	60 00	60 00	2	1					
Huerfano	3	4	7	91 67	60 00	6	20	26	49 30	47 35	2	6	8	90 00	56 00	56 00	56 00	56 00	2	6	21	34	34	46 43	44 19
Jefferson	4	9	13	90 00	59 75	11	43	54	50 00	42 64	2	8	10	105 00	59 37	59 37	59 37	59 37	2	8	40	47	47	49 10	43 03
Kiowa						10	9	19	35 00	35 00											10	19	29	41 20	35 33
Kit Carson						22	35	57	31 30	29 00											27	41	68	29 41	27 15
Lake	3	14	17	131 67	75 71	0	6	6		55 00	1	16	17	125 00	80 62	80 62	80 62	80 62	1	16	8	8	8		56 87
La Plata	3	8	11	112 78	67 50	9	13	22	58 88	47 22	2	8	10	109 45	73 12	73 12	73 12	73 12	2	8	18	23	23	55 71	43 77
Larimer	4	19	23	95 00	65 53	21	60	81	47 14	42 89	3	19	22	122 60	63 50	63 50	63 50	63 50	3	19	39	54	54	49 58	43 72
Las Animas	3	13	16	112 50	58.20	30	27	57	49 39	41 64	4	24	28	87 50	52 52	52 52	52 52	52 52	4	24	19	41	41	48 66	41 24
Lincoln							4	4		44 25											9	9	9		44 50
Logan	3	3	6	80 00	56 00	17	21	38			3	3	6	70 88	50 00	50 00	50 00	50 00	3	6	30	49	49	31 70	29 61
Montrose	2	4	6	84 50	65 00	11	10	21	56 60	51 50	1	5	6	125 00	75 00	75 00	75 00	75 00	1	5	7	15	15	60 78	55 03





Routt . . . . .	1	2	3	96 00	60 00	8	9	17	61 65	52 03	1	3	3	80 00	60 00	4	16	20	55 83	52 25
Sagnache . . . . .	1	2	3	96 00	60 00	6	25	31	48 88	46 24	1	3	3	80 00	60 00	14	24	38	49 23	43 39
San Juan . . . . .	1	4	5	90 00	90 00	..	..	..	..	..	..	2	2	..	95 00	..	..	..	..	..
San Miguel . . . . .	1	2	3	75 00	75 00	..	1	1	50 00	50 00	..	2	2	..	79 73	1	2	3	50 00	50 00
Sedgwick . . . . .	..	..	..	..	..	4	39	43	48 75	29 39	1	1	2	75 00	50 00	11	27	38	34 00	30 00
Summit . . . . .	..	10	10	47 30	47 30	..	..	..	..	..	..	11	11	..	70 00	..	..	..	..	..
Washington . . . . .	2	4	6	57 50	40 00	7	24	31	27 57	30 21	1	4	5	40 00	50 00	16	30	46	28 14	28 62
Weid . . . . .	5	19	24	103 88	69 66	18	61	79	49 07	41 88	6	23	29	90 69	54 30	12	49	61	50 45	44 80
Yuma . . . . .	..	2	2	..	52 50	14	27	41	26 36	27 48	..	..	..	..	..	19	30	49	34 00	27 65
Totals . . . . .	134	536	670	\$ 97 59	\$ 64 90	453	1,031	1,484	\$ 51 22	\$ 45 25	144	614	758	..	..	478	1,139	1,617	..	..

TABLE VI.

DISTRICTS, SCHOOL-HOUSES AND TUITION.

COUNTIES	1889										1890											
	DISTRICTS		No. DAYS OF SCHOOL		SCHOOL-HOUSES					AV. COST PER MONTH EACH PUPIL		DISTRICTS		No. DAYS OF SCHOOL		SCHOOL-HOUSES					AV. COST PER MONTH EACH PUPIL	
	Graded Schools	Ungraded Schools	Number	Number of Rooms	Sittings	Valuation	Volumes in Libraries	By Enroll-ment	By Av. Daily Attendance	Districts	Graded Schools	Ungraded Schools	Number	Number of Rooms	Sittings	Valuation	Volumes in Libraries	By Enroll-ment	By Av. Daily Attendance			
Arapahoe . . .	83	187	125	100	251	13,129	\$2,070,510	11,784	\$ 3.42	\$ 5.18	95	191	129	122	319	14,910	\$ 2,598,910	15,445	\$ 3.07	\$ 5.22		
Archuleta . . .	4	108	4	5	56	5,695	...	5 77	8 29	4	101 1/4	3	4	*	5,450 00	*	8 92	20 10				
Baca . . .	36	83	4	4	235	2,250	...	2 12	2 44	35	86	10	12	2,648	6,800 00	*	2 16	2 96				
Bent . . .	6	180	109	4	11	236	16,100	5 29	6 44	8	180	100	9	470	20,165 00	...	2 65	4 22				
Boulder . . .	52	181	109	53	77	3,625	102,025	2 34	3 53	52	172 1/2	117 1/2	55	81	3,024	102,979 75	350	2 66	4 46			
Chaffee . . .	26	196	97	20	35	1,373	45,475	62	3 33	5 40	26	201 105 1/2	27	41	*	49,325 00	250	5 01	7 68			
Cheyenne . . .	5	...	...	2	4	700	4,450	...	...	7	...	134	4	6	150	42,000 00	...	...	...			
Clear Creek . . .	13	182	152	12	...	1,253	38,067	605	2 12	3 50	14	180	133	13	27	1,303	40,032 00	723	2 62	4 12		
Conchos . . .	21	172	105	14	14	1,173	18,575	200	2 05	3 54	24	148 1/2	102 1/2	16	29	1,587	27,882 46	202	1 90	4 25		
Costilla . . .	21	...	100	13	15	600	8,500	...	2 78	3 92	22	...	80	19	23	2,000	13,000 00	...	3 75	4 10		
Custer . . .	23	130	107	19	25	1,048	12,965	78	3 01	4 25	23	130	92	20	28	1,036	13,255 00	34	2 68	3 97		
Delta . . .	14	200	113	15	...	652	15,000	486	3 37	5 17	15	176	81	19	21	696	16,500 00	215	2 10	3 88		

Dolores . . . . .	1	196	1	65	1,200	250	1 80	3 83	1	158	1	50	1,200 00	250	1 48 $\frac{1}{2}$	3 47 $\frac{1}{2}$			
Douglas . . . . .	29	160	28	31	840	17,280	80	3 00	4 50	30	180	28	30	100	3 47	5 33			
Flagle . . . . .	12	85	7	7	205	4,300	3 33	4 59	16	160	10	10	368	9,065 00	3 77	6 67			
Filbert . . . . .	14	180	17	18	524	12,600	2 91	5 08	18	170	140 $\frac{3}{16}$	20	568	12,205 00	3 10	4 95			
El Paso . . . . .	46	163	47	80	4,001	249,455	1,054	3 00	4 98	51	170	131	58	90	3,392	740	3 22	5 65	
Fremont . . . . .	24	180	31	49	2,290	65,875	81	2 31	3 41	25	162 $\frac{2}{3}$	132 $\frac{8}{2}$	33	54	2,358	65,070 00	184	2 57	4 66
Garfield . . . . .	18	180	12	18	707	28,690	3 45	5 66	28	180	80	20	32	1,000	27	3 50	6 30		
Gilpin . . . . .	10	193	84	23	1,173	47,955	1,200	1 78	2 76	11	191 $\frac{1}{4}$	93 $\frac{1}{8}$	12	23	1,153	47,526 00	1,288	2 33	3 48
Grand . . . . .	6	15	2	15	230	230	5 50	8 18	6	73 $\frac{1}{3}$	5	98	2,025 00	5	11 $\frac{1}{2}$	7 79 $\frac{2}{3}$			
Gunnison . . . . .	20	196	93	18	2,243	41,650	140	5 20	7 65	20	185 $\frac{1}{2}$	91.41	18	27	1,245	42,850 00	140	5 56	8 64
Hinsdale . . . . .	4	71	2	3	192	30,000	3 07	3 74	4	117 $\frac{1}{2}$	3	192	32,000 00	9	45	9 98			
Huerfano . . . . .	30	147	103	32	1,267	27,065	2 01	3 16	33	106	102	28	32	1,242	38,948 00	50	2 87	4 64	
Jefferson . . . . .	42	180	103	54	1,848	52,600	750	1 76	2 68	43	176	125	45	56	2,073	65,775 00	602	2 54	3 92
Kiowa . . . . .	13	133	5	5	773	773	1 60	3 31	23	128	16	15	582	8,040 00	2 81	5 08			
Kit Carson . . . . .	39	94	12	12	1,420	1,420	1 63	4 02	47	110	27	31	751	10,317 20	500	2 42	4 93		
La Plata . . . . .	14	160	129	15	762	31,836	163	3 42	5 10	16	180	124	16	23	760	32,079 00	163	2 78	4 79
Lake . . . . .	8	160	130	10	2,000	142,400	1,000	1 09	1 47	9	160	106	11	31	2,057	143,000 00	1,000	1 36	1 62
Larimer . . . . .	54	180	125	52	2,585	83,184	1,000	2 94	4 95	53	180	105	56	73	2,654	88,385 00	1,054	3 27	5 57
Las Animas . . . . .	48	192	120	31	1,189	42,661	212	1 44	2 37	48	138.6	106.2	33	49	2,356	10,975 00	1 65	3 02	
Lincoln . . . . .	3	186	2	2	104	9,025	3 30	5 07	5	191	6	112	3 89	9 97					
Logan . . . . .	35	173	103	22	1,005	23,280	3 57	4 91	39	180	105 $\frac{1}{3}$	30	38	917	32,336 56	2 50	4 33		
Moutrose . . . . .	16	170	112	18	725	21,350	15	2 56	4 25	17	180	127	19	1,060	36,318 00	40	3 06	4 95	

TABLE VI.—Concluded.

DISTRICTS, SCHOOL-HOUSES AND TUITION.

COUNTIES	1889										1890									
	DISTRICTS		NO. DAYS OF SCHOOL		SCHOOL-HOUSES				AV. COST PER MONTH EACH PUPIL		DISTRICTS		NO. DAYS OF SCHOOL		SCHOOL-HOUSES				AV. COST PER MONTH EACH PUPIL	
	Graded Schools	Ungraded Schools	Number	Number of Rooms	Sittings	Valuation	Volumes in Libraries	By Enroll-ment	By Av. Daily Attendance	Number	Number of Rooms	Sittings	Valuation	Volumes in Libraries	By Enroll-ment	By Av. Daily Attendance				
Morgan . . . . .	8	142	7	9	294	\$ 17,500	..	\$ 3 11	\$ 5 57	8	170	153	9	12	422	\$ 18,425 00	..	\$ 2 44	\$ 4 10	
Montezuma . . . . .	10	60	9	..	136	7,935	..	2 10	5 05	12	126	..	11	12	..	13,374 00	..	5 16	9 06	
Mesa . . . . .	12	165	12	18	770	25,100	290	2 97	5 10	12	166.5	116.3	12	17	1,060	24,398 00	500	3 40	5 30	
Otero . . . . .	8	148	8	18	545	24,000	20	2 70	4 16	11	148	120	9	..	545	6,940 52	..	2 52	5 15	
Ouray . . . . .	9	200	105	12	529	15,125	100	2 81	5 25	10	180	121	10	15	718	23,800 00	187	2 73	4 68	
Park . . . . .	21	170	113	24	659	13,930	..	4 97	6 16	11	168	134	23	26	738	18,430 00	..	3 53	4 46	
Phillips . . . . .	40	180	112	32	1,043	4,830	..	2 30	3 00	42	153	110	35	38	2,289	16,668 00	..	2 30	4 13	
Pitkin . . . . .	8	..	9	..	..	..	..	..	..	8	184	99.8	8	23	853	63,625 00	303	3 13	6 51	
Prowers . . . . .	19	185	103	8	260	42,000	..	3 79	5 79	19	171½	113.5	11	17	553	16,749 00	..	3 24	5 34	
Pueblo . . . . .	44	185	105	46	3,089	198,375	600	3 26	6 34	44	190	121	51	86	3,242	210,315 00	600	3 14	5 74	
Río Blanco . . . . .	7	100	6	12	328	19,800	..	4 47	7 02	7	..	105	6	7	230	13,100 00	..	5 08	7 09	
Río Grande . . . . .	17	170	122	14	841	23,450	8	2 53	4 08	17	170	117	17	23	896	25,1520 00	14	2 25	3 42	



TABLE VII.

FINANCIAL STATEMENT FOR 1889.  
RECEIPTS.

COUNTIES	Am't on hand July 1, 1888	From General Fund	From Special Fund	From all Other Sources	Total Receipts
Arapahoe . . . . .	\$ 125,375 25	\$ 193,810 93	\$ 292,885 29	\$ 72,631 76	\$ 684,703 23
Archuleta . . . . .	749 28	683 24	1,630 41	. . . . .	3,062 93
Baca . . . . .	420 04	5,088 03	1,625 18	195 00	7,328 25
Bent . . . . .	19,121 68	22,285 58	23,516 21	3,254 65	68,178 12
Boulder . . . . .	7,856 84	17,636 22	25,852 30	1,056 76	52,502 12
Chaffee . . . . .	13,832 28	9,927 80	17,275 40	3,702 88	44,738 36
Cheyenne . . . . .	1,148 48	921 77	1,961 30	. . . . .	4,031 55
Clear Creek . . . . .	4,823 61	8,390 58	17,706 28	. . . . .	30,920 47
Concejos . . . . .	4,869 49	9,926 89	6,520 15	1,433 01	22,749 54
Costilla . . . . .	983 33	5,343 25	1,393 76	334 18	8,054 52
Custer . . . . .	2,159 93	5,393 52	3,799 44	920 49	12,264 38
Delta . . . . .	3,165 14	6,461 89	4,052 29	1,529 79	15,209 11
Dolores . . . . .	742 58	114 70	562 89	30 30	1,450 47
Douglas . . . . .	5,599 15	7,315 84	6,547 11	106 00	19,568 10
Eagle . . . . .	1,211 26	3,796 55	3,393 26	1,986 14	10,297 21
Fibert . . . . .	6,613 43	5,467 99	2,036 90	755 61	14,873 93

El Paso . . . . .	24,169 24	20,775 46	48,907 97	27,809 31	121,661 98
Fremont . . . . .	6,134 33	18,062 31	20,618 49	434 36	45,244 49
Garfield . . . . .	8,362 59	5,824 70	13,487 60	72 15	27,747 04
Gulpin . . . . .	5,889 85	6,460 02	12,897 78	139 55	25,387 20
Grand . . . . .	339 81	1,025 21	257 92	49 50	1,672 44
Gunnison . . . . .	3,460 20	7,004 28	10,540 39	67 54	21,072 41
Hinsdale . . . . .	166 09	2,129 66	316 31	.....	2,612 06
Huerfano . . . . .	7,788 27	9,887 08	6,717 74	783 93	25,177 02
Jefferson . . . . .	6,570 09	15,340 67	12,287 18	2,217 09	36,415 03
Kiowa . . . . .	178 17	4,995 21	7,799 28	.....	12,972 66
Kit Carson . . . . .	2,047 13	6,293 08	1,047 47	169 07	9,556 60
La Plata . . . . .	7,098 89	8,893 53	5,933 50	1,197 37	23,123 29
Lake . . . . .	8,550 23	12,851 20	22,410 69	85 00	43,897 12
Larimer . . . . .	11,328 96	24,619 26	19,648 22	6,786 38	62,382 82
Las Animas . . . . .	15,175 63	18,476 41	15,655 21	1,357 87	50,665 12
Lincoln . . . . .	422 94	1,692 69	9,683 93	.....	11,199 56
Logan . . . . .	3,828 19	7,916 10	10,648 64	7,195 05	29,897 98
Montrose . . . . .	5,658 47	5,179 39	7,864 45	481 19	19,183 50
Morgan . . . . .	2,216 70	2,326 50	5,014 97	468 95	10,027 12
Montezuma . . . . .	.....	.....	.....	.....	.....
Mesa . . . . .	4,763 71	4,954 57	8,866 39	.....	18,584 67
Otero . . . . .	934 79	4,182 72	4,093 60	10,000 00	18,211 11

TABLE VII—Continued.

COUNTIES	Am't on hand July 1, 1888	From General Fund	From Special Fund	From all Other Sources	Total Receipts
Ouray . . . . .	\$ 3,220 19	\$ 2,413 88	\$ 6,885 32	\$ 6,050 00	\$ 18,569 39
Park . . . . .	4,640 15	5,920 53	4,944 60	138 60	15,643 88
Phillips . . . . .	1,394 55	6,450 79	5,204 77	669 63	13,119 74
Pitkin . . . . .	3,206 37	1,434 17	14,334 59	2,406 08	21,381 12
Prowers . . . . .	1,844 11	5,959 74	6,656 24	11,482 07	25,933 16
Pueblo . . . . .	22,647 13	38,883 89	42,214 13	30,288 97	134,034 12
Rio Blanco . . . . .	323 47	1,426 11	669 22	.....	2,418 80
Rio Grande . . . . .	4,217 68	4,579 19	9,375 45	1,363 25	19,526 57
Routt . . . . .	2,111 95	5,679 46	1,165 36	5 00	8,961 77
Saguache . . . . .	4,266 55	5,397 21	3,838 96	1,975 74	15,478 46
San Juan . . . . .	.....	2,469 81	.....	.....	2,469 81
San Miguel . . . . .	2,279 06	1,722 35	482 92	.....	4,484 33
Sedgwick . . . . .	4,998 52	3,701 04	6,435 98	32 20	15,167 74
Summit . . . . .	3,260 12	4,019 52	3,229 05	1,886 28	12,394 97
Washington . . . . .	3,012 22	2,515 91	8,829 82	5,028 91	19,386 85
Weld . . . . .	19,139 47	27,535 35	17,283 40	13,079 73	77,137 95
Yuma . . . . .	1,017 51	2,933 98	6,831 73	1,346 49	12,129 71
Totals . . . . .	\$ 405,326 35	\$ 613,889 76	\$ 794,832 05	\$ 223,203 82	\$ 2,037,251 98



TABLE VII—Continued.

## FINANCIAL STATEMENT FOR 1889.—EXPENDITURES.

COUNTIES.	For Teachers' Wages.	For Current Expenses.	For Sites, Buildings and Furniture.	For temporary Loans paid.	Total Expenditures.	Balance in hands of Co. Treas'r, June 30, 1889.
Arapahoe . . . . .	\$ 204,256 32	\$ 53,075 47	\$ 317,841 57	\$ 29,601 00	\$ 604,774 36	\$ 79,928 87
Archuleta . . . . .	981 74	976 13	657 43	.....	2,615 30	447 36
Baca . . . . .	3,515 61	590 24	103 51	180 00	4,189 36	3,138 89
Bent . . . . .	17,835 40	14,604 23	15,538 14	15,818 57	63,806 34	4,371 78
Boulder . . . . .	28,387 73	9,494 90	3,183 16	1,544 93	42,600 72	9,891 40
Chaffee . . . . .	15,271 01	3,357 47	2,088 94	2,605 53	23,322 95	21,415 41
Cheyenne . . . . .	460 00	329 37	2,615 80	309 22	3,714 39	317 16
Clear Creek . . . . .	18,095 94	4,339 99	1,143 35	.....	23,579 28	7,341 19
Conejos . . . . .	8,935 28	2,889 69	2,541 62	564 67	14,931 26	9,818 28
Costilla . . . . .	3,413 47	1,338 58	852 10	.....	5,603 15	2,451 37
Custer . . . . .	7,604 82	1,516 15	364 55	.....	9,485 52	2,778 86
Delta . . . . .	6,513 95	1,156 13	1,972 56	883 44	10,526 08	4,683 03
Dolores . . . . .	790 00	142 21	.....	.....	932 21	518 26
Douglas . . . . .	9,356 07	1,043 74	2,391 33	353 59	13,144 73	6,423 37
Eagle . . . . .	2,975 38	786 10	1,335 33	55	5,097 36	5,199 85
Elbert . . . . .	5,435 62	1,616 65	738 54	.....	7,790 81	7,083 12

TABLE VII—*Concluded.*

COUNTIES.	For Teachers' Wages.	For Current Expenses.	For Sites, Buildings and Furniture.	For temporary Loans paid.	Total Expenditures.	Balance in hands of Co. Treas'r, June 30, 1889.
	\$	\$	\$	\$	\$	\$
El Paso . . . . .	36,550 94	21,304 73	43,149 80	2,368 57	103,374 04	18,287 94
Fremont . . . . .	20,720 00	3,646 63	3,024 01	1,638 62	29,029 26	16,215 23
Garfield . . . . .	8,955 71	4,288 74	9,301 51	.....	22,545 96	5,201 08
Gilpin . . . . .	14,994 53	2,572 95	1,807 24	726 36	20,011 08	5,376 12
Grand . . . . .	845 00	146 41	.....	.....	991 41	681 03
Gunnison . . . . .	10,859 64	3,013 01	1,291 19	.....	15,163 84	5,998 57
Hinsdale . . . . .	1,485 00	1,002 67	.....	.....	2,487 67	124 39
Huerfano . . . . .	9,755 51	1,752 41	5,196 69	608 61	17,313 22	7,863 80
Jefferson . . . . .	18,494 00	5,367 52	1,012 30	1,452 67	26,326 49	10,088 54
Kiowa . . . . .	2,807 75	1,208 06	1,006 68	17	5,022 66	7,950 00
Kit Carson . . . . .	4,153 12	439 33	171 97	132 39	4,896 81	4,659 79
La Plata . . . . .	11,191 68	2,596 19	4,006 50	971 90	18,766 27	4,357 02
Lake . . . . .	13,612 50	10,428 43	.....	.....	24,040 93	19,856 19
Larimer . . . . .	27,924 84	5,746 76	4,483 43	8,974 02	47,129 05	15,253 77
Las Animas . . . . .	21,119 77	5,193 01	3,773 52	.....	30,086 30	20,578 82
Lincoln . . . . .	1,083 00	392 45	9,485 64	.....	10,961 09	238 47
Logan . . . . .	8,121 90	4,096 40	8,994 45	478 30	21,691 05	7,896 93
Montrose . . . . .	8,610 94	3,335 14	3,438 41	.....	15,384 49	3,798 01

Morgan . . . . .	4,223 20	747 77	1,205 60	109 45	6,986 02	3,041 10
Montezuma . . . . .						
Mesa . . . . .	7,278 38	2,190 27	3,107 10		12,575 75	6,008 92
Otero . . . . .	4,653 06	1,757 51	10,888 40	74	17,299 71	1,911 40
Ouray . . . . .	6,139 77	1,172 57	6,323 13	956 55	14,592 02	3,977 37
Park . . . . .	7,613 76	1,790 50	562 08	80 80	10,047 14	5,596 74
Phillips . . . . .	6,011 89	1,971 91	1,711 08	331 31	10,026 19	3,693 55
Pitkin . . . . .	9,616 50	10,958 23	655 07		21,229 80	151 32
Trowers . . . . .	5,624 14	1,523 28	11,414 79	880 51	19,442 72	6,490 44
Pueblo . . . . .	37,742 08	20,830 59	31,412 03	14,664 71	104,649 41	29,384 71
Rio Blanco . . . . .	1,289 17	356 08	33 00	6 90	1,685 15	733 65
Rio Grande . . . . .	8,147 22	3,895 21	3,059 23	326 83	15,428 49	4,098 08
Routt . . . . .	3,267 00	457 30	683 50		4,407 80	4,553 97
Saguache . . . . .	5,980 92	1,222 44	1,279 36	873 88	9,356 63	6,121 86
San Juan . . . . .	1,620 00	693 88			2,313 88	155 93
San Miguel . . . . .	1,675 00	239 35	211 47	544 10	2,669 92	1,814 41
Sedgwick . . . . .	3,814 41	1,520 82	1,629 99	2,511 71	9,476 93	5,690 81
Summit . . . . .	3,455 32	1,103 29	605 49	726 69	5,890 79	6,504 18
Washington . . . . .	3,093 50	3,587 40	9,563 38	367 05	16,611 33	2,775 52
Weld . . . . .	34,239 54	10,398 45	8,891 19	3,283 21	56,812 39	20,325 56
Yuma . . . . .	3,763 65	2,159 08	3,458 47	60 00	9,441 30	2,688 41
Totals . . . . .	\$ 714,972 68	\$ 242,162 82	\$ 550,205 63	\$ 94,947 65	\$ 1,602,288 78	\$ 434,963 20

TABLE VIII.

FINANCIAL STATEMENT FOR 1890—RECEIPTS.

COUNTIES.	Balance in hands of County Treasurer, July 1, 1889.	From General Fund.	From Special Fund.	From all other sources.	Total Receipts.
Arapahoe . . . . .	\$ 79,718 31'	\$ 220,233 50	\$ 353,696 03	\$ 280,077 40	\$ 933,725 24
Archuleta . . . . .	1,067 98	1,001 24	772 70	634 31	3,476 23
Baca . . . . .	398 47	2,736 20	3,201 42	3,809 10	10,055 19
Bent . . . . .	3,904 11	7,596 59	4,619 31	816 07	16,936 08
Boulder . . . . .	7,787 39	15,032 44	28,663 59	4,665 53	56,148 95
Chaffee . . . . .	20,521 25	8,843 56	16,981 55	3,364 76	49,711 12
Cheyenne . . . . .	397 43	3,376 04	4,258 10	175 03	8,116 60
Clear Creek . . . . .	7,334 86	6,289 10	18,216 59	925 42	32,765 97
Conejos . . . . .	8,147 43	7,145 45	7,192 88	9,034 00	32,253 76
Costilla . . . . .	2,625 67	4,886 30	873 15	1,067 89	9,453 01
Custer . . . . .	2,531 23	3,582 29	3,942 20	1,672 77	11,728 49
Delta . . . . .	3,809 11	5,851 45	3,924 61	375 19	13,960 36
Dolores . . . . .	518 26	.....	.....	671 95	1,190 21
Douglas . . . . .	6,264 22	7,114 73	5,771 27	175 00	19,325 22
Fagle . . . . .	6,348 41	4,290 91	3,350 27	4,788 54	18,778 13
Elbert . . . . .	6,180 49	6,790 35	4,013 25	162 65	17,146 74
El Paso . . . . .	13,868 39	30,468 02	66,180 63	26,473 35	136,990 39

Fremont . . . . .	15,602 82	12,640 27	14,600 40	100 00	42,943 59
Garfield . . . . .	5,140 95	4,678 76	12,271 28	3,103 74	25,194 73
Gilpin . . . . .	5,376 12	6,687 05	14,882 68	138 09	27,004 04
Grand . . . . .	359 61	1,227 57	517 89	25 00	2,130 07
Gunnison . . . . .	5,907 11	5,883 16	9,605 04	455 80	21,851 11
Hinsdale . . . . .	164 93	2,160 71	321 91	. . . . .	2,646 65
Huerfano . . . . .	8,490 11	9,017 32	6,827 79	1,464 49	25,799 71
Jefferson . . . . .	9,696 98	15,588 85	13,107 67	9,969 35	48,362 85
Kiowa . . . . .	8,129 11	3,396 14	9,719 36	2,094 11	23,338 72
Kit Carson . . . . .	4,442 20	5,236 98	10,426 50	4,366 20	24,471 88
La Plata . . . . .	3,895 08	7,540 33	6,206 10	593 09	18,234 60
Lake . . . . .	2,011 13	15,226 81	31,853 48	. . . . .	49,091 42
Larimer . . . . .	15,283 06	22,021 30	18,976 00	5,321 77	61,602 13
Las Animas . . . . .	19,996 43	18,194 23	23,148 84	18,747 60	80,087 10
Lincoln . . . . .	233 37	3,502 78	3,911 54	210 00	7,857 69
Logan . . . . .	8,684 65	9,412 90	17,944 90	589 00	36,631 45
Montrose . . . . .	3,812 99	5,122 84	10,500 14	. . . . .	19,435 97
Morgan . . . . .	2,373 76	4,127 94	6,868 73	546 53	13,916 96
Montezuma . . . . .	2,388 11	3,601 35	2,448 19	434 28	8,871 93
Mesa . . . . .	5,260 91	5,585 18	7,1875 71	763 20	19,485 00
Otero . . . . .	3,563 81	4,298 40	1,143 39	557 15	9,662 75
Ourray . . . . .	3,544 35	2,486 04	9,121 93	15 35	15,167 67

TABLE VIII—Continued.

COUNTIES.	Balance in hands of County Treasurer, July 1, 1889.	From General Fund.	From Special Fund.	From all other sources.	Total Receipts.
Park . . . . .	\$ 5,599 01	\$ 6,793 99	\$ 6,450 48	\$ 615 91	\$ 19,459 39
Phillips . . . . .	4,602 27	6,076 60	6,567 47	1,752 24	18,998 58
Pitkin . . . . .	4,960 95	11,339 60	37,764 65	45,226 00	99,291 20
Prowers . . . . .	5,124 76	5,944 53	3,364 80	1,641 68	16,075 77
Pueblo . . . . .	54,840 74	47,814 93	61,008 84	111,714 63	275,379 14
Rio Blanco . . . . .	1,192 53	1,531 91	3,602 44	1,768 32	8,095 20
Rio Grande . . . . .	4,173 74	3,162 91	11,801 36	2,948 71	22,086 72
Routt . . . . .	4,748 50	4,889 54	1,381 89	2 98	11,022 91
Saguache . . . . .	6,270 07	5,384 62	4,366 14	3,331 10	19,351 93
San Juan . . . . .	155 93	2,813 48	312 73	. . . . .	3,282 14
San Miguel . . . . .	1,814 41	1,665 04	255 08	1,841 65	5,576 18
Sedgwick . . . . .	4,996 53	1,897 76	4,531 36	170 78	11,596 43
Summit . . . . .	4,082 80	4,197 04	2,614 99	1,831 38	12,726 21
Washington . . . . .	1,645 27	2,897 48	10,863 89	83 40	15,490 04
Weid . . . . .	18,569 03	28,592 25	32,124 92	9,833 44	89,119 64
Yuma . . . . .	3,074 09	2,689 13	7,480 81	603 25	13,847 28
Totals . . . . .	\$ 431,550 43	\$ 640,485 99	\$ 953,162 87	\$ 571,749 18	\$ 2,596,948 47

TABLE VIII—Continued.

FINANCIAL STATEMENT FOR 1880—EXPENDITURES.

COUNTIES.	For teachers' wages.	For current expenses.	For sites, buildings and furniture.	Temporary loans paid.	Total expenditure.	Balance in hands of County Treasurer.
Arapahoe . . . . .	\$ 237,101 53	\$ 63,908 22	\$ 285,542 48	\$ 119,294 62	\$ 705,846 85	\$ 227,878 39
Archuleta . . . . .	1,120 73	300 96	209 53	625 00	2,256 22	1,220 01
Baca . . . . .	3,202 34	1,976 50	3,589 41	25 00	8,793 25	1,261 94
Bent . . . . .	5,340 20	2,098 97	4,408 62	702 84	12,550 63	4,385 45
Boulder . . . . .	32,338 42	9,918 77	2,679 37	777 36	45,713 92	10,435 03
Chaffee . . . . .	16,626 50	4,762 57	7,514 63	759 08	29,662 78	20,048 34
Cheyenne . . . . .	1,922 46	841 81	2,877 40	. . . . .	5,641 67	2,474 93
Clear Creek . . . . .	17,199 37	4,717 73	1,793 20	240 31	23,860 61	8,905 36
Conejos . . . . .	9,600 67	4,286 36	8,070 18	. . . . .	21,957 21	10,296 55
Costilla . . . . .	4,193 65	1,588 03	1,599 62	. . . . .	7,381 30	2,071 71
Custer . . . . .	5,408 35	1,333 32	1,648 29	33 37	8,423 33	3,305 16
Delta . . . . .	6,602 45	2,008 22	1,287 36	150 49	10,048 52	3,911 84
Dolores . . . . .	900 00	68 25	. . . . .	. . . . .	968 25	221 96
Douglas . . . . .	9,385 73	630 83	1,112 21	285 39	11,414 16	7,911 06
Hagle . . . . .	4,512 89	1,397 77	6,613 59	260 38	12,784 63	5,993 50
Elbert . . . . .	6,685 50	1,162 27	281 82	666 25	8,795 84	8,350 90

TABLE VIII—*Concluded.*

COUNTIES.	For teachers' wages.	For current expenses.	For sites, buildings and furniture.	Temporary loans paid.	Total expenditure.	Balance in hands of County Treasurer.
El Paso . . . . .	\$ 47,025 13	\$ 21,574 61	\$ 44,087 61	\$ 10,545 22	\$ 123,232 57	\$ 13,757 82
Fremont . . . . .	23,142 81	3,699 66	6,248 61	246 07	33,337 15	9,606 44
Garfield . . . . .	10,224 94	3,954 79	5,337 70	.. . . .	19,517 43	5,677 30
Gilpin . . . . .	16,012 75	4,263 63	287 51	36 67	20,600 56	6,403 48
Grand . . . . .	1,025 00	86 44	245 26	.. . . .	1,356 70	773 37
Gunnison . . . . .	9,794 66	2,868 53	1,824 42	382 72	14,870 33	6,980 78
Hinsdale . . . . .	1,361 75	1,171 69	.. . . .	.. . . .	2,533 44	113 21
Huerfano . . . . .	11,655 06	323 19	6,577 09	150 87	18,706 21	7,093 50
Jefferson . . . . .	19,079 67	5,479 03	13,506 90	1,327 23	39,383 83	8,979 02
Kiowa . . . . .	5,590 72	2,219 82	7,867 42	487 14	16,165 10	7,173 62
Kit Carson . . . . .	7,067 89	2,697 36	7,833 44	207 78	17,806 47	6,665 41
La Plata . . . . .	11,027 62	1,887 58	707 89	436 50	14,059 59	4,175 01
Lake . . . . .	13,140 13	6,067 51	2,009 29	24,767 79	45,984 72	3,106 70
Larimer . . . . .	29,182 99	6,347 79	4,041 83	7,128 46	46,701 07	14,901 06
Las Animas . . . . .	24,379 54	6,329 25	27,190 98	.. . . .	57,899 77	22,187 33
Lincoln . . . . .	2,844 58	1,364 81	375 07	.. . . .	4,584 46	3,273 23
Logan . . . . .	10,113 90	9,487 91	5,510 36	506 75	25,618 92	11,012 53
Montrose . . . . .	9,605 83	2,341 65	3,882 48	6 37	15,836 33	3,599 64



SUPERINTENDENT PUBLIC INSTRUCTION.

Morgan . . . . .	3,769 25	729 55	2,055 39	108 45	6,662 64	7,254 32
Montezuma . . . . .	4,203 24	744 04	578 16	19 99	5,545 43	3,326 50
Mesa . . . . .	8,740 25	2,246 14	1,612 28	913 01	13,511 68	5,973 32
Otero . . . . .	5,438 22	1,274 54	1,520 99	252 00	8,485 75	1,177 00
Ouray . . . . .	7,298 53	1,643 27	3,207 54	630 13	12,779 47	2,388 20
Park . . . . .	8,793 55	980 88	2,241 73	728 46	12,744 62	6,714 77
Phillips . . . . .	7,827 22	1,826 98	2,920 79	429 42	13,004 41	5,994 17
Pitkin . . . . .	15,171 25	15,976 29	33,734 78	. . . . .	63,982 32	35,368 88
Powers . . . . .	5,372 53	1,567 57	1,017 81	981 11	8,939 02	7,136 73
Pueblo . . . . .	55,769 10	18,094 78	63,455 83	79,812 81	217,132 52	58,248 62
Rio Blanco . . . . .	1,839 00	2,050 60	964 34	769 39	5,623 33	2,471 87
Rio Grande . . . . .	7,632 34	3,054 33	4,598 63	55 23	15,340 53	6,746 19
Routt . . . . .	5,566 00	571 58	437 20	. . . . .	6,574 78	4,448 13
Saguache . . . . .	6,847 73	1,173 93	1,559 48	1,857 88	11,439 02	7,912 91
San Juan . . . . .	1,710 00	447 54	. . . . .	. . . . .	2,157 54	1,124 60
San Miguel . . . . .	1,938 56	643 80	1,262 59	. . . . .	3,844 95	1,731 23
Sedgwick . . . . .	3,719 31	1,141 21	1,483 34	200 30	6,544 16	5,052 27
Summit . . . . .	3,821 31	3,485 60	2,614 99	972 93	10,894 83	1,831 38
Washington . . . . .	5,699 37	1,743 75	3,095 77	1,754 12	12,293 01	3,197 03
Weld . . . . .	36,647 98	11,410 63	10,508 05	3,509 15	62,075 81	27,043 83
Yuma . . . . .	6,393 15	2,197 87	1,962 06	385 16	10,938 24	2,909 04
Totals . . . . .	\$ 818,604 65	\$ 255,270 71	\$ 607,593 32	\$ 273,429 20	\$ 1,944,807 88	\$ 652,140 59

TABLE IX.

## FINANCIAL SUMMARIES.

1889	RECEIVED	PAID
Amount on hand July 1, 1888, . . . . .	\$ 405,326 35	
From General Fund . . . . .	613,889 76	
From Special Fund . . . . .	794,832 05	
From all other sources . . . . .	223,203 82	
Total receipts . . . . .	\$2,037,251 98	
Teachers' wages . . . . .		\$ 714,972 68
For current expenses . . . . .		242,162 82
For sites, buildings and furniture . . . . .		550,205 63
For temporary loans paid . . . . .		94,947 65
Total expenditures . . . . .		\$ 1,602,288 78
1890	RECEIVED	PAID
Amount on hand July 1, 1889 . . . . .	\$ 431,550 43	
From General Fund . . . . .	640,485 99	
From Special Fund . . . . .	953,162 87	
From all other sources . . . . .	571,749 18	
Total receipts . . . . .	\$2,556,948 47	
For teachers' wages . . . . .		\$ 818,604 65
For current expenses . . . . .		255,270 71
For sites, buildings and furniture . . . . .		607,503 32
For temporary loans paid . . . . .		263,429 20
Total expenditures . . . . .		\$ 1,944,807 88
Balance on hand . . . . .		\$ 652,140 59

TABLE X.

APPORTIONMENT OF STATE FUND.

COUNTIES	1889			1890		
	\$1.738 PER CAPITA			\$1.323 PER CAPITA		
	Amount apportioned	Deducted for blanks	Balance certified to Auditor	Amount apportioned	Deducted for blanks	Balance certified to Auditor
Arapahoe . . . . .	\$ 35,432 29	\$ 92 05	\$ 35,340 24	\$ 30,175 71	\$ 122 05	\$ 30,053 66
Archuleta . . . . .	231 25	9 56	221 69	214 21	6 43	207 78
Baca . . . . .	607 15	. . . .	607 15	1,400 65	60 25	1,340 40
Bent . . . . .	2,567 46	70 34	2,497 12	616 66	21 74	594 92
Boulder . . . . .	6,233 72	24 08	6,209 64	4,983 42	72 20	4,911 22
Chaffee . . . . .	2,619 30	25 50	2,593 80	2,050 01	94 31	1,955 70
Cheyenne . . . . .	102 93	51 36	51 57	230 30	18 33	211 97
Clear Creek . . . . .	2,951 02	29 34	2,931 68	2,273 01	52 80	2,220 21
Conejos . . . . .	4,385 31	44 46	4,340 85	3,837 25	51 83	3,785 42
Costilla . . . . .	2,136 76	34 85	2,101 91	1,823 85	41 95	1,781 90
Custer . . . . .	1,897 31	8 16	1,889 15	1,327 83	81 40	1,246 43
Delta . . . . .	1,095 83	2 84	1,092 99	935 03	62 68	872 35
Dolores . . . . .	90 06	. . . .	90 06	108 27	3 08	105 19
Douglas . . . . .	1,357 31	16 23	1,341 08	1,094 01	50 53	1,043 48

TABLE X—Continued.

COUNTIES	1889			1890		
	\$1,738 PER CAPITA			\$1,323 PER CAPITA		
	Amount apportioned	Deducted for blanks	Balance certified to Auditor	Amount apportioned	Deducted for blanks	Balance certified to Auditor
Eagle.....	\$ 675 94	\$ 13 76	\$ 662 18	\$ 548 06	\$ 52 66	\$ 495 40
Elbert.....	1,320 38	92 83	1,227 75	725 36	41 43	683 93
El Paso.....	5,443 07	53 50	5,389 57	5,105 30	192 37	4,912 93
Fremont.....	4,316 66	15 35	4,301 31	3,333 04	114 65	3,218 39
Garfield.....	1,721 15	33 95	1,687 20	1,241 61	101 84	1,139 77
Gilpin.....	2,806 82	7 50	2,799 82	2,152 82	48 49	2,104 33
Grand.....	180 99	.....	180 99	162 95	34 96	127 99
Gunnison.....	1,512 73	17 97	1,494 76	1,220 44	72 80	1,147 64
Hinsdale.....	210 90	.....	210 90	183 36	9 31	174 05
Huerfano.....	3,800 19	29 75	3,770 44	3,062 52	24 90	3,037 62
Jefferson.....	3,896 70	35 95	3,860 75	2,956 58	54 80	2,901 78
Kiowa.....	285 81	44 95	240 86	665 43	71 00	594 43
Kit Carson.....	398 15	53 10	345 05	996 55	59 17	937 38
La Plata.....	2,305 22	7 80	2,297 42	1,384 92	16 27	1,368 65
Lake.....	4,082 35	7 50	4,074 85	3,288 63	58 98	3,229 65

Larimer . . . . .	4,696 57	17 73	4,678 84	3,608 82	196 70	3,142 12
Las Animas . . . . .	8,733 63	132 28	8,601 35	6,265 75	202 27	6,058 48
Lincoln . . . . .	67 40	17 85	49 55	173 10	23 43	149 67
Logan . . . . .	3,228 77	101 44	3,127 33	1,454 65	59 93	1,394 72
Montrose . . . . .	1,376 12	7 36	1,368 76	1,166 27	75 87	1,089 40
Morgan . . . . .	178 70	42 35	136 35	458 78	6 96	451 82
Montezuma . . . . .	283 72	73 63	210 09	721 05	10 42	710 63
Mesa . . . . .	1,207 61	16	1,207 45	1,035 58	67 79	967 79
Otero . . . . .	298 87	26 85	272 02	849 49	71 57	777 92
Ouray . . . . .	886 18	11 05	875 13	930 77	43 89	886 88
Park . . . . .	1,302 55	31	1,302 24	1,052 65	84 70	967 95
Phillips . . . . .	444 65	22	444 43	1,162 55	12 22	1,150 33
Pitkin . . . . .	1,237 77	57	1,237 20	1,324 03	36 18	1,287 85
Prowers . . . . .	315 59	26 85	288 74	802 22	94 73	707 49
Pueblo . . . . .	6,199 83	38 16	6,161 67	5,943 03	137 35	5,805 68
Rio Blanco . . . . .	113 91	48 35	65 56	301 35	3 62	297 73
Rio Grande . . . . .	1,409 67	6 28	1,403 39	1,166 75	35 01	1,131 74
Routt . . . . .	527 35	35 27	492 08	520 94	3 92	517 02
Saguache . . . . .	1,594 16	23 82	1,570 34	1,317 13	79 85	1,237 28
San Juan . . . . .	234 03	. . . .	234 03	205 59	6 14	199 45
San Miguel . . . . .	176 32	. . . .	176 32	203 48	31 50	171 98
Sedgwick . . . . .	196 46	63 41	133 05	513 30	6 61	506 69

TABLE X—Concluded.

COUNTIES	1880 \$1.738 PER CAPITA			1890 \$1.323 PER CAPITA		
	Amount apportioned	Deducted for blanks	Balance certified to Auditor	Amount apportioned	Deducted for blanks	Balance certified to Auditor
	Summitt . . . . .	\$ 776 96	\$ 14 56	\$ 762 40	\$ 599 16	\$ 8 59
Washington . . . . .	1,536 06	127 97	1,408 09	739 88	145 46	594 42
Weid . . . . .	5,835 38	45 50	5,789 88	4,263 03	28 83	4,234 20
Yuma . . . . .	403 37	58 62	344 75	1,024 87	27 04	997 83
Totals . . . . .	\$ 137,937 59	\$1,774 27	\$ 136,163 32	\$ 115,902 00	\$3,199 79	\$ 112,702 21

## Official Decisions.

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During this biennial term I have received a large number of letters asking for my opinion upon certain points of school law. In most cases, the opinions were approved by Hon. Samuel W. Jones, Attorney-General, and are given here in as brief a form as possible.

### OFFICIAL DECISIONS OF THE STATE SUPERINTENDENT.

If territory is added to a district after the annual census of that district has been taken, the names of persons of school age residing in the annexed territory should be added to the census list and the district given its *per capita* for such additional names.

A woman can legally act as Deputy County Superintendent of Schools, and a County Superintendent is legally entitled to a *per diem* for work performed by such deputy.

A District Board of the third-class can legally certify a special tax to the Board of County Commissioners without a vote of the electors of the district.

Two schools in one district, holding a five-months' session each, do not conform to the requirements of the law as prescribed in section seventy-one.

State Certificates issued by other States are not recognized by the law of Colorado. Persons who wish to teach in this State must hold certificates issued upon examination by the proper district, county or State authority.

A woman is not eligible to the office of County Superintendent of Schools.

Organized territory cannot be legally detached from one district and added to another by the County Superintendent without a petition from the residents of the

territory, except in cases where the boundaries are conflicting.

The credits which County Superintendents are instructed to give to applicants for certificates by reason of attendance at the Normal Institutes should be given to those persons only who have attended an Institute in Colorado.

A County Superintendent can issue no certificate or "permit" to a person to teach in the public schools of Colorado except the certificates mentioned in the School Law, namely: A first, second or third, or a temporary.

In the organization of new counties by the last General Assembly, the county lines, in a few cases, divided organized school districts into two parts, leaving the district in two counties; in such cases, the district should be considered as a joint district.

There is nothing in the School Law of this State to prevent a County Superintendent from teaching in his county on account of his holding that office.

In districts of the first-class the School Directors have entire charge of the examination of applicants for positions in the schools of their district.

Temporary certificates are valid only until the next examination subsequent to the date of issue, and a teacher holding such temporary certificate cannot legally continue the school after the expiration of that time without a certificate legally issued upon examination. The law which applies to other certificates in such cases does not apply to temporary certificates.

A certificate to teach cannot be annulled or withdrawn from a holder without cause for so doing. Section 16 of the Colorado School Law especially provides for such cases.

A person holding a certificate issued by the County Superintendent of one of the counties that was divided



by the last General Assembly, and wishing to teach in the new county created by such division, should be treated the same as one living in a different county from the one in which he wished to teach. If he holds a first grade certificate the County Superintendent may issue a duplicate certificate according to section 16, otherwise the applicant must be examined and receive a certificate from the County Superintendent of the county in which he proposes to teach.

After a district has voted a special tax, and such tax has been certified to the County Commissioners by the directors, it cannot be reconsidered or amended, nor can the Board of Directors make a new levy. (See section 70, School Law.)

The school law of Colorado does not prohibit married women from teaching in the public schools of this State.

A pupil can be expelled by the Board of Directors for any offense that in their judgment deserves such a penalty.

The legal holidays recognized by the laws of Colorado are: New Year's; Washington's Birthday; Arbor Day—third Friday in April; Decoration Day; Fourth of July; Labor Day—the first Monday in September; Thanksgiving and Christmas.

If a County Superintendent desires to obtain a certificate to teach in the county in which he resides, he is advised to appoint a deputy to conduct the examination and pass upon the answers given to the questions propounded, also to issue the certificate in accordance with the result of the examination.

School Directors of a district of the third-class may purchase an organ for the use of the school and pay for it out of the special fund. The general fund cannot be used for that purpose.

A tax-payer of a district can not dictate for what purpose the school building can be used. The School Directors are the legal custodians of the school property.

Two members of a Board in a district of the third-class can legally contract for furniture for their school house, but such contract should be made or ratified by a vote at a regular or special meeting of the Board. The third member of such Board can not legally refuse to sign warrants issued in payment of such furniture simply upon the ground that he considers such furniture unnecessary. If illegality or fraud exist then he can refuse, but the fact that he considers the furniture unnecessary is only a matter of opinion, and he should be governed by the opinion of the majority.

Vacancies in School Boards of the second and third classes must be filled by appointment made by the County Superintendent, and the person so appointed holds the position until the next annual school election.

A County Superintendent is legally entitled to receive full compensation, both *per diem* and mileage, for attendance at the Normal District Institutes.

A new school district, as soon as its organization is complete, is entitled to its share of the special fund standing to the credit of the old district of which it was formerly a part, also to receive each month its share of the uncollected special tax; providing always that a school has been commenced in the district in good faith.

A contract to teach made by two Directors with the proposed teacher is valid, and the person so engaged to teach can collect the amount named in the contract as compensation for his services if he perform such services in accordance with the terms of the contract.

A certificate to teach cannot be revoked by a County Superintendent without having good and sufficient reasons for so doing. Alleged exorbitant wages named in a contract between him and the Directors of a district

would not be lawful reason for revoking a certificate unless fraud of some kind could be shown.

When a certificate is revoked by a County Superintendent such revocation takes effect on the day named by him, and the holder thereof cannot lawfully teach during the pendency of an appeal to the State Board of Education.

The wife of an alien becomes naturalized upon the naturalization of her husband, and is a citizen, as the term is used in the School Law.

The teacher's legal authority over his pupils is confined to the school grounds.

A certificate issued under section 16 of the School Law terminates at the expiration of the time for which the original was issued and cannot be renewed.

The term "year" used in the Act entitled, "An Act to secure to children the benefit of an elementary education," is defined to mean the school year. And the term, "A court of competent jurisdiction," used in the same Act, is defined to mean a Justice, a County or a District Court.

A first grade certificate cannot be renewed after the expiration of the time for which it was issued.

The laws of Colorado do not provide for the appointment of a truant officer.

The school funds cannot be legally used for defraying the expenses of a singing school.

Failure to open a school in a newly organized district within six months from the date of organization, makes void all proceedings pertaining to the formation of the district, unless the time for opening a school therein be extended to eight months by the County Superintendent.

The appointment of persons to fill vacancies in districts of the second and third classes, is solely with the

County Superintendent. If a Director is absent from his district four months, it is a valid reason for appointing his successor in office.

A non-resident of a school district is one whose permanent dwelling place is not within the boundaries of that district.

The residence of a minor is the residence of his parents or guardian.

If a person moves his family into a school district for the purpose of availing himself of the advantages afforded by that district, and subsequently, during the school year, removes from the district, he is not a resident of such district, within the meaning of the term as used in the School Law of Colorado. The following is taken from a decision of the Supreme Court of Wisconsin (N. W. Rep., Vol. 41, page 1,014): "Effort has been made to guard against the precipitancy of non-residents to points where superior advantages exist, and schools of high order are maintained, by holding that such children only are entitled to free tuition as are actually residing in the district for other reasons as a main purpose, than to participate in the advantages which the school affords."

A teacher's salary can be legally increased during the term for which he is employed, only at a regular or special meeting of the School Board.

The County Treasurer is the only legal custodian of the school funds. The District Treasurer has no legal right to hold in his possession any of the general, special or bond fund, nor have the directors of a school district any legal right to issue orders on the County Treasurer, except in favor of those parties to whom the district is legally indebted. In the payment of school bonds, the District Treasurer has control of the funds only during the times of advertising and subsequent payment.

A vote in favor of levying a tax for building purposes is not sufficient to authorize the Directors of a district to erect a school building, when such tax has been collected. There must be a vote by the electors directly upon the question of building a school house.

The site for a school building in districts of the third class can be selected or changed only by a vote of the electors taken at the annual meeting, or a special meeting legally called.

The quarterly examination cannot be taken in parts. If an applicant is successful in some of the subjects and unsuccessful in others, the entire examination must be taken at some future time.

Two members of a School Board in districts of the second and third classes, can make a legal contract without the consent of the third member, providing such contract is made at a regular meeting, or at a special meeting legally called, and of which all the Directors had legal notice.

School Boards in districts of the first class, have entire control of the examination and licensing of applicants to teach in their districts. They also have a legal right to renew certificates without examination.

If a teacher is engaged by the year at an annual salary, vacations are not deducted. If he is employed by the month, and paid a fixed sum per month, vacations are deducted if there is no contract to the contrary. A teacher could just as lawfully claim pay for the long summer vacation as for the customary holiday vacation.

It does not invalidate a school warrant to specify a rate of interest not exceeding 8 per cent., or to have a date of payment specified therein. A County Treasurer would undoubtedly follow the legal directions as to the rate of interest and time of payment, regardless of what might be written in the warrant in addition to the usual form.

A teacher cannot be legally dismissed before the expiration of the time for which she is engaged "without good cause shown," and if so dismissed she can collect full salary, provided she holds herself in readiness to fulfill her part of the contract.

Where a division of a school district places a member of the School Board in the new district it works a vacancy in the Board of the old district, and does not make such person a member of the Board in the new district. A full Board must be chosen in the new district and all vacancies in the old district filled by appointment made by the County Superintendent.

Four months of school in each school year are necessary in order that a district may hold its organization. (See sections 30 and 77.) Three months of school are necessary to entitle a district to its share of the public funds. (See section 75.) This practically makes four months of school necessary in each district.

School must be held in a building situated within the boundaries of the district.

A Board of School Directors cannot legally change the site for a school building which has been selected by a legal vote of the electors of such district.

Two members of a School Board have a right to dismiss a teacher providing their action is taken at a regular or special meeting of which all members of the Board have notice. But a teacher having a contract with the Board cannot be dismissed without good cause for such action being shown. (Section 60, last clause.)

A County Superintendent cannot remove a member of a School Board from office.

A School Board of a district of the third class has a legal right to purchase desks for a school building without a vote of the electors of the district.

A County Superintendent is the proper person to approve of the official bond of a School Director, and if a person elected to that office cannot give a satisfactory bond it works a vacancy in the board after twenty days from his election. (See section 47.)

All money which shall become forfeited by a school district shall be put into the general fund of the county and re-apportioned as other money. (Section 26.)

Teachers are legally entitled to receive the full amount of the salary agreed upon between them and the Board of Directors. They are not compelled to accept as payment for services rendered the warrants of the district, when such warrants are not worth their face value.

Section 2, page 67, of the Colorado School Law, exempts persons living more than two miles from a school-house from the provisions of that act.

A person cannot be legally employed to teach in the public schools for any length of time, however short, unless such person has a certificate to teach, issued by the proper authorities.

A school district created from organized territory, which is already bonded for building purposes, can issue new bonds to an amount not to exceed the difference between its share of the present bonded indebtedness and three and one-half per cent. of the assessed value of its property, both real and personal.

The auditing of bills against a school district must be performed by the Board of Directors at a meeting thereof, and vouchers or warrants issued for the payment of such bills are legal only when issued by a vote of a majority of the Board at such meeting.

A teacher is not entitled to receive pay for the time lost while attending a teacher's examination.

The State Superintendent has no authority to excuse a person from taking an examination.

A County Treasurer is legally entitled to two per cent. commission on money paid to him from the sale of school bonds. He is also entitled to a commission for collecting taxes to be used in paying both principal and interest on school bonds; but he is not entitled to a commission for paying out the money.

All School Directors are required by law to file an oath of office with the County Superintendent. This applies to such cities or districts in Colorado as are organized under a special charter.

A new district cannot be legally organized with less than ten persons of school age residing therein.

A School Board cannot legally loan the money of the district.

A school district cannot be legally divided so as to leave fewer than fifteen persons of school age in the old district.

Section 2606, of the General Statutes of 1883, is plainly opposed to the employment of a School Director as a teacher in his district.

A first-grade certificate issued in one county cannot be renewed by a County Superintendent of another county.

The "certificate of like grade," mentioned in section 16, is in force for the unexpired term of the original certificate.

Land to which title has not been obtained from the Government at the time school bonds are issued by a district of which such lands form a part are not subject to tax for the payment of such bonds. Hence, if said lands are set off or detached from the district before title is perfected, they are not subject to a bond tax in the original district when title is complete.



A County Superintendent has authority to require a District Treasurer to give bond in double the amount of money liable to come into his hands, if such amount exceeds twenty dollars.

Where a tax levy has been certified to the County Commissioners it can not be reconsidered, but it may be reconsidered if the certificate has not been filed.

If the annual election of School Directors is not held, and a special election is not called within the required ten days thereafter, it then devolves upon the County Superintendent to fill vacancies by appointment.

The total amount of school warrants issued must not exceed the amount of tax levy for the current year.

As between School Directors and the County Superintendents, the latter has advisory powers only in arranging course of study, selection of books and grading of schools.

A district having an area of less than nine square miles can not be divided for the purpose of forming a new district.

Certificates issued by districts of the first class are valid only within such district.

Districts of the first class are under the supervision of the County Superintendent the same as other districts.

Neither a County nor State Superintendent has any discretion in the matter of granting a second temporary certificate. The School Law absolutely forbids it.

The granting of a "duplicate" first-grade certificate is optional with the County Superintendent to whom application is made.

If a school board purchase books to be used by the pupils of the district, such books are for the use of pupils attending school within such district and for no other. If residents of the district see fit to send their

children into adjoining districts they can not compel the district in which they reside to furnish the text books for their children.

Deaf mutes and blind persons between the ages of six and twenty-one should be included in the school census.

When the electors of a school district, at a legal meeting, vote to erect a building on the school site of the district to be used as a teacher's residence, and vote a special tax for that purpose, such action legally authorizes the Directors of the district to contract for the erection of such a building.

A school board has a legal right to require such qualifications of teachers as seem to them to be for the best interests of the school, provided such qualifications do not conflict with those required by the State.

School Directors are not legally entitled to witness' fees in a case where the district is a party.

In estimating a maximum amount of bonds that can be issued by a school district, the estimate must be based upon the last complete assessed valuation.

A contract to teach made before the annual election of Directors for the school year following such election is valid and binding upon the district when there is no evidence of an attempt to defeat the wishes of the electors by such action and especially when a majority of the old board remain in office.

A school district cannot be divided nor territory taken from it, if in so doing it will leave less than fifteen persons of school age in the district.

More than one question can be voted upon at a special meeting of the electors of a school district, provided each question is separately stated in the notice of such meeting.

Directors of first and second class districts have a right to sell a school building when directed so to do by the electors at a special meeting called for that purpose. Such sale should be made in the manner prescribed by the electors, which should be at public sale after proper advertisement.

A legal notice, under section 68, is a publication for twenty days in some newspaper, published at the county seat of such county. (Session Laws, 1887, page 405.)

The Directors of a third class district cannot legally purchase a school site without a favorable vote of the electors.

In the organization of a new school district, the law requires two-thirds of the votes cast to be favorable.

The charge for miles traveled under section 25 forms a part of the limit of \$100 per district.

The departments of a school cannot be legally considered as separate schools.

A School Director cannot be legally garnisheed in his official capacity.

Sex does not disqualify a person from voting upon the selection of a school site.

All certificates to teach should be dated as if issued on the last day of a regular examination.

An offer to teach for unreasonably low wages is neither a good nor a sufficient reason for refusing to grant a certificate.

A school warrant payable two years from date of issue and in excess of the special tax levy for the current year is invalid.

The State Department will not pass upon the right of an applicant to a temporary certificate. The decision of the County Superintendent in such cases is final.

All moneys remaining to the credit of any district on June 30, should remain to the credit of such district and cannot be turned into the general school fund of the county for re-apportionment.

The State Superintendent has no authority to grant a certificate to teach except when directed to do so by a vote of the State Board of Education in cases of appeal and of State examinations.

A person holds a certificate that expires September 8. He begins school under contract on September 1. He fails to obtain a certificate in the examination held on August 29-30, and appeals to the State Board of Education. Held, that he may continue his school during the pendency of an appeal.

A County Superintendent may legally change the boundaries of a school district without a vote of the electors of the district when it is for the purpose of harmonizing the district boundaries.

The only legal restrictions placed upon School Directors in the matter of issuing warrants are that they must be issued to persons to whom the district is legally indebted, and the total amount issued must not be in excess of the special tax levied for the current year.

It is not within the province of the State Superintendent to take any part whatever in the organization of a new school district. He may, however, as a member of the State Board of Education, pass upon the legality of such organization when an appeal is taken to the Board from the decision of the County Superintendent.

The Directors of a school district have a legal right to certify a special tax to the County Commissioners without a vote of the electors. In districts of the third class such tax must not exceed fifteen mills on the dollar. If a vote of the electors has been taken in the

district then the Directors should certify the amount voted.

County Treasurers should place the money arising from fines collected, and belonging to the school fund, in the general fund.

There is no legal provision for the payment of tuition out of a fund belonging to a school district. If a tuition is charged pupils who attend school in a district other than that in which they reside, that tuition must be paid by the parents, and not by the district from which the pupils come.

All persons between the ages of six and twenty-one are entit'ed to all the privileges of the public schools.

A County Treasurer can legally pay only such warrants as are issued against the school fund of the current year.

A School Director cannot legally become a teacher in the district in which he holds that office. See section 2606, General Statutes of Colorado, 1883.

All monthly and term reports provided for in the new course of study must be furnished by the respective counties.

A second temporary certificate cannot be issued to the same person, no matter in what county the first certificate may have been issued.

DENVER, COLO., July 29, 1889.

HON. FRED. DICK,

*Superintendent of Public Instruction:*

DEAR SIR:—Answering your communication of the twenty-sixth inst., I reply that the proper construction of section 33 is, that two or more districts of any of the classes may establish a Union High School. That the construction of section 52 is, that the boards in first and second class districts may establish separate High Schools. A Union High School is the result of co-operation by two or more districts, while a separate High School is established within and by one district. Hence there is no conflict between these two sections. One section does not modify or conflict with the other.

The circumstance that Union High Schools have been established, does not increase the powers of boards of the third class districts in the matter of erecting High School buildings, but their powers of erecting such buildings must be derived from the electors, as in other cases.

Very truly yours,

SAM. W. JONES,  
*Attorney-General.*

DENVER, COLORADO, February 23, 1889.

HON. JOB. A. COOPER,

*Governor:*

SIR:—Replying to your enquiry whether women are eligible to fill the office of County Superintendent of Schools, I have to say:

Article XIV. section 8, provides for the election of county officers, including, with others, County Superintendents of Schools.

Same Article, section 10, provides that only qualified electors can fill any county office. Article VII., section 1, provides who are qualified electors, confining the privilege to males, etc.

Hence it follows that a woman cannot fill said office, and so it was decided by our Supreme Court, in 9 Colorado, 628.

It will be observed that under Article VII., section 1, substitute second, women may vote at and hold district school elections and offices.

Yours very truly,

SAM. W. JONES,  
*Attorney-General.*

## Remarks by County Superintendents.

### ARAPAHOE COUNTY.

HON. FRED DICK,

*State Superintendent Public Instruction.*

DEAR SIR:—In connection with my annual report for the year ending June 30, 1890, I wish to call your attention to the public school work of Arapahoe county in a more general way than that of a statistical report. The year closes with ninety-five organized school districts. Ninety-three districts made an annual report, and maintained at least a four months' school as required by law; but the average length of school in the county, not including the city of Denver, is seven months. The general school fund for the year amounted to \$9.73 *per capita*, and was apportioned in six apportionments—giving better satisfaction than to apportion but four times in

each year. The number of teachers employed in the county, not including Denver, is one hundred and twenty-one. To visit all the schools in the time and manner prescribed by law is impossible. And to get a thorough knowledge of what the schools are doing, I have introduced a system of reports which I require each teacher to make to me at the close of each school month. The number of blanks, report cards, registers, circulars, etc., used by me in the school work of the county, for the year, amounted to 6,195, and they were of considerable assistance to me in making my annual report. The law relating to the study of the nature of alcoholic drinks and narcotics and their effects upon the human system has been very well observed. Seventy-six districts reported that they had enforced said law.

The law relating to Arbor Day is generally observed, and considerable interest is taken in the exercises of the day by patrons of the schools and by all who are immediately connected therewith.

The Normal Institute of District No. 2, held in Golden, August last, had enrolled from this county sixty-nine teachers, and is well spoken of by those who were in attendance. Notwithstanding that the Institutes have been a success thus far, we cannot hope for their continued success unless the provisions of the law governing them can be enforced. Some counties refuse to pay the one dollar per teacher as required by law, and the Legislature has thus far failed to make any appropriation from which the State Treasurer can pay the fifty dollars to each Institute as required by law. Thus far we have met the expenses by a fee of one dollar from each teacher attending by voluntary subscriptions, together with what a few counties have paid. Unless the Legislature will make appropriations necessary to the support of the institutes they may as well be abolished.

It seems to me that the time has arrived when the Legislature should classify the counties of the State with regard to the office of County Superintendent of Schools. Every first-class School District in the State employs a Superintendent, who receives from two thousand to four thousand dollars per annum for his services. Whilst a County Superintendent, who holds a far more responsible position, and in counties of the first class has a much greater amount of work to do, is allowed five dollars per day for his services, although he is compelled to keep a horse and to travel several thousand miles each year in the discharge of his duties.

Much more of importance might be said on the school question, but as your space is limited, and I have perhaps, used more than my share, I'll be contented until such time as the State can afford to increase the size of the biennial report of her educational institutions.

A. D. SHEPARD,  
*County Superintendent.*

**ARCHULETA COUNTY.**

The school work of this county is steadily improving, and more interest is being taken by parents and District Boards in school-house conveniences and apparatus; in furnishing free text-books and securing the best grade of teachers than ever before. We are endeavoring to establish a uniform system of text-books throughout the county, and, as all the District Boards are in favor of it, we hope soon to accomplish this.

W. P. UNDERWOOD.

**BACA COUNTY.**

I hereby submit to you the annual report for the school year closing June 30, 1890, the second report for Baca county. Baca county is a new county and a new country. We commenced the school work a year ago with the districts in debt, on account of the school funds withheld by Las Animas county. Under the condition of things, our schools are most of them in a very good condition. In the last year we have had nine monthly teachers' associations and well attended by the teachers, and a great deal of valuable work has been done in the associations. A majority of the districts have school-houses, and most of them are well furnished. I regard an efficient State and county supervision of schools of the highest public importance. In the last year I have attended, at great expense, the State Teachers' Association, Superintendents' Convention and the Normal Institute at Pueblo.

Respectfully submitted,

CHARLES SMITH.

**BOULDER COUNTY.**

HON. FRED DICK,

*Superintendent of Public Instruction:*

I take pleasure in submitting the following report of school work in Boulder county:

The beginning of educational work in this county dates from the year 1860, when the early settlers of Boulder hauled logs from the mountains and erected the first school-house built in Colorado. Since that time there has been a steady growth, until we now number fifty-five school-houses, an efficient corps of eighty-one teachers, and a school population of 3,881.

Our school-buildings are, with few exceptions, furnished with modern fixtures and apparatus, while proficiency in school work has been steadily gaining ground. Directors are beginning to realize that the time of experimenting with teachers has passed. They are now demanding better qualification in teacher's work, and longer experience in the school-room. This augurs well for the education of the



future. Our citizens are willing to heavily tax themselves for school purposes, demanding, in return, value received for their children. Whenever Boards of Directors are unified in this demand, our progress will be more marked from that hour. The fact that a Normal School has now become an institution of the State, will do much toward securing proficiency in the school-room, and those who are preparing themselves for the profession of teaching should be urged to avail themselves of the opportunities offered by this institution.

At this writing, fifty districts have adopted the Graded Course of Study, as recommended, and we are striving to unify the work in our county. I find not much uniformity of work throughout this county. Pupils are advanced in one study, and behind in another; if, therefore, we are able to equalize the advancement this year, we shall feel that we have made a rapid stride toward systematic work.

A number of the districts of this county have taxed themselves to the limit, fifteen mills, and yet are not able to have five months' school during the year. This is caused by the fluctuations in the value of property, especially in the mining sections. If this could be remedied in any manner, it would be appreciated by the people.

Our County Teachers' Association meets semi-annually, and has been productive of great good to the teachers throughout this county. We hold a two days' session, and a gratifying attendance with increasing interest has been the result. Methods of instruction are presented by experienced teachers, and thoroughly discussed by the members of the Association. Lectures have been delivered before the Association by the State Superintendent, and others, and have been greatly appreciated.

The text-book question is being seriously considered by many of the districts; one district, within the past six months, has purchased books, and now own them.

The High Schools of Boulder and Longmont are in a flourishing condition, seventy-eight students having been enrolled during the past year.

I am trying to establish a school library in each district, and hope to give a more extended report of this work in the future.

Respectfully,

WILLIAM V. CASEY,  
*Superintendent, Boulder County.*

**CHAFFEE COUNTY.**

To FRED DICK,  
*State Superintendent,*  
*Denver, Colorado:*

The work in Chaffee county, while it yields a fair measure of success, is not by any means entirely satisfactory. We have many difficulties to contend with, chief among which are: A large percentage of floating population; a lack of interest in rural schools; a deficiency of funds, rendering short terms imperative, many of our districts being able to provide only the requisite number of months of school, to retain their organization and entitle them to public money.

We have been able to secure uniformity of text-books, with the exception of three districts, throughout the county, by carrying out the plan of my predecessor in office, and in the future all changes and purchases of text-books will be in line with the uniform system adopted, thus making county uniformity a thing very soon to be perfected. We have built four new school-houses during the past six months, three frame and one brick. At least one thousand dollars have been expended in apparatus and school supplies within the same length of time, so that at present our schools are quite generally supplied with working materials. The grade of our teachers has been raised until at present we have but two third-grade licenses in the county. This we have been able to do by recommending only those whose experience would justify the action on our part.

The State Course of Study is being adapted to our county, and by "giving and taking" we are able to make it very helpful to teachers and beneficial to our schools. It follows well our uniformity of books and makes the work of each teacher count for something. The work in the county has been augmented generously by yourself, and your aid and suggestions have been very useful to me in my official capacity.

Very truly,

LEE CHAMPION,  
*County Supt. Schools, Chaffee County.*

**COSTILLA COUNTY.**

FORT GARLAND, COLO., Nov. 17, 1890.

HON. FRED DICK,  
*Superintendent Public Instruction,*  
*Denver, Colorado:*

DEAR SIR:—In addition to my annual report allow me to state that the educational work of this county has been increasing. Nearly all districts have furnished their school-houses with the best furniture and apparatus. The School Boards see the importance of maintaining school from six to ten months in each year, but with our

sparsely inhabited districts and low finances this cannot be done. Some of our districts levy enormous taxes to pay their debts and maintain their schools. The assessed valuation is only one million, and we have twenty-three organized districts, but considering everything, I claim our schools are making fair progress.

Very respectfully,

FRED ETTER.

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#### CHEYENNE COUNTY.

The schools of this county are in a healthy condition. Two new school-houses have been built and two are in course of erection. The assessed valuation of property in the county is over one and one-half million dollars. With a small levy this gives ample money to pay expense and give each district school from four to nine months in the year. The District Boards have now taken hold with me, and we are using every effort to get good teachers. Those who are negligent will have to take up the work in earnest or drop out of the ranks.

S. C. PERRY.

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#### CONEJOS COUNTY.

The school system of our county was thoroughly revised by my predecessor in office, Mr. Chas. H. Brickenstein. Much remains to be done—a higher standard of scholarship must be sought. To secure this I look to the District Institute for help, and then as our section increases in population and wealth, better salaries can be paid, for one cannot expect "one-hundred-dollar" work from "thirty-dollar" teachers.

L. A. NORLAND.

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#### DOUGLAS COUNTY.

Schools of the county are in a good healthy condition. They are all reasonably well graded, and are using uniform text-books throughout the county. Compulsory school law has not been enforced except six in two or three cases. The enrollment on school population is about six per cent. lower than last year, being about seventy-four per cent., while the average attendance shows a slight gain over last year. The law relating to the study of hygiene with reference to the effects of alcoholic and narcotic stimulants has been generally enforced. Our teachers on the whole have done excellent work and the majority of them will be retained the present year.

P. H. HAMMOND.

**DELTA COUNTY.**

As the country improves the number of school-houses increase. Everywhere there seems to be sympathy for school work. Better teachers are demanded in every school. The Directors have all agreed to pay not less than fifty dollars per month for teachers' services. Bonding districts for new buildings has been discouraged; the people advised to fit up the old house comfortably and get through taxation needed apparatus, or to volunteer to build a new house. In several instances new houses have been built through contributions, and very convenient and comfortable houses put up. In two instances the people have voted the full limit of tax for building purposes, and propose in a year or two, at furthest, to put up such a house as they want. Many inquiries are made relative to plans of new buildings. All that we can give that will be of good we send out.

Have held one Directors' meeting. While all that could be hoped for was not done, yet in the discussion of (1) "The Directors' Duties;" (2) "Employment and Support of Teachers;" (3) "Special Taxes and Amendments to our School Law;" (4) "District Ownership of Text Books;" and (5) "School Apparatus," much interest was awakened.

The "Manual and Course of Study" has been placed in the hands of every teacher. Our County Teachers' Institutes and Associations are increasing in interest. A "Teachers' Reading Circle" is formulating.

The majority of the Directors have promised to subscribe for the *Colorado School Journal* and keep a copy with the District Secretary.

The great problem is money to run our schools for not less than six months during each year, and pay teachers fair wages. Unless help comes through the State, it seems far off.

Respectfully,

P. M. CONDIT,  
*County Superintendent.*

**ELBERT COUNTY.**

Elbert county has 1854 square miles of territory, divided into 18 school districts, with 20 school houses, an average daily attendance of 241 pupils, and a total enrollment in the county of 611 persons of school age. During the school year just ended, we have employed 26 teachers, at an average monthly salary of \$47.30. We have paid teachers during the year \$6,685.50. For current expenses and building, we have expended \$2,110.34. Our teachers have proven exceptionally energetic, earnest and proficient in their work. Our schools show good results; and it affords me pleasure to add that a greater part of those same teachers will remain with us another year. Our schools have suffered in the past by too frequent changing of teach-

ers. Our School Directors have taken more than ordinary interest in the performance of their duties as school officers. There have been erected in the county three new school-houses, each thoroughly furnished and equipped, at an average cost of \$650. In building, much of the heavy work is performed gratuitously by the patrons—such as placing the material on the ground selected for the building site, digging the wells, and a considerable portion of the carpenter work, under the direction of a skillful foreman, employed at fair wages. Thus a \$1,000 building is provided for much less actual cash outlay. Two buildings have been moved to more central and convenient locations, and there have been erected several sheds and stables in which pupils can house their horses during the cold, stormy winter days. This will materially increase the average daily attendance in those districts. It is not unusual for scholars in our country districts to drive three and one-half to five miles to and from school daily, except in very stormy weather. Since December 15, 1889, we have organized four new school districts, with a total of ninety enrollment.

In justice to the School Directors of Elbert county, they are ready and willing at all times, with their influence, labor or money, to further the school interests of their respective districts. Few realize the difficulties encountered by our people in sparsely settled localities, in providing facilities for educating their children; their efforts are worthy of all praise and encouragement.

Our County Teachers' Association met at Elizabeth, May 28 and 29, 1890. Twenty teachers were present, and a very gratifying interest manifested. The papers and discussions were practical and interesting, and much credit is due the citizens of the enterprising town of Elizabeth for courtesy and hospitality shown the teachers. Our association now includes the names of all the teachers in the county, with possibly one or two exceptions.

The Course of Study given in the Daily School Register has been followed by all teachers in the county, with very satisfactory results. The new Course of Study for the Public Schools of the State seems admirably adapted to place our schools in systematic working order, and aid young teachers in their work.

Very respectfully,

B. C. KILLIN.

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#### EL PASO COUNTY.

COLORADO SPRINGS, Sept. 10, 1890.

To the HON. FRED DICK,

*State Superintendent Public Instruction,  
Denver, Colorado:*

DEAR SIR:—I have the honor to transmit herewith my third annual report for the public schools of El Paso county. In presenting this report to the Department of Education, I desire to call

special attention to a few facts concerning the material advancement made in the facilities for schools, the large increase in the number of schools, the liberal expenditure of public money for more and better school buildings, and the generous supply of better furniture and school appliances (or "tools"), by means of which we have been enabled to carry forward more successfully the work of education.

Three years ago there were but thirty-one school districts in this county, now there are fifty-two districts. The census list three years ago showed but twenty-three hundred of school age; it is now over forty-two hundred. The number of pupils enrolled in our schools the past year footed to nearly thirty-five hundred as compared with less than eighteen hundred three years since. The average daily attendance in the schools the past year has been nearly double that of three years ago. The average number of days of school, in both graded and ungraded schools, during the past year, shows an increase of about twenty per cent. over that of three years ago. In 1887-8 but fifty-four teachers were employed, while over one hundred were engaged in teaching the past year. The salaries of teachers, for both male and females, have been increased from ten per cent. to fifteen per cent. over that of 1887. Twenty-two new school-houses have been built, at a cost of \$600 to \$20,000 each, and furnished with latest and best improved furniture, maps, charts, globes, etc., the past three years; eleven of which were erected and supplied during the past year. The amount paid for teachers' wages in 1887 was \$36,500, as against \$47,000 this year. Three years ago \$9,000 was expended for sites, buildings, furniture and other school appliances, while \$87,000 have been used for that purpose the past two years.

Thus it will be readily seen that El Paso county has made a most gratifying improvement in those things that are so essential to the progress and successful education of the children of this county.

The improvement made in the practical work done in the schools of this county as to methods employed in imparting instruction, as well as in the results obtained, are well up in line with its material progress. I account for the improvement in this respect from a two-fold cause—that of better school-houses and appliances and supplanting inferior for more skilled and better educated teachers. I may also add that I have noted a decided improvement in the school work of those teachers who attended the Teachers' Normal Institute last year. From my observation among my own teachers, I am fully persuaded that these Teachers' Institutes are of great advantage to our teachers, and will promote more thorough work and better methods in the school-room.

The schools at Manitou, Colorado City and Colorado Springs are doing splendid work, and are exceedingly fortunate in having at the head of each of them able educators as superintendents. Their

success the past year is a source of just pride to our citizens and a proof of eminent ability in their chosen profession.

During the past year there has been a marked improvement in every school in this county—more thorough, practical instruction on the part of teachers' work and a corresponding improvement in the acquisition of intellectual attainments by pupils.

Sixty-three of the teachers of this county attended the Normal Institute this year, at Pueblo, and I confidently expect to witness the good results of the training there obtained by our teachers in more effective and skillful teaching by them in our schools this year.

Our teachers sustain a live County Association, and have, the past year, organized a Teachers' Library Association. Our library is small as yet, but consists of the best selection of professional books.

In conclusion, I desire to say that the teachers of this county feel largely indebted to the State Superintendent of Public Instruction for the measure of success which they have attained in their school work—his zeal, earnest efforts and well directed labors in behalf of our public schools have stimulated them to more earnest work and a higher conception of their chosen profession, and in this expression of their confidence of the valuable services rendered to the cause of education, by our present State Superintendent of Public Instruction, the Hon. Fred Dick, your subscriber must heartily concur with the teachers of this county, I have the honor to be,

Respectfully yours,

REUBEN BESSEY,  
*County Superintendent.*

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#### EAGLE COUNTY.

The schools keep pace with the general progress in Eagle county. Since the last report seven new districts have been organized and five good comfortable school-houses built and furnished with apparatus. Our want is thoroughness. In school work as in other enterprises in this "West" we are impatient and unwilling to be thorough. School officers cannot take from their business time to perform well their official duties. Teachers cannot afford time and labor to become scholars prepared for teaching; and led by these the children hasten over the school curriculum as if the harvest is measured by the acres gleaned from and not by the grain gleaned.

JAMES DILTS.

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#### GARFIELD COUNTY.

The schools in Garfield county are in a healthy condition. So far as teachers are concerned, we have an excellent corps of teachers. The only drawback is funds insufficient to maintain a school in the poorer districts where it is hard to support the four months of school

necessary in order to draw from the State fund. Prof. Dilts and myself are arranging for a joint institute composed of Eagle and Garfield, and try and interest the patrons and school officers so they can better understand the aims of the teacher and their relation with the patrons. Everything is working well except a few secretaries who are so negligent in making reports as to necessitate the Superintendent in withholding the funds from the district, and thus retarding the work of the Superintendent. Garfield has some faithful workers, and the relationship between Superintendent and teachers is always pleasant.

SAM. M. WHITE.

#### FREMONT COUNTY.

We have twenty-five organized School Districts in this county, with a school population of two thousand three hundred and ninety-nine, giving employment to fifty-four teachers.

The Cañon City, Florence and South Cañon schools have regular courses of study, including primary, grammar and high school grades. All these schools are well organized and are doing good work.

We are proud of our schools throughout the county, and the progress they are making, under the teachers in charge, shows an increasing interest in educational work. The majority of our teachers hold first-grade certificates, and many of them are graduates from Normal Schools in this country and of Canada.

The State Course of Study is meeting with general favor among the teachers and School Boards of the country schools, and the good resulting from its adoption is already manifesting itself.

The Coal Creek District has been deprived of several months of school, from the fact that their school building was destroyed by fire, and, failing to get any of the insurance money, the Board was delayed in the work of rebuilding. But pluck and energy prevailed over these discouragements, and a new two-story building that is convenient, well lighted and well ventilated, now stands upon the site of the old one. Brookside has also built a neat two-story building, costing about \$3,000, which is an ornament to the village. Many other improvements have been made throughout the county, all of which bespeak the activity of school interests.

Our county associations are well attended and receive encouragement, both from teachers and school officers.

A Teachers' County Library is now being talked of and we hope soon to note its establishment. Let the good work go on.

B. G. WOODFORD.



**GILPIN COUNTY.**

I am sorry that I am not able to record a great improvement in the condition of the country schools in the county. I have had considerable trouble in obtaining correct annual reports, partly from the incompetency of district secretaries and partly from carelessness in permitting teachers to leave and get their salaries without making a report to the secretary. However, the secretaries have shown a good-natured desire to do their best and to correct all errors they may have made. The Directors failed to comply with the call for a meeting of the association last May, and thereby lost the benefits to be derived from mutual conference. The city schools have been doing good work. We shall begin to hold county associations again soon.

District No. 11 was organized June 28, so that there could be no school within the time covered by this report, but now there is a school in progress and the district is in a healthy financial condition.

F. B. McLEOD.

**GUNNISON COUNTY,**

A large number of the schools in the county are in the mining camps, and school is held only a few months during the summer. In the towns the educational work will compare favorably with towns of equal size in the State. With one or two exceptions there is no lack of funds to carry on the work as far as climate and other circumstances will allow.

CHAS. FUELLER.

**HUERFANO COUNTY.**

There has been erected eight new school buildings during the past year. Five districts are arranging to build. The course of study has been adopted in each district. Teachers' County Institute held one week with good attendance. Teachers' Huerfano County Library Association established with about two hundred books.

THOS. D. BAIRD.

**JEFFERSON COUNTY.**

Jefferson county is divided into forty-three districts, with a school population of two thousand one hundred and ninety-five. Of the forty-three districts only one is above the third-class. In the forty-three districts there are forty-five school-houses and fifty-seven rooms. The majority of the houses are good and fairly well supplied with all the necessary apparatus. The enrollment for last year was one thousand five hundred and forty-eight, with an average attendance of one thousand and thirty-one. Cost per month for each pupil based on enrollment, \$2.54. Cost per month for each pupil based on average attendance,

\$3.92. Average number of days school during year in city and village schools, one hundred and seventy-six. Average number of days school in rural schools, one hundred and twenty-five. Jefferson county has but one High School, the Golden High School, which comprises a three-years' course. Our rural schools have been working on the "five grade" system, which provides for an eight-years' course of study for the past two years, and have succeeded most admirably. Pupils completing [the course, after passing the examination upon a list of questions prepared by the County Superintendent, are admitted to High Schools without further examination. The course we have been using is almost identical with the one prepared by a committee of County Superintendents and adopted at the last State Meeting of County Superintendents. After having tried the plan of grading and systematizing the work in our rural schools for the past two years, I cannot urge too strongly that the Superintendents throughout the State use every effort in their power to have School Boards in the rural districts adopt the present State course. It systematizes the work so that the progress is much more satisfactory to both pupils and parents.

We have been using the system of examinations, reports and records recommended in the State course, and find the results very satisfactory.

The progress in education since the last biennial report has been very encouraging. The people of Jefferson county, through their officers—both county and district—are very liberal in their appropriations for school purposes. The county levies three mills, and the districts from one to ten mills.

Our teachers are energetic, progressive and alive to the interests of school work. Much of the interest which has been awakened is due to the system of Institute work which has been inaugurated during the past two years.

The carefully prepared and practical questions for teachers' examinations, during the past two years, has done much towards improving the standard of teachers and bringing teaching up to the requirements of the times. While the progress has been very marked in the past two years, there is much yet to do.

Respectfully yours,

J. S. EAGLETON,  
*County Supt., Jefferson County.*

## KIT CARSON COUNTY.

BURLINGTON, COLO., Sept. 1, 1890.

HON. FRED DICK,  
*Superintendent Public Instruction,*  
*Denver, Colorado:*

DEAR SIR:—The educational work in Kit Carson county has been fairly successful during the past year.

At the organization of Kit Carson county in April, 1889, there were thirty-three school districts within the county. We now have forty-five organized school districts.

In October, 1889, a meeting of the Teachers and School Directors was held in Burlington, for the purpose of discussing the text-book question. It resulted in the appointment of a committee of five to examine and report, for adoption by the District Boards, a set of text-books, that there might be uniformity of books in the county.

This committee made their report in November, recommending that the School Districts purchase the books for the use of their schools. The School Boards throughout the county have accepted the report of the committee, and about one-third of the districts have purchased the school-books for their schools. In every case where the districts have purchased the books, the people are well satisfied with the plan, and the teachers in these schools can accomplish much more by the children being properly supplied with books.

The teachers of the county hold quarterly association meetings of two days each. These meetings are well attended and are doing much to improve the schools of the county.

A County Institute was held in Burlington this year, commencing July 28 and closing August 8, 1890, with twenty-three teachers in attendance. As a result, the grades made by the applicants for certificates at the August, 1890, examination are fifteen per cent. higher than those made at any of the other examinations held in the county.

The teachers have established a professional library, to be kept in the office of the County Superintendent, and, although having but few books, it is awakening a desire for more thorough preparations and better results upon the part of the teacher.

During the year several good school buildings have been erected in the county. Seibert, Vona and Claremont each having a good school-house. Flagler is erecting a three thousand dollar three-room frame school building. It will be neatly finished and well furnished, and speaks well for the educational interests of the district.

Burlington has erected a five-thousand dollar two-story brick school building, which is one of the best buildings in Eastern Colorado. It is a manifestation of the interest taken in education by the citizens of the county seat.

Respectfully,

D. S. HARRIS,

*County Superintendent.*

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#### KIOWA COUNTY.

In the spring of 1889, when the county of Kiowa was created it had thirteen school districts within its boundaries. There were but one or two school-houses in the county, and a County Superintendent had never been seen within its limits, although some of the districts had been organized two or three years. Within a year from the time the county was organized the number of districts had increased to twenty-three, and as many teachers were giving instruction to about six hundred children. Financially, the districts may well boast, with the Missouri Pacific railroad traversing the south center of the county for a distance of about eighty miles, and the Union Pacific land grants lying the entire length on the north. During the past year school houses have sprung up all over the county as by magic. Sheridan Lake, the county seat, boasts of the finest school-house in the county. It is a large two-story frame building, of model design, and very nicely finished within and without, costing \$2,000. The Arlington school has quite a large one-story frame building, costing about \$1,400. District No. 8 has a \$1,500 school building now in course of erection. District No. 18 has just completed a very neat frame building, at a cost of about \$1,000. District No. 23 has a substantial frame building, costing \$900. District No. 1 is now making arrangements to burn the brick to put up a \$30,000 school house. In traveling through the county one can plainly see that the people take a great interest in the matter of education.

F. E. TORBIT.

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#### LAKE COUNTY.

The schools in Lake county are all in healthy condition, and a larger percentage of children of school age are in regular attendance in the public schools than at any previous time in the educational history of the county. Our teachers are well educated and drilled in school work, and are rendering unusual satisfaction to the patrons of the different school districts. "Frequent visits of the County Superintendent to the schools and close inspection of the work done by each teacher," as suggested by the State Superintendent of Schools, has been faithfully carried out in Lake county and has instilled educational enthusiasm in the teachers, and has given encouragement to tax-payers and to the patrons of the public schools as well as to

enliven the interest of the school children in their work. The School Boards of every district in the county are composed of the best business men of this county, whose hearts are in the cause of education, and who, like the writer, believe that the stability of our government is dependent upon an intelligent citizenship, which must come from the public schools of the Nation.

DR. J. J. CROOK.

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**LARIMER COUNTY.**

The schools of Larimer county are progressing in the steps toward gradation have been taken and an effort to secure regularity in attendance has been made. During the school year beginning July 1, 1889, and ending June 30, 1890, thirty-five districts have enforced the "compulsory attendance law" in its fullest meaning, and others have partially enforced it. Active measures toward a uniformity in grading are now being taken, which together with the regularity secured by the "attendance law," would seem to insure a year of prosperity in school work. I have introduced teachers' contracts into our districts, certificates of attendance into our schools, and free text-books into nearly every district where a change of text-books has been necessary. The results from the above-named efforts are so satisfactory that I have no hesitancy in recommending the line of work to every County Superintendent.

S. T. HAMILTON.

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**LAS ANIMAS COUNTY.**

The coming year teachers will receive no salary for last month of term until report is made out according to law. Thirty thousand dollars of school bonds are being issued throughout the county. Some elegant school buildings, costing from \$6,000 to the minimum, \$700, have been built during the past five months. Six new buildings are in process of construction at present. Teachers are plenty. I have been trying to raise salaries and thus procure first-class teachers in county schools, with good success. Seven county schools of third-class will have ten months' school, beginning term September 2, 1890. Some districts are exceedingly poor and have advised them to levy special tax, which has been done this year. My report for 1891 I hope will show a vast improvement in the schools under my charge. The law in regard to fines has been strictly enforced and report of same handed to County Commissioners.

GEO. C. SHIELS.

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**LA PLATA COUNTY.**

The schools of La Plata county for the year just closed have been prosperous. Two new districts have been organized during the year. Of the old Districts all except one have maintained school of from four to ten months' duration. One new school building has been

erected and District No. 9 is about to erect a High School building at a cost of \$20,000.

Much interest is taken in educational matters generally by the people, and the schools are gradually improving. Better teachers are sought for and everywhere throughout the county there is a disposition to increase the length of time school shall be held; in some sections private subscriptions being raised for this purpose. Considerable effort has been made to furnish the school-rooms with apparatus and appliances for increasing the efficiency of the teachers, and wall maps, globes, charts, and other aids have been supplied.

Teachers' Associations have been held during the year with marked success and they have become a permanent institution in the educational work of the county.

The Teachers' Normal Institute which was held in this county beginning August 4, 1890, has been productive of great benefit to the schools. The Executive Committee were extremely fortunate in securing an able corps of instructors, consisting of Professors Copeland and Baker and Mrs. Flora E. Haffy. Forty-five members were in attendance from this county and fourteen from other parts of the District. The school officers of the several Districts evinced a very liberal spirit in voting salaries to teachers who attended the Institute. The Institute can be said to have been very successful throughout. Fine lectures were given on subjects of interest, and the teachers enjoyed entertaining and instructive talks from Superintendent Dick, Professors Gray and Fitzpatrick and Mrs. Ashton, of the Cleveland, Ohio, Training School. It is urgently recommended that this Normal District be divided or at least re-organized. It is very inconvenient for teachers from all parts of the District to attend at any point suitable for holding the Institute.

Compulsory education has received considerable attention and a beginning made that will be of great benefit in the future.

Financially the School Districts are in a satisfactory condition, nearly all being able to cash their warrants when presented. The taxable property of the county will soon be increased by the addition of thirty miles of railroad now in process of construction and in the increase of real estate holdings. The proposition to dispose of a portion of the school lands, thereby decreasing the burden of taxation, is most favorably commented upon in this section and should receive the careful attention of those in charge of such matters.

Respectfully yours,

C. A. PIKE.

**LINCOLN COUNTY.**

The schools of this county are progressing well. It is one of the new counties created in 1889. It is sparsely settled, having been until quite lately a stock-raising district altogether. Settlers are coming in however, and schools are increasing, so that we now have seven in number, and more are being called for. Some of the most interesting and earnest schools are those held in sod houses, and it is surprising to see what neat and comfortable houses they are (both in winter and summer.) Almost all our schools are well supplied with maps, charts, globe, etc., and most of them have terms of nine to ten months each year. We have a good corps of teachers, who on the average receive good pay, and I think are earning their wages by conscientious work. The principal school is at Hugo, where they have a fine brick school-house, costing \$8,000.

District No. 3 (Arriba), will build a new frame house in the spring, cost \$1,500. One of the schools in District No. 2, Bovina, has just completed a new sod house, 18 x 26 feet, and I doubt if many of the frame houses of its size are as well lighted and comfortable as this one. They have a live teacher and bright pupils there too.

On the whole I consider the schools of Lincoln county in a very creditable condition.

H. A. LOWELL,  
*Superintendent.*

**MONTROSE COUNTY.**

The educational condition of our schools has greatly advanced. The Normal Institutes have greatly advanced our teachers in their work, and have created a very healthy sentiment among our citizens. School Boards are aroused to the opinion that it takes a good teacher with a supply of school apparatus to run a good school. There have been no cases of expulsion or suspension of pupils from school the past year, and but few cases of corporal punishment. We have constructed a number of new school-houses in the rural districts during the past year. We have graded our rural schools, and where pupils have completed their eight years' work in the district school, they are admitted to our County High School, located at Montrose. The Board of Education at Montrose do not charge any tuition to non-resident pupils.

J. J. TOBIN.

**MORGAN COUNTY.**

The school work of Morgan county is progressing satisfactorily, with but few exceptions. None but good talent is employed by our School Boards. The schools are about all supplied with an abundance of the best and latest apparatus. Of the eight districts, five have adopted a definite course of study. Our teachers met last

spring and organized an association for the purpose of meeting to discuss various points in their work. The old teachers of last year have been pretty generally retained for this year's work. The finances of our county are in bad shape, because of the failure of the Bank of Fort Morgan. The bulk of the funds which were stolen belonged to the schools, and, although the districts have a balance credit on the Treasurer's books, they are unable to draw the money, and their warrants are from five to ten per cent. below par.

WM. E. GARVER.

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#### MONTEZUMA COUNTY.

I have the honor to herewith submit my annual report for the year ending June 30, 1890. Because of the incomplete records in the several districts, this report is necessarily incomplete. District Boards have all been furnished with the necessary record books since January 14, and two new districts have been formed. This is one of the new counties of the State, and but recently settled, yet the people are taking an interest in educational work. A High School has been established at Mancos, and a Graded School at Cortez, where a stone school-house of two rooms, well furnished, has been completed, and will be occupied the coming year. The Montezuma County Teachers' Association held its second meeting at Cortez on the twenty-seventh and twenty-eighth of August, when the name was changed to the Montezuma County Educational Association. A constitution and by-laws were adopted, admitting to membership those who are interested in education, and who subscribe to the constitution and by-laws—the aim being to admit all school officers and patrons who wish to become members. Arbor Day was not universally observed, because of lack of water and permanent location of school-houses. The Educational Association of this county will hold quarterly meetings in different parts of the county, and suggest that the school law be so amended that it will permit the County Superintendent to hold examinations on the adjournment, and at the same place in the county at which the Educational Association held its meeting. In this I heartily concur.

D. M. LONGENBOUGH.

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#### MESA COUNTY.

It is about impossible to get reliable reports from the secretaries. Our greatest trouble with the teachers is, that the School Boards are inclined to hire transient teachers. The School Boards are ready to pay good wages, and are now trying to increase the school months in a year.

E. T. FISHER.



**OTERO COUNTY.**

When I came into office, January 14, 1890, there were eight school districts with nine schools. Also, one Union District with Kiowa county. But, owing to a loss of part of the school funds, by the division with Bent county, three of the schools were closed. But two of them started up and continued for two months longer. Since that time I have organized four new districts with the fifth now organizing. We employed fourteen teachers last year, while we will employ twenty-two or twenty-three the present school year. I have worked hard to waken a deeper interest in the school work, and I am encouraged to believe that good results will crown my efforts. I shall encourage the organizing of new districts where needed. Others are spoken of. As I now view it, the school prospects of Otero county are encouraging.

A. L. LYONS.

**OURAY COUNTY.**

The schools of Ouray county are awakening to the benefits of longer terms and a higher grade of teachers. The average salary for the past year in rural districts is: male, \$60.83; female, \$67.50; highest, male, \$75.00; female, \$100.00; lowest, male, \$50.00; female, \$40.00. Ouray has the only graded system—with High School course—in charge of Prof. G. H. Thraikill and four assistants. District No. 6 has a valuation of a half million dollars and a school population of one hundred and eleven. During the past year, by the energy of Mr. Finney Jones, district treasurer, it has built and furnished two good school-houses—one at Ironton and one at Red Mountain—and maintains a ten month's school out of a special tax levied by a vote of the electors. This district enjoys the novelty of being the highest (altitude 11,000 to 13,500 feet) in the State, if not in the United States; as well as two of the best "school ma'ams" who each receive a salary of \$100 per month. This year the assessed value of the county will exceed one and one quarter millions, an increase of over half a million, and all the schools have levied special tax to maintain a six to ten months term. All have adopted the course of study. No. 3 and No. 4 have tried the experiment of owning the text books, and no longer call it an experiment but a success.

I would suggest that the secretaries be required to furnish a list of all warrants drawn, to accompany the annual report, and that the county treasurer report by number and amounts all warrants paid; as at present there is no satisfactory way to get at the outstanding indebtedness.

PHILLIP H. SHUI.

**PROWERS COUNTY.**

Our county was organized but little over a year ago with only thirteen districts in the county, and the number has since been increased to twenty-one, which employ twenty-five teachers. The progress made in educational work since the organization of the county is quite perceptible, and this is especially true of the Graded Schools at Lamar and Granada. Our School Boards are awakening to the necessity of furnishing maps, charts, globes and other necessary helps. There is also a marked tendency on the part of the various School Boards to employ the most competent teachers that can be secured, and have in many instances increased the salary of teachers from five to fifteen dollars on the month, thereby causing an increased number of applicants for certificates as to-day's examination shows by the presence of twenty applicants for certificates.

Since returning from the Institute, I have made a thorough canvass of the teachers of the county and find them loud in their demands for smaller Institute Districts. I am satisfied that had the district contained only five counties my county would have been represented by eighteen or twenty teachers instead of only five.

GEO. T. FEAST.

**PARK COUNTY.**

ALMA, COLO., Nov. 15, 1890.

STATE SUPT. FRED DICK:

DEAR SIR:—Educational work in this county has progressed commendably during the past two years.

Our people do not hesitate to supplement the General Fund by voting a liberal amount of special tax for the support of schools.

Several good school-houses have been built; others will be constructed in the near future.

We have many excellent teachers, and most of our School Directors will engage only those of high standard.

Yours truly,

T. W. DUFFY,  
*County Superintendent.*

**PHILLIPS COUNTY.**

HOLYOKE, COLO., Sept. 12, 1890.

The schools of Phillips county I am glad to say are in a very good condition, considering the adverse circumstances under which we have labored. Our limited means is all of which we complain. The lack of which is *all* that retards our progress in shortening our terms of school, making it impossible in many districts to provide as fully

as could be wished, the appliances so needful in all schools. The disposition on the part of the whole people and School Boards is not I can truly say excelled anywhere. Our people are wide awake in this line, and are doing all they can to advance the cause. We have now forty-two districts in the county, three being added the past year. Our school term ranges from four months in the country to nine in our city school, many of the country schools having six and eight months. The schools have suffered from the lack of proper grading, and I, with the teachers of the county, hail with delight the State Manual and Course of Study, and I believe that much good will come from its use.

We instituted in the county the past year Monthly Teachers' Institutes, which have resulted in much good to the teachers, and has been the means of awakening a deeper interest on the part of the people. Our County Institute held a two weeks' session in August, which was well attended by the teachers, 38 attending. By the generosity of our County Commissioners we were enabled to procure very capable instruction. Prof. Condit, of Delta county, being our principal instructor, assisted very ably by some of our home teachers. The State Superintendent, Hon. Fred Dick, was with us one day and encouraged us with his presence, and kind words of encouragement. His lecture in the evening on the needs of the rural school struck the key-note of our condition here.

CHAS. B. TIMBERLAKE,  
*County Superintendent.*

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#### PUEBLO COUNTY.

The financial statement is mainly made from the report of the County Treasurer, and the personal statistics are largely taken from the teachers' reports. The number of private pupils is estimated. Quite a number of teachers in the city schools do not hold county certificates, and therefore the grade of these is not given. I know that this report is faulty, but the data furnished was even more faulty. Nearly all of the schools of Pueblo county will open during this month, and the terms will be about five per cent. longer than last year. I am flooded with low grade teachers, but there has been more demand for teachers of a high grade than formerly. To secure uniformity of text-books, to grade the country schools and to obtain a regular attendance will be my next month's work.

J. P. THURMOND.

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#### RIO BLANCO COUNTY.

Although far from satisfactory, the work of the year in Rio Blanco county gives some encouragement. Two new and comfortable log school-houses have been built and furnished with improved automatic seats, maps, globes and dictionaries. An association of teachers and

school officers has been organized. There is an increased demand for better teachers and an advance in the price offered for talent. Temporary certificates are refused except in urgent cases, and the cheap work that drives out professional teachers is a thing of the past.

The failure of teachers to make their reports in such manner as to enable the District Secretaries to compile their annual reports has caused trouble in some instances, and I beg to suggest that the law be amended to require teachers to submit their reports to the County Superintendent for inspection and endorsement before payment is made for the last month's service.

C. W. FOREMAN.

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#### RIO GRANDE COUNTY.

As a natural consequence the schools of our county are increasing in number as the county becomes settled. There are, at this time, seventeen organized districts, containing twenty-six schools. The Monte Vista and Del Norte districts each have a High School department, which does much to increase the attendance and cause the pupils of the lower grades to want to remain in school each year until the term closes. With one exception, the several districts have comfortable houses for school purposes, and they are moderately well furnished with the latest improved apparatus. The teachers are up to the average in text knowledge and skill in teaching, though not equal to the standard hoped to be reached soon. A County Teachers' Association was organized last year, with good result, and the work will be resumed the coming year. In the country districts an effort is being made to follow the course of study adopted by the County Superintendents' Convention. It is not intended to adopt it in full this year, but to get a start toward the final gradation of our district schools.

JESSE STEPHENSON.

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#### ROUTT COUNTY.

Teachers throughout the county have given general satisfaction. Scholars are bright, and school interest is onward and upward. Improving in grade of teachers. The territory of each district is large, and some scholars cannot reach school privileges. Have had much trouble getting reports from all the secretaries. Number ten was sent but never reached me, and I had to "run down" the secretary and get data. My report is mainly correct, but what I had to base it on was not satisfactory. Assessed valuation of each district was not reported by any of the secretaries, and I could not get it of the Assessor. If wanted, I can get the assessed valuation of property in the county. We are cut off from Institutes by mountain ranges and distance, and could not make one interesting yet here. The extreme districts are two hundred and thirty miles apart. To get to No. 12 I would have

to travel one hundred and fifty miles, and seventy-five to No. 1, and one hundred to No. 11. No railroad touches the county. Had nine good schools during the summer, and will have nine during the winter. Joint District No. 3, Eagle and Routt, did not report to me. There are only four scholars in this county to that district, and perhaps the secretary reported to Mr. Dilts, of Eagle. Joint District No 4 reported to me.

J. A. CAMPBELL.

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#### SAN JUAN COUNTY.

The only school in San Juan county is situated at Silverton, Colo., and has been doing splendid educational work during the past year. Teachers are both first-class, able and industrious, and are doing good school work that will last.

J. W. BROWN.

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#### SAN MIGUEL COUNTY.

Two new districts have been organized, No. 5 only a week or so before the end of the school year. It is probable that another district will be organized shortly. It is expected that three of the four districts will have nine months school this coming year.

H. C. LAY.

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#### SAGUACHE COUNTY.

The educational condition of this county was never better, nor the outlook brighter for a successful school year.

Modern school apparatus has been purchased; school-rooms have been refitted and refurnished; school-houses have been built in several districts; other districts have added to their room, or repaired their houses and, in fact, every step has been taken by School Boards to add to the school advantages or comfort of the children.

Through hard and persistent work on the part of the Saguache School Board, a High School Course, open to all High School pupils in the county, has been added to the Saguache school.

School Officers, Teachers and patrons all over the county are deeply and sincerely interested in the matter of education and feel the growing demand for more school advantages and advanced courses of instruction.

However, there is in my mind one serious hindrance to the material progress of the country schools, *i. e., the continual changing of teachers.*

Many schools did not commence as soon as usual, owing to the scarcity of teachers in the county.

T. M. LYON.

**SEDGWICK COUNTY.**

Schools in very good condition. Buildings not very good but in good repair as the districts are able to afford. Districts generally poor, hence small salaries, and in consequence of which, teachers, many of them, carry low-grade certificates. Conspicuous lack of uniformity of text-books in some districts, also great need of more apparatus—maps, charts, etc.

E. H. STEVENS.

**SUMMIT COUNTY.**

With the strong, healthy impetus given us from the effect of the last two years of institute work, our teachers are all wide awake, and their influence is felt all over the county. At our institute this year at Leadville, we had every teacher in the county present. I have concluded it best and decided not to grant any more permits to teach in the county, which has had a decided influence for good to our teachers, giving them heart and courage to keep abreast of the times.

**WASHINGTON COUNTY.**

The schools of this (Washington) county are in as flourishing a condition as they well can be, considering the one discouraging feature the most of them labor under, viz.: The smallness of attendance, many of the districts being almost depopulated, yet making noble efforts to retain their organizations. Four new districts have been organized this year, while two have gone back. Other, and necessary districts, would have been formed, but could not because of that portion of the law requiring fifteen persons of school age to be left in the old districts. During the coming year school will be maintained in all the present districts, with an increased length of term. At Akron the force of teachers will be increased over last year by one, and the school will be more thoroughly graded. There is a strong sentiment throughout the county in favor of the ownership of text-books by the districts, and the coming year all districts will probably adopt the plan. The county has been favored with a most excellent corps of teachers the past year, many of whom will be retained the coming year. The facts attest the character of the work. In behalf of my teachers, I would earnestly request that if any division of institute districts be made at the coming session of the Legislature, that one be created comprising the counties of Yuma, Washington and Morgan. This will make a district convenient for all its teachers as well as for many teachers in eastern Arapahoe who find it very inconvenient to attend the institutes in that district.

E. M. FORBES.

## YUMA COUNTY.

Our schools are improving and educational interest increasing. Our teachers, as a rule, realize the importance of the work in which they are engaged, and are striving to improve in scholarship and in methods of teaching. The school books, except those owned by the districts, are very much mixed, and no reports made by the secretaries. I am making an effort to have the districts purchase books. The Course of Study has been placed in the hands of the teachers, and we are making an effort to make the work uniform throughout the county. We hold Teachers' Association monthly during the school year and most of the teachers take an active part.

M. W. HOVER.

## EXHIBIT I.

*County Superintendents of Schools, from January, 1890,  
to January, 1892.*

COUNTY	NAME	POST-OFFICE
Arapahoe . . . . .	A. D. Shepard . . . . .	Denver
Archuleta . . . . .	W. P. Underwood . . . . .	Pagosa Springs
Baca . . . . .	Charles Smith . . . . .	Springfield
Bent . . . . .	Fred Ford . . . . .	Las Animas
Boulder . . . . .	W. V. Casey . . . . .	Boulder
Chaffee . . . . .	Lee Champion . . . . .	Salida
Cheyenne . . . . .	S. C. Perry . . . . .	Kit Carson
Clear Creek . . . . .	Henry Bowman . . . . .	Idaho Springs
Conejos . . . . .	L. A. Norland . . . . .	Alamosa
Costilla . . . . .	Frederick Etter . . . . .	Fort Garland
Custer . . . . .	Price Walters . . . . .	Silver Cliff
Delta . . . . .	P. M. Condit . . . . .	Delta
Dolores . . . . .	Dr. F. Roys . . . . .	Rico
Douglas . . . . .	P. H. Hammond . . . . .	Castle Rock
Eagle . . . . .	James Dilts . . . . .	Red Cliff
Elbert . . . . .	B. C. Killin . . . . .	Kiowa
El Paso . . . . .	Reuben Berry . . . . .	Colorado Springs
Fremont . . . . .	B. G. Woodford . . . . .	Cañon City
Garfield . . . . .	S. M. White . . . . .	New Castle
Gilpin . . . . .	F. B. McLeod . . . . .	Central City

EXHIBIT I—*Continued.*

COUNTY	NAME	POST-OFFICE
Grand . . . . .	J. N. Pettengill . . . . .	Grand Lake
Gunnison . . . . .	Charles Fueller . . . . .	Gunnison
Hinsdale . . . . .	W. S. Elmendorf . . . . .	Lake City
Huerfano . . . . .	Dr. F. D. Baird . . . . .	Walsenburg
Jefferson . . . . .	J. S. Eagleton . . . . .	Golden
Kiowa . . . . .	F. E. Torbit . . . . .	Eads
Kit Carson . . . . .	D. S. Harris . . . . .	Burlington
Lake . . . . .	Dr. J. J. Crook . . . . .	Leadville
La Plata . . . . .	Chas. A. Pike . . . . .	Animas City
Larimer . . . . .	S. T. Hamilton . . . . .	Fort Collins
Las Animas . . . . .	Geo. C. Shiels . . . . .	Trinidad
Lincoln . . . . .	H. A. Lowell . . . . .	Hugo
Logan . . . . .	W. B. Wheeler . . . . .	Sterling
Mesa . . . . .	E. T. Fisher . . . . .	Grand Junction
Montezuma . . . . .	D. M. Longenbough . . . . .	Cortez
Montrose . . . . .	J. J. Tobin . . . . .	Montrose
Morgan . . . . .	W. E. Garner . . . . .	Fort Morgan
Otero . . . . .	A. R. Lyon . . . . .	La Junta
Ouray . . . . .	P. M. Shue . . . . .	Portland
Park . . . . .	T. M. Duffy . . . . .	Alma
Phillips . . . . .	C. B. Timberlake . . . . .	Holyoke
Pitkin . . . . .	E. C. Stimson . . . . .	Aspen
Prowers . . . . .	Geo. T. Feast . . . . .	Granada
Pueblo . . . . .	J. P. Thurmond . . . . .	Pueblo
Rio Blanco . . . . .	C. W. Foreman . . . . .	Meeker
Rio Grande . . . . .	Jesse Stevenson . . . . .	Monte Vista
Routt . . . . .	J. A. Campbell . . . . .	Steamboat Springs
Saguache . . . . .	T. M. Lyons . . . . .	Saguache
San Juan . . . . .	Dr. J. W. Brown . . . . .	Silverton
San Miguel . . . . .	H. C. Lay . . . . .	Telluride
Sedgwick . . . . .	E. H. Stevens . . . . .	Julesburg
Summit . . . . .	Dr. B. A. Arbogast . . . . .	Breckenridge
Washington . . . . .	E. M. Forbes . . . . .	Akron
Weld . . . . .	W. C. Thomas . . . . .	Greeley
Yuma . . . . .	M. W. Hover . . . . .	Yuma



EXHIBIT I—*Continued.**City Superintendents and Principals of High Schools,  
1890-1891.*

NAME	POSITION	POST-OFFICE ADDRESS
Aaron Gove . . . . .	Superintendent . . . . .	Denver, No. 1
H. F. Wegener . . . . .	Superintendent . . . . .	Denver, No. 2
C. V. Parker . . . . .	Superintendent . . . . .	Denver, No. 17
C. L. Kingsley . . . . .	Superintendent . . . . .	Boulder
P. K. Pattison . . . . .	Superintendent . . . . .	Colorado Springs
J. A. Smith . . . . .	Superintendent . . . . .	Central City
E. D. Graber . . . . .	Superintendent . . . . .	Gunnison
W. Triplett . . . . .	Superintendent . . . . .	Golden
E. L. Byington . . . . .	Superintendent . . . . .	Fort Collins
E. C. Stevens . . . . .	Superintendent . . . . .	Trinidad
W. T. Eddingfield . . . . .	Superintendent . . . . .	Aspen
J. S. McClung . . . . .	Superintendent . . . . .	Pueblo, No. 1
P. W. Search . . . . .	Superintendent . . . . .	Pueblo, No. 20
A. B. Copeland . . . . .	Superintendent . . . . .	Greeley
N. H. Clark . . . . .	Principal . . . . .	Las Animas
J. L. Harding . . . . .	Principal . . . . .	Longmont
Mrs. Lucy Boling . . . . .	Principal . . . . .	Salida
Mrs. Emma Leake . . . . .	Principal . . . . .	Buena Vista
W. B. Suckling . . . . .	Principal . . . . .	Georgetown
J. M. Seright . . . . .	Principal . . . . .	Silver Plume
W. A. Haggott . . . . .	Principal . . . . .	Idaho Springs
A. T. Bomier . . . . .	Principal . . . . .	Alamosa
P. M. Condit . . . . .	Principal . . . . .	Delta
P. H. Davis . . . . .	Principal . . . . .	Castle Rock
J. P. Jackson . . . . .	Principal . . . . .	Colorado City
J. H. Baker . . . . .	Principal . . . . .	Denver, No. 1
H. L. Peet . . . . .	Principal . . . . .	Denver, No. 2
C. I. Hays . . . . .	Principal . . . . .	Denver, No. 17
L. B. Grafton . . . . .	Principal . . . . .	Manitou
O. S. Moles . . . . .	Principal . . . . .	Cañon City
H. E. Smith . . . . .	Principal . . . . .	Cañon City
C. M. Kiggins . . . . .	Principal . . . . .	Glenwood Springs

EXHIBIT I—*Concluded.*

NAME	POSITION	POST-OFFICE ADDRESS
H. W. Zirkle . . . . .	Principal . . . . .	Black Hawk
W. H. Hoff . . . . .	Principal . . . . .	Crested Butte
J. C. Logan . . . . .	Principal . . . . .	Lake City
G. M. McKay . . . . .	Principal . . . . .	Walsenburg
Mrs. G. M. McKay . . . . .	Principal . . . . .	La Veta
Miss Adelaide Holdridge . . . . .	Principal . . . . .	Leadville
T. O. Baker . . . . .	Principal . . . . .	Durango
A. L. Hamilton . . . . .	Principal . . . . .	Loveland
W. F. Bybee . . . . .	Principal . . . . .	Sterling
J. A. Guttery . . . . .	Principal . . . . .	Grand Junction
J. H. Allen . . . . .	Principal . . . . .	Montrose
G. H. Thraillkill . . . . .	Principal . . . . .	Ouray
C. M. Stevenson . . . . .	Principal . . . . .	Fairplay
H. D. Barr . . . . .	Principal . . . . .	Holyoke
T. A. Bird . . . . .	Principal . . . . .	Lamar
John Sogard . . . . .	Principal . . . . .	Monte Vista
G. W. Reed . . . . .	Principal . . . . .	Del Norte
J. H. Freeman . . . . .	Principal . . . . .	Saguache
Miss Luella Burgwin . . . . .	Principal . . . . .	Silverton
W. H. Kortz . . . . .	Principal . . . . .	Julesburg
J. G. Yeager . . . . .	Principal . . . . .	Breckenridge
E. L. Hewett . . . . .	Principal . . . . .	Florence
W. M. Kollock . . . . .	Principal . . . . .	La Junta
E. F. Nichols . . . . .	Principal . . . . .	Rocky Ford
Mrs. E. H. Fintel . . . . .	Principal . . . . .	Meeker

## EXHIBIT II.

*Questions for the Quarterly Examination of Teachers, Fourth Quarter, 1889; Prepared by the Superintendent of Public Instruction, Denver, Colorado.*

## PENMANSHIP.

(Forty-five minutes.)

1. Explain the meaning of the term slant.
2. What ought a teacher to know in order to teach writing in the primary grades?
3. What is a good business hand?
4. Write a receipt for money received to-day, in payment for goods sold September 1, 1889.
5. What knowledge of a letter do you require a child to have before teaching him to write it?
6. Give your method of conducting a recitation in writing.
7. Write the Capital letters in which the Capital stem occurs.
8. Describe a proper position of the body when writing.
9. Analyze the letters that are one and one-fourth spaces high.
10. Write a suitable copy for a pupil fifteen years old.

## ARITHMETIC.

(Two hours.)

1. Write in words, 6789001243. By what numbers, less than 10 is it divisible? How are they determined except by trial?
2. How many square feet of stone flagging in a side walk that is 4 feet wide, extending around a rectangular garden 150 feet long and 125 feet wide?
3. Find value of  $9\frac{3}{8} \div \frac{2\frac{1}{3} - 4\frac{1}{2}}{3\frac{3}{4} \times \frac{2}{3}}$
4. A yard 54 feet 8 inches, by 42 feet 6 inches, is to be paved with square tiles of equal size and as large as possible. What are the dimensions of each tile?
5. The longitude of Rome is  $12^{\circ} 27'$  East, of New York  $74^{\circ} 0' 24''$  West. What is the difference between the two places in geographic miles?
6. A. sold goods for \$295.00 and gained three times as much as he would have lost had he sold them for \$235.00. What was his gain per cent.?
7. A person travels 4 miles the first hour and increases his speed  $\frac{2}{3}$  mile each hour for 17 hours. How far does he travel?
8. A sphere 9 inches in diameter is placed in a cubic box whose edge is 9 inches inside measurement. How much vacant space is left?

9. What rate per cent. of income will be received on U. S. 5's at 108 and payable at par in twenty years?

10. If 9 men reap 40 acres in 10 days, working 10 hours per day, how many hours per day must 12 men work to reap 50 acres in 15 days? Solve by proportion.

#### READING.

(Sixty minutes.)

1. What objects are to be kept in view in teaching reading?
2. When should difficult words be explained to pupils?
3. How do you cultivate self-reliance in reading?
4. Define articulation, inflection, rate.
5. What preparation is necessary, by the teacher, to properly conduct a recitation in the second reader?

1-50. Read selections in the presence of the class and the examiner.

#### UNITED STATES HISTORY.

(Ninety minutes.)

1. Name an important event in U. S. history with which one of the following names is associated: Menéndez, Ponce de Leon, De Monts, Raleigh, Frobisher.

2. Describe the form of government in a Royal Province.

3. What were "The United Colonies of New England," and what was their object?

4. Did the Inter-Colonial wars exert any influence upon the organization of this government? If so, what?

5. What led France to assist the U. S. in the Revolutionary war?

6. Write a brief history of the American Flag.

7. What events in the history of the U. S. have promoted the development of the great resources of this country?

8. Name five important national questions, since the year 1800, upon which political parties have been divided.

9. Name some of the advantages to the South, growing out of the Rebellion.

10. What was the "Reconstruction Policy" of President Johnson?

#### ORTHOGRAPHY.

(Thirty minutes.)

1. How many sounds has the letter E? Indicate them.

2. What is an elementary sound?

3. Define syllable, vowel, aspirate.

4. Write five compound words in which the hyphen is used, and five in which it is not used.

5. Indicate the correct pronunciation of combat, bombard, executive, dey, garrulous.

1-50. Spell correctly the words pronounced by the examiner.

## PHYSIOLOGY.

( Thirty minutes.)

1. What is the difference between near sightedness and far-sightedness?
2. How does exercise strengthen the bones?
3. Where are the kidneys located and what is their function?
4. How do the muscles compare in weight with the rest of the body, and in number with the bones?
5. If the clothing of a pupil catch fire in the school room what would you do?

## SCHOOL LAW.

( Forty-five minutes.)

1. Give the substance of the so-called "Compulsory Education" act, passed by the last General Assembly.
2. When is Arbor Day in Colorado?
3. For what purposes may a school district be bonded?
4. Name at least five duties of a School Board.
5. How are school districts classified? How many Directors has each class?

## BOTANY.

( Thirty minutes.)

1. Define the terms, species, genus, variety.
2. For what purposes are trees grafted?
3. What are the functions of the cells of plants?
4. Describe the parts of a mushroom.
5. How do plants scatter their seeds?

## NATURAL SCIENCES.

( Ninety minutes.)

1. Prove that the air presses in all directions.
2. Give the three laws of motion.
3. Plunge a piece of wood into strong  $H_2SO_4$ . What can be learned from the experiment?
4. Name two important substances obtained from coal tar.
5. What is meant by rain-fall? How does the amount of rain-fall compare with the amount of water evaporated on the land and on the sea?
6. What is twilight?
7. Name five kinds of building stone.
8. Explain what is meant by "Harvest Moon" and "Hunter's Moon."
9. Describe the position of the earth at the equinoxes and solstices.
10. What are the general characteristics of mammals?

## EXERCISES IN READING AND SPELLING.

All day we sat in the heat,  
 Like spiders spinning,  
 Stitching full, fine and fleet,  
 While the old Jew on his seat  
 Sat greasily grinning;  
 And there Tom said his say,  
 And prophesied Tyranny's death;  
 And the tallow burnt all day,  
 And we stitched and stitched away  
 In the thick smoke of our breath,  
 Wearily, wearily, so wearily,  
 With hearts as heavy as lead;—  
 But, "Patience! she's coming!" said he;  
 "Courage, boys! Wait and see!  
 Freedom's ahead!"

—*Buchanan.*

Our skipper—a good sailor though a brute—  
 Gave a long look over the vessel's side,  
 Then to the steersman whispered half aside,  
 "See that ox-eye out yonder? It looks queer."  
 The man replied, "The storm will soon be here.  
 Hullo! All hands on deck! We'll be prepared!  
 Stow royals! Reef the courses! Pass the word!"  
 Vain! The squall broke ere we could shorten sail;  
 We lowered the topsails, but the raging gale  
 Spun our old ship about. The captain roared  
 His orders—lost in the great noise on board.

—*Coppee.*

In the remotest double star which the telescope can divide for us, we see working the same familiar forces which govern the revolution of the planets of our own system. The spectrum analysis finds the vapors and the metals of earth in the aurora and in the nucleus of a comet. Similarly we have reason to believe that in the past condition of the earth, or of the earth's inhabitants, there were functionary energizing of which we have no modern counterparts.—*Froude.*

The grave-digging scene next engaged the attention of Partridge, who expressed much surprise at the number of skulls thrown upon the stage. To which Jones answered, "That it was one of the most famous burial-places about town." "No wonder then," cries Partridge, "that the place is haunted. But I never saw in my life a worse grave digger. I had a sexton when I was clerk that should have dug three graves while he is digging one. The fellow handles a spade as if it was the first time he had ever had one in his hand. Ay, Ay, you may sing. You had rather sing than work, I believe." Upon Hamlet's taking up the skull, he cried out, "Well, it is strange to see how fearless some men are; I never could bring myself to touch anything belonging to a dead man on any account. He seemed frightened enough too at the Ghost, I thought."—*Fielding.*

## WORDS TO BE SPELLED.

Telegraphy, avaricious, orthoepy, diaeresis, gazetteer, tonnage,  
 tillable, plantain, tureen, drollery, withe, jocund, perjurer, phthisis,  
 dessert, penguin, chaplain, gnostic, borough, bazaars.

## GRAMMAR.

(Ninety minutes.)

1. What are the principal parts of a verb? Why so called?
2. Write five participles of the verb accuse.
3. Write one sentence containing the pronouns I, you and he used correctly. Give reason.
4. When are the following adjectives susceptible of comparison? dead, straight, equal, square, perfect.
5. What tense represents an action as finished at or before a future time named? Give example.
6. Diagram the following :

*Oh, what would I give, like a bird, to go  
Right on through the arch of the sunlit bow,  
And see how the water-drops are kissed,  
Into green and yellow and amethyst !*

7. Parse words in italics.
8. What is the value of grammar as a mental discipline?
9. Write sentences illustrating Hyperbole, Simile, Personification.
10. Correct the following and give reasons :  
Will you forget me ; I who have always been your friend?  
Who are you working for?  
I can not tell whether he has sold it or not.  
Our horse is very kind usually.  
I never read that book and never intend to.

## THEORY AND PRACTICE.

(Forty-five minutes.)

1. Write a short argument for or against free text-books.
2. Should pupils, not in class, be allowed to ask questions during recitations? Give reasons.
3. What rules of order do you require to be observed at recess?
4. Name three duties of the teacher to the Board of Directors.
5. What do you learn from those who have been your pupils?
6. Define Pedagogics.
7. How long ought a person to teach school?
8. What measures do you adopt to promote the health of your pupils?
9. Should a teacher have oversight of the play-ground during recess? Give reasons.
10. Ought a teacher to use tobacco in any form? Give reasons.

## GEOGRAPHY.

(Forty-five minutes.)

1. Name and bound the County in which you reside. What is its County Seat.
2. Name five Counties of Colorado in which the principal occupation is silver mining.

3. Which is longer, a solar or a sidereal day? Explain.
4. Name and describe three rivers in Africa, three lakes in Europe, and three islands of Asia.
5. Bound Brazil.
6. A tree on the equator to-day, casts a shadow in what direction? Explain.
7. Name and locate five capes on the Atlantic coast of the United States.
8. What meridian separates the Eastern from the Western Hemisphere?
9. Name the State in which President Harrison was born and describe its surface.
10. Give a topical plan for the study of the geography of the United States.

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### EXHIBIT III.

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*Questions for the Examination of Applicants for State Diplomas.  
Denver, Colorado, June 24, 25, 26 and 27, 1890.*

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#### READING.

1. What is the standard of correct pronunciation adopted by good readers?
2. Define Emphasis. Give four guides for its use.
3. What is the "nasal tone" and how may it be broken up?
4. What are the advantages of class drill?
5. Define Elocution. To what extent should it be taught in the first eight grades of the public schools?

#### ARITHMETIC.

1. Define Least Common Multiple, Percentage, Involution Measurement, Duodecimal.
2. A cubical bin measuring 3 feet on an edge is  $\frac{5}{8}$  full of wheat. What is the wheat worth at \$1.12 $\frac{1}{2}$  per cwt.?
3. If I subtract 26.8946 from the product of 3.002 by 9.0408 and divide the remainder by .0103608, what will be the result? (Two places).
4. A telegram is sent without loss of time, from Denver, at 11:30 a. m., to New Orleans, Boston, San Francisco and Paris. At what time should it be received in each city? Longitude as follows: Denver, 104° W.; New Orleans, 90° W.; Boston, 71°, 3', 30'' W.; San Francisco, 122°, 24', 40'' W.; Paris, 2°, 20' E.
5. If it requires 1 lb., 2 oz. of sugar to 1 lb., 4 oz. of fruit in making jam, what will the sugar cost at .08 per lb. for 48 lbs. of fruit?



6. Define Trade Discount, Equation of Payments, Proportion, Geometrical Progression.

7. Prepare a problem in Compound Proportion and solve it.

8. A merchant sold  $\frac{1}{3}$  of a lot of goods at 10% profit;  $\frac{1}{4}$  at 20% profit, and  $\frac{1}{6}$  at 15% profit. The remainder, on which he lost 5%, he sold for \$1.42 $\frac{1}{2}$ . Did he gain or lose, and how much?

9. A man bought a house and lot for \$5,000 agreeing to pay 6 per cent. interest, and to pay principal and interest in five equal annual installments; how much was the annual payment?

10. If I pay \$3 the first month, \$9 the second month, \$27 the third month, and so on, how large a debt will I discharge in one year?

#### ASTRONOMY.

( Answer any eight. )

1. State two essential differences between a planet and a star.

2. Show by a figure the meaning and practical value of stellar parallax.

3. Define what is signified by "the proper motion of the stars."

4. State at least two theories which have been proposed to explain the observed uniformity of solar heat.

5. Why are the sun and the moon not eclipsed every month; the former at new, and the latter at full moon?

6. Give brief accounts of modern planetary discoveries.

7. Give the current theory of Saturn's Rings; also state when and by whom the moons of Mars were discovered.

8. Explain the common phenomenon of "shooting stars."

9. Show by the aid of a figure, how you might compute your latitude from the altitude, declination, and hour-angle of a star.

10. As applied to the planets, what is meant by the phrase: "apparent retrograde motion"?

#### GEOLOGY AND MINERALOGY.

( Answer any eight. )

1. Sketch the various geological ages, giving a main characteristic of each, from azoic rocks to the age of man.

2. What parts have fire and water respectively taken in the earth's construction?

3. Trace the progress of organic life (plants and animals,) from its origin in primitive invertebrates to its completion in man.

4. How are mountains uplifted and formed, and how sculptured to their present forms?

5. What proofs have we of the sea bottom having been elevated to the highest land?

6. How are fossils formed, and what are their principal uses in Geology?

7. Into what classes are minerals divided, chemically speaking?

8. To which of these classes do most Colorado ores belong?

9. What minerals constitute the ores of lead?
10. What are the characteristics of the gems, as distinguished from other minerals?

#### PSYCHOLOGY.

( Answer by eight.)

1. Discuss the general relations of psychology to education.
2. Sketch briefly the development of the human mind and its tendencies in lines of heredity.
3. What are the Laws of Association, briefly stated, and how do we account for sudden apparent departures from these laws?
4. Attention is what? Discuss it in degree, extent, relation to the will, etc.
5. What is an act of knowledge and on what is it founded?
6. Discuss acts of knowledge based on representation in whole or in part.
7. What is an idea, and how is it made of value to the world?
8. Discuss the emotional in our natures and show why it is essential to the good citizen.
9. What is the will? Trace an action as the result of the will back to its inception.
10. How may a study of psychology aid one in developing character in pupils.

#### GRAMMAR.

“Deerslayer knew too well the desperate nature of the struggle in which he was engaged, to lose one of the precious moments. He also knew that his only hope was to run in a straight line, for as soon as he began to turn, or double, the greater number of his pursuers would put escape out of the question.”

1. Diagram or analyze the ~~as~~ above.
2. Write each verb with its object or complement.
3. Compare well, precious, straight, soon, greater. What part of speech is each of these words?
4. Parse the words used as connectives.
5. Give the syntax of the infinitive phrases.
6. Write a sentence: *a.* Containing a verb in the potential mode and past perfect tense; *b.* Containing *as* used as a pronoun; *c.* Containing *but* used as an adverb.
7. What modifications have pronouns?
8. Write the possessive singular and plural of goose, executrix, priest, man-servant, wife.
9. Name ten cases where a capital letter should be used.
10. Copy the following sentences, correcting *all errors*:
  1. the prince of wales is the Heir to the english Throue.
  2. You do not recite good
  3. We live at New York in a hotel.
  4. Have you ever met with this gentleman before?

5. I question if you are right in your statement.
6. A long and short vowel occurs in this word.
7. This is a magnificent slate pencil.
8. The men, the horses, and the dogs which were engaged in the hunt rushed into the open field.
9. Some one cried out as if they were in pain.
10. The right hand is usually the strongest.

## GEOGRAPHY.

1. Define zone. Name the zones on the earth's surface, giving location and width of each. What determines the width?
2. Name and locate five groups of oceanic islands.
3. Name and locate the cities in the United States having a population of 300,000 or more.
4. Give directions for drawing a map of Kentucky.
5. What may be learned from a knowledge of the rivers of a country?
6. Locate the following and designate each as capital or metropolis: Lincoln, Bismark, Olympia, Pierre, Helena, Portland, Cheyenne, Boise City, Carson, Prescott.
7. How do you account for the good harbors on the Pacific coast of the Western Continent?
8. What form the commercial routes of Eastern Europe?
9. From what European States is each of the following products exported: Wheat, wine, zinc, fish, lace?
10. Is the greater portion of Africa north or south of the equator? Where are its principal mountains?

## SCHOOL LAW.

1. How and from what sources is money derived for the support of the public schools?
2. What are the duties of each school director?
3. How is a new school district organized?
4. When and for what purpose is the school census taken?
5. Name five of the powers given by law to the directors of first and second-class districts, that are not given to directors of the third-class.

## ENGLISH LITERATURE.

(Answer any eight.)

1. In what year did the Anglo-Saxons invade Britain? What poetry, if any, did they bring from the continent? What is most noteworthy in the mechanism of Teutonic verse?
2. Describe the literature of the Anglo-Saxons, selecting a poet and a prose writer as the basis of your criticism.
3. Show at length why the year 1066 is notable in the annals of the English language and literature.

4. What great poet wrote in the latter half of the fourteenth century? How does the mechanism of his verse differ from that of his predecessors?

5. Of what blood was King Arthur? What printer issued the first edition of the "Death of Arthur"? What nineteenth century poet has drawn largely from it?

6. Name a famous allegory of the fourteenth century; another of the sixteenth century; another of the seventeenth.

7. What forms of public representation preceded the theatre? Describe them. Name a great dramatist that preceded Shakespeare. In what century were the theatres closed? Why? Who was the chief dramatist of the Restoration?

8. What is the chief epic poem in the language? Give an account of its hero. Write a quotation from it, marking the scansion. What is the chief mock-heroic poem in English?

9. Name four famous elegies; two famous poems on music.

10. To what class of poetry does the Shepherd's Calendar belong? What are some of the peculiarities of its style? What new form of poetry has been cultivated by Browning?

#### THEORY AND ART OF TEACHING.

Give briefly your opinion on each of the following topics:

1. Natural qualifications of a teacher.
2. School discipline.
3. The "New Education."
4. A liberal education.
5. Kindergarten methods.
6. What mental faculties are developed by the study of Arithmetic? Of Geography?
7. Name three advantages and three disadvantages of the "Marking System."
8. What basis for promotion do you recommend in graded schools?
9. In what subjects can concert exercises be used profitably?
10. Make a problem involving the method of finding the average daily attendance and solve it.

#### CHEMISTRY.

1. Discuss fully the formula  $H_2O$ .
2. Discuss the following equation:  $FeS + H_2SO_4 = FeSO_4 + H_2S$ .
3. The density of H being unity, what is the density of  $NH_3$  gas?
4. The combining weight of Fe is 56, and of O, 16: what is the composition of 100 parts of  $Fe_2O_3$ ? (Percentages of each).
5. Describe the function of  $CO_2$  in its relation to animal and vegetable life.
6. Name following compounds, and discuss their relations with one another:  $H_2SO_4$ ;  $HKSO_4$ ;  $K_2SO_4$ .

7. Explain the laws of expansion and contraction of gases as affected by variations in pressure and temperature.
8. Give some description of the element Phosphorus.
9. Name the following four compounds:  $\text{HNO}_3$ ;  $\text{HNO}_2$ ;  $\text{KNO}_3$ ;  $\text{KNO}_2$ .
10. Describe three forms of the element Carbon.

## ALGEBRA.

(Answer any eight.)

1. Solve the equations:

1. 
$$\frac{x^3+3x^2+4x+2}{4x^2+13x+14} = \frac{x^2+x+1}{4x+5}$$

2. 
$$\frac{2(x+1)}{x^2+x+1} - \frac{2}{x+1} + \frac{1}{x+3} - \frac{1}{x-3} = 0.$$

3.  $x - 11y = 1, 11y - 9x = 99.$

2. A certain number of two digits is multiplied by 4 and the product is less by 3 than the number formed by inverting the digits; if the number be multiplied by 5, the tens digit in the product is greater by 1 and the units digit less by 2 than the units digit in the original number; find the number.

3. Solve the equations:

1.  $3 \times 2 - 11x - 4 = 0.$

2.  $\sqrt{7x+1} = 3 + \sqrt{2x-1}.$

3.  $x^2 + xy - 2y^2 = -44, xy + 3y^2 = 80.$

4. Find two consecutive numbers such that the fourth and eleventh parts of the less together exceed by one the fifth and ninth parts of the greater.

5. Define Ratio. If  $a$  be less than  $b$ , show that  $a:b$  is a less ratio than  $a+1:b+1$ . What is the least integer which must be added to the terms of the ratio 9:23 so as to make it greater than the ratio 7:11.

6. The first terms of a proportion are 5 and 54; the sum of the second and third terms is 51; find them.

7. Find the sum of  $n$  terms of a geometrical progression, of which first term is  $a$  and common ratio  $r$ . Sum:

$64 + 64\frac{1}{2} \text{-----to 29 terms (Arithmetic).}$

$64 + 96 \text{-----to 7 terms (Geometrical).}$

8. The common difference of an arithmetic progression is 2, and the square roots of the first, third and sixth terms are in arithmetic progression; find the series.

9. The sum of four numbers in geometrical progression is 170, and the third exceeds the first by 30; find them.

10. Having given  $\log 2 = 0.3010300$ ;

$\log 3 = 0.4771213$ ;

$\log 4.239 = 0.627263$ ;

$\log 4.24 = 7.627366$ ; find the value of

$$\frac{2^{123} \times 3^{\frac{1}{2}}}{10^{35}}$$

## GEOMETRY.

( Answer any eight. )

1. If two triangles have two sides of the one equal to two sides of the other, and the included angles unequal, the triangle having the greater included angle has the greater third side.

2. The sum of the three angles of a triangle is equal to two right angles.

3. In any circumscribed quadrilateral, the sum of two opposite sides is equal to the sum of the other two opposite sides.

4. An angle formed by two secants intersecting without the circumference, is measured by one-half the difference of the intercepted arcs.

5. If a tangent and a secant intersect, the tangent is a mean proportional between the secant and its external segment.

6. Parallelograms having equal bases and equal altitudes, are equivalent.

7. The square of the hypotenuse of a right-angled triangle is equal to the sum of squares described on the other two sides.

8. If two straight lines are intersected by three parallel planes, their corresponding segments are proportional.

9. A triangular pyramid is equal to one-third of a triangular prism having the same base and altitude.

10. In two polar triangles each angle of one is measured by supplement of the side lying opposite to it in the other.

## PHYSICAL GEOGRAPHY.

1. Define Equator, Latitude and Longitude, and explain what is understood by Standard Time.

2. Explain the change of seasons, and the difference in their duration. Why does an inhabitant of Norway see the sun at 1 a. m.?

3. Why does the snow line vary from an elevation of 4,200 feet in Russia, to 15,000 feet in America? What are glaciers, and where found?

4. Mention the various volcanic phenomena manifested upon the earth.

5. Explain the origin and formation of the trade winds, and of the Gulf Stream.

6. State the causes of the dry atmosphere of Colorado.

7. Upon what do the climatic conditions of a place depend?

8. Give the essential features and characteristics of the five races.

9. Explain the formation of the Simoons, Blizzards, or Cyclones, Fogs and Frosts.

10. Give a brief account of the drainage area of the Missouri river.

## UNITED STATES HISTORY.

1. Give brief history of the Massachusetts Bay Colony.
2. Give history of the French and Indian war.
3. What led to the Revolution? Name the Four Intolerable Acts.
4. What were the Articles of Confederation?
5. Give history of the formation of The Constitution.
6. Name the principal events occurring during Jefferson's administration.
7. What was the Monroe Doctrine?
8. What was the origin of Nullification?
9. What was the Dred Scott decision?
10. When was silver demonetized? Remonetized, and why?

## CIVIL GOVERNMENT.

1. Describe the method of election of President and Vice-President of the United States. State the salary of each; the date when their duties begin and the method of being inducted into office; the order of succession provided if there be vacancy.
2. When does Congress assemble; who preside in the two Houses and what are some of the chief committees and their duties?
3. What is the substance of the last three amendments to the U. S. Constitution, and for what reason were they enacted?
4. How is the U. S. Constitution amended?
5. Out of the nineteen articles in our State Constitution, name the titles of seven you consider most important.
6. How many Senators in Colorado? How many Representatives? When do they convene?
7. Name the officers of the Board of Education and state their duties.
8. Where is the common school fund of our State obtained; what is the method of caring for it, and the disbursement of the portion designed for our schools.
9. With reference to the limit of State taxation, state the substance of the clause in our State Constitution.
10. What is the order of succession in Colorado, if there is vacancy in office of Governor?

( Answer eight of the above.)

## PHYSICS.

1. State the three propositions known as "Newton's Laws of Motion."
2. State the proposition known as the "Parallelogram of Forces," and illustrate the same with a diagram.
3. Explain clearly the difference between *weight* and *mass*.
4. Define specific gravity of a substance. Explain, with a numerical example, the method of finding specific gravity of a solid by weighing in air and in water.

5. A mass of 100 grammes is moving with a velocity of 50 centimetres per second.

(a) What is its energy?

(b) What is its momentum?

(c) If the velocity of a body be doubled, in what ratio is its kinetic energy changed?

(d) If a given charge of powder drives a bullet of given mass from a gun with a known velocity, in what ratio must the charge of powder be increased to *double* the velocity of the bullet?

6. Write not less than one page of foolscap on the general nature of (the objective phenomena causing the sensation of) sound.

7. Explain the difference, as now understood, between the nature of heat proper and that of the so-called radiant heat.

8. Explain, with a diagram, how an image of an object is formed by a convex lens.

9. Write at least one page explaining how it is shown that some substances (sodium, iron, calcium, hydrogen, etc.,) exist, in the state of vapor, in the sun's atmosphere.

10. (a) What is the immediate source of the energy which keeps the current in a battery circuit?

(b) What is a "secondary" battery?

(c) State "Ohm's Law" in an algebraic formula, giving also the meaning of the symbols used.

#### ANATOMY AND PHYSIOLOGY.

1. You have for breakfast beefsteak, bread, butter, potatoes and a glass of milk. Explain fully the changes that take place in these articles in the process of digestion.

2. Mention the diseased conditions which result from moderate drinking and from excessive drinking.

3. Why is ventilation necessary? What ought to be the supply of pure air for each adult individual? How may ventilation be carried out without draught?

4. What is the use of the blood and of its coloring matter? Trace the course of the circulation, beginning and ending at the left auricle.

5. Describe the structure of the skin, hair, nails and sweat glands.

6. Describe the anatomy of the alimentary canal, naming the function of each part.

7. Describe the coagulation of the blood. Of what use is this property?

8. What is absorption? Explain fully the manner in which it takes place.

9. Describe the structure of the brain and spinal cord. What is meant by sensory and motor nerves? Illustrate the mode of working of the nervous system.



10. What are the general properties of muscle? What different functions do muscles fulfill in the body? What mechanical principle is involved in the motion of the fore-arm toward the arm?

## LATIN:

CÆSAR: Book I, Chapter 14:

1. Render the first seven lines into classical English.
2. What is the construction of the passage from *eo* to *putaret*?  
Give the principal parts of every verb in the direct discourse.  
What of these verbs, if any, would have been indicative mood?
3. Decline *eo* and *qui*.  
Give synopsis, in third person singular, indicative and subjunctive moods, of *teneret*.  
Decline *alicuius*.  
Give construction of *timendum*.
- 4-5. Give a concise account of Cæsar's campaigns in Gaul.

VIRGIL: Book I:

6. Divide into feet, lines 83, 84 and 85.
7. Translate from line 157 to 169 inclusive.

Book II:

8. Translate from line 486 to 502.
- 9-10. Give a concise account of the wanderings of Æneas.

## GERMAN.

1. Decline together *ein grosser Tisch*.
2. Decline together *das neue Buch*.
3. Write in full the perfect and imperfect tenses, indicative mood, passive voice of any regular verb.
4. Principal parts of German verbs meaning *to go, to be, to command, to write, to let*.
5. Conjugate *geben* in the indicative present and future, and subjunctive present.
6. Translate into German: *This man has become rich. The young man has spent too much money. I know no such man. In the winter the earth is covered with snow.*
7. Translate into English: *Der Knabe, der die Uhr fand, ist ehrlich. Das Tuch, das ich wollte, ist nicht hier zu haben. Der Adler ist ein starker Vogel.*
8. *Oft hat mir mein Vater das Gedicht vorgelesen. Wir werden bald in die Schule gehen müssen. Wir haben überall gesucht und können das Bild nicht finden.*
9. *Mein Bruder hiess Wilhelm. Der Mond wird erst um zehn Uhr aufgehen. Sie sollten sich nicht darnber beklagen.*
10. Make original sentences containing: *Wahlen, mag, hereinkommen, wie, gern, zeit.*

## EXHIBIT IV.

## CIRCULAR OF INFORMATION.

OFFICE OF  
SUPERINTENDENT OF PUBLIC INSTRUCTION, }  
DENVER, COLO., January 13, 1890.

*To the County Superintendents of Schools:*

GENTLEMEN:—As you are about to enter upon your work for the official term beginning January 14, it seems proper that I should call your attention to matters of importance in promoting the educational interests of your respective counties and of the State.

You, as leaders in the educational work of your respective counties, will be justly considered as advisors and authority in the consideration and decision of these questions, and in adapting them to the multiplicity of conditions that are associated with your work.

In naming the following as some of the matters to be considered by you, I do not assume to dictate as to your conclusions and official course in regard thereto, but trust that there may be to as great extent as possible definite and uniform action.

*First*—There should be a larger number of County Teachers' Associations throughout the State. At present but sixteen of the fifty-five counties have such an organization. At least twenty more should organize during the coming year, while the smaller counties could, for the present, form associations consisting of teachers from two or more adjoining counties.

*Second*—Each county should have an association of School Directors. Such an organization could be made very beneficial by the discussion of subjects similar to the following: The employment of Teachers; Systems of Grading; Adoption of Free Text-Books; Special Taxes; Cost and Plan of School Buildings; Rights of Teachers; and many others that would arise from time to time.

*Third*—There should be a thorough and systematic grading of the schools of each county, with a plan of promotion and graduation, and a system of monthly

or quarterly reports, by the teacher to the County Superintendent.

*Fourth*—I am strongly in favor of all necessary text-books being owned by the district and furnished free to the pupils. In favor of the plan I offer the following points:

1. A gain on first cost of about 30 per cent.
2. The text-book will be used more carefully, hence will last longer.
3. All students will be supplied immediately upon entering school.
4. The distinction between rich and poor will be avoided.
5. The cost per pupil will be about 60 per cent. of the cost when individuals purchase the books.
6. It will create a uniformity of supply both as to time and material.
7. It will increase the attendance at school.

*Fifth*—In school districts having a population of not less than 1,500 inhabitants, some measures should be taken to establish one or more kindergarten departments, to which should be admitted children from four years to seven years of age. If the tax-payers are averse to the support of schools for children under the legal school age then let the kindergarten methods be used in teaching children from six to eight years old.

*Sixth*—A healthful public opinion should be cultivated in support of high schools, and every incentive possible offered to students to induce them upon leaving the Grammar Schools to continue their studies at a High School within their own or within an adjoining county.

*Seventh*—You should encourage the building of new school-houses wherever needed, and as far as possible should give personal attention to the plans, the erection and the furnishing.

*Eighth*—There should be a determined but an intelligent effort made to cause compliance with the so-called Compulsory Education Law.

*Ninth*—The Normal Institute to be held during the year 1890 should receive early attention. I suggest that a thorough canvass of each county be made to ascertain as nearly as possible the number of persons who will attend, and that you report the number to your respective Executive Committees. Furthermore, that you advise your Directors to allow the teacher, whom they employ for the school year of 1890-1891, at least one week's wages for attendance at an Institute within the State.

*Tenth*—A careful examination of the collection and payment of fines which go to make up the "penal fund," is desired. I now have in preparation a circular giving a complete list of the crimes that are punishable by fines which should be paid into this fund. When finished, a copy will be sent you.

I would urge upon you the importance of giving your personal attention to the supervision of the schools under your jurisdiction. Frequent visits to the schools; close inspection of the work done by each teacher; a careful examination of the books and accounts of school officers; a just discrimination between competency and assumption in the granting of certificates to teach, will add much to the efficiency of your schools.

Respectfully,  
 FRED DICK,  
*State Superintendent of Schools.*

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## EXHIBIT V.

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### CIRCULAR OF INFORMATION.

OFFICE OF  
 SUPERINTENDENT OF PUBLIC INSTRUCTION, }  
 DENVER, COLO., March 28, 1890.

*To County Superintendents of Schools:*

GENTLEMEN:—Your attention is hereby called to the opinion of Attorney-General, SAM W. JONES, giving an interpretation of section 3064 of the General Statutes of 1883, known as section 69 of the Colorado School Laws.

I have prepared a list of crimes and offenses that are punishable by fine which, when collected, should be paid to the County Treasurer, and by him placed to the credit of the school fund of the county or district, as the law directs.

Your attention is also called to that portion of said section 69, which reads as follows:

"It shall be a special duty of the County Superintendents of Schools to supervise and see that the provisions of this section are fully complied with, and report thereon to the County Commissioners semi-annually, or oftener, if required by them."

I send you a sufficient number of these circulars to enable you to place one copy in the hands of every Judge, County Commissioner, County Treasurer, County Attorney, Police Justice, and Justice of the Peace, in your county, and request you to distribute them and to have a copy printed in your local papers.

Respectfully,

FRED DICK,  
*Superintendent of Public Instruction.*

STATE OF COLORADO,  
ATTORNEY-GENERAL'S OFFICE, }  
DENVER, COLO, January 27, 1890.

HON. FRED DICK,

*Superintendent of Public Instruction,  
Denver, Colorado:*

DEAR SIR:—You inquire of me what fines, penalties and forfeitures should be paid into the school fund, where no special provision is contained in the law imposing the fine, as to where it shall be paid. Section 3064 of the General Statutes of 1883, is particular and comprehensive, and includes every conceivable case where fines or penalties are imposed under the general laws. That section will therefore include all fines of every kind collected, except where a special act may otherwise provide. There are special provisions affecting this question, as sections 880, 1979, 2500 and 2797. There are still other provisions that divide the fines between the school fund and informers, as sections 848 and 1544.

But a safe guide is, that under the general provisions of section 3064, *all fines, penalties and forfeitures* belong to the school fund, except where an act imposing a fine otherwise expressly directs.

SAM W. JONES,  
*Attorney-General.*

## FROM GENERAL STATUTES OF 1883.

	SEC.
For procuring abortion . . . . .	735
Maiming . . . . .	736
Assault to committ murder, rape, mayhem, robbery, larceny . .	741
Assult and battery . . . . .	742
False imprisonment . . . . .	743
Setting fire to buildings . . . . .	750
Altering marks or brands when value of property affected shall not amount to five dollars . . . . .	757
Larceny, etc., under twenty dollars . . . . .	759
Removing landmark . . . . .	771
Attempt to bribe public officers . . . . .	792
Inhumanity of jailers . . . . .	794
Willfully and unlawfully withholding or retaining records, etc., from successor in office . . . . .	795
Resisting officer, or unlawful beating by officer . . . . .	797
Resisting with armed force . . . . .	798
Obstructing messenger of State or United States . . . . .	799
Warden or officer suffering convict to be at large . . . . .	803
Conveying tools to prisoner . . . . .	804
Aiding escape from civil process . . . . .	806
Officer suffering escape of prisoner . . . . .	808
Officer refusing to receive or arrest persons charged with criminal offense . . . . .	809
Conspiring to indict . . . . .	811
Exercising office unlawfully . . . . .	812
Embracery . . . . .	813
Barratry . . . . .	814-815
Judge or officer receiving reward . . . . .	816
Taking illegal fees . . . . .	817
Officer taking reward for omission of duty . . . . .	818
Blackmail . . . . .	820
Disturbance, brawls, fights, etc . . . . .	821
Unlawful assembling . . . . .	822-826
Peace officer failing to act . . . . .	827
Abusive publications . . . . .	828
Libel . . . . .	829
Marrying husband or wife of another . . . . .	834-837
Keeping lewd house . . . . .	839
Importing obscene books, etc . . . . .	840
Keeping gaming table, gambling, etc . . . . .	845-848-851
Selling liquors unlawfully . . . . .	852-857
Obstructing highways, polluting water-courses, etc . . . . .	858-859
State officer bartering in warrants, scrip, etc . . . . .	864
State or county treasurer refusing payment of warrant . . . . .	865
Emitting notes for circulation . . . . .	866
Defacing law or proclamation posted . . . . .	867

	SEC.
Vagrancy, carrying concealed weapons in town, refusing to aid in arrest, amended, page 170, laws 1885 . . . . .	868-872
Body snatching . . . . .	873
Election frauds . . . . .	874-875
Disturbing peace on Sunday . . . . .	876-880
Polluting streams . . . . .	882
Party to fraudulent conveyances . . . . .	883
Obtaining money under false pretenses, amended laws 1889, page III . . . . .	884-885
Using false weights, etc . . . . .	886-889
Warehousemen . . . . .	890-894
Penalties for certain offenses by bank or railroad officers . . . . .	895-896
Divulging telegraph messages, etc . . . . .	898-902
Damaging bridge, ditch, etc . . . . .	903
Injuring jail, etc . . . . .	904
Firing timber, etc . . . . .	905-906
Throwing stones, etc., at train . . . . .	909
Destroying landmarks . . . . .	910
Injuring animals . . . . .	911
Painting on bridge, etc . . . . .	913
Using name of another wrongfully . . . . .	917
Elections, etc., sections 1201, 1225, 1226, 1228, 1229, 1230, 1275, 1276, 1277, 1278, 1279, 1301, 1303 . . . . .	
Hindering use of ford . . . . .	1509
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EXHIBIT VI.

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**ARBOR DAY—APRIL 18, 1890.**

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AN ACT TO ESTABLISH ARBOR DAY.

*Be it enacted by the General Assembly of the State of Colorado:*

SECTION 1. The third Friday in April of each year shall be set apart and known as "Arbor Day," to be observed by the people of this State in the planting of forest trees, for the benefit and adornment of public and private grounds, places and ways, and in such other efforts and undertakings as shall be in harmony with the general character of the day so established; *Provided*, That the actual planting of trees may be done on the day designated, or at such other most convenient time as may best conform to local climatic conditions, such other time to be designated, and due notice thereof given, by the several County Superintendents of Schools for their respective counties.

SEC. 2. The day, as above designated, shall be a holiday in all public schools of the State, and school officers and teachers are required to have the schools under their respective charge observe the day by planting of trees, or other appropriate exercises.

SEC. 3. Annually, at the proper season, the Governor shall issue a proclamation, calling the attention of the people to the provisions of this act, and recommending and enjoining its due observance. The Superintendent of Public Instruction, and the respective County Superintendents of Schools, shall also promote, by all proper means, the observance of the day; and the said County Superintendents of Schools, shall make annual reports to the State Forest Commissioner of the action taken in this behalf in their respective counties.

## GOVERNOR'S PROCLAMATION.

EXECUTIVE CHAMBER, }  
DENVER, COLO., March 19, 1890. }

In pursuance of the law passed by the last General Assembly that the third Friday of April of each year be set apart and known as "Arbor Day," I hereby designate and proclaim Friday, the eighteenth day of April, 1890, to be observed as Arbor Day in Colorado, and I earnestly advise that the people regard it by planting trees, shrubs and vines in and about public grounds and private property. It is hoped that special attention will be given in our schools to the dissemination of knowledge respecting tree culture as affecting our climate, health and future prosperity; also, that interest be awakened, not only in the planting of trees, but in the care and preservation of our forests, by preventing their wanton and careless destruction.



*In testimony whereof*, I have hereunto set my hand and caused the great seal of the State to be affixed, this nineteenth day of March, in the year of our Lord one thousand eight hundred and ninety.

JOB A. COOPER.

By the Governor:

JAMES RICE, *Secretary of State.*

OFFICE OF }  
SUPERINTENDENT OF PUBLIC INSTRUCTION, }  
DENVER, COLO., March 19, 1890. }

The eighteenth day of April, 1890, will be observed as Arbor Day, in accordance with a special law passed by the last General Assembly, whereby the third Friday in April was made a legal holiday in all public schools of the State.

The wisdom of this provision for the planting of trees in Colorado cannot be doubted. A general observance of the day by the public schools will result not only in beautifying the school grounds, public streets, and private property, but will be a means of giving instruction to our young people along a line that will prove to be of great value to them as citizens of this State. Of the many points, to which their attention should be called, I will suggest but a few:

What varieties of trees will best thrive in this climate?

How and when to plant trees?

The attractiveness and value of parks in towns and cities.

The relation of forests to climate, rain-fall, formation of springs and streams, and to the prevention of floods.

The cultivation of forests as a source of revenue.

The propagation of trees and plants from the seed.

It is appropriate that this work be assigned to our young people, who will to a great extent, enjoy the benefits to be derived from the growth of the trees planted by their hands, or under the auspices of public schools of which they are members.

I would impress upon every teacher the importance of observing the day in an appropriate manner.

If any school grounds are already well filled with trees, let one or more trees be planted in the public park or in any spot that is now or may hereafter become of public interest.

The probability of a proper supply of water should always be taken into consideration in the planting of trees.

I have taken the liberty to prepare a program of exercises suitable for the occasion and to make such references as I hope may be of assistance to both teachers and pupils in properly observing Arbor Day in 1890.

Respectfully,

FRED DICK,  
*Supt. of Public Instruction.*

PROGRAM.

1. Reading of the "Act to establish Arbor Day."
2. Devotional exercises.
3. Reading of the Governor's Proclamation.
4. Reading of Circular by State Superintendent.
5. Song—Patriotic.
6. Recitation . . . . . "Song of Spring,"  
EDWARD YOUL.
7. Reading . . . . . Extract from Forest to Floor  
J. M. OXLEY.

8. Essay, "Description of a Celebrated Tree," ( see subjects.)
9. Selections from N. H. Egleston.
10. Song.
11. Reading—"The Tree of Liberty," . . . . . *Burns*
12. Essay, ( see subjects for research.)
13. Thoughts from a paper read before the Colorado State Forestry Association, by RALPH MEEKER.
14. Recitation—"To a Pine Tree," . . . . . *Lowell*
15. Recitation—"The Oak," . . . . . *Lowell*
16. Greenwood Greetings . . . . . F. L. MACE  
( This should be spoken by eight pupils, one acting as leader.)
17. Song—"America."  
Planting of Trees.

### THOUGHTS.

*From a Paper read before the Colorado State Forestry Association.*

BY RALPH MEEKER.

It has been said that the earth would be uninhabitable were it not for its trees. However true or false this may be, it is a fact that no product of the soil enters so largely into the industries of the world as timber. The table on which we eat, the bed on which we sleep, the floor on which we walk, the roof that shelters us, the chest that contains the relics of a generation, the car on the railway, the ship on the ocean, the house, the barn, the plow, the reaper, the fence—in fact, nearly everything made with tools for the use of mankind is more or less indebted to our forests for its existence.

In our own State of Colorado we see the mountains robbed of their green covering every year. Careless hunters and woodsmen leave their fires to blacken and deface the finest scenery in the world.

A few years ago Clear Creek, Boulder and the other cañons were filled with forests. To-day their naked rocks present melancholy pictures of desolation. On the west side of the range it is different. There one imagines he is in another country. The scenery is the most beautiful in Colorado. Lofty trees cover the mountains, and the traveler can easily believe himself in the loveliest portion of Switzerland.

Visitors to Colorado can not make any visible use of trees. They can not eat them or carry them away as souvenirs. They can only admire their beauty, and appreciate their usefulness in breaking the monotony of the landscape, and in shading the water-courses. The Great American Desert can be made as beautiful as any of the eastern countries. With alfalfa to keep the soil moist, comparatively little irrigation will be required to nourish trees. The groves of Greece, and those lovely wooded parks of England, can be re-produced here in Colorado. If the trees in Denver and Greeley were burned, real estate would depreciate ten per cent.

## SONG OF SPRING.

Laud the first spring daisies;  
 Chant aloud their praises;  
 Send the children up  
 To the high hill's top;  
 Tax not the strength of their young hands  
 To increase your lands.  
 Gather the primroses,  
 Make handfuls into posies;  
 Take them to the little girls who are at work in mills;  
 Pluck the violets blue,—  
 Ah, pluck not a few.  
 Knowest thou what good thoughts from Heaven the violet instills?

Give the children holidays,  
 (And let these be jolly days,)  
 Grant freedom to the children in this joyous spring;  
 Better men, hereafter,  
 Shall we have, for laughter,  
 Freely shouted to the woods, till all the echoes ring.  
 Send the children up  
 To the high hill's top,  
 Or deep into the wood's recesses,  
 To woo spring's caresses.

Ah, come and woo the spring;  
 List to the birds that sing;  
 Pluck the primroses; pluck the violets;  
 Pluck the daisies,  
 Sing their praises;  
 Friendship with the flowers some noble thought begets.  
 Come forth and gather these sweet elves,  
 (More witching are they than the fays of old,)  
 Come forth and gather them yourselves;  
 Learn of these gentle flowers whose worth is more than gold.

Come forth on Sundays;  
 Come forth on Mondays;  
 Come forth on any day;  
 Children, come forth to play:—  
 Worship the God of nature in your childhood;  
 Worship him at your tasks with best endeavor;  
 Worship him in your sports; worship him ever;  
 Worship him in the wildwood;  
 Worship him amidst the flowers;  
 In the greenwood bowers;  
 Pluck the buttercups, and raise  
 Your voices in his praise.

—EDWARD YOUL.

## GREENWOOD GREETINGS.

## LEADER.

The morning of the year  
 Flushes again these Northern glades. Awake!  
 O slumbering branches. The remembered cheer  
 And comradeship of other Summers take  
 On your mute faces. Answer me again,  
 And tell your Winter's dream of ecstasy or pain.

## MAPLES.

"The night is over. We have heard  
 The brook rejoicing in the breaking light,  
 The rapture of the rain.  
 Over the lost arbutus found again;  
 The sod grows velvet green beneath our feet.  
 Homeward the robins fly, and life is warm and sweet."

## PINE TREE.

"I dreamed of lands where over leagues of ice  
 The skaters joyous flew; of spectral lights  
 Flaming along the skies in strange device;  
 Of reindeer speeding through the glimmering nights.  
 The forest trembled with Odin's signs  
 Of stormy pain, but all undaunted sung the Pines."

## THE ELM.

"Of Summer was my dream the long night through:  
 Of sunset fires where myriad roses burned,  
 To give their duty back in morning dew;  
 On interlacing boughs  
 Festooned in arches meet for lovers' vows,  
 And of the golden robin's nest that clung  
 Close to my heart, which throbbled when're the birdlings sung."

## LEADER.

Rough headed Fir,  
 Why dost thou beckon to the Juniper  
 With signs of joy?

## FIR.

"I heard in my long dream  
 The mellow pipe, far blown, of jocund Pan,  
 Invisible by wood and valley stream.  
 He is not dead, the god of dell and grove,  
 And with him, ever glad, the Nymphs and Satyrs rove."

## THE POPLAR TREES.

"Heavy was our sleep, and dark with gloom  
 The dreaded vision of the night. Of yore  
 The fated Poplar grew unto its doom,  
 And stricken, fell. Shaped from its shuddering wood  
 The Cross was fashioned. Now and evermore  
 That woe returns. The stain of holy blood  
 Our slumber haunts away,  
 And every waking leaf still trembles with dismay."

## LEADER.

O Willow, thou dost ever earthward gaze,  
And sighs are all thy language.

## THE WILLOW.

"I feel again the flowery days  
Of a new year; but Spring, the fair and free,  
Can not bring back the beautiful to me.  
There is a sound of tear-drops in the rain,  
Of mourning in the air. The lost come not again."

## THE CEDARS.

"We have not slept nor dreamed the livelong night.  
In our dark mantles wrapped, we watched for light.  
We are faithful. In our spicy boughs  
The breath of Lebanon forever flows.  
Summer or Winter, Life or Death, may be,  
Hope gathers garlands green from off the Cedar tree."

## LEADER.

"O kindred of the wood,  
Lift up your heads, for now the sunrise beams.  
Scatter the mist of darkness and of dreams.  
The world is made anew, and it is good.  
A thousand voices herald Summer's day.  
Let us drink deep from Life's fresh fountains while we may."

FRANCIS L. MACE

## EXTRACT FROM FOREST TO FLOOR.

BY J. M. OXLEY.

Among all the materials wherewith men erect unto themselves splendid edifices to dwell in, stately ships to voyage by, or far-spreading iron roads to travel upon, none have a fairer, brighter history than the wood. Stone is blasted from hideous débris-strewn chasms, in and out whose craggy recesses quarrymen labor like ants in some gigantic ant-heap; metal is torn from the bowels of the earth, where, steeped in gloom and oppression scarce endurable, the grimy miners pursue their unlovely toil; but wood, from the time the first stroke of the lumberman's fatal axe sends a shiver through all its shapely form as it rears its head aloft amidst the forest, until when sundered into yellow planks it awaits the joiner's will, is hardly for an hour away from the glow of sunshine, the ripple of water, or the virgin purity of the snow. As bright and clean as the fresh-sawn boards themselves is the record that lies behind them, and in following them from forest to floor we have before us one of the most romantic, fascinating and manly occupations in which the children of men can engage.—*The Cosmopolitan*.

“The trees are man’s best friends; but man has treated them as his worst enemies.

“The history of our race may be said to be the history of warfare upon the tree world. But while man has seemed to be the victor, his victories have brought upon him inevitable disasters.

“The trees have not only been regarded by man as his lawful plunder, but he has even seemed to find a positive pleasure in their destruction. He has attached no value to them, except for the satisfaction of his physical wants, to furnish him fuel and shelter and the material of the industrial arts, and in satisfying these wants as they have arisen he has been reckless of the future.

“We have gone to the forests in a kind of freebooter style, cutting, and burning more than we could cut, acting for the most part as though all the while in a frolic or fight, until now at length, after a century or two of this sort of work, we are waking up to the facts that our once boundless woods are disappearing, and that we are likely to suffer no little loss thereby.

“The cool unconcern in regard to the future shown in this is very noticeable. ‘After us, the deluge.’ A corresponding feeling, though working on a much smaller scale, is seen in an advertisement, and of a class often appearing in our older States: ‘Brace up, young man. You have lived on your parents long enough. Buy this farm, cut off the wood, haul it to market, get your money for it, and pay for the farm. \* \* The owner estimates that there will be 500 cords of market wood.’ And so, all over the country, on the large scale and on the small, the axe is laid at the roots of the trees and our forests are disappearing.

“In the town of Hampton, New Hampshire, for instance, we find, as early as 1639, this record: ‘Woodwards chosen, and no man to fell wood (except on his own lot) without assignment of them or two of them.’ Other regulations were also made for cutting and using wood. And here it may be remarked that this word ‘wood-ward’—the warden or guard of the wood—from which comes our common surname Woodward, speaks emphatically of the importance which the early settlers had been accustomed to see attached to the forests in the mother country, and which prepared them to exercise some care in the protection of those they found here.

“Undisturbed by man, the woods would maintain themselves. The tree, falling in the forest by natural decay or from any other cause, would soon have its place filled by another, and so the succession of vegetable life would be maintained from age to age. But when the trees are swept off in masses, whether by fire, or by the axe; whether by an army seeking strategic advantage or the means of annoying or impoverishing an enemy, or as the result of the cupidity



or carelessness of those intent upon pecuniary gain, the places thus denuded of trees often remain so.

“Looked at in their economic character alone, the importance of the forests to any civilized country, and their bearing upon its welfare and prosperity, will be seen if we give the subject only a little attention. It is stated on reliable authority that Great Britain imports every year forest products amounting in value to \$100,000,000. If now we add to this large sum the probable value of similar importations into our own and other commercial countries, we shall at once have some notion of the bearing which the products of the forests have upon the general welfare and comfort of mankind, and their bearing upon national prosperity. How large an element in the traffic of our own country, what an important source of industry, and therefore of thrift, to us, is its lumber product.

“The census of 1870 gives as the reported product of lumber in the United States, 12,755,543,000 feet. This does not include laths or shingles. The same census reports 63,928 establishments engaged in the manufacture of articles made of wood, employing 393,383 persons, and using materials worth \$300,921,403 annually, besides 100,512 establishments in which wood is an important part of the material used, as in the manufacture of carriages, furniture, sewing machines, agriculture implements, bridges, etc., employing 700,915 persons, and using materials worth \$488,530,844. The statistics of a single State—Michigan—give us for the year 1873 these remarkable figures: 3,231,470,894 feet of lumber sawed, at a valuation of \$39,850,156, to which are to be added more than \$4,000,000 as the value of shingles, headings, staves, hoops, etc.

“Such figures show us the value of the forests in connection with the traffic and various industries which occupy man, and what a serious loss to a nation in this aspect the loss of its forests must be.

“Humboldt is reported as saying: ‘Men in all climates seem to bring upon future generations two calamities at once—a want of fuel and a scarcity of water.’ The two come alike from the destruction of the forests, as little consideration will show.”

N. H. EGLESTON.

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### THE TREE OF LIBERTY.

Heard ye o' the tree o' France,  
 I watna<sup>1</sup> what's the name o't;  
 Around it a' the patriots dance,  
 Weel Europe kens the fame o't.  
 It stands there ance the Bastile stood,  
 A prison built by kings, man,  
 When Superstition's hellish brood  
 Kept France in leading-strings, man.

---

1. Know not.

Upo' this tree there grows sic fruit,  
 Its virtues a' can tell, man;  
 It raises man aboon the brute,  
 It makes him ken hissel', man.  
 Gif ance the peasant takes a bite,  
 He's greater than a lord, man,  
 And wi' the beggar shares a mite  
 Of a' he can afford, man.

This fruit is worth a' Afric's wealth,  
 To comfort us 'twas sent, man;  
 To gie the sweetest blush o' health,  
 And make us a' content, man.  
 It clears the een, it cheers the heart,  
 Makes high and low guid friends, man,  
 And he who acts the traitor's part  
 It to perdition seuds, man.

My blessing aye attend the chiel<sup>2</sup>  
 Wha pitied Gallia's slaves, man,  
 And staw<sup>3</sup> a branch, spite o' the deil,  
 Frae yont<sup>4</sup> the western waves, man.  
 Fair Virtue watered it wi' care,  
 And now sees wi' pride, man,  
 How weel it buds and blossoms there,  
 Its branches spreading wide, man.

But vicious folks aye hate to see  
 The works o' virtue thrive, man;  
 The courtly virmins bann'd the tree,  
 And grat<sup>5</sup> to see it thrive, man;  
 King Louis thought to cut it down,  
 When it was unco<sup>6</sup> small, man;  
 For this the watchman craced his crown,  
 Cut aff his head and a', man.

A wicked crew, syne,<sup>7</sup> on a time,  
 Did take a solemn aith, man,  
 It ne'er should flourish to its prime,  
 I wat<sup>8</sup> they pledged their faith, man.  
 Awa they gaed,<sup>9</sup> wi' mock parade,  
 Like beagles hunting game, man,  
 But soon grew weary o' the trade,  
 And wish'd they'd been at hame, man.

For Freedom, standing by the tree,  
 Her sons did loudly ca', man;  
 She sang a song o' liberty,  
 Which pleased them ane and a', man;  
 By her inspired, the new-born race  
 Soon drew the avenging steel, man;  
 The hirelings ran—her foes gied<sup>10</sup> chase,  
 And bang'd<sup>11</sup> the despot weel, man.

Let Britain boast her hardy oak,  
 Her poplar and her pine, man,  
 Auld Britain ance could crack her joke,  
 And o'er her neighbors shine, man.

2. Man.  
 3. Stole.

4. From beyond.  
 5. Wept.  
 10. Gave.

6. Very.  
 7. Then.  
 11. Beat.

8. Know.  
 9. Went.

But seek the forest round and round,  
 And soon 'twill be agreed, man,  
 That sic a tree cannot be found  
 'Twixt London and the Tweed, man.

Without this tree, alack, this life  
 Is but a vale o' woe, man;  
 A scene o' sorrow, mixed wi' strife,  
 Nae real joys we know, man.  
 We labor soon, we labor late,  
 To feed the titled knave, man;  
 And a' the comfort we're to get  
 Is that ayont the grave, man.

Wi' plenty o' sic trees, I trow,  
 The world wad live in peace, man;  
 The sword wad help to make a plough,  
 The din o' war wad cease, man.  
 Like brethren in a common cause,  
 We'd on each other smile, man;  
 And equal rights, and equal laws,  
 Wad gladden every isle, man.

Wae worth the loon<sup>12</sup> wha wadna eat  
 Sic halesome dainty cheer, man?  
 I'd gie my shoon frae aff my feet,  
 To taste sic fruit, I swear, man.  
 Syne let us pray auld England may \*  
 Sure plant this far-famed tree, man;  
 And blithe we'll sign, and hail the day  
 That gives us Liberty, man.

---

### TO A PINE TREE.

Far up on Katahdin thou towerest,  
 Purple-blue with the distance and vast;  
 Like a clould o'er the lowlands thou lowerest,  
 That hangs poised on a lull in the blast,  
 To its fall leaning awful.

In the storm, like a prophet o'er maddened,  
 Thou singest and tosses thy branches;  
 Thy heart with the terror is gladdened.  
 Thou forebodes the dread avalanches,  
 When whole mountains swoop valeward.

In the calm thou o'er stretchest the valleys  
 With thine arms, as if blessings imploring,  
 Like an old king led forth from his palace,  
 When his people to battle are pouring  
 From the city beneath him.

To the lumberer asleep 'neath thy glooming  
 Thou dost sing of wild billows in motion.  
 Till he longs to be swung mid their booming  
 In the tents of the Arabs of ocean,  
 Whose finned isles are their cattle.

---

12. Fellow.

For the gale snatches thee for his lyre,  
 With mad hand crashing melody frantic,  
 While he pours forth his mighty desire  
 To leap down on the eager Atlantic,  
 Whose arms stretch to his playmate.

The wild storm makes his lair in thy branches,  
 Preying thence on the continent under ;  
 Like a lion, crouched close on his haunches,  
 There awaiteth his leap, the fierce thunder,  
 Growling low with impatience.

Spite of winter thou keep'st thy green glory,  
 Lusty father of Titans past number :  
 The snow-flakes alone make thee hoary,  
 Nestling close to thy branches in slumber,  
 And thee mantling with silence.

Thou knowest the splendor of winter,  
 Mid thy snow-silvered, hushed precipices,  
 Hearing crags of green ice groan and splinter,  
 And then plunge down the muffled abysses  
 In the quiet of midnight.

Thou alone knowest the glory of summer,  
 Gazing down on thy broad seas of forest,  
 On thy subjects that send a proud murmur  
 Up to thee, to their sachen, who towerest  
 From thy bleak throne to heaven.

—LOWELL.

---

### THE OAK.

What gnarled stretch, what depth of shade, is his,  
 There needs no crown to mark the forest's king ;  
 How in his leaves outshines full Summer's bliss.  
 Sun, storm, rain, dew, to him their tribute bring,  
 Which he with such benignant royalty  
 Accepts, as overpayeth what is lent ;  
 All nature seems his vassal proud to be,  
 And cunning only for his ornament.

How towers he, too, amid the billowed snows,  
 An unquelled exile from the Summer's throne,  
 Whose plain, uncinctured front more kingly shows,  
 Now that the obscuring courier leaves are flown.  
 His bough make music of the winter air,  
 Jeweled with sleet like some cathedral front  
 Where clinging snow-flakes with quaint art repair  
 The dints and furrows of time's envious brunt.

How doth his patient strength the rude March wind  
 Persuade to seem glad breaths of Summer breeze,  
 And win the soil that fail would be unkind,  
 To swell his revenues with proud increase.  
 He is the gem ; and all the landscape wide  
 (So doth his grandeur isolate the sense)  
 Seems but the setting, worthless all beside,  
 An empty socket were he fallen thence.

So, from oft converse with life's wintry gales,  
 Should man learn how to clasp with tougher roots  
 The inspiring earth, how otherwise avails  
 The low-creating sap that sunward shoots?  
 So every year that falls with noiseless flake  
 Should fill old scars up on the stormward side,  
 And make hoar age revered for age's sake,  
 Not for traditions of youth's leafy pride.

So, from the pinched soil of a churlish fate,  
 True hearts compel the sap of sturdier growth,  
 So between earth and heaven stand simply great,  
 That these shall seem but their attendants both ;  
 For nature's forces with obedient zeal  
 Wait on the rooted faith and oaken will ;  
 As quickly pretender's cheat they feel,  
 And turn mad Pucks to flout and mock him still.

Lord, all thy works are lessons ; each contains  
 Some emblem of man's all-containing soul ;  
 Shall he make fruitless all thy glorious pains.  
 Delving within thy grace an eyeless mole ?  
 Make me the least of thy Dodona-grove,  
 Cause me some message of thy truth to bring,  
 Speak but a word through me, nor let thy love  
 Among my boughs disdain to perch and sing.

—LOWELL.

### THE PALM TREE.

Is it the palm, the cocoa-palm,  
 On the Indian sea, by the isles of balm?  
 Or is it a ship in the breezeless calm?  
 A ship whose keel is of palm beneath,  
 Whose ribs of palm have a palm-bark sheath,  
 And a rudder of palm it steereth with.

Branches of palm are its spars and rails,  
 Fibres of palm are in its woven sails,  
 And the rope is of palm that idly trails.  
 What does the good ship bear so well ?  
 The cocoanut with its stony shell,  
 And the milky say of its inner cell.

What are its jars, so smooth and fine,  
 But hollowed nuts, filled with oil and wine,  
 And the cabbage that ripens under the line.  
 Who smokes his nargileh, cool and calm?  
 The master, whose cunning and skill could charm  
 Cargo and ship from the bounteous palm.

In the cabin he sits on a palm-mat soft,  
 From a beaker of palm his drink is quaffed,  
 And a palm-thatch shields from the sun aloft.  
 His dress is woven of palmy strands,  
 And he holds a palm-leaf scroll in his hands,  
 Traced with the Prophet's wise commands.

The turban folded about his head  
 Was daintily wrought of the palm-leaf braid,  
 And the fan that cools him of palm was made.

Of threads of palm was the carpet spun  
Whereon he kneels when the day is done,  
And the foreheads of Islam are bowed as one.

To him the palm is a gift divine,  
Wherein all uses of man combine,—  
House, and raiment, and food, and wine.  
And, in the hour of his great release,  
His leed of the palm shall only cease  
With the shroud wherein he lieth in peace.

“Allah il Allah,” he sings his palm,  
On the Indian sea, by the isles of balm;  
“Thanks to Allah who gives the palm.”

### THE ORANGE TREE.

Is there tree to match with thee,  
Flower-foisoned orange tree.  
Gleaming with the snowy splendor  
Of thy blossom-bells, which render  
Such an insence offering  
As her priests might never bring  
In the shrines of ancient Hellas  
To the altars of Queen Pallas?

Verily, O orange tree,  
There is none to match with thee,  
Leaved in chill and sultry weather,  
Hung with flowers and fruit together,  
Well proportioned, smooth of bole,  
Doubly perfect as a whole,  
And with trunk, leaf, fruit and flower  
Each most perfect of its hour.

—D. W. SLADEN.

### THE BRAVE OLD OAK.

A song to the oak, the brave old oak,  
Who hath ruled in the greenwood long;  
Here's health and renown to his broad green crown,  
And his fifty arms so strong.

There's fear in his frown when the sun goes down,  
And the fire in the west fades out;  
And he showeth his might on a wild midnight,  
When the storms through his branches shout.

Then here's to the oak, the brave old oak,  
Who stands in his pride alone;  
And still flourish he, a hale green tree,  
When a hundred years are gone.

In the days of old, when the spring with cold  
Had brightened his branches gray,  
Through the grass at his feet crept maidens sweet,  
To gather the dew in May.

And on that day with the roebuck gay  
 They frolicked with lovesome swains;  
 They are gone, they are dead, in the church-yard laid,  
 Then here's, etc.

He saw the rare times when the Christmas chimes  
 Were a merry sound to hear,  
 When the squire's wide hall and the cottage small  
 Were filled with good English cheer.

Now gold hath the sway we all obey,  
 And a ruthless king is he;  
 But he never shall send our ancient friend  
 To be tossed on the stormy sea.

Then here's, etc.

—HENRY F. CHORLEY.

### MY GARDEN.

If I could put my woods into song,  
 And tell what's there enjoyed,  
 All men would to my gardens throng,  
 And leave the cities void.

In my plot no tulips blow,—  
 Snow-loving pines and oaks instead;  
 And rank the savage maple grow  
 From spring's faint flush to autumn red.

My garden is a forest ledge  
 Which older forests bound;  
 The banks slopes down to the blue lake edge,  
 Then plunges to depths profound.

Here once the Deluge ploughed,  
 Laid the terraces, one by one,  
 Ebbing later whence it flowed,  
 They bleach and dry in the sun.

The sowers made haste to depart,—  
 The wind and the birds which sowed it;  
 Not for fame, nor by rules of art,  
 Planted these, and tempests flowed it.

Waters that wash my garden side  
 Play not in nature's lawful wed;  
 They heed not moon or solar tide,—  
 Five years elapse from flood to ebb.

Hither hasted, in old time, Jove,  
 And every god,—none did refuse;  
 And besure at last came Love,  
 And after Love, the Muse.

Keen ears can catch a syllable,  
 As if one spake to another,  
 In the hemlocks tall, untamable,  
 And what the whispering grasses smother.

Æolian harps in the pine  
 Ring with the song of the Fates;  
 Infant Bacchus in the vine,—  
 Far distant yet his chorus waits.

Canst thou copy in verse one chime  
 Of the wood's bell and cry,  
 Write in a book the morning's prime,  
 Or match with words that tender sky?

Wonderful verse of the gods,  
 Of one import, of varied tone;  
 They chant the bliss of their abodes  
 To man imprisoned in his own.

Ever the word of the gods resound;  
 But the porches of man's ear  
 Seldom in this low life's round  
 Are unsealed, that he may hear.

Wandering voices in the air,  
 And murmurs in the wold,  
 Speak what I can not declare,  
 Yet can not all withhold.

When shadows fell on the lake,  
 The whirlwind in ripples wrote  
 Air-bells of fortune that shine and break,  
 And omens above thought.

But the meanings cleave to the lake,  
 Can not be carried in book or urn;  
 Go thy ways now, come later back;  
 On waves and hedges still they burn.

These the fates of men forecasts,  
 Of better men than live to-day;  
 If who can read them come at last,  
 He will spell in the sculpture, "Stay."

—EMERSON.

"To the great tree-loving fraternity we belong. We love trees with universal and unfeigned love, and all things that do grow under them, or around them—"the whole leaf and root tribe." Not alone where they are in their glory, but in whatever state they are—in leaf, or ruined with frost, or powdered with snow, or crystal-sheathed in ice, or in severe outline, stripped and bare against a November sky—we love them."

"I like best a forest of mingled trees, Ash, Maple, Oak, Beech, Hickory and Evergreens, with birches growing along the edges of the brook that carries itself through the roots and stones toward the willows that grow in yonder meadow. It should be deep and sombre in some directions, running off into shadowy recesses and coverts beyond all footsteps. In such a wood there is endless variety. It will breathe as many voices to your fancy as might be brought from any organ beneath the pressure of some Handel's hands. By the way, Handel and Beethoven always remind me of forests. So do some poets, whose number are various as the infinity of vegetation, fine as the choicest cut leaves, strong and rugged in places as the unbarked trunk and gnarled roots at the ground's surface. Is there any other place, except the seaside, where hours are so short and moments so



swift as in a forest? Where else, except in the rare communion of those friends much loved, do we awake from pleasure, whose calm flow is without a ripple, into surprise that whole hours are gone which we thought but just began—blossomed and dropped, which we thought but just budding.”—HENRY WARD BEECHER.

**SUBJECTS FOR RESEARCH.**

1. The Welwitschia, a Tree in Africa.
2. The Japanese Tallow Tree.
3. Chinese Dwarf Trees.
4. The “Baobab Tree.”
5. The Tree of the Thousand Images.
6. Eve’s Apple Tree.
7. The Sandi or Cow Tree.
8. The Upas Tree.

Locate and describe a celebrated—

- |              |                          |
|--------------|--------------------------|
| 1. Sycamore. | 4. Weeping Willow.       |
| 2. Ash.      | 5. Elm (at least three). |
| 3. Oak.      | 6. Apple tree.           |

**MISCELLANEOUS SELECTIONS AND REFERENCES.**

The Singing Leaves . . . . .	<i>Lowell</i>
Temple of Nature . . . . .	<i>Anonymous</i>
Lines . . . . .	<i>Whittier</i>
Plant a Tree . . . . .	<i>Lucy Larcom</i>
Woodman, Spare That Tree . . . . .	<i>Morris</i>
The Live Oak . . . . .	<i>Jackson</i>
Word Giant . . . . .	<i>Whittier</i>
The Ivy Green . . . . .	<i>Dickens</i>
Forest Song . . . . .	<i>Venable</i>
The Woodland Hallo . . . . .	<i>Bloomfield</i>

In addition to the above, have the pupils find appropriate selections from the poems of Bryant, Longfellow, Thomson, Shakspeare, Cowper, Lowell, Burns, Spencer, Emerson. Also, extracts from the prose writings of Ruskin, Irving, Susan F. Cooper, Lossing, Whittier, Holmes and other authors.

**COMPLETENESS.**

Because it is fair, shall the rose-bud keep  
 Its possible loveliness folded up?  
 Would you have the pride of the forest sleep  
 For fear of spoiling the acorn-cup?

Nay. The bud hath dreams of the perfect flower;  
 The acorn thrills with divine unrest;  
 The bud must blossom when comes its hour—  
 The acorn follow its high behest.

True, they do perish. 'Tis ever so.  
 This law unerring all nature knows.  
 The bud and the acorn are slain; but lo!  
 The pride of the forest; and lo! the rose.

—HARPERS' MONTHLY, FEBRUARY, 1881.

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**EXHIBIT VII.**


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*State Manual and Course of Study for the Public Schools of Colorado, prepared by a committee of County Superintendents. Approved and published by the State Superintendent of Public Instruction.*

**PREFACE.**

To HON. FRED. DICK,  
*Superintendent of Public Instruction,  
 State of Colorado:*

The committee appointed by you on the twenty-seventh day of December, 1889, to prepare a Course of Study for the rural schools of Colorado, submit herewith their report.

In the preparation of this Course the committee have consulted the various manuals now in use in this State, and in other States, and have kept in view the varied needs and conditions of the different localities.

In the minds of all fair-minded people there rests no longer any question in relation to the benefits that may be derived from the thorough classification of our rural schools.

It is believed that this Course may be adapted to the schools of every county in the State.

J. S. EAGLETON,  
 S. T. HAMILTON,  
 P. H. HAMMOND,  
*Committee.*

## COURSE OF STUDY.

## FIRST OR PRIMARY GRADE—FIRST YEAR.

**Text-Book**—First reader.

**Apparatus**—Slate, pencil, sponge, rule.

## WHAT TO TEACH.

*Reading*—First reader. Teach the long and short sounds of vowels.

*Spelling*—From reader.

*Penmanship*—With reading, spelling and language.

*Language*—With the reading principally.

*Numbers*—Combinations to ten and use of signs.

## SECOND GRADE—SECOND YEAR.

**Text-Book**—Second reader.

**Apparatus**—Slate, pencil, sponge, rule.

## WHAT TO TEACH.

*Reading*—Teach second reader and supplementary reading. Teach elementary sounds as they occur in the reader.

*Spelling*—From the reader.

*Penmanship*—With reading and attention to principles.

*Language*—Combined with other subjects.

*Numbers*—Combinations from ten to one hundred.

## THIRD GRADE—THIRD AND FOURTH YEARS.

**Text-Books**—Third reader, copy-book, arithmetic and geography.

**Apparatus**—Slate, pencil, sponge, pen, ink, rule.

## WHAT TO TEACH.

*Reading*—Third reader and supplementary reading.

*Spelling*—With reader.

*Penmanship*—Copy-book and board work.

*Language*—Oral and written.

*Arithmetic*—Elementary arithmetic.

*Geography*—Elementary geography.

**FOURTH GRADE—FIFTH AND SIXTH YEARS.**

**Text-Books**—Fourth reader, copy-book, arithmetic, geography, language.

**Apparatus**—Slate, pencil, sponge, rule, pen, ink.

**WHAT TO TEACH.**

*Reading*—Fourth reader and primary history as supplementary reading.

*Spelling*—With reader.

*Penmanship*—Copy-book.

*Language*—Text-book, grammar.

*Arithmetic*—Complete arithmetic begun.

*Geography*—Complete geography finished.

**FIFTH GRADE—SEVENTH AND EIGHTH YEARS.**

**Text-Books**—Fifth reader, civil government, copy-book, United States history, grammar, arithmetic, physiology.

**Apparatus**—Slate, pencil, pen, ink, rule.

**WHAT TO TEACH.**

*Reading*—Fifth reader completed, civil government.

*Spelling*—With reading.

*Penmanship*—Copy-book.

*Grammar*—Text-book completed.

*Arithmetic*—Complete arithmetic finished.

*History*—Text-book completed.

*Physiology*—Text-book completed.

**COURSE OF STUDY.****FIRST OR PRIMARY GRADE—FIRST YEAR.**

**Text-Book**—First reader.

**Apparatus**—Slate, pencil, sponge, rule.

**WHAT TO TEACH.**

*Reading*—First reader. Teach the long and the short sounds of vowels.

*Spelling*—From reader.

*Penmanship*—With reading, spelling and language.

*Language*—With the reading, principally.

*Numbers*—Combinations to ten and use of signs.

**READING.**

Teach by phonic and word method. Associate name words with the objects. Teach groups of words as early as possible; such groups

as a boy, the big rat, the boy and his dog ran. Use the black-board freely.

Remove embarrassment of young pupils by frequent and familiar conversations. Teach ideas first, then words, then sentences. Insist upon distinct articulation. Take the words from the readers to be used by the pupils. When the class shall have become familiar with one hundred new words, then take the text-book. First reader completed.

#### PENMANSHIP.

Rule slates on half of one side. Use long pencils and teach the correct manner of holding. Write all words learned. Each child should be taught to write his name and residence.

**SEAT WORK**—Write words in reading lessons. Build words and sentences with letters on small blocks or pieces of paste-board. Put objects into combinations for number work; make tables, using proper signs. A teacher should vary seat work, to prevent its becoming tiresome, but should always avoid aimless employment.

#### SPELLING.

Teach spelling in connection with the reading, as soon as readers are used. Use both oral and written exercises.

Pupils should be taught to spell by sound, and to indicate by diacritical marks.

#### NUMBERS.

Teach all possible combinations and separations of numbers, from 1 to 10. Teach pupils to make neatly all figures used, and to write words representing the numbers. Use in the work such objects as beans, pebbles, buttons and shoe pegs. Have pupils give original problems. Teach use of signs  $+$ ,  $-$ ,  $\times$ ,  $\div$ ,  $=$ . Counting from 1 to 100. Insist upon all written work being neat. Teach such Roman numerals as are found in reading lessons.

#### LANGUAGE.

Lead pupils to talk freely in all recitations. Ask questions requiring something more than "yes" and "no" for an answer.

Read short stories, and have the pupils reproduce them orally.

Lead pupils to tell what they see on the way to school, or to describe a plaything or pet.

Correct all errors of speech, whenever made, without embarrassing pupils.

**SECOND GRADE—SECOND YEAR.**

**Text-Book**—Second reader.

**Apparatus**—Slate, pencil, sponge, rule.

**WHAT TO TEACH.**

*Reading*—Teach second reader and supplementary reading. Teach elementary sounds as they occur in the reader.

*Spelling*—From the reader.

*Penmanship*—With reading and attention to principles.

*Numbers*—Combinations from 10 to 100.

*Language*—Combined with other subjects.

**READING.**

**SECOND READER**—Teach definition and correct pronunciation of all words, before attempting to read.

Insist upon distinct articulation and natural expression. Have lessons reproduced, both orally and in writing. Teach name and use of pauses. Be sure pupils get the thought in reading. Have supplementary reading at least once a week. Have pupils commit short selections.

**SECOND READER**—Completed.

**SEAT WORK**—Make tables in number work. Reproduce reading lessons. Copy words in spelling from the black-board. Study of reading lesson. Write original stories.

**PENMANSHIP.**

Call attention to principles. Lead pupils to use them in forming letters on slates or on black-board. Insist upon proper and easy position. Aim at legibility, neatness and rapidity.

**SPELLING.**

Spell all unfamiliar words of the reading lessons. Review frequently. Give exercises in dictation from the reader. Use diacritical marks.

**NUMBERS.**

Review first grade work rapidly. Continue instruction from 10 to 100. Omit use of objects except in problems. Give daily drills in all combinations and separations. Do mental work as much as possible. Count by 2's and 3's to 50, and by 5's and 10's to 100. Do not allow counting on fingers. Write and read numbers to one million.

**LANGUAGE.**

Combine language with other subjects. Insist on the pupils speaking in complete statements. Teach use of capitals at beginning of sentences, in proper names, and the words I and O. Do not allow two pupils to give answers in exactly the same language. Write short letters to teacher. Fill elliptical expressions.

**THIRD GRADE—THIRD AND FOURTH YEARS.**

**Text Books**—Third reader, copy-book, arithmetic and geography.

**Apparatus**—Slate, pencil, sponge, pen, ink, rule.

**WHAT TO TEACH.**

*Reading*—Third reader and supplementary reading.

*Spelling*—With reader.

*Penmanship*—Copy-book and board work.

*Language*—Oral and written.

*Arithmetic*—Elementary arithmetic.

*Geography*—Elementary geography.

**READING.**

Third reader finished. Require pupils frequently to give the substance of their reading lesson in their own language. Explain meaning of all new words. Hygiene with special reference to the effects of alcohol and narcotics upon the human system, should be taken up with this grade; therefore, in large schools, where time is not sufficient for regular work in this branch, it may be introduced as supplementary reading.

**PENMANSHIP.**

The copy-book is introduced in this grade. Continue the work by aid of principles. Have copies reproduced on black-board. Secure good position and accuracy.

**SPELLING.**

Increase the work of written spelling. Have all proper names spelled as they occur in the reading lesson. Give spelling of words in classified groups, as the names of different articles used in the school room, the names of common animals, the names of different fruits, etc. Continue the work with diacritical marks.

**ARITHMETIC.**

Elementary arithmetic finished. Give special attention to mental work. This grade includes the teaching of the Fundamental Principles to Percentage. Give drill constantly for rapid work. That the pupils may apply what they know, give practical examples, such as are met with in business life. Make all analyses simple.

**LANGUAGE.**

Continue the work from second grade. Give attention to use of singular and plural forms in writing. Teach the correct use of "be" in its different forms, also of "have," and the possessive form of the noun. Teach the correct use of words having the same sound but different spelling, as right, write; to, too, two; there and their. Give special attention to use of capitals in writing and also to the proper

ending of sentences by teaching the different forms of sentences. Have pupils write frequently original sentences of these four forms.

Teach the use of the *comma* in a series and in direct address. Teach use of the *period* in abbreviations, such as Mr., Dr., Colo., and with initials. Give the use of the comma in contractions, as "I'm" stands for "I am," "don't" for "do not". Teach the use of quotation marks. Give letter-writing considerable attention. Teach the proper form before the pupils write a letter.

Much attention should be given to writing short stories, whether by the aid of pictures or as a reproduction. From the first insist on such work being done in the proper form: subject at top, indentation for paragraph, use of hyphen when necessary at end of line, capitals, terminal marks, and pupil's name below.

#### GEOGRAPHY.

Teach direction—east, west, north, south. Use these terms in describing objects in school-room and on school-ground. Teach the distance of near places and the probable distance of those more remote, using terms: inch, foot, yard, rod, mile.

Develop the idea of a map by representing the school-room on the black-board. Use the scale of one inch to the foot. Draw map of school-grounds, then of the country.

Develop meaning before teaching definitions of hill, mountain, streams of water, etc. A globe should be had if possible. Aim in these lessons to give a clear outline image of the earth's surface, continents and oceans.

When teaching the State, first draw outline map and then locate the important places, teaching something about each of these places and important facts about the State in general. Work on the United States should be taken up next and followed to close of *first* year. Complete the work in book by close of *second* year.

#### FOURTH GRADE—FIFTH AND SIXTH YEARS.

**Text-Books**—Fourth reader, copy-book, arithmetic, geography, language.

**Apparatus**—Slate, pencil, sponge, rule, pen, ink.

#### WHAT TO TEACH.

*Reading*—Fourth reader, and primary history as supplementary reading.

*Spelling*—With reader.

*Penmanship*—Copy-book.

*Language*—Text-book, grammar.

*Arithmetic*—Complete arithmetic begun.

*Geography*—Complete geography finished.



**READING.**

Give attention to articulation, pronunciation, emphasis, inflection and pauses, but make the *thought* in the lesson of most importance. To enable the pupil to become possessed of the thought, a system of questioning is often necessary.

Call for the meaning of all new words and then have them used in original sentences. Encourage pupils to look up biographical allusions, and to make free use of the dictionary.

The Primary History should be used as a supplementary reader in this grade.

Locate important cities, routes of marching armies and great battle-fields, but make a reading not a history lesson.

**PENMANSHIP.**

See third grade. Require letter analysis.

**SPELLING.**

Teach the general rules for spelling. Teach meaning of diphthongs and triphthongs, silent letters and their uses. Teach primitive, derivative and compound words. Give special attention in this grade to the analysis of words, first having taught the meaning of the most common prefixes and suffixes. Every teacher should have some good work on "Word Analysis." Give drill in oral as well as written spelling.

**ARITHMETIC.**

Pupils should be able to apply practically the knowledge acquired in this grade, hence give them much supplementary work in practical business problems, both mental and written. Lead pupils not only to state what they do but why they do it. The pupil will have had much drill in mechanical operations, and he should now be able to apply principles. Give special attention to principles and definitions, the meaning first having been developed. Make factoring important. Teach greatest common divisor and least common multiple thoroughly. Give thorough drill in both common and decimal fractions, making the similarities and differences plain. Make them understand "pointing off" in division of decimals by giving reasons. Spend some time with "bills," having various kinds of bills made out—bills of purchase, bills of sale, bills for work done. Make denominate numbers practical, especially in measurement of surfaces.

**LANGUAGE.**

Develop definition of language. Talk with pupils about the origin of language—that spoken language existed before written language. Lead pupils to understand that the latter is a means of representing the former. Give an account of the earliest efforts to communicate thought by means of picture writing. Teach the essential parts of a sentence with their modifiers. Teach pupils to distinguish and point

out nouns. Use objects in room. Teach the other parts of speech with sufficient drill to have them recognized readily. Give drill on proper use of verbs often used incorrectly, such as lie, lay, teach, learn. Continue the work on letter writing and reproduction. In the study of essential definitions, see that pupils understand them before trying to commit them, but have such thoroughly learned. Pay strict attention to use of capital letters and the single rules of punctuation. Use some good form of diagram when giving the work on sentences.

#### GEOGRAPHY.

Complete geography finished. Begin the work by a review of third grade work. Then study each continent separately, and include map drawing. Study the geography of Colorado thoroughly, naming and locating counties. Before finishing this study, some special instruction should be given upon the mathematical work, motions of earth, circles, inclination of axis of earth, and the consequences. Places of special interest and importance should have points of interest enlarged upon by teacher, and outside information given, both by teacher and pupils. Make geography real—not simply remembered as marks on a map.

#### FIFTH GRADE—SEVENTH AND EIGHTH YEARS.

**Text-Books**—Fifth reader, civil government, copy-book, United States history, grammar, arithmetic, physiology.

**Apparatus**—Slate, pencil, pen, ink, rule.

#### WHAT TO TEACH.

*Reading*—Fifth reader completed. Civil government.

*Spelling*—With reading.

*Penmanship*—Copy book

*Grammar*—Text-book completed.

*Arithmetic*—Complete arithmetic finished.

*History*—Text-book completed.

*Physiology*—Text-book completed.

#### READING.

**FIFTH READER**—Also give selections from the best American and English authors. Read civil government, and the Constitution of the United States and of the State of Colorado. Require oral and written abstracts of lessons.

#### PENMANSHIP.

As in fourth grade.

#### SPELLING.

See fourth grade. Spell words used in the reading for the day.

**ARITHMETIC.**

Before beginning percentage, give review lessons in decimal fractions. Solution of problems in percentage should be based upon analyses familiar to pupils in operations in common and decimal fractions. Do not use the formula until the principle is well understood. Insist on the work's being accurate and neatly arranged, each necessary step being indicated. Apply the principles of percentage to profit and loss, commission, taxes, stocks, insurance, interest, discount and exchange. Make the writing of business firms prominent. Drill pupils on different forms of notes, receipts, bank drafts and checks.

Give practical problems to apply in the work of involution, evolution and mensuration. Give much supplementary work in connection with daily lessons. Review of entire book.

**GRAMMAR.**

Complete according to outlines of the author. Require clear analysis, both oral and by means of diagram. Accept only *good* letter-writing and *good* composition work in this grade.

**HISTORY.**

Use the topic method largely and fix the most important facts of history by frequent reviews. Do not allow pupils to use the exact words of the book when reciting. Encourage pupils to bring in as much extra information from other histories as possible. Have pupils make the diagrams and tables in history, not copy them.

**PHYSIOLOGY.**

Complete the book. Teach this branch by topic. Finish a topic before leaving it though it may require several lessons. Give much attention to the laws of health and the care of the body. Teach with pupils for models rather than with so frequent use of maps and charts. Review often.

DAILY PROGRAMME.

TIME.	GRADE 5—STUDY	GRADE 4—STUDY	GRADE 3—STUDY	GRADE 2—STUDY	GRADE 1—STUDY	RECITATION
9.00—9.05						Opening
9.05—9.20	<i>Recite</i>				Reading	Physiology . 4 and 5
9.20—9.30	Arithmetic				<i>Recite</i>	Reading . . . . . 1
9.30—9.45	Arithmetic				Seat work	Arithmetic . . . . . 2
9.45—10.05	Arithmetic				Seat work	Arithmetic . . . . . 3
10.05—10.25	Orthography				Numbers	Arithmetic . . . . . 4
10.25—10.50	<i>Recite</i>				Numbers	Arithmetic . . . . . 5
10.50—11.00	<i>Recess</i>				<i>Recess</i>	<i>Recess</i> . . . . .
11.00—11.10	Reading				<i>Recite</i>	Numbers . . . . . 1
11.10—11.20	Reading				Seat work	Numbers . . . . . 2
11.20—11.30	<i>Recite</i>				Seat work	Orthography . . . 4, 5
11.30—11.45	Reading				Reading	Reading . . . . . 3
11.45—12.00	Reading				Reading	Reading & U.S.H. 4
12.00—1.00	<i>Intermission</i>				<i>Intermission</i>	<i>Intermission</i> . . .
1.00—1.20	<i>Recite</i>				Reading	Sup. Reading . . . 5
1.20—1.35	Writing				Writing	Writing . . . . . 1, 2, 3, 4, 5
1.35—1.45	U. S. History				<i>Recite</i>	Reading . . . . . 1
1.45—2.00	U. S. History				Seat work	Reading . . . . . 2
2.00—2.15	U. S. History				Review	Geography . . . . . 3
2.15—2.30	Grammar				Review	Geography . . . . . 4
2.30—2.40	<i>Recess</i>				<i>Recess</i>	<i>Recess</i> . . . . .
2.40—2.45	Grammar				<i>Recite</i>	Review . . . . . 1
2.45—3.05	Grammar				Seat work	U. S. History . . . 5
3.05—3.15	Grammar				Seat work	Review . . . . . 2
3.15—3.25	Physiology				Seat work	Language . . . . . 3
3.25—3.40	Physiology				Reading	Grammar . . . . . 4
3.40—4.00	<i>Recite</i>				Reading	Grammar . . . . . 5

### RULES AND REGULATIONS.

*First*—Each teacher will be required to have a copy of the Course of Study, at all times, in the school-room.

*Second*—Teachers are expected to conform to the rules and regulations, and the plan of this Course of Study, and to see that the provisions therein set forth are properly carried out.

*Third*—EXAMINATIONS. At the close of each month of the school term, teachers shall require the pupils of the third, fourth and fifth grades to take written examinations or reviews on the work done the preceding month, in which they shall be marked on a scale of 100 per cent. The result of the examination shall be recorded upon cards furnished by the County Superintendent. The cards shall be sent to the parents for their examination and signature and returned to the teacher. The teacher is also required to forward statement of examination by grades, enrollment, average daily attendance, and such other information as may be required, to the County Superintendent and Secretary of District, upon blanks furnished by the County Superintendent.

*Fourth*—At the close of the school term, or year, the average standing in each branch studied, the number of days present, as shown by the Daily Register and by Report Cards, shall be recorded in the Annual Register by the teacher and filed with the Secretary of the District.

*Fifth*—EXAMINATIONS FOR PROMOTION. The County Superintendent of each county will prepare a uniform test of questions for the third and fourth grades who are preparing to complete the work. He will also furnish class or grade certificates to be given pupils who complete the work in any grade. No pupil should be promoted to a higher grade unless he makes an average of seventy-five, nothing below sixty; *Provided*, That a teacher may promote a pupil with his class after passing a part of the examination, on condition that he make up the studies he failed in and pass an examination at some future time.

*Sixth*—FINAL EXAMINATIONS. The County Superintendent of each county shall prepare a uniform list of questions for pupils preparing to complete the course. These examinations shall be conducted by the teacher and the papers forwarded to the County Superintendent to be graded by him. Pupils completing the course are required to make an average of eighty, no branch below seventy. Those who pass will receive a certificate from the County Superintendent that they have completed the course. No pupil shall receive a certificate who has not finished the complete course.

*Seventh*—Arrangements will be made whereby pupils who have completed the Course of Study may be admitted to the High Schools of their counties without examination.

### SUGGESTIONS TO TEACHERS.

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*First*—It is expected that all the work outlined in the Course of Study will be done as outlined, but teachers are expected to leave *their mark* in the result. Teachers are not expected to surrender their individuality. The Course of Study is simply intended to help—to guide—and your success will, as heretofore, depend upon the ingenuity and energy that you display.

*Second*—Read the Course of Study with particular reference to what is required of each grade, and with reference to the amount of *thought* and *activity* on your part that is necessary to complete the work required. There is no “Royal Road” to learning. Teach by example that “Work Wins.”

*Third*—If any of the work outlined in the Course of Study is not thoroughly understood by you, do not hesitate to ask for information. The County Superintendent will gladly write to you or visit your school, if necessary, in order to render you assistance.

*Fourth*—Ascertain in which grade of the Course each pupil has *most* of his work and classify him in that grade. If he has not all his studies in this grade, mark the number of the grade in which such other studies are found under the headings for these respective studies. For example, if a pupil is classified in the Fourth Grade, but has Arithmetic in the Fifth Grade, mark 5 above the figures indicating the pupil's standing, and in ink of a different color, in Arithmetic column opposite his name in the Register.

*Fifth*—The *first* classification of any school is most difficult, and should be made with much care. Succeeding teachers will not change the classification left by their predecessors without good reasons.

*Sixth*—The classification as left by each teacher, in the Annual Register, should show the *status* of each pupil at the *close* of the term, each being classified in the grade in which he has just finished.

*Seventh*—A pupil changing from one school to another in this State, should receive from his teacher a certificate of his standing, which will enable the teacher whose school he enters, to classify him without examination.

*Eighth*—Do not ask children to go counter to the expressed desire of their parents. In case a pupil wants to be excused from the performance of the work outlined in the Course of Study, talk the matter over with the parents, and, if possible, convince them of their mistake in permitting the child to omit any portion of the work. If the parent presents a reason which seems to you valid, refer him to the School Board, as they alone have power to excuse. The work in Physiology with special reference to the effects of narcotics and stimulants on the human system can not be omitted, even by the School Board.

*Ninth*—Parents should visit the schools, but if they do not, their negligence *in no manner excuses teachers from visiting parents*. Prove to them that you are really interested in the progress of their children and you will have their sympathy and support. Many misunderstandings may be avoided by visits to parents.

*Tenth*—In all your labors with pupil and parent, be kind, courteous and just. "System, self-possession, energy and kindness on the part of the teacher are the best disciplinary agents."

*Eleventh*—At all times furnish plenty of *work* for your pupils. Do not mistake innocent amusement for work. Profitable and constant occupation is the true preventive of disorderly conduct.

*Twelfth*—Ornament your school-room with pictures and flowers and make it as attractive to pupils as possible.

*Thirteenth*—Every teacher should own and *read* two or more good works on teaching. No teacher has any right to learn methods at the expense of the pupil.

*Fourteenth*—In dismissing your school or in calling classes, use a signal, and thus avoid confusion and save time.

*Fifteenth*—It is a *mistake* to detain pupils in the school-room as a punishment.

*Sixteenth*—Never allow your pupils to use forms for their work, that you would not use yourself. Your ideas of how work should be done are shown to parents and to others by your pupils' work.

*Seventeenth*—Do not teach a single branch at a time, but teach all the branches at all times, *i. e.*, never lose sight of language, history, orthography, etc., in any recitation.

*Eighteenth*—Ask your questions in such a way that the pupil *cannot* mistake your meaning, and require a complete statement an answer.

*Nineteenth*—Tell *little* and develop *much*. Teach your pupils *think*. It is what a pupil *does for himself* that benefits him.

*Twentieth*—*Too much* attention cannot be paid to articulation; a word mispronounced is almost certain to be misspelled.

*Twenty-first*—Do not allow your pupils to "*guess*." Good results are not obtained by urging a pupil to try to tell what he is positive he does not know.

*Twenty-second*—Teachers should have monthly reviews or examinations, and a record of the standing of the pupils in each grade should be kept by the teacher. Each district will be furnished with an Annual Register, and at the close of the last term in the school year the standing of pupils in their respective grades should be made in the register.

*Twenty-third*—If any grade has not completed the work for the year, state in your "Remarks" how much has been completed. By making a record of the standing of the different grades, succeeding teachers can, by examining the Annual Register, go to work without the usual review or examination consequent upon a change of teachers.

*Twenty-fourth*—In order that the record, as shown by the Register, may have any value, we insist that all work passed over be done thoroughly. No *true* teacher will try to mislead the parents, or her successor, by hastening over the work. It is hoped that this Course of Study and record of the standing of pupils will do away with this constant beginning at the "first of the book" at the beginning of each term, thereby discouraging both pupils and parents. If the subjects are properly presented, and the pupils are given sufficient time on each subject, there will be no necessity for this annual experiment. Do not be in a hurry in the beginning. Lead the pupil to know *when* he knows a subject and when he *does not know it*.

*Twenty-fifth*—In presenting this outline, the *manner* of doing the work has been left almost entirely to the teacher. The suggestions made are to be regarded only as such. Teachers are at liberty to use any or all methods they can. The only requirement is that the work *be done thoroughly*.

J. S. EAGLETON,  
S. T. HAMILTON,  
P. H. HAMMOND,

*Committee.*



REPORT OF THE PROCEEDINGS  
OF THE  
Colorado State Teachers' Association,

HELD IN

DENVER, DECEMBER 26-28, 1889.

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FIFTEENTH ANNUAL SESSION—WHAT WAS SAID AND DONE.

The Fifteenth Annual Session of the Colorado State Teachers' Association was held at the High School building, in District No. 1, Denver, on Thursday, Friday and Saturday, December 26, 27, 28, A. D. 1889. Very full arrangements had been made by the executive committee of the association, Messrs. Fred Dick, J. P. Jackson and W. T. Eddingfield, of the college and High School section, Messrs. W. H. Smiley, S. A. Jones and W. Triplett. President Hanus had also been quietly and efficiently at work.

Before the opening hour Superintendent Gove's office and the Directors' room adjoining, perhaps as elegant and convenient as any public school offices in America, were swarming with the leading educators of the State. There were Byington, of Boulder; Lyle, of Fort Collins; Copeland, of Greeley; Jackson, of Colorado City; DeLong, Dennett and Gardner, of the State University; Eddingfield, of Aspen; Suckling, of Georgetown; Triplett, of Golden; Stevens and Finn, of Central City; County Superintendent Hamilton, of Fort Collins; and Professors Hanus, Knapp, Goss, Greenlee and others, of Denver. Other superintendents and principals that our pencil failed to catch, kept coming and going. All were alert and interested.

The sessions were held in the assembly-room over the public library, the finest room yet occupied by the association, which was placed at their service, together with all other parts of the building by the School Board.

OPENING SESSION.

It was a little past 2 p. m. when President Hanus called the association to order. Some three hundred persons were present.

The Secretary, Miss Maud Bell, being absent, Mr. Andrew W. Elder was elected Secretary *pro tempore*.

Without further preliminaries the regular work of the session was taken up.

*City School Systems*—By Superintendent J. S McClung of Pueblo.

This paper was ably written and well presented. It advocated the desirability of having each branch of study taught by a specialist, who should have the entire training of the child in that branch.

Here are a few paragraphs of the paper which will serve to outline the argument.

"*First*—The objections: It is said that the teachers now employed in city schools are, as a class, earnest, faithful, painstaking and intelligent; that we can not expect to secure better talent in the specialist than we now have in the general teacher. With this statement I fully agree, but the intention is simply to put the teachers we now have into positions where they can do their work more effectively, to give them an opportunity to do that kind of work for which they have a special aptitude.

"It is further suggested that by the present plan, each teacher has her pupils in her own care for the entire session; she watches them at their studies; she knows who studies faithfully and who is negligent; she can adjust their lessons to their abilities and wants better than several teachers could do, because she is acquainted with their efforts in all the studies pursued; she takes a broader view of all that enters into their school life; she has opportunity to know more of their home surroundings, of their physical health, their struggles and trials, and she can therefore give them that sympathy and encouragement which children at school many times need.

"Another objection is that friction and unpleasant feeling are liable to exist among the teachers; that through jealousy or selfishness each one will try to push her own work, even to the disadvantage of the interests of other teachers. I have referred to what seems to me to be some of the leading objections to special teachers in city schools. I believe that where the plan is given a fair trial these objections will entirely disappear, or will at least be found of little importance when compared with the advantages to be gained.

"Some of these advantages I wish to point out. It will be found, I think, that the teaching will be more systematic, more thorough, and more in accordance with the laws of mental growth. School systems, like all other systems of human contrivance, have varying degrees of excellence. All teachers in grades below the High School, teach arithmetic or numbers in some form. Pupils pursue the study for a year with one teacher, learn her ways and methods and then change to another whose ways and methods are somewhat different. Their line of advance is for a time broken and unsettled, and by the time they are fairly started with their new instructor they are changed again, and when they have finished their Grammar School course, what of the results obtained? Do they see behind them a broad and level way whose obstacles have been overcome—whose crooked places have been made straight, because they have been guided by one who had a singleness of purpose—who saw upon the whole line from end to end and went straight to the mark without deviation? Not at all. Rather they see the disconnected parts of a study that they have struggled with for eight years under the tuition of eight instructors, each of whom made it her care to do just the work assigned to her without much concern for related parts. Whether we do scientific teaching or not, there is such a thing as scientific teaching. Each particular topic, however simple, demands careful attention on the part of the teacher that it be presented at just the right point in the pupil's advancement, and that only so much be presented as he can understand and master. Further, it should be presented in a proper manner. The interest of the learner must be awakened and his curiosity aroused in order that his attention may be fixed and his mind impressed with a correct and vivid

picture of the matter to be learned. Until we get children into the habit of clear and exact thinking, we have not done for them all that good teaching requires. The mere memorizing of words does not usually lead to much vigorous thinking.

"It is hardly necessary that I call attention to the fact that in every department of human industry where there is a demand for skill of either hand or brain, or both combined, there is an increasing demand for specialists, or persons whose natural abilities and special training in some one direction has fitted them to act as experts in their particular vocation. What society needs to-day is not minds so capacious that they can take in all the diameters of human thought. Society needs rather common people who can do a few things and do them well."

#### DISCUSSION.

The discussion was led by Superintendent Byington, of Boulder, who was inclined to consider the system highly desirable, if practical. He had tried it on a small scale, in only two rooms, with indifferent success. He was not prepared to either condemn or advocate it, but saw very clearly its ideal advantages. He thought Superintendents in small cities were in many cases hampered by reason of having to teach a considerable part of the time. The supervision of three buildings, with fifteen teachers, for instance, would seem to be enough to take up one man's time, wherever the district could afford it.

Superintendent C. V. Parker, of North Denver, took up the discussion, and spoke of the great importance of city schools, owing to the concentration of population and wealth. "As the School Board, so is the school." In Colorado, politics does not enter into school elections, as it unfortunately does in many eastern cities. He would gladly learn as much as possible in regard to teaching by specialists in the Public Schools, but saw many difficulties in the way of the successful working of the system.

Superintendent Copeland, of Greeley, asked if Superintendent McClung had any plan to propose by which to introduce the system.

Superintendent McClung had not prepared any definite plan.

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*The Teachers' Ideal County Superintendent*—By Superintendent W. B. Suckling, of Georgetown.

Superintendent Suckling said that he had only taught one year in Colorado, and had served under but one County Superintendent, that of Clear Creek county, who was a good officer. He thought a County Superintendent should be an educated man, and believed that new counties required the services of men of special tact and judgment.

Asking to be permitted to digress from the subject, he took up the subject of special training for teachers. Normal Schools, as supplementary to a thorough academic course, he believed in; as substitutes for it, they were dangerous. "Method" was too much abused by those who, in order to teach everything methodically, went over and over again, after a silly fashion, things that the pupils already knew.

## DISCUSSION.

The discussion was led by County Superintendent S. T. Hamilton, of Larimer county, and participated in by Messrs. Eddingfield, of Aspen; ex-Superintendent McCreery of Larimer county; Dillenback, of the *School Journal*, and County Superintendent Shepard, of Arapahoe county. The necessity of a thorough knowledge of the School Laws was emphasized by Superintendent Shepard, who thought that the Superintendent could do his best work through securing the active-co-operation of School Boards.

## MUSIC.

At the close of the discussion, Prof. W. J. Whiteman, teacher of music in the schools of District No. 2 (West Denver), brought in a class of thirty second- and third-grade pupils, who sang several selections in so delightful a manner that the Association applauded them again and again. The sweetness of their voices and the perfection of their training were equally admired. Little Misses Emma Scott and Winney Kenney led in a duet and chorus; and a solo and chorus was given, Emma Scott singing the solo. The selections were "Beautiful and Winding River," and "Merrily Sings the Lark."

## N. E. A. COMMITTEE.

On motion of State Superintendent Dick, the President was authorized to appoint a committee of seven, to arrange all matters connected with the representation of Colorado at the National Educational Association at St. Paul, next summer.

## RECEPTION.

Prof. W. E. Knapp, chairman of the Reception Committee, was introduced, and announced that a reception would be given to the members of the Association, in this building, on Friday evening, by the people of Denver.

## THURSDAY—EVENING SESSION.

At the opening of the session, President Hanus announced the following committees:

*Nominations*—First Judicial District, J. S. Eagleton, of Golden; Second, Miss Emily A. Hayward, of Denver; Third, Miss A. L. Nutter, of Pueblo; Fourth, Mr. Grafton, of Manitou; Fifth, Mr. James Dilts; Sixth, J. M. Stevens, of Saguache; Seventh, P. M. Condit, of Delta; Ninth, Miss Holloway, of Aspen.

*Resolutions*—James H. Baker, Denver; J. S. McClung, Pueblo; Miss Lillian Bartlett, Colorado Springs; Lee Champion, Salida; I. M. DeLoug, Boulder.

*School Law*—A. D. Shepard, Denver; Reuben Berrey, Colorado Springs; E. C. Stevens, Central City; P. W. Search, Pueblo; C. L. Ingorsoll, Fort Collins.

*Finance*—L. C. Greenlee, Denver; S. D. Carroll, Crested Butte; William Eisenman, Miss M. Launden, North Denver; J. W. Newbern, Silver Plume.

*National Association*—Hon. Fred Dick, Trinidad; Supt. Aaron Gove, Denver; Prof. I. C. Dennett, Boulder; Supt. C. V. Parker, Denver; Supt. J. S. McClung, Pueblo; Principal S. A. Jones, Colorado Springs; Supt. H. F. Wegener, Denver; Prof. Jos. C. Shattuck, Denver; Herbert Griggs, Denver.

#### THE PRESIDENT'S ADDRESS.

The President of the Association, Prof. Paul H. Hanus, Principal of the Denver High School, District No. 2, delivered an able and scholarly address, which was listened to with earnest attention throughout. We subjoin a few extracts which will serve to show the quality of the paper.

#### THE SCHOOLMASTER AND THE COMMUNITY.

"Here I am at last," said Raphael Aben Ezra to himself, "fairly and safely landed at the very bottom of the bottomless; disporting myself on the firm floor of the primeval nothing and finding my new element like boys when they begin to swim, not so impracticable after all. No man, angel or demon can this day cast it in my teeth that I am weak enough to believe or disbelieve any phenomenon or theory in or concerning heaven or earth or even that any such heaven, earth, phenomenon or theory exists, or otherwise. I trust that is a sufficiently exhaustive statement of my opinions."

If the speech of Kingsley's Raphael Aben Ezra had been meant in sober earnest instead of being an expression of grim and only half meant irony, it would almost serve to mark that prevalent absence of convictions and common abandon to the influence of the hour which characterize our unthinking age. The times are characterized by action, not by thought. Commerce, with its requirements and its tyrannical sway, demands all the energy, all the attention, all the time. Men have superficial opinions but no convictions. Such opinions are readily formed when the means for diffusing information are so good and so extensive as they now are, and men have not the inclination nor the time to read more than the finance and commerce column of the daily papers, barely time enough to cut the leaves of magazines and reviews with a hasty glance at the table of contents. Men have come to do without much thought. Thinking tires them except such thinking as yields positive financial returns. The fact is the thinking of our forefathers that has resulted in the intellectual and social freedom of to-day, has so exalted the individual that he has become a kind of god—a god to bow before and worship. The individual now is everything, and organized society is useful only to still further exalt the individual. There never was a time when "everyone for himself" was so completely the watchword of human-

ity, and when the hindmost was so willingly consigned to the devil. At a time like this, when a man no longer counts distance over land or sea a barrier to his social or commercial intercourse; when the telegraph, that wonder of our childhood, is already getting old-fashioned, and men hundreds of miles apart converse familiarly with one another; when we talk hopefully of speaking, not over a wire at all, but almost literally on a ray of light; when monarchies become republics in a day; when even the most free, enlightened and best government is not good enough, and men are already "looking backward" upon the present age and its social and political achievements as crude and unsatisfactory; when that mighty potentate, the dollar, in order to be powerful must be counted by millions instead of thousands; when men live and move and form a part of such marvelous and diversified activities they take no time for thought and see value only in action.

Nevertheless, back of all this pushing and straining after material benefits, other values are recognized and provision is made for their preservation. The great public school system is willingly maintained at an enormous expense so that men may know how to live as well as how to get a living. The inheritance of the past, blended with the progress of to day, with its lessons for the present and its forecast of the future, are therein cherished and transmitted to successive generations. Men never recognized so clearly as now that the power to control and direct "is always either in or passing into the hands of whatever is strongest in society;" it is sometimes thought questionable which is the stronger, wealth or intelligence, but it is pretty generally acknowledged that the only power able to cope with money is universal intelligence. Hence the community educates both for self-preservation and for the greatest happiness of the individual. Upon us then as teachers devolves the important responsibility of standing for thought, for the moral and intellectual development of the young in particular, and for every elevating influence that we can command in general. True, primarily, we are to furnish such training as enables every individual to take care of himself—to read, write and compute his gains or losses.

This is the work of the primary and grammar schools and of the manual training, which I doubt not will soon be supplementary to the work of all the higher grades. But the high schools and academies, the colleges and universities, maintained by public or private means, show that our profession stands for more than the bread and butter—necessities of life—important as they are. It is our function to stimulate thought. This view of our profession, if really controlling, would help us and the community both at once. How much thinking not connected with this routine is done by us? Nothing so stimulates intellectual life as intellectual life. Many of us lack this great need. A ceaseless round of duties seems to determine the lot of many a conscientious, earnest man or woman, too much absorbed in the devotion to the labor demanded of them to seek relief in some

absorbing intellectual interest or even diversion. But such a course does not stimulate to activity; it is paralyzing. There is no intellectual or spiritual contagion about the patient, drudging human hack. A man must come fresh from the discovery of Nature's secrets, or of some truth heretofore hidden from him. He must be full of some idea in order to impart well the particular thing in hand; to see in it only preparation for the fuller intellectual activity and the more complete development to come by and by. To what shall a man turn for such inspiration?

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After all, there are but two sources of inspiration—Nature and Man. Both yield their treasures of encouragement, of hope, of joyful stimulus and perfect communion, only upon close acquaintance and careful cultivation. No man can hope to comprehend one of Nature's secrets without humbling himself and working so earnestly that when revelation comes he appreciates and values it. It is not given to the every-day man to discover for himself, to extend the boundaries of human knowledge; but his may be the joy of following with patient, ever-increasing interest the path that others have trod and of knowing some one thing well. The barrenness of mind so common, and the absorbing interest in the petty details of life, can not characterize him who works patiently in some domain of science or of abstract thought. It happens that the threads of knowledge are so interwoven that the pursuit of any one carries the investigator over, under and around so many others that every experience and every new fact soon fits in well with the rest, and a man is kept perpetually fresh, always expectant.

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Many adverse criticisms to which the public schools are subject would be seen to be quite unfounded if there was more vital contact between the people and the teachers. As already intimated, the causes for such unfounded opinions of the work of the schools and the apparent lack of hearty co-operation result very largely from the "practical isolation from contact with the people" everywhere prevalent. How to reach the community, then, is the one important question pressing for solution. We meet in annual convention with earnest purpose to get from contact with each other the newest and best that can be applied to our work. We present our ideas of pedagogical excellence to each other. We approve, condemn, amend or endorse with discriminating attention all that is presented. We do all these things among ourselves, with the community outside. A Teachers' Association—think what purely negative associations the terms must convey to the general public. If, then, we owe the community faithful service in the intellectual and spiritual development of the young, and are charged with being remiss, we have a right to retort upon them. Come and see. Come into our conventions and learn what our ideas are. Then come into our schools and become

acquainted with what we do. The school-master's ideal is the highest development of the individual. This means a mind with every faculty alert, prepared to be impressed with and decide upon the truth in whatever form it is presented, and an accompanying tendency to act upon conviction, sensibilities alive with generous sympathy, but never losing their value in effervescent gush, a soul responsive to all beauty in nature and in art, a keen appreciation of worthy motives and noble endeavor, the capability of forming and cherishing ambition whose realization implies no misfortune to others, ideals that are above mere social display and financial supremacy, and, above all, a settled determination to be useful in some capacity and to count one in every worthy activity.

To the task of developing such a character we will bend all our energies, seek inspiration from every available source and hold the community responsible for intelligent co-operation.

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#### FRIDAY—MORNING SESSION.

The College and High School Section held its session Friday morning, Prof. J. Raymond Brackett, of the State University, presiding.

#### PRESIDENT BRACKETT'S ADDRESS.

This paper was principally devoted to urging the great importance of a systematic plan of secondary instruction. In this State there are but sixty-one students pursuing a full college course. In many other States the proportion is much greater. In Rhode Island, with about the same population, there are nearly four times as many in college. In Kansas, the proportion is as seven to five in this State. In Vermont county grammar schools fill the want, and in New York 276 academies have been established, with 1,400 teachers. In Maine every boy can prepare for college near his own home at well regulated high schools. The success of our higher institutions of learning will depend upon the establishment of high schools or academies throughout the State with courses arranged with a view to fit pupils for admission to college. Taking a lesson from the experience of these older States, is it too much to say that we hope within a year to see fifty schools of the grammar grade established, and Boulder, Denver and Colorado Springs endowed with a sufficiency of schools capable of giving the most extensive preparation for college? It would be better, far better, to expend the State's money on this than on the erection of a State Capitol—the enlargement of the University at Boulder, the University of Denver, or Colorado College at Colorado Springs. Colorado can not afford to disregard the demands for this higher education.



*English in the High School*—Paper by Miss Atta L. Nutter, Principal of the High School, South Pueblo.

It is impossible within the space at our command to give an adequate idea of what all seemed to accept as an able and instructive exposition of well-matured views upon this important subject.

Teachers at large are crazed upon the subject of didactics. The fact is deplorable, since methods depend largely upon the teacher who applies them. It makes the most servile imitators. In the study of Literature as one branch of English, the first question is, "What shall we study?" and the last, "How shall it be studied?" To no class of writings ought the term of "literature" be applied except such as have the power to stir the heart. Books of travel, high class novels, etc., may entertain and even improve the pupils, but their taste cannot be taken as a criterion of what it is the most advantageous for them to read. The taste acquired by long experience is the only literary thermometer. Let the pupil weigh and judge literature as he does the mathematical sciences. We only teach English when we are increasing the powers of critical analysis and thus cultivate the mind. There are also the æsthetic and moral sides of the literary studies. Refined and cultivated associates in books are silent factors in the formation of character. We hope to see in the future a course in English literature in the High Schools, as definitely and carefully planned as the present courses in mathematics and the classics.

What authors shall be studied, is the first question. An attempt to learn too many authors dissipates the energies of the pupils. My question is, what number shall the pupil from fourteen to eighteen years of age study? I am in doubt as to the number, but I am sure that each author should stand as a center to the period which he represents and form the basis for more elaborate studies of the same period. Not old literature like Chaucer, but Irving and our own immortal poets may properly form the basis of the first study. They must necessarily at first be technical and delve deep into the construction of the sentences. Purity, propriety and precision of expression are to be acquired by this method of study. The scholar must be supplied with accurate directions as to the points to be studied. Memorizing of the best passages is an important factor. A literal translation of the author's diction into the pupil's own affords good practice. The interest excited in the author's personality and history should be satisfied promptly. This will lead on to a study of the period in which that author lived—its religious trend—the connection between its literary and political history; and all the features which give it individuality. Collateral reading must not be neglected.

Study of standard texts, collateral reading and the supplementary reading of abstracts and the writing of essays are the leading factors of a course in English.

*The Study of Composition*—Paper by Miss E. A. Hayward, teacher in the North Denver High School.

The object of this study, the reader said, is to acquire the faculty of speaking and writing the native tongue with force and accuracy. He who revels in English in its richness knows how great is the moral power and intellectual force which an acquaintance with its construction gives. No one is a good speaker, converser or writer who is not first able to express himself logically and accurately. Composition enables the pupil to comprehend and reproduce the great work of the past. A teacher who attempts composition, an important part of the course, is confronted at once by the tremendous difficulty that there is not time for it. Teach composition daily. We cannot hope to teach English any more than Greek and Latin without constant practice in literary form and expression. The critical faculty which usually runs wild in children is susceptible of the most extensive development. Some exercise in composition should be had every day. Cultivate the habit in pupils of each reading his own production critically. The proper selection and arrangement of words, clearness, absence of ambiguity, force, finish and polish, are all points to be looked at by the composer. The vocabulary of young people is very small. This makes the task of composition very irksome. An effort must be made to increase the vocabulary in each mind. Narration, description, biography and argument are the four heads usually given by the books as departments of composition. To these add transcription and reproduction, etc.

The moral element of composition is not its most unimportant side. Properly direct the child's thoughts by giving him a correct idea of the world as expressed in its literature. Composition follows literature in the second course. It is literature of the next generation. I see unestimable advantages in the proper study of Greek and Latin as aids to the formation of a characteristic and forcible style of composition.

Superintendent J. M. Stevens, of Saguache, discussed briefly the papers by Miss Nutter and Miss Hayward. He thought that the pupil should fasten in his mind a short synopsis of, or outline of the times in which an author lived, and his contemporaries, before proceeding to study the author. Pupils should rather study authors than what has been said about authors, and should be encouraged to form and express their own opinions.

*How can High Schools and Colleges aid each other?*—Paper by H. E. Gordon, principal of Tillotson Academy, Trinidad.

This paper was read by Mr. W. S. Jackson, in the absence of the writer. The following covers some of the points presented :

A vast amount of misconception existed in the West as to the dividing line between High Schools and Colleges. The State Colleges, such as the University, combine both. It is time, outside of this, however, to provide for the most perfect co-operation of High Schools, Grammar Schools, etc., and the Colleges. Co-operation which amounts to the Colleges receiving the certificates of the High Schools as warrants of admission. What can be done by both is the holding of such mutual conferences between the two as the present, where the independent wants of both can be studied. Secondly, special conferences—mid-winter and mid-summer, the first for discussion, the second for special courses of lectures. One of the necessities is a uniform standard of admission to our Colleges. Third, the establishment of normal classes among the teachers. Fourth, the adoption of the University system. Lectures to the High School students by College bred men on special subjects, and the appointment of a State agent who shall circulate among the High Schools and Academies, infusing enthusiasm and warmth into the schools, will do much to bring the High Schools up to the standard required by the Colleges. It will be a glorious consummation when we have a National University at Washington, a State University in every State, and public High Schools all bound together as an organic whole. Over all a Department of Education and a Cabinet officer directing the whole vast scheme of education. The time has come when the National Government should take a wider and more patriotic view of the problem of National Education. Ignorance must be conquered and illiteracy destroyed.

#### DISCUSSION.

Superintendent Dick thought Colorado was deeply interested in this subject. There had been no connecting link between the High Schools and Universities of the State. There should be an organization formed of the Principals of High Schools, Superintendents of City Schools and Faculties of State Colleges for the purpose of fitting them more accurately to each other and preventing the successful completion of the aims of the emissaries of the Eastern Colleges in the State to endeavor to draw away young Coloradoans to Eastern Colleges.

Mr. Boyd, of Greeley, thought the plan adopted by the University of Michigan a good one, consisting in the selection of a committee from the faculty to investigate the standards of the various High Schools with the aim of admitting students on certificates.

Professor Gardiner said the University at Boulder would be glad to adopt the system of admission to the State Institution by certifi-

cate. They would be very glad to do away with the preparatory school. But it was impossible at present. Even the graduates of the Denver High School were not prepared for the freshman class. The thing is only possible by a raising of the standard of the High Schools. He thought Superintendent Dick's idea of association of faculty and high school teachers most excellent. The standard of the Colleges must be raised at the same time with the High Schools by dropping the Preparatory Schools from the latter. Colorado, as it is now, stands below its neighbor, Nebraska.

President Slocum, of Colorado College, thought the system at present in vogue was imperfect from a lack of definiteness. Breadth was necessary, but definiteness and uniformity were still more necessary. The students came to Colorado College with a great variety of preparation—some better in mathematics, some in other branches. As a resort for a standard the faculty had been obliged to make the standard and course the same as Yale.

Professor Hanus said the reason there were no relations between the West Denver High School and the Colleges of the State was that all his efforts to establish such a relation had failed of a response.

Professor Baker, Principal of the East Denver High School, did not see why the requirements of the State University should exceed the preparation given by the Denver High School. He thought it strange that the Colorado State institution should wish to make its requirements higher than those of the older Eastern institutions for which this High School gave ample preparation.

Professor Baker, of Denver, introduced the following, which was unanimously carried: That a committee be appointed by the chairman of the College and High School section to ascertain the views of the various Colleges and High Schools in Colorado as to what should constitute a College Preparatory Course for Colorado. That such a committee be empowered to invite a conference of leading College and High School men if it seemed desirable; that the committee report at the next regular session of the Association.

The following were appointed as a committee: Supt. Fred Dick, Dr. Jas. W. Bell, Prof. H. A. Howe, Prof. A. E. Blount, Prest. W. F. Slocum, Prof. J. H. Baker, and Principal P. W. Search, of Pueblo.

Prof. T. O. Baker, of Durango, took somewhat violent exceptions to the statement of Professor Gardiner that the High Schools of Nebraska were better than those of Colorado, and not only denied the assertion, but read the Professor a severe lecture for having made it.

## OFFICERS OF THE COLLEGE AND HIGH SCHOOL SECTION.

The following report of the Committee on Officers for the ensuing year, was announced:

President—W. D. Sheldon, of Colorado College.

Vice-President—C. L. Cannon, Jr., of Denver.

Executive Committee—Prof. H. A. Howe and Miss Harvey, of Denver; and Prof. C. S. Palmer, of Boulder.

Secretary and Treasurer—Miss A. L. Nutter, of Pueblo.

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*Errors in Mathematic Text-Books.*—Paper by Professor Florain Cajori, of Colorado College.

Prof. Cajori's paper was in lieu of one on Mathematics in our High Schools by Prof. Stolbrand, of the State Agricultural College, who was unable to be present. It dealt principally with higher mathematics, and was a scholarly criticism of some of the errors that may still be found in standard works.

## FRIDAY—AFTERNOON SESSION.

The Association was called to order by President Hanus, and in the absence of Miss Maud Bell, secretary, Prof. Byington was called to the secretary's desk.

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*Mrs. Pollard's Synthetic Method of Teaching Reading*—Paper by Miss Lillian Bartlett, of the Colorado Springs High School.

Miss Bartlett's paper was rather in the nature of a history of Mrs. Pollard's work than a description of the method. She showed how the method had originated and what a strong hold it had obtained in Iowa and in some other places where it had been tried. Teachers were invited to procure Mrs. Pollard's books and look into the matter. Several letters were read from prominent teachers endorsing the method.

Mrs. Martha Pease, of the Delgany School, Denver, who led the discussion, had examined the plan but had not tried it practically. It seemed to her to be the best thing she had ever seen for teaching reading.

Ex-Supt. McCreery, of Larimer county, told of the excellent results he had seen obtained by first teaching the pupil by the phonetic system, with the phonetic alphabet.

*Institute Work*—Paper by W. F. Jamison, Principal of the Buena Vista schools.

This was an excellent paper upon a live subject, and showed convincingly the great advantages of the District Institutes provided for in this State. The subject is one that commends itself strongly to the Association.

#### MUSIC.

Prof. Whiteman again introduced a bevy of pupils from the West Denver Schools, taken from the second-grade of the Logan and Franklin Schools, who sang "Patter, Patter, on the Pane," delightfully.

#### DISCUSSION.

Miss Adeline Holdridge, of the Leadville schools, who led the discussion of Mr. Jamison's paper, endorsed the paper heartily, and after eloquently presenting the necessity of the Association, and the inspiration to be derived from it, saying that to work without inspiration is drudgery, predicted that the establishment of District Institutes was destined to mark an era in this State.

Mr. J. W. Newburn, of Silver Plume, spoke briefly in the same spirit, urging the importance of Institute work.

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*Elementary Science*—Paper by Prof. Regis Chauvenet, President of the State School of Mines, Golden, Colo.

It would be hard to describe this paper, but its lesson was unmistakable: That elementary instruction in the Sciences, both in public and private schools, is not as thorough as it ought to be. He greatly interested the audience by a graphic account of how one boy got into the School of Mines because he showed himself to be well grounded in mental arithmetic, although untaught in many other branches. The inference was that the boy had learned the habit of thoroughness, and therefore carried it into whatever he undertook. The Professor wished to see mental work, and plenty of it, with as few formulated rules as possible; object, to compel strictly original analysis, the only kind of permanent value. Secondly, vary forms, that is, statements, to the greatest possible extent, without giving methods at the same time.

The present difficulty seemed to be the attempt to crowd too much into a limited space of time—to dump everything into a short school course.

'Rithmetic, spelling, hist'ry, g'ometry,  
Mental philosophy, Latin and Greek,  
Grammar and chemistry, plane trigonometry,  
Physics and painting, to each give a week.

Tell 'em of logic, the art and the nature;  
 Teach composition, and "how to keep school,"  
 Give 'em a touch of polite literature;  
 Make 'em learn proper deportment by rule.

German, zoology, sperical 'stronomy,  
 Botany, algebra, p'litical 'conomy,  
 Lore mediæval and Butler's "Analogy,"  
 Dancing, and "how to keep house," mineralogy.

Make 'em spout poetry (called elocution),  
 Dip in each science that calls for solution;  
 Book-keeping, drawing, French and conchology,  
 Rhetoric, ethics, and palaeontology.

Languages (as they are spoke), and geology,  
 Morals, æsthetics, hygiene, entomology,  
 Tonic sol-fa-ing, penmanship, phonics,  
 Needle-work, cookery, Loisettes's nemonics.

Art, calisthenics, and English orthography,  
 Syntax and prosody, music, geography,  
 Everything goes in the great Yankee Nation,  
 One thing omitted, and that's education.

Superintendent A. B. Copeland took up the discussion, very briefly, however, as the hour was growing late.

Miss Holloway's paper was postponed till next day.

RECEPTION.

The reception tendered to the Association, on Friday, in the High School building, by the citizens of Denver, adorns one of the bright pages of the history of the organization.

The details were arranged by Prof. W. E. Knapp, of the Franklin School, chairman of a committee of nine, being three from each school district in Denver, assisted by W. D. Todd and Col. W. G. Sprague, of the Chamber of Commerce, State Superintendent Dick, Superintendents Gove, Wegener and Parker, together with Mr. J. D. Dillenback, aiding and abetting.

The reception was attended by about seven hundred people—school-masters and school-ma'ams and citizens who came to welcome them.

The program included welcoming speeches and responses, music, social intercourse and refreshments consisting of ice-cream and cake. A few found opportunity to dance to the music of an excellent orchestra.

After an opening selection by the orchestra, Miss Harriet Bickford sang "Love is a Dream," eliciting merited applause.

Chairman Knapp, after a few introductory remarks, which prepared the audience for what was to follow, introduced Gov. Job A. Cooper, who spoke as follows:

## THE GOVERNOR'S ADDRESS.

*Mr. Chairman, Ladies and Gentlemen:*

It has been my privilege during an active business life to frequently rub up against the princes and magnates of the business world, and it has caused no special embarrassment. I have even shaken hands with Presidents, Senators and the like, without manifesting palpitation, but to-night my boyhood tremor is upon me. I am in the august presence of the school teacher. I have not outlived the reverence—no, nor the fear—I never can outlive the reverence toward the teacher which has clung to me from the old log school-house days, which, under the walls of my loved Alma Mater, I humbly reached out my hand for my sheepskin, walked backwards to my seat, and left my college days and associations with revered teachers as one descends from a summit.

And so it is with no common amount of deference I welcome the teachers of the State of Colorado to their capital city. I do so as a private salutes his general, and well may I, for the destiny, the honor of the State lies far more in the custody of its teachers than of its executive head. I congratulate you upon the dignity of your labors and the extent of your field, and I beg leave to make but one suggestion as to your responsibilities. There are in the primary schools of our country over 8,000,000 pupils. These come from all lands, are descended from all nationalities, inheriting with the blighting ideas of outgrown governments, the discontent which oppression has fostered. Shall these diverse elements corrupt, undermine and destroy our country, or shall these millions of future citizens become its loyal, liberty-loving supporters? The answer is in your hands. If those in your care be taught the rights and duties of citizenship, the love of country, loyalty to its principles and its institutions, there is little to fear for the future of our beloved land. Let the possibilities of our vast country be held up before their imagination; let the air of the school-room be American; let its walls be decorated with the red, white and blue; if need be, let us have less of Cicero and Virgil; at all cost let us have more of Washington and Lincoln; more of the Constitution and history of the United States; let the names of our American heroes and statesmen be made familiar and their virtues will soon be revered and emulated. Anarchy, socialism and corruption must be crowded back by intelligent, enthusiastic patriotism.

Again I bid you a most cordial welcome.

## MAYOR LONDONER'S WELCOME.

Hon. Wolfe Londoner, Mayor of Denver, was next introduced and made one of his characteristic happy speeches, which increased the interest and good feeling already awakened by the genial address of the Governor.

## H. B. CHAMBERLAIN'S ADDRESS.

Hon. H. B. Chamberlain, President of the Chamber of Commerce and Board of Trade, spoke as follows:

*Ladies and Gentlemen:*

It is a pleasure and honor, representing the Denver Chamber of Commerce and Board of Trade, to tender you the cordial and appreciative greetings of the businessmen of the city.

One of the potent factors in the growth of Colorado and of Denver particularly, is the exceptional character of its public school system. The most valuable part of any community is found in those persons whose first inquiry is, "What kind of schools does your city furnish?" That city is most enterprising which is able to answer with assurance, "Come and look for yourselves." The greater advantages a city has in this direction, the stronger are the inducements for strangers to locate in it, be they poor or rich.



The increase in the number of children of school age in our State during the past year is but an index of the general growth, being from 76,212 in 1888 to 91,000 in 1889. Happily, the number of school children enrolled shows an equal advance, for in 1888 there were the names of 50,765 children on the school rolls, while this year there are upwards of 60,000, taught by some 2,000 cultured and devoted men and women. The value of school property has made a still greater advance, rising from \$3,238,000 in 1888 to upwards of \$4,000,000 in 1889. It may be interesting also to note that the cost *per capita* for those who attended school last year was \$30, while the value of school property *per capita* for those who attended is \$77.65, the largest average of any State in the Union.

The school property would give every man, woman and child in the State \$12.20 each if equally divided.

One scholar attends the public schools for every four and one-half persons in the United States, while in Colorado one scholar attends the public schools for every four persons. When we consider the immense sparsely settled territory in the State, and the fact that so large a proportion of our population consists of unmarried men and men who live here temporarily exiled from their families, this must be admitted to be a most remarkable showing for the school attendance of the State.

To you is committed a noble task, that of moulding plastic life and character. You lay the basis of the power and the pleasure with which, in after years, the work of this great State will be discharged. In this land of intellectual force and activity your students will not with you complete their education, but, to use the words of St. Paul, in a secular sense, they will "lay up a good foundation for themselves against the time to come."

In the broad American sense only the ground plan of an education is laid in our schools—the under courses of the future building, and it should be laid deep and firm. The years our children spend with you are profitably used just in the extent that habits of mental industry are formed and love for truth created.

You have our youth under your care and influence in the years in which more can be done toward enlarging the resources and increasing the proportions of their mental character and power than in any of the years after they shall have taken up the business activities of life. They will not be able to repair defects in the lower tiers of the edifice after the rafters are up and the roof is on. Errors in the building of the mental house are beyond all possibility of repair in after years, when it is discovered that the walls are too thin to sustain the weight they must bear.

Thomas Starr King has said that two volumes should always be pouring their influence into the nature of every student, namely: "The New Testament and the records of his native land. Religion and patriotism must stream into every fibre of his brain, into every duct of his blood."

May I leave with you the words of an American patriot and scholar for years, the head of the oldest University of New England: "Human happiness hath no perfect security but freedom, freedom none but virtue, virtue none but knowledge; neither freedom, nor virtue, nor knowledge has any vigor or immortal hope except in the principles of the Christian faith and the sanction of the Christian religion."

#### REV. SAMUEL A. ELLIOT'S ADDRESS.

Rev. Samuel A. Elliot, pastor of the Unity Church, Denver, welcomed the teachers on behalf of the churches of the city. Among other things, he said:

I greet the teachers in the name of the churches of Denver.

Your mission and work is so similar to that of the church that I am glad the preachers can welcome you as allies.

You are chosen for high privileges and great responsibilities. You have the power of awakening in your scholars' minds new senses of enjoyment. You can train their powers of observation and build up their characters in beauty and strength.

Stimulate them to earnest purposes and endeavors. It is yours to fit the youth of our State for "truth for men and men for truth."

Prepare the soil of life. Sow the seed in this soil to bring forth usefulness and praise-worthy ambition. Upon such privileges I heartily felicitate you.

Again I welcome you, bidding you hold your loyalty a sacred trust.

ADDRESS OF MR. HENRY JAMES OF THE DENVER "REPUBLICAN."

Mr. James began by disclaiming any ability to speak at all, but went on to make a very elegant and elaborate speech, cordially welcoming the teachers and eloquently defending the press. He gave a graphic description of the ceaseless and often thankless toil of the newspaper reporter, and asked for a considerate judgment upon those points wherein he might fail, professionally or personally. The press, not less than the schools, is an educator.

RESPONSES.

Responses to these welcoming addresses were made by the following gentlemen, members of the Association:

Prof. P. H. Hanus, president of the Association.

Dr. H. M. Hale, president of the State University.

Dr. W. F. Slocum, president of the Colorado College.

Hon. Fred Dick, State Superintendent of Public Instruction.

Supt. Aaron Gove, ex-president of the National Educational Association.

It was late before the assembly broke up, and the halls and corridors were thronged with gossiping groups, who made their way to the refreshment room as occasion offered. It was not a warm night, but forty gallons of ice cream were dished out, for all stayed to participate.

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SATURDAY—MORNING.

The session was opened by a song by the pupils of the seventh and eighth grades of the Whittier school, East Denver, some fifty in number. Owing to sickness, Professor Griggs, superintendent of the teaching of singing in this district, was unable to conduct the exercises and furnish the music that he had planned for the occasion. The class sang beautifully.

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*What the State Has a Right to Expect from the Work of the Public Schools*—Paper by J. M. Butler, Superintendent of the Trinidad schools.

In the absence of Professor Butler, this paper was read by Mr. Zirkle, of Black Hawk.

Messrs. E. D. Graber, of Gunnison; and T. O. Baker, of Durango, took part in the discussion.

Both the paper and the discussion of it would repay an extended notice would space permit.

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*Drawing*—By Miss Isabel Holloway, Assistant Principal of the Aspen High School.

Miss Holloway's remarks were illustrated by a great number of charts and designs, and were of such character as to be of great value to teachers who may wish to introduce drawing without having made special preparation for that work.

#### DISCUSSION.

Mr. F. H. Collins, supervisor of drawing in the East Denver schools, took up the subject in a masterly manner, with all the vigor and enthusiasm of a specialist, declaring that the study of drawings is useless, unless it brings practical results. Young pupils in Paris are taught to draw so well that the leading artists find it worth their while to examine and criticise the work. Drawing in our public schools has seldom been conducted in such a manner as to accomplish valuable results, but all pupils can learn to draw.

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*Old and New Fields in the Kindergarten.*—Paper by Miss Alice Cook, of Fort Collins.

Miss Cook said that, as the Fort Collins Kindergarten was the one in the State supported by public money, she would have much pleasure in reporting their experience with connecting the work with the Public Schools. The second year's work, she said, includes some primary work, as there is a limit to the usefulness of the Kindergarten work, and school life is too short to waste any time. Good results have been obtained. The very restlessness of the child is turned to his good. Thought is awakened, and dormant faculties brought into action. Whether a child hears well or ill will have a great effect on his future. She thought that no other kind of training could take the place of the Kindergarten in preparing for school work. When they reach the primary grade they have an idea of comparative value—to do by knowing and to know by doing. A lasting and broad foundation is laid for mathematics. Concentration of mind, control of muscle and dexterity of hand are gained. Teachers are often surprised that their pupils do so well in language. They find, on investigation, that they are working on one grand system, beginning in the Kindergarten. She traced the use of Froebel's system through the stages of mind development. Correct habits, she said, should be formed in the first year—application, carefulness and neatness. Kindergarten children lose their awkwardness and timidity. If primary teachers were only

capable of supplying the connecting link between the school and the Kindergarten, the growth of the system would be phenomenal, as it contains all that is best in the American educational system.

A couple of short papers prepared by teachers in the Fort Collins schools on the same subject, were read by Miss Kingsbury. They treated of observations made in the course of actual work in the Kindergarten, and analyzed the steps by which the minds of the pupils have been led to knowledge. The course of teaching was almost identical with that spoken of by Miss Holloway. She spoke also of the growth of language and history, incidentally brought about through the necessary descriptions. With the introduction of music came gentleness and kindness. Unconsciously the child is taught, in Kindergarten work, to control himself, and thus acquires those qualities needed to make a good citizen. The various directions which are taken by this training were brought out, and numerous suggestions were made. It was not thought that it is desirable to have the child make much effort to read the thoughts of others before having many of his own. Froebel is the master whose instructions are implicitly adhered to.

#### DISCUSSION.

Mrs. J. B. McGinty, of Delta, led in the discussion. She spoke of the horse Kindergarten of Senator Stanford. A baby race track has been established with the most important results. She pointed out that all good institutions have passed through a period of doubt and protection. The Kindergarten is emerging from this. It teaches all that will make solid the nation; it teaches men to respect the rights of others. She thought that increased intellectual activity in the laborer was the solution of the social problem. This was being aimed at. The child's individuality was developed. A purpose is given to his thoughts. More development is made in the first five years of life. If the mind is let run to neglect, until the child enters the public schools the loss can never be made up. When the Legislatures understand the importance of this change which has been wrought they will willingly give a share of the State funds to carry on the work. The days written of by Charles Dickens are gone forever. Wackford Squeers is no more and children are no longer hit on the head with a spoon by way of persuasion.

Mrs. Jacobs, of Denver, said that in her charitable work it had been found that many little ones were being neglected and that something had to be done to save our own children in the future. She thought the State made a great mistake in not taking up and encouraging the Kindergarten work, especially for the poor. The rich can help themselves. She thought it was a great privilege to have the training of youth, so that if women have not a vote they may have their children vote as they desire. She then entered upon the question of free Kindergartens in this city. Holding up a curious looking

nondescript woolen animal she told its story. A poor woman, deserted by her husband, had made such toys and kept the wolf from the door. It was her early training of hand and eye in Germany that enabled her to be self-sustaining. Mrs. Jacobs drew from this a moral that all could learn a lesson from this poor woman. Education is the preparation for life, and the Kindergarten should send children to the Public Schools with their eyes open. She defined its end, and said that the matter might be summed up in turning out healthy, strong children, kind, loving, helpful to each other. It has also an important office in saving children from the dangers of civilization until they are old enough to understand them. Mrs. Jacobs spoke eloquently at considerable length on this subject and was frequently interrupted by applause. Free activity, she said, is an essential element of the Kindergarten home. She quoted the opinion of writers that the Kindergarten would in less than twenty years grow to be the base of all educational work. The grandest, holiest work is the right education of a little child—the upbuilding of character. Until the thirteenth year the same training is necessary for both sexes and all classes, without exception. If this were done the technical teacher at that age would find his work much facilitated. Manual training is only one of the elements. Froebel has shown better than any that a child cannot be harmoniously developed by talking about duty; he must do it. He has left to us the work of carrying his system to older pupils. One cannot legislate for genius. We cannot think what is useful for this child or that child, but only what is equally useful for all. She spoke of her surprise in learning that France is far ahead even of Germany and the United States in her schools. The Austro-Russian and Franco-German war opened the eyes of the world to the fact that the educated man is the best soldier. The tendency of the time is more and more to bring Kindergarten methods into the primary schools. The soul of a child is not a sheet of paper; it is a living energy, to be quickened. She asked that the women of the Association cry Kindergarten from morn until night. Each child should have a fair chance for industrial and moral training, which is the aim and end of Kindergarten work.

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#### SATURDAY—AFTERNOON SESSION.

In the absence of Miss Bell, Professor Hanus called upon Professor Byington to act as secretary *pro tem*.

Professor I. C. Dennett, chairman of the committee appointed at the last session to report upon "The Best Method of Teaching English Grammar," reported that no action had been taken by the committee, principally because no funds had been provided to pay the traveling expenses which seemed necessary in order to a careful investigation of the subject.

After considerable discussion, Superintendent Gove moved that the committee be continued, and that the Association defray such necessary expenses for stationery, postage and printing as they may incur.

Superintendent Eddingfield moved to amend by allowing the committee fifty dollars for expenses.

The amendment was lost and the original motion prevailed.

Professor Whiteman here introduced a chorus of girls from the High School, District No. 2, Denver, who sang a selection and were called out again by a hearty encore.

#### ELECTION OF OFFICERS.

The Committee on Nominations reported as follows:

To PAUL H. HANUS,  
*President of the  
 Colorado State Teachers' Association:*

Your Committee upon Nominations respectfully submit the following:

*For President*—Fred Dick.

*For Vice-President*—W. T. Eddingfield.

*For Secretary*—Miss Lillian Bartlett.

*For Treasurer*—Joseph C. Shattuck.

*For Executive Committee*—W. E. Knapp, P. W. Search, E. G. Lyle.

The report was received and unanimously adopted.

#### RESOLUTIONS.

Prof. J. H. Baker presented the following:

*Resolved*, That the thanks of this Association are due and be hereby extended to the railroads of the State for reduced rates and for courtesies shown the members of the Association; to the hotels of the city for reduced rates; to the Board of Education of District No. 1, for the use of the High School building for the sessions of the Association; to the press of the State, and especially of this city, for kind notices and for complete and able reports of proceedings; to the management of District No. 2 for excellent music furnished by pupils of the schools of that District; to the many citizens of Denver who aided in the reception given to the teachers of the State; to the committee having in charge the arrangements of the same, and to the officials who by their presence and interest have added fresh encouragement to the work of the teachers; to the President, Executive Committee and other officers of the Association who have contributed so much to the success of the present session.

*Resolved*, That the Association approve of the action in the College and High School section to secure uniformity in College preparatory work in Colorado.

*Resolved*, That it be the expressed opinion of the Association that true Kindergarten methods have a most philosophical basis, and that the spirit of these methods should be introduced into the lower grades of the Public Schools.

*Resolved*, That the Association recognize in the fresh impulse given to institute work in the State a most valuable factor in the progress of school interests.

*Resolved*, That this Association most heartily endorse the recent legislation in this State concerning compulsory education. That we urge all who may be concerned with the execution of the law to carry out in good faith its various provisions; that it be the sentiment of this Association that in due time even further legislation will be desirable—legislation tending to recognize more fully the responsibility of society and State for the condition of any child who, through no fault of his, is reared in ignorance, idleness and vice.

Respectfully submitted,

JAMES H. BAKER, *Chairman*.

JAMES S. McCLUNG,

LILLIAN BARTLETT,

LEE CHAMPION,

IRA M. DELONG,

*Committee.*

Adopted.

The report of the Finance Committee was accepted and adopted, auditing bills to the amount of \$60.03.

The Treasurer's report showed a balance on hand of \$175.50.

#### LIFE MEMBERS.

The Treasurer made a statement showing that the following persons having paid dues for fifteen consecutive years, have thereby become life members of the association, according to the by-laws, viz: Horace M. Hale, Aaron Gove, J. H. Baker, David Boyd and Joseph C. Shattuck. On motion they were so declared by the association.

#### SCHOOL LAWS.

County Superintendent A. D. Shephard, chairman of the committee on School Law, stated that he had no report to make, but requested that all who had suggestions to make to send them to the committee during the year.

Professor W. E. Knapp, chairman of the new Executive Committee, asked for suggestions as to the time of holding the meeting next year, and as to the length of the programme.

By Professor Shattuck :

*Resolved*, That it is the sense of this Association that the programme for our Annual Sessions should leave time for ample discussion of the papers presented.

Adopted.

It was moved and seconded that the secretary be instructed to publish the proceedings and papers of this session of the Association in pamphlet form.

After considerable discussion the motion was lost.

Mr. J. D. Dillenback, on behalf of the *School Journal* stated that he would print a full account of the proceedings, but could not print all the papers.

It was moved by Professor Shattuck, and seconded by Superintendent Gove, that a committee be appointed to get together the constitution, by-laws, rules of order and amendments to the constitution in form for publication.

An amendment was offered that they be printed in pamphlet form at the expense of the Association, and that the Treasurer and Mr. Dillenback be a committee to attend to the matter.

Lost.

The original motion was then carried and the Treasurer made such committee.

#### EDUCATIONAL VALUE OF EXAMINATIONS.

Paper by A. J. Fynn, principal of High School, Central City.

This paper was of exceptional value. It was discussed by Messrs. J. H. Baker, T. O. Baker, Condit, Jackson, Beggs and Hanus.

At the close of the discussion the Association adjourned.



## The University of Colorado.

BOULDER, COLO., Nov. 15, 1890.

HON. FRED DICK,  
*Superintendent of Public Instruction:*

SIR:—I have the honor to submit the following report for the biennial term ending September 30, 1890.

HORACE M. HALE,  
*President.*

The Constitution of the State provides for the establishment of a University and for its maintenance in such manner as may be provided by law.

By virtue of the Constitutional provision the General Assembly has enacted that the object of the University shall be "to provide the best and most efficient means of imparting to young men and women, on equal terms, a liberal education and thorough knowledge of the different branches of literature, the arts and sciences, with their varied applications." Furthermore: "The University shall include a classical, philosophical, normal, scientific, law, and such other departments, with such courses of instruction and elective studies as the Board of Regents may determine, and a department of the physical sciences. \* \* \* Nothing in this section shall be so construed as to require the Regents to establish the several departments, other than the normal and preparatory, until such time as in their judgment the wants and necessities of the people require it."

By virtue of the foregoing provisions, there are now maintained the following departments: The Department of Philosophy and the Arts, Medical, Normal and Preparatory Departments.

Now that a State Normal School has been established, it is recommended that normal work be discontinued here. Perhaps at a later day it will be advisable to institute a Chair of Pedagogy in the University and offer an advanced course in pedagogies that will lead to the degree B. P.

The attendance at the University has steadily increased. In 1888-'89 it was 130; in 1889-'90, 151, and in 1890-'91 (up to the date of this report), 167. The largest per cent. of increase has been in the Collegiate Department. In this department, including special students pursuing college studies, there are now 48; candidates for degrees, 37. The senior class (1891) numbers 9. There will graduate from the Medical Department, 5.

## Present members of the Faculty, with salary of each:

HORACE M. HALE, LL. D. . . . .	\$ 2,500
President.	
MARY RIPPON . . . . .	1,600
Professor of German and French.	
ISAAC C. DENNETT, PH. D. . . . .	2,000
Professor of Latin.	
J. RAYMOND BRACKETT, PH. D. . . . .	2,000
Professor of Comparative and English Literature.	
JAMES H. KIMBALL, M. D. . . . .	800
Professor of Principles and Practice of Medicine, Materia Medica and Therapeutics.	
H. W. McLAUTHLIN, M. D. . . . .	600
Professor of Obstetrics and Diseases of Women and Children.	
GEORGE CLEARY, M. D. . . . .	500
Professor of Ophthalmology, Otology and Laryngology.	
W. J. WAGGENER, A. M. . . . .	2,000
Professor of Natural Philosophy.	
L. M. GIFFIN, M. D. . . . .	600
Professor of Anatomy and Physiology.	
CHARLES SKEELE PALMER, PH. D. . . . .	1,900
Professor of Chemistry.	
IRA M. DeLONG, M. D. . . . .	1,800
Professor of Mathematics.	
JOHN GARDINER, B. Sc. . . . .	1,700
Professor of Biology and Histology.	
CHARLES RICHARD, M. D., U. S. A. . . . .	550
Professor of Surgery.	
MAURICE E. DUNHAM, A. M. . . . .	1,600
Professor of Greek.	
J. M. NORTH, A. M., LL. B. . . . .	100
Lecturer on Medical Jurisprudence.	
H. O. DODGE, M. D. . . . .	250
Lecturer on Pathology and Clinical Medicine.	
H. B. WHITNEY, M. D. . . . .	50
Lecturer on Physical Diagnosis.	
G. B. BLAKE, M. D. . . . .	Fees
Demonstrator of Anatomy.	
CHARLES H. FARNSWORTH . . . . .	450
Instructor in Music.	
CHARLES CAVERNO . . . . .	450
Lecturer on Psychology and Ethics.	
CHARLES E. LOWREY, PH. D. . . . .	720
Librarian.	
HERBERT E. COBB, A. M. . . . .	Room, board and 600
CAROLINE M. HYDE, B. S. . . . .	Room, board and 675

The janitor is paid \$55 a month.

The teamster is paid \$45 a month.

**SECRETARY'S REPORT.**

Report of the money expended for building and running expenses between the first day of October, 1888, and the first day of October, 1890:

Teachers' salaries (exclusive of Medical Faculty) . . . . .	\$32,145 43
Janitor and janitor's supplies . . . . .	1,215 15
Fuel and oil . . . . .	1,296 86
Furniture . . . . .	634 44
Postage, stationery and printing . . . . .	399 65
Advertising . . . . .	966 90
Expense of keeping horses and wagons . . . . .	348 77
Sundry expenses . . . . .	1,740 32
Department of Mineralogy, Geology and Chemistry, including apparatus and supplies . . . . .	2,175 27
Biology (specimens and supplies) . . . . .	846 65
Department of Latin . . . . .	431 53
Literature . . . . .	12 50
Library . . . . .	3,645 50
Periodicals and reading-room . . . . .	854 60
Department of Physics (apparatus and supplies) . . . . .	2,657 87
Medical Department, including salaries . . . . .	7,893 24
Maps, Greek and Mathematics . . . . .	1,037 66
Repairs and care of buildings and grounds . . . . .	4,242 12
Expenses of examinations held throughout this State . . . . .	317 06
Regents, <i>per diem</i> and mileage . . . . .	1,412 25
Enlarging ladies' dormitory . . . . .	4,155 74
Payments made on Woodbury Hall . . . . .	17,535 45
Total . . . . .	\$85,964 76

S. A. GIFFIN,  
*Secretary.*

**TREASURER'S REPORT.**

From October 1, 1888, to October 1, 1890.

RECEIPTS.

Balance cash on hand October 1, 1888 . . . . .	\$16,507 90
Received from State Treasurer, general fund . . . . .	69,800 00
Received from State Treasurer, land income fund . . . . .	4,250 00
Received from State Treasurer, special fund . . . . .	86 69
Received from H. M. Hale, president, fees and tuition . . . . .	815 00
Received from Professor Palmer, chemicals furnished to students . . . . .	298 73
Received from Professor Gardiner, material furnished to students . . . . .	34 30
Total . . . . .	\$91,792 62

DISBURSEMENTS.

Disbursements as per vouchers . . . . .	\$85,993 15
Cash on hand, October 1, 1890 . . . . .	5,799 47
Total . . . . .	\$91,792 62

CHAS. G. BUCKINGHAM,  
*Treasurer.*

## LIBRARIAN'S REPORT.

From October 1, 1888, to October 1, 1890.

## INVENTORY OF BOOKS.

October 1, 1890,—

Volumes, general library . . . . .	5,170
Public documents . . . . .	1,647
Periodicals, bindery . . . . .	93
Total . . . . .	<u>6,910</u>

October 1, 1888,—

Volumes, general library . . . . .	3,259	Increase . . . . .	1,911
Public documents . . . . .	1,450	Increase . . . . .	197
Periodicals, bindery . . . . .	108	Decrease . . . . .	15
Totals . . . . .	<u>4,817</u>	Increase . . . . .	<u>2,093</u>

## PRESENTATIONS.

Volumes, general library:

Lake, Mrs. Mary . . . . .	9
Gardiner, Prof. John . . . . .	7
Brackett, Prof. J. Raymond . . . . .	4
Miscellaneous, one each . . . . .	<u>9</u>
	29

Public documents:

Snell, E. S. . . . .	63
Phillips, Ivers . . . . .	23
Teller, Hon. H. M. . . . .	20
Miscellaneous . . . . .	<u>8</u>
	114

Total . . . . . 143

## ACCESSIONS.

The appropriations for the library during the two years have been \$3,100. The general library has received most valuable accessions. Almost every department of investigation has been enriched with choice and rare additions, aggregating nineteen hundred volumes.

To the good judgment of the members of the Faculty and to the diligence of the retiring Librarian, Professor J. Raymond Brackett, the library is especially indebted for the judicious expenditure of the appropriations.

Mention of a few typical volumes in each department may be of interest as examples of the high character and value of the accessions:

*Philosophy*—The works of Erdmann, Caird, Lotze, rare editions of Cudworth, and Bacon.

*Sociology*—Laveleye, Rae, Denslow, Cairnes and the like.

*Education*—Arnold, Compayré, Rosenkranz, Rosmini.

*Philology*—The dictionaries of Murray, Hamilton, Lucas, the scarce copies of Baretti, Pineda, Facciolati, and the Hickeys Anglo-Saxon Thesaurus.

*Mathematics*—The works of Barrows, De Morgan, Newton, Thomson, Price, histories of Gow and Ball, texts of Chrystal, Cremona, Newcomb, Taylor, Todhunter.

*Astronomy*—Chauvenet, Langley, Newcomb.

*Geodesy*—Carhart, Clarke, Doolittle, Gore, Johnson.

*Physics*—The works of Jamin, Wollner, Mascart, Maxwell, Prescott, Reuleaux, Schellen, Thompson, Vogel.

*Chemistry*—A complete set of Berichte der Chemischen Gesellschaft and of the American Chemical Journal, histories of Kopp and Meyer, Watt's Dictionary, the works of Roscoe, Muir, Beilstein, Kolbe, rare editions of the works of Boyle and Lavoisier.

*Minerology*—Rosenbusch, Hussak, Kobell.

*Geology*—Lyell, Prestwich, Croll, Wright.

*Palæontology*—Dawson, Schmidt, Zittel.

*Biology*—Howes, Huxley, Sedgwick.

*Botany*—De Bary, Goebel, Sachs, Strasburger, Vines and Wolle.

*Zoology*—Balfour, Claus, Foster, Fowler, Gamgee, Gegenbaur.

*Physiology*—Foster, McKendrick.

*Art*—The histories of D'Agincourt, Knight, Perrot, Reber, Winckelmann, Woltmann, works of Correggio, Doré, Flaxman, the rare and costly volumes of Montfaucon, Gouffier.

*Architecture*—Works of Fergusson, Parker's, Glossary, Penrose's Athenian, Taylor's, Rome, Chipiez, Allen's Cathedrals, the valuable folios of Stuart and Revett.

*Rhetoric*—Gerber, Shaftesbury, rare editions of Boyd, Kames and Rollins.

*English Literature*—Anthologies of Anderson, Chambers, Gillan, Bullen, rare Shakespeariana, Critical Collections of Burns, Coleridge, Arnold, Eliot and others.

*German Literature*—The histories of Gervinus, Goedeke, Hedge, Leixner, Menzel, Goethe and Schiller collections.

*French Literature*—Works of Moliere, Volney, Chateaubriand, Michelet.

*Italian Literature*—Dantes of Moore and Plumptre, Case's rare La Galettee.

*Spanish Literature*—Choice editions of Calderon and Lopez de Vegas.

*Latin Literature*—Virgil, the costly editions of Thornton, Pine and Foulis, the superb Horace of Orellius.

*Greek Literature*—The histories of Mure, Mueller and Donaldson, the Tauchnitz Collection of Classic Greek Prose, Muir's, Flaxman's, Homer.

*Minor Literature*—The works of Jones, Arnold, Fitzgerald, Bowring.

*Archeology*—Salviucci's *Bullettino*, Aine's *Herculanum et Pompei*.

*History*—The works of Rawlinson, the *Rome* of Arnold, Duruy, Ihne, Long; the *Greece* of Duruy, Felton, Thirlwall; Macauley's *England*; Laing's *Heimskringla*; Winsor's *Critical History of the United States*.

#### PERIODICALS.

The *Forum*, *Andover*, *Century*, *Deutsche Rundschau*, *Edinburgh Classical Review*, *American Journal of Mathematics*, and thirty other critical reviews of similar character, are regularly received and kept on file.

The general and technical periodicals are the most available sources of current information on all subjects and are much used. The convenience of the student community demands that files be continuous, and that volumes when complete be bound without delay.

#### CARD CATALOGUE.

The Board of Regents has wisely ordered the construction of a card catalogue by subjects, title and author, on the most approved library plans. When completed to date, the usefulness of the library for students and for the public will be enhanced many fold.

The seminary method of study, so essential for the development of that true University spirit of independent research, is scarcely possible without a judiciously constructed catalogue of the University Library.

#### LIBRARY PRIVILEGES.

The Library is open for consultation continuously from 8:15 a. m. to 4:30 p. m. every day, except Sunday. This is twice the number of hours per week mentioned in the last report. The opening of the Library on Saturdays now supplies the students with facilities for study and investigation at a time when they are most likely to avail themselves of their privileges. All persons connected with the University have the privilege of drawing books from the Library for a limited period.

#### LIBRARY ROOMS.

Three rooms are now assigned to the Library on the second floor of the main building. The shelving capacity has been doubled since the last report, and is now all occupied.

Next to the completion of the card catalogue, the greatest need of the Library is a separate fire-proof building, centrally located, and of architectural design to admit of enlargement. This is necessary for the safe deposit and the convenient use of the valuable and growing collection of books.

CHARLES E. LOWREY,  
*Librarian.*

## DEPARTMENT OF MEDICINE.

All members of the Faculty connected with the Department of Medicine have, for some years, endeavored to bring about the general adoption, by the medical schools of the United States, of a longer attendance upon lectures and also a more rigid preliminary examination in order to determine the candidate's fitness for medical study. A representative from this school was sent to the meeting of the Association of Medical Schools, held in Nashville, Tenn., in June of the present year, with instructions to assist in securing these ends. The result of this meeting is in some degree satisfactory, the Association having agreed to adopt the three years' standard. The preliminary examination upon history, physics, grammar and arithmetic is, however, as conducted in many schools, of little value, it being superficial and, in many instances, altogether neglected, although notice of such examination appears in the annual catalogues.

Additions have annually been made to the Faculty, now numbering twelve, and it is hoped that lectures upon special subjects may be added from year to year.

A laboratory for histological study, with microscopes and a large collection of normal and morbid tissues in slides, was last year opened for students, who have gladly availed themselves of the privilege. A feature of this work is, that instruction being given in section-cutting and mounting, each student is enabled to secure for himself a valuable collection of material. About sixty volumes, almost entirely made up from the freshest medical literature, form the nucleus of a library.

J. H. KIMBALL, M. D.,  
*Secretary.*

## REMARKS.

Since the last report, important improvements have been made upon the campus. Woodbury Hall, a dormitory for male students, has just been completed at a total cost, including steam heating and electric lighting, of twenty-five thousand dollars. The building is of gray sandstone, with red sandstone trimmings. It is three stories in height above the basement, and contains bath rooms and all the modern conveniences. The rooms are in suites of three each—a sitting room 12 feet by 14 feet, flanked on each side by a bed room 10 feet by 12 feet. The bed rooms are supplied with double iron bedsteads having woven wire mattresses. Each suite affords ample room for four students. There are twelve suites.

Cottage No. 1, known as the young ladies' dormitory and general dining hall, has been remodeled and enlarged to double its original capacity, both in rooms and table accommodations. The cost, includ-

ing new furnishings, cooking range, etc., was a little in excess of four thousand dollars. The fact that it is now entirely occupied is convincing proof that not only was the enlargement a necessity, but that at an early day a new dormitory for young ladies must be provided equal in capacity and comfort to Woodbury Hall.

Several hundred trees have been planted and roadways graded. Upon the library \$3,645.50 has been expended; by this expenditure the library has been enriched by many choice and rare imported volumes, selected with great care by the different members of the faculty; as to some of these selections, reference is made to the report of the librarian. The aim of every officer of the University is to make Buckingham Library advance toward superiority as rapidly as the finances of the University will permit. Already is felt the want of more room; this must be provided or its growth checked.

There has been purchased for the Physical Laboratory, during the past two years, apparatus costing \$2,657.87; for the departments of Mineralogy, Geology and Chemistry, \$2,175.27 has been expended; for the department of Biology, \$846.65, and for the Latin, Greek and Mathematical departments, an aggregate of \$1,469.

By reference to the Secretary's report, it will appear that nearly, or quite, one-half of the total expenditures during the two years, has been for permanent improvements and apparatus. It must be apparent that only by rigid economy and careful management on the part of the Board of Regents, of the limited income of the University, could all this have been accomplished. It should be borne in mind that the University receives no direct aid from the United States Government, as do some of the State educational institutions. Also, that the nature, variety and extent of the instruction here offered necessitates a much larger faculty.

The University of Colorado has fairly passed the infantile stage, and has entered into that of vigorous youth; if reasonable opportunity be given, that of virile manhood will ultimately be attained. For this consummation, adequate nourishment must be provided. Colorado is able, and should be willing, to provide all that may be needed. Large and flourishing manufactories are made so by the expenditure of capital. Popular and prosperous hotels first provide means that will conduce to the health and comfort of their guests, and patronage follows. Mercantile establishments that succeed have the desired goods to offer before they expect customers. The principles that govern in business affairs will govern here. In this age of munificently endowed educational institutions, no school can reasonably hope for success that cannot offer attractions at least approximating those offered by its near neighbors. It is not in harmony with the true American idea, for a prosperous people to withhold the means necessary for the generous support of its educational institutions. Colorado has attained a National reputation for the excellence



of her public schools; her recent rapid growth is in no small measure to be attributed to this reputation. She is worthy of it, and is able to maintain it.

Already is felt a serious lack of room in the main building. The college fraternities have vacated their rooms, the same being needed for class-rooms, and yet two of our teachers are without a local habitation. Not a room, excepting the chapel, is capacious enough to seat the largest class. This condition of things demands immediate attention. An academic hall should soon be erected commensurate to the growth of the University. One hundred thousand dollars a year for the next ten years, placed at the disposal of the Board of Regents, will scarcely suffice for the purpose of keeping this institution abreast of the times and of the rapid growth of the State, not to mention the maintenance of a decent respectability when compared with similar schools in neighboring States and with private institutions.

We respectfully call the attention of the General Assembly in this matter, trusting that needed relief will be afforded, without which it will be impossible "*to provide the best and most efficient means of imparting to young men and women a liberal education and thorough knowledge of literature, the arts and sciences with their varied applications.*"

If it be borne in mind that one single school-house of the score or more in the metropolis of the State, cost more money than all of the State educational buildings combined, the pertinence of these suggestions will not be seriously questioned.

## Report of the State Normal School.

HON. FRED DICK,  
*Superintendent of Public Instruction.*

GREELEY, COLORADO.

SIR:—I have the honor to submit the following brief report of the State Normal School of Colorado:

### ITS HISTORY.

A system of schools, as conceived by the people of the United States, is the creation of modern times, almost of the present century. The past furnishes examples of the various elements of such a system. The school for the children of the common people, the high schools of Eton and Rugby, the mediæval universities, but no organic whole, each of whose parts exists for all, and all for each, can be found. The idea that to each child belongs as his inalienable right the opportunity of coming into possession of the whole heritage of the past, by the most advantageous means, is a recent development of the law of freedom. A ladder by which the child may climb to the highest, a chain having every link of equal strength, and all strong, an organic unity in a whole system of schools, not as a gift of charity, but in recognition of the rights of every child, no agency ever undertook to construct till the modern State formulated the present system of State schools. And no States have so fully realized the essential ideal of freedom involved in the undertaking as the Western States of America. Here we find, as nowhere else, the highest ideals of citizenship involved in the conception of public education. The elements entering into such a system are: First, the great substratum of the common school; second, the high schools; third, the State University; fourth, such special schools as the State finds needful in the development of all the phases of its life. These are the links in the chain, the rounds of the educational ladder. Each is as strong as all—the whole is as weak as any one of them. The educational superstructure can not be reared upon any foundation of defective common schools; the high schools can not flourish if they are unfed with students from the lower grades; the colleges will languish if they have no preparatory schools to inspire the youth to higher courses of study; and *none of them will rise higher than the men and women who are set as the teachers of these schools.*

What the teachers of a State are, her schools will be. Fine houses, costly apparatus, well furnished laboratories, large libraries are all of little worth compared with the living teacher. Money may be poured out like water upon all the material conditions of the

school with no results of any consequence; but every good teacher brings to the State what no money can measure. He gives to the children those notions of right living, of right thinking, of right feeling, of an exalted citizenship worthy of a great State, the sum total of which is that man and that woman who alone can confer honor upon the State. No money expended for public education can, in the very nature of the case, yield such large returns as that for providing teachers for the schools. By virtue of the act creating the Normal School, the State recognizes this fact, and makes the school the fountain whence must issue the conserving power of the whole school system.

The boy goes to college for himself, and in realizing a high ideal for himself, he thus realizes a high citizenship for the State; but the young man goes to the Normal School to become a servant of the State. He binds himself to her to go forth to realize for the State the highest form of her most important institution. He reaches his own highest realization in the highest function of citizenship. He gives to the State his thought, his ideals, his labor. It is no objection to this truth that he receives a living thereby, for money can, in no way, measure the value of ideas and example.

The relation of the Normal School to the system of Public Schools is thus vital. The system cannot long exist without it. Teachers must be had; and the best teachers must be trained for their work as the physician is trained for his profession. The idea of the Normal School is inherent in the conception of a system of schools. No more can society depend upon the hap-hazard means of supplying teachers through the agency of General Schools, than it can hope to keep up the standard of law or medicine in the same way. The Normal School thus comes to complete an otherwise imperfect whole.

“For the body is not one member, but many, and the eye cannot say unto the hand I have no need of thee; nor, again, the head to the feet, I have no need of you. Nay, much more, those members of the body which seem to be more feeble are necessary, and those members of the body, which we think to be less honorable, upon these we bestow more abundant honor; and our uncomely parts have more abundant comeliness, for our comely parts have no need; but God hath tempered the body together, having given more abundant honor to the part which lacked, that there should be no schism in the body; but that the members should have the same care one for another; and whether one member suffer, all should suffer with it; or one member be honored, all the members rejoice with it.”

With a view of giving this completeness to the school system of the State, the friends of the public schools ask for a State Normal School. That it came in response to such a demand, is proven by the manner in which it has been received throughout the State. Since coming into Colorado, in August, I have traveled extensively throughout the State, visiting each of the District Institutes, and nowhere have I found an adverse sentiment toward such an institution; on the

other hand, as its representative, I have met only the most cordial reception from men of every vocation—especially the leading educators of the State. Everybody seems to say, it is high time Colorado should take her place in the front rank of States in this respect, as she has already done in so many other things. This great Commonwealth, with her mountains of gold and silver, of coal and iron, of lead and marble; with her boundless acres of rich soil, with her enlightened citizenship, cannot afford to rank second in anything that goes to make the greatness of States; nor will anything less than the best satisfy the demand for an institution designed to rival the leading schools of America. The young men and women of the State have a right to expect at home as good opportunities for preparation for teaching as they can find in other States. The State must meet their demand or they will seek such advantages elsewhere, and the State will lose them from her schools.

The act of the last General Assembly creating the school, brings the State into line with New York, Pennsylvania, Michigan, Wisconsin, Minnesota, Illinois, California and other States in which the Public School System has reached its highest efficiency. The Normal Schools in those States to-day are felt throughout the entire country; they give tone to the Public School sentiment everywhere, and raise the grade of teaching in every State. Colorado, in no small degree, is indebted to them for the very high character already attained by her schools, many of her leading educators being representatives of their Normal Schools.

It now only remains for the General Assembly to make such provision for the financial support of the Normal School of Colorado as will meet its necessities and enable it to fulfill the purpose of its creation. The public sentiment demanding it already exists. The other condition of its growth is the financial one. No other proof of the fact of the school's meeting an existing want is needed, than a reference to the statistics included in this report. Well near a hundred teachers are already in training—an unprecedentedly large number for an institution less than two months old, the school having opened its doors for students October 6, 1890. Inquiries concerning the school are numerous from every quarter of the State, while city and county Superintendents, Principals of schools, and the State press everywhere send in cordial words of approval.

#### NEEDS OF THE SCHOOL.

The immediate needs of the school are:

*First*—A sufficient sum of money to complete the east wing of the building, the present quarters occupied by the school. This will require fifteen thousand dollars.

*Second*—A small sum to begin the improvement of the grounds. The campus is the generous gift of men holding property at Greeley.

It consists of forty acres of fine land adjoining the town site on the south. Like most Colorado land, it was a dry cactus slope, but it lies below a water privilege, and has besides the large water main of the city system running along its western boundary. It can be made into one of the finest parks in the country. What is now imperatively needed is money to begin its subjugation, to fence it, and to set out some trees, that the surroundings of the school may be consistent with the culture we would see developed in the teachers of the State. A sum of five thousand dollars will suffice for this purpose.

*Third*—It is to be hoped that the State Normal School, as the source of supply for the teachers of the State, may ultimately be placed upon the basis of a permanent income by taxation or otherwise. At present, its current expenses must be met by appropriations. The number and grade of the teachers necessary to give the school its rightful rank, will make the cost of its maintenance correspondingly greater. As high a degree of scholarship, and as wide an experience, as is demanded for college work, must be secured for the faculty of the Normal School. Men and women who are to teach teachers how to teach, and who must be masters of the science of education, as well as the branches to be taught, are the only ones capable of giving character to the institution, and of realizing the purpose of the law. Provision for a reasonable growth in the library and apparatus is likewise an important matter. In order to meet these various expenses, the school will need at least twenty thousand dollars a year.

*Fourth*—In view of the fact that the school already fills the east wing full, and the further fact that the General Assembly will not convene again for two years, a sum sufficient to build the basement of the remainder of the building, on the plan approved by the State Board of Education, should be provided this coming winter, so that it may be in readiness for the superstructure two years hence, without the necessity of delay. The school will be greatly cramped in its present room in any case, the accommodations being limited to a hundred pupils—a number likely to be reached by the close of January next. But the Board of Trustees, recognizing the great demands upon the resources of a new State, in providing for its various institutions, has limited all of its requests to the immediate necessities of the school. To put in the basement, as suggested, would cost ten thousand dollars.

#### THE BUILDING.

The building as projected, is two hundred and forty feet in length, consisting of two wings and a center. The walls are of red pressed Golden brick, trimmed with red sandstone. It is thoroughly ventilated, heated with steam, furnished with water and sewerage, well lighted and conveniently planned. It will contain a large assembly room, president's office, trustees' room, library, laboratory, museum, gymnasium and class-room. When finished it will be one of the

finest Normal School buildings in the United States. The east wing is nearly complete. This will afford five rooms on the second floor for immediate use, those on the first floor still remaining unplastered. The basement rooms will be utilized as they are for laboratory purposes.

#### THE COST.

Thus far the State of Colorado is indebted to the city of Greeley, and the county of Weld, and to the public-spirited citizens of Greeley for every dollar invested in the school. The State has come into possession of a most valuable property at no cost to the State whatever. Great credit is due to the liberal-minded people of this community for their self-sacrificing spirit.

They secured a donation of forty acres of land that is worth to-day twenty thousand dollars. To this they added fifteen thousand dollars in cash. Besides this, they advanced for the State ten thousand dollars to carry on the building, and another ten thousand dollars to pay the running expenses for 1890, and to supply the school with apparatus, books and furniture. The present value of the property, thus so generously given, is not less than sixty thousand dollars.

#### FACULTY AND COURSE OF STUDY.

There are at present five teachers employed in the Normal School proper; five others are engaged in the model schools. The president of the school has charge of the instruction in the science and history of education. Paul H. Hanus has the department of pedagogy. Mary D. Reid, mathematics; Margaret Morris, English and history; and John D. Whiteman, vocal music. The critic teachers in the model schools are Miss Carrie J. German, of the first and second grades; Jessie Dresser, third and fourth grades; Maud C. Clark, seventh grade; Ella Russell, eighth grade; and Mrs. Edna E. Craig, ninth grade.

The course of study, above the model schools, contemplates three classes of students. *First*—Those who have had little chance for schooling, but who give promise of becoming teachers. These constitute the preparatory academic classes. They pay a small tuition fee. *Second*—Those who have reached the rank of a second-grade county certificate, and who, in the course of three years, may be made into thorough teachers. *Third*—Those who have completed a college course or a liberal high school course, and are thus qualified to complete a course in methods and practice teaching in one year. It is very gratifying to report to you a sufficient number of the latter class for the first year to form a graduating class.

The general arrangement of the course of study is shown in the following outline:

I—THE PROFESSIONAL COURSE OF ONE YEAR.

1. A review of the elementary branches as data in thought.
2. Methods and the art of teaching.
3. Psychology.
4. The History and Science of Education.
5. Practice teaching in the model schools.
6. Drawing.

II—THE THREE YEARS' COURSE.

*First Year.*

- a. The Elementary Subjects.
- b. Physiology and Botany.
- c. Elementary Rhetoric and Composition.
- d. Algebra.
- e. Drawing.
- f. The School.

*Second Year.*

- a. Mental Science and Methods.
- b. United States History and Civil Government.
- c. General History.
- d. English Literature and Rhetoric, or Latin.
- e. Structural Botany and Natural History.
- f. Algebra and Geometry.
- g. Physics.

*Third Year.*

- a. History and Science of Education.
- b. Review of the Elementary Subjects as data in Thought.
- c. Practice Teaching.
- d. Chemistry or Latin.
- e. Astronomy and Geology.
- f. Drawing.
- g. Mental and Moral Philosophy.
- h. Literature or Latin.

III—PREPARATORY ACADEMIC COURSE.

- |                |                        |
|----------------|------------------------|
| 1. Arithmetic. | 5. Writing.            |
| 2. Geography.  | 6. Book-keeping.       |
| 3. Reading.    | 7. Drawing.            |
| 4. Grammar.    | 8. Lessons in Science. |

NOTE.—Vocal music, elocution and physical culture will be carried on through the several courses of study.

LIBRARY AND APPARATUS.

The Library numbers, including the text-books, fifteen hundred volumes, six hundred being books of a general character, carefully selected as the nucleus of a Library for the school. They include books on language, literature, art, history, science, etc. They are all catalogued and in daily use by the students.

The school apparatus includes a set of physiological models, relief maps, wall maps, reading and number charis, globes, together with such physical and chemical apparatus as is requisite for laboratory work. The whole is valued at about \$2,500.

EXPENSE TO STUDENTS.

Any resident of Colorado, who passes the requirements for admission, and who subscribes to a pledge to teach, has free tuition. To others, the advantages of the school are offered at twenty dollars annually. Board is now costing students from \$2.50, for self-boarding, to \$4.00 for good accommodations in private houses. The Normal Home, an adjunct to the school, in the shape of a house rented by Dr. Newberry, whose management is on the co-operative plan, and under the supervision of the President of the School, has been able to furnish students excellent home comforts, with good board, at \$3.50 per week. As the number increases, the rate per student will diminish. It is hoped that a rate at least as low as \$3.50 per week will be firmly established. The cost per year of thirty-eight school weeks is thus but \$133.00. To this add \$3.00, the rental charged for the use of text-books, owned by the School and loaned to the student, and we have \$136.00 as total cost of a year's schooling—a rate as low as in any similar institution, east or west.

STATISTICS OF THE SCHOOL.

The total number applying for admission to the Normal Department, are . . . 93  
 Number admitted. . . . . 76

NORMAL CLASSES.

Number in Senior Class—		
Males . . . . .	4	
Females . . . . .	8	
	<hr/>	12
Number in B (Second Year Class)—		
Males . . . . .	12	
Females . . . . .	6	
	<hr/>	18
Number in C (First Year Class)—		
Males . . . . .	4	
Females . . . . .	23	
	<hr/>	27
Number in Preparatory Academic Class—		
Males . . . . .	6	
Females . . . . .	13	
	<hr/>	19
		<hr/>
		76

MODEL SCHOOLS.

Number enrolled—		
Males . . . . .	113	
Females . . . . .	142	
	<hr/>	255
Total enrollment . . . . .		331
Average age of Normal Department . . . . .		19½ years
Average age of Senior Class . . . . .		23 years
Number of counties of the State having students in School . . . . .		10
Number of States outside Colorado . . . . .		4



## CONCLUSION.

In concluding this presentation of the plans and needs of the State Normal School of Colorado, I want to express my appreciation of the reception tendered to myself as its President. The cordial support everywhere given to the work has made the way much easier. The great and peculiar responsibilities involved in the opening of any institution, especially a great State institution, have been materially lightened by the intelligent sympathy and active co-operation of the educational forces of the State. The Board of Trustees have formulated a broad policy that is an inspiration in the wide opportunities it opens for effective work. They have but a single purpose before them, that is, to make the Colorado State Normal School worthy of its name. They have shown a comprehension of the problem not often found in boards managing educational affairs. To the State press, especially to the *Colorado School Journal*, edited by Superintendent Aaron Gove, of Denver, the school is greatly indebted for many courtesies. With so many good friends it must surely go forward to a large usefulness in the system of public education by the State.

Respectfully submitted,

THOMAS J. GRAY,  
*President.*

GREELEY, COLORADO, November 25, 1890.

## School of Mines.

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GOLDEN, COLO., November 30, 1890.

HON. FRED. DICK,

*Superintendent of Public Instruction, Denver:*

DEAR SIR:—Yours received, asking for a report of this institution, for incorporation with your report of Public Instruction for the coming Legislature. We did not include our report in the last report of the Superintendent of Public Instruction, nor is it desirable that we should do so at this time. You could hardly spare the space which we wish to devote to our report, which besides, will be separately printed, and at our expense. It would be very undesirable to cut down our matter, and knowing as we do that you could not under the legal space, incorporate our biennial, we suggest that it is far better to let the School of Mines report be issued separately. It is ready for the printer now, and copies will be sent of course, to all departments.

Very truly yours,

REGIS CHAUVENET,

*President.*

BIENNIAL REPORT

OF THE

State Agricultural College.

1889-1890.

HON. FRED DICK,

*Superintendent of Public Instruction:*

SIR:—As required by law I hereby submit the biennial report of the condition and progress of the State Agricultural College.

The College is controlled by a corporate body—the State Board of Agriculture—whose membership is as follows :

STATE BOARD OF AGRICULTURE.

	TERM EXPIRES
HON. A. L. EMIGH . . . . . Fort Collins . . . . .	1897
HON. JOHN J. RYAN . . . . . Loveland . . . . .	1897
HON. FRANK J. ANNIS . . . . . Fort Collins . . . . .	1895
HON. CHAS. H. SMALL . . . . . Pueblo . . . . .	1895
HON. R. A. SOUTHWORTH . . . . . Denver . . . . .	1893
HON. GEORGE WYMAN . . . . . Longmont . . . . .	1893
HON. B. S. LAGRANGE . . . . . Greeley . . . . .	1891
HON. W. F. WATROUS . . . . . Fort Collins . . . . .	1891

HIS EXCELLENCY, GOV. JOB A. COOPER, *ex-officio*.

PRESIDENT CHARLES L. INGERSOLL, *ex-officio*.

The faculty of the College as at present constituted, is as follows :

FACULTY OF INSTRUCTION.

CHARLES L. INGERSOLL . . . . .	President, Professor of Political Economy and Logic
JAMES W. LAWRENCE . . . . .	Professor of Mechanics and Drawing
VASA E. STOLBRAND . . . . .	Professor of Mathematics
MAUD BELL . . . . .	Professor of History, Literature and Language
DAVID O'BRINE, E. M., D. Sc., M. D. . . . .	Professor of Chemistry and Geology
LOUIS G. CARPENTER, M. S. . . . .	Professor of Physics and Engineering
CHARLES S. CRANDALL, M. S. . . . .	Professor of Botany and Horticulture
JOHN C. DENT, 1st Lieut. 20th U. S. Inf. . . . .	Professor of Military Science and Tactics
_____ . . . . .	Professor of Agriculture
GRACE PATTON, B. S. . . . .	Instructor
MABELLE B. BIGGART . . . . .	Instructor in Elocution
FRANK J. ANNIS, M. S. . . . .	Secretary of Faculty

Changes have taken place since last report as follows:

January 1, 1889. L. G. Carpenter, M. S., assumed the duties of the chair of Physics and Irrigation Engineering.

January 1, 1889. William McEachran, M. D., V. S., assumed duties as Professor of Biology.

April 1, 1889. Warren H. Cowles, First Lieutenant, 16th U. S. Infantry, U. S. A., was detailed as Professor of Military Science and Tactics, and reported for duty.

November 21, 1889. James Cassidy, M. S., died suddenly.

December 31, 1889. Chair of Biology discontinued, and Professor William McEachran relieved from duty.

January 1, 1890. Charles S. Crandall, M. S., assumed the duties of the vacant chair of Botany and Horticulture.

July 1, 1890. A. E. Blount, A. M., resigned the chair of Agriculture.

July 1, 1890. Warren H. Cowles, First Lieutenant 16th U. S. Infantry, U. S. A., was ordered to report to his regiment for duty, at his own request.

September 1, 1890. John C. Dent, First Lieutenant U. S. Infantry, U. S. A., who had been previously detailed, reported for duty in the chair of Military Science and Tactics.

September 16, 1890. Miss Mabelle B. Biggart, began work as special teacher in Elocution and Oratory.

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The officers of the Governing Board are:

Hon. George Wyman, President.

Hon. Frank J. Annis, Secretary.

Hon. Wm. H. Brisbane, Treasurer.

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The College, as at present conducted, has the following departments:

1. Agriculture.
2. Botany and Horticulture.
3. Mechanics and Drawing.
4. Mathematics.
5. History, Literature and Language.
6. Chemistry and Geology.
7. Physics and Irrigation Engineering.
8. Military Science and Tactics.
9. The Experiment Station.

The latter is under the immediate charge of an Executive Committee of the State Board of Agriculture, composed of Hon. John J. Ryan, Loveland; Hon. W. F. Watrous, Fort Collins; Hon. George Wyman, Longmont; and by election or appointment, Hon. Frank J. Annis, M. S., acts as secretary of this committee in addition to his duties as secretary of the full Board and Faculty.

The organization of the Experiment Station is that of a Council for consultation and recommendation of measures to the Executive Committee in charge, for adoption.

THE STATION COUNCIL.

C. L. INGERSOLL, M. S. . . . .	Director
F. J. ANNIS, M. S. . . . .	Secretary and Treasurer
DAVID O'BRINE, E. M., D. Sc., M. D. . . . .	Agriculturist
L. G. CARPENTER, M. S. . . . .	Chemist
C. S. CRANDALL, M. S. . . . .	Meteorologist and Irrigation Engineer
	Botanist and Horticulturist

There are assistants employed as follows:

RANSOM H. MCDOWELL, M. S. . . . .	To Agriculturist
CHAS. M. BROSE . . . . .	To Horticulturist
H. L. SABSOVICH . . . . .	To Chemist
B. C. BUFFUM . . . . .	To Meteorologist

SUB-STATIONS.

There are in connection with the Central Experiment Station four sub-stations:

San Luis Valley Station, Del Norte, Colo. . . . .	HARVEY H. GRIFFIN, B. S. Superintendent.
Arkansas Valley Station, Rocky Ford, Colo. . . . .	FRANK L. WATROUS, Superintendent.
Divide Station, near Table Rock Post-office, El Paso county, Colo. . . . .	Superintendent.
Delta Station, Delta, Colo. . . . .	Superintendent.

The work of each department of the College is embodied in an annual report, except that of No. 9, The Experiment Station. These are published with that of the Secretary of the State Board of Agriculture, and compose the report of the Board. The latter is published by itself, in accordance with the Hatch act of Congress, and distributed under its provisions. In addition to this, it is the duty of this department to issue quarterly bulletins of the results of experiments for the benefit of those persons interested in agriculture in any of its branches. Annual reports have been prepared: The first annual in 1888, and submitted to the Governor February 1, 1889; the second annual report in 1889, and submitted February 1, 1890. The third report is in preparation, and will be submitted February 1, 1891, as required by law.

Bulletins have been issued as follows, during the period covered by this report:

Jan. 1, 1889.	Bulletin No. 6—Insects and Insecticides.	Pp. 24.
April 1, 1889.	Bulletin No. 7—Potatoes and Sugar Beets.	Pp. 23.
July 1, 1889.	Bulletin No. 8—Alfalfa: Its Growth, Composition, Digestibility, etc.	Pp. 24.
Oct. 1, 1889.	Bulletin No. 9—Soils and Alkalies.	Pp. 27.
Jan. 1, 1890.	Bulletin No. 10—Tobacco.	Pp. 15.

April 1, 1890. Bulletin No. 11—Sugar Beets. Pp. 12.

July 1, 1890. Bulletin No. 12—Some Colorado Grasses and Their Chemical Analyses. Pp. 151.

Oct. 1, 1890. Bulletin No. 13—Division and Measurement of Water. Pp. 32.

The value of these publications both in the subjects chosen and the matter they contain is best shown by the way in which they have been received by the people. Without exception the calls for these publications have been frequent from nearly every post-office in the State, and from every State and Territory in the United States. Bulletin No. 8, on Alfalfa, attracted the widest attention, and No. 12, Some Colorado Grasses, was next in importance, as evinced by the calls and by editorial notices of its importance and value. No. 11, on Sugar Beets, was well received also. In general the reports and bulletins have all been distributed very soon after the editions have been published, and of No. 8, Alfalfa, a second edition of 2,000 was printed, of which the major portion is taken.

#### COURSE OF STUDY.

In June, 1890, the course of study was revised and enlarged by the board and faculty. As at present constituted, the course is the same for all students for the first three years, or ending with the Sophomore year. From that point for the two remaining years, there are four courses, from which students elect, viz.:

1. The Agricultural course.
2. The Mechanical course.
3. The Irrigation Engineering course.
4. The Ladies' course.

These vary only in one distinctive line of work, while all the students work and recite together in the three remaining lines.

As at present arranged, there is a general assembly of students at 8 a. m.; at 8.10 and continuing to 11.30 a. m. are four recitations of fifty minutes each. From 11.30 a. m. to 12.15 p. m. is military drill and instruction for the young men, and free-hand drawing for the young ladies. From 1.30 p. m. to 3.30 p. m., or from 3.30 to 5.30 p. m., students labor two hours each, as assigned, to farm, garden, mechanic shop, chemical, physical, botanical or zoological laboratory; or to field work in surveying and in irrigation engineering. All of this work is strictly in line with the object of the founding of the institution and the acts giving aid to the same, both in the State and United States.

There is no more thoroughly Agricultural and Mechanical College in the United States, or one more practical in its workings.

#### IMPROVEMENTS.

During the year of 1889, the Board of Agriculture planned a series of permanent improvements for the College, based in part upon the special appropriation of the General Assembly. These consisted in

an addition to the main college building and the erection of a botanical and horticultural laboratory for the use and convenience of this department. Other improvements were in contemplation, such as heating by steam, lighting by electricity, the laying of flag stone walks, moving the conservatory and attaching to the botanic laboratory, a veterinary laboratory, the laying of tile drains, etc. The period since June, 1889, has been one of constant work in this line. All the above plans have been carried to completion, and, with a single change, are as contemplated. On the abolishment of the office of veterinarian to the Experiment Station, the veterinary laboratory was converted into a barn for the horticultural department. These enlargements and improvements give great advantage over previous years in performing work, and much better results can be obtained with the same outlay of labor.

SALARIES.

The following salaries are paid the employés of the College for college—not experimental—work:

C. L. Ingersoll . . . . .	\$ 2,250 00
J. W. Lawrence . . . . .	1,500 00
V. E. Stolbrand . . . . .	1,500 00
Maud Bell . . . . .	1,500 00
David O'Brine. . . . .	1,500 00
L. G. Carpenter . . . . .	1,500 00
C. S. Crandall . . . . .	1,125 00
Jno. C. Dent (Detailed from U. S. Army) . . . . .	. . . . .
B. B. Harris . . . . .	1,000 00
F. J. Annis, Secretary . . . . .	1,500 00
Mabelle B. Biggart . . . . .	400 00
Grace Patton . . . . .	900 00
Total . . . . .	\$ 14,675 00

FOR EXPERIMENT STATION WORK.

The following sums are paid from the funds under the Hatch act of Congress:

C. L. Ingersoll, Director . . . . .	\$ 750 00
F. J. Annis, Secretary and Treasurer . . . . .	500 00
David O'Brine, Chemist . . . . .	500 00
L. G. Carpenter, Meteorologist and Irrigation Engineer . . . . .	500 00
C. S. Crandall, Botanist and Horticulturist . . . . .	375 00
R. H. McDowell, Assistant to Agriculturist . . . . .	800 00
C. M. Brose, Assistant to Horticulturist . . . . .	900 00
H. L. Sabsovich, Assistant to Chemist . . . . .	1,000 00
B. C. Buffum, Assistant to Meteorologist and Irrigation Engineer . . . . .	800 00
H. H. Griffin, Superintendent Sub-station . . . . .	800 00
E. L. Watrous, Superintendent Sub-station . . . . .	900 00
Total . . . . .	\$ 7,825 00

## ATTENDANCE.

The following table of attendance shows the total number enrolled for the years 1889 and 1890—the number of males and females and the number by terms:

	1889.	1890.
Male students . . . . .	86	81
Female students . . . . .	33	28
Total enrolled . . . . .	119	109

## TABLE OF ATTENDANCE.

	1889.			1890.		
	Male.	Female.	Total.	Male.	Female.	Total.
Winter term . . . . .	61	30	91	47	16	63
Spring term . . . . .	40	23	63	41	12	53
Fall term . . . . .	51	16	67	64	18	82
Average . . . . .	50%	23	73%	50%	15½	66

## FINANCES.

The Secretary makes full financial report to the Governor of the State, which report is published; hence no duplication is needed here. The support of the College is derived from various sources, the chief of which is the one-fifth mill tax, which, by its steady action, gives an unflinching, though limited, supply of funds for the proper development of the institution.

From the United States, the College receives—

1. Ninety thousand acres of land, little of which has been sold, and the funds from such sales only give a few hundred dollars per annum.
2. The fund arising under the Hatch act, and which can only be used for experimental work, \$15,000 per annum.
3. The fund arising under the Morrill College Aid Bill, and which, when received, will be of great assistance in furthering and broadening the work of the College—for 1890, \$15,000.

None of the United States funds can be used for buildings, or repairs thereon, except that five per cent. of the Hatch Fund, or \$750, may be used annually for buildings, or repair of the same, if used in Experiment Station work.

From the United States have also been received seventy stand of small arms, and two field pieces (3-inch rifled guns) with accoutre-



ments, valued at nearly \$5,000. These are in charge of the Professor of Military Science and Tactics, who is detailed from the United States army, and is under Government pay. These excellent facilities for drill make the Agricultural College a very desirable school for young men, who, for health and pleasure, desire this valuable discipline and exercise.

#### GRADUATES.

The class of '89 had two graduates, and that of '90 had nine members, and was by five per cent. the largest class yet sent out from the College. The total number of graduates at present is twenty-nine, and all are honored members of the community in which they live. At the close of the last scholastic year, some statistics were gathered with reference to the students who had attended school here, when it was found that a large majority had taken up work in the line of special industries. There were farmers, stockmen, engineers, engine firemen, machinists, stone-cutters, blacksmiths, electricians, architects and draughtsmen, gardeners, veterinary surgeons, surveyors, etc.; while of the professions there were only two lawyers, three ministers, four newspaper editors, and a few in other professional lines, as artists, dentists, stenographers, etc.

This report founded on the public record kept at the college, was a revelation to many, and very gratifying to the persons having in charge the instruction and practical work.

The question as to whether an institution pays or not is one that cannot easily be answered, as the result of an education obtained and the discipline of mind and body in the act of attaining it cannot be seen and felt in a community or State at once, but increases with the future years.

That nearly every student blesses the day when he entered the college, and regrets the day of his leaving, we know to be a fact, and that all graduates and nearly all those who know the present arrangement and enlargement of the course of study, heartily approve of it.

In regard to the work of the Experiment Station, we can say that upon the files of our correspondence are editorials from all the leading papers in the United States, approving, in excellent terms, the work here and the bulletins and reports emanating from the Station connected with the college. There are also many private letters from scientists high in authority teaching their specialties, speaking of the quality of the work performed and of its lasting benefit to the State. This station has, more especially, settled three important questions: *First*—The digestibility of alfalfa as compared with other forage plants. *Second*—The profitable cultivation of tobacco, of a quality among the best. *Third*—That sugar beets can be successfully grown, with a sugar content varying from 10 to 16% on which basis the manufacture of sugar can be successfully carried on when the proper capital and men are enlisted in the enterprise.

If no other questions were settled for ten years to come these are of value enough to the State of Colorado, to pay the cost of the erection and maintenance of this College for many years.

But what of minor questions? The Station has studied potatoes, garden vegetables, small and orchard fruits, noxious insects, the growth of forestry and ornamental trees, the growth of farm crops in great variety and profusion, the study of the alkali and the irrigating water of this region. Then the section of Irrigation Engineering is investigating such subjects as flow of water, evaporation, seepage, reservoirs, division and measurement of water, and finally is making a full irrigation survey of the State. Then there are experiments in the apiary, with the different appliances and in different treatment of the bees. Lastly, the Department of Agriculture at Washington, D. C., became so interested in the work undertaken with the grasses of the arid region, as to establish in connection with and under control of this Station, an Auxiliary Station for grass culture.

The sub-stations have done good work and their reports are read with increasing interest each year.

In conclusion, let me call attention to the practical features of this school.

*First*—The connection of the College with this experimental work, by which most, if not all of the students are required to assist in the processes, and are present to note the results, thus arousing an interest in this feature of the institution. *Second*—The practical feature of having the work done as educational as possible; each student who graduates does work in practical agriculture on the farm, in practical horticultural in the gardens and grounds, in hydraulics, in the work for training to irrigation engineering, and in the laboratories devoted to botany, chemistry, zoology and physics; each one also has several terms' work in drawing and mechanics, and at last has an opportunity to elect a continuation of work in some special line of liking, after closing the general work outlined, and which is required of all. We believe we are warranted in saying that there is no school in the United States that lies nearer to the specific intent of the act creating these colleges and defining their work, than the State Agricultural College of Colorado. Its professors and experimenters are earnest and hard working, and stand high among their fellow workers.

With a reasonable opportunity, there is no reason why the Colorado Agricultural College should not stand among the first in the land. I have the honor to be,

Very respectfully,

Your obedient servant,

C. L. INGERSOLL,

*President.*

## State Mute, Deaf and Blind Institute.

### BOARD OF TRUSTEES.

	TERM EXPIRES
HENRI R. FOSTER, President . . . . . Denver . . . . .	1891
ANDREW L. LAWTON, Treasurer . . . . . Colorado Springs . . . . .	1893
JOHN W. STILLMAN, Secretary . . . . . Colorado Springs . . . . .	1891
DANIEL HAWKS . . . . . Greeley . . . . .	1895
JOSEPH A. DAVIS . . . . . Westcliffe . . . . .	1895

### EDUCATIONAL DEPARTMENT.

JOHN E. RAY, A. M. . . . . Superintendent

### DEAF DEPARTMENT.

#### TEACHERS.

D. C. DUDLEY, A. M.	H. M. HARBERT,
G. W. VEDITZ, A. M.	E. C. CAMPBELL,
MISS TILLIE GARMAN.	
MISS L. K. THOMPSON . . . . .	Teacher of Articulation
MRS. A. C. MANNING . . . . .	Teacher of Articulation

### BLIND DEPARTMENT.

#### TEACHERS.

MRS. CYNTHIA C. WYNN;	FRED H. MANNING, A. M.
MRS. M. E. CHURCHMAN . . . . .	Vocal and Instrumental Music

### DOMESTIC DEPARTMENT.

B. P. ANDERSON, M. D. . . . .	Physician
E. M. MARBOURG, M. D. . . . .	Ophthalmic Surgeon
MRS. ANNA RICHARDS . . . . .	Matron
MISS MARY HARBERT . . . . .	Girls' Supervisor
JOHN W. TAYLOR . . . . .	Boys' Supervisor and Engineer
MRS. JOHN W. TAYLOR . . . . .	Boys' Assistant Supervisor
FRANK E. LIBBY . . . . .	Night Watchman

### INDUSTRIAL DEPARTMENT.

#### TEACHERS.

H. M. HARBERT . . . . .	Printing
MISS MARY HARBERT . . . . .	Needle Work
SAMUEL GALE . . . . .	Carpentry
JOHN W. TAYLOR . . . . .	Broom and Mattress Making
G. W. VEDITZ . . . . .	Editor, <i>Colorado Index</i>

## REPORT OF THE SUPERINTENDENT.

*To the Board of Trustees of the Colorado School for the Deaf and the Blind.*

GENTLEMEN:—In presenting this, the Ninth Biennial Report of the "Colorado Institution for the Education of the Mute and Blind," I have great pleasure in referring you to the continued progress and many improvements made in every department.

The attendance has steadily increased from year to year, until we now have the largest enrollment, in proportion to our population, of any State in the Union. And yet the number is constantly growing. But we are still far from having in school all who should be here. While traveling through many sections of the State and by an unceasing correspondence with those who are interested in the education of our youth, I have learned of the names of more than a hundred others, whose age and peculiar affliction fit them for instruction in our school. This list, too, is gradually growing, and I am led to believe that there are at least one hundred and twenty-five more who should be here in attendance, possibly more.

I have done what I could to induce the parents of these children to send them to school. My efforts have met with success in many instances, but there are some to whose homes I have been more than once, and with whom I have discussed the importance of educating their children, and yet without avail.

The physicians all attribute the sickness to the condition of our old dormitory building, and say that we need never expect to have any health among the pupils, until it is pulled down and a more convenient and better ventilated structure erected in its place.

## THE LITERARY DEPARTMENT.

There is a gross error abroad in the land concerning the object for which this and similar institutions were established. Some call ours an asylum, and so regard it. Others seem to think it is a home for the afflicted and the infirm, while others still treat it as if it were a retreat or hospital for those who have lost their hearing or sight. I have been frequently asked how many patients we have, and how many inmates we can accommodate.

As the title of the Institution indicates, it is merely a school for the education of those whose sight or hearing is so defective as to deprive them of the benefits offered by the ordinary public schools and high schools near their homes. It is a special department of the public school system of the State, seeking to develop the mental, moral and physical capabilities of the children who are deprived of one of their faculties.

Nor is it a charitable Institution. True, it is supported and maintained at the expense and out of the taxes of the State; but it is no more a charitable Institution than is the State University, the Agricultural College, or the School of Mines. It is a school in the full acceptance of the term.

The increased facilities for prosecuting the literary part of our work, provided by special appropriation by the last General Assembly, and to which more detailed reference is hereinafter made, have placed us in a position to perform much more acceptable service than heretofore. The improvements in this particular direction have more than kept pace with the rapid growth of the school. We need now only the necessary school-room appliances to place us where we can do as good work as the very best institutions in our land. May we not hope that the next legislature will furnish us the necessary means with which to supply this need.

#### INDUSTRIAL DEPARTMENT.

All our pupils are given instruction in some branch of handicraft at which they may hope to make a livelihood after leaving us. We have selected, so far as practicable, such trades as will be most useful to them in after life, meaning to introduce others as soon as we have the means at hand. Our object is to make every child who graduates from this institution an independent, cultivated, useful, moral, self-supporting citizen. I need not tell you that we shall fail in some instances, though but we hope it will not be our fault.

We teach our girls the various branches of housework, needlework, dressmaking, repairing, etc. We greatly need the facilities for teaching the culinary art, as well.

A large class of deaf boys are daily instructed in carpentry and cabinet making by an experienced and competent instructor. The work which they have done upon the new school-house has not only saved the State several thousand dollars, but has given them an opportunity to show that they are now prepared to do almost any kind of carpenter work, and as well as most carpenters can do. For the last two vacations from two to four of them have labored all the time, earning all of them each \$30 per month and living. It was the cheapest work done upon the building.

The printing office is still successfully operated, as for a number of years; and here, too, we have several boys who can earn a living in any community, plying their trade learned here. *The Colorado Index*, a weekly newspaper issued during the school term by the pupils, is a credit alike to the institution and the State. It has more than paid its expenses for some years, besides inspiring the children to read, since it is largely filled with items of interest pertaining to our own little world. And still more, it is a medium of communica-

tion between the school and the homes of the pupils, whose value is simply inestimable.

Besides the cane-seating which has been taught our blind boys for some years, we have just established a mattress-shop, for which we have been so anxious for a long time. This is the trade which is more remunerative to the blind than any other of its kind.

As soon as we have the funds we shall seek to add broom-making, carpet weaving, tapestry work, shoemaking and mending, and harness making, for all of which we have much need, and whose products we can most easily dispose of.

#### ATTENDANCE..

We have enrolled this session 111 pupils, and during the two years 140. The total attendance at the time of the last report was 81. These were entered thus :

Deaf boys . . . . .	30
Deaf girls . . . . .	25
Blind boys . . . . .	13
Blind girls . . . . .	13
	<hr/>
	81
Since that time have added . . . . .	59
Total . . . . .	<hr/> 140

#### IMPROVEMENTS.

More and better improvements have been made during the past two years than for any similar period in the history of the Institution. The needs of the school had gotten to be so urgent and apparent that it was seen that the progress of our work was most seriously hindered by this state of affairs. And the then crowded condition of our old and only building had so operated against the health of the pupils as to render the situation one of absolute peril. Nor was there any way of heating the house, except to use stoves. The danger from this can be readily seen.

The last General Assembly, seeing the situation, very generously voted a special appropriation of eighty thousand (\$80,000) dollars to meet the emergency. With this we have erected three buildings, and put steam heat into them all, together with the old house. Only those who knew our condition formerly can imagine the relief afforded.

The first of the three buildings is our school-house, a magnificent structure 199½ feet long by 65½ feet wide, of white lava stone, trimmed with pink lava, with a red sandstone foundation, containing two stories, a basement 11 feet high, and an attic. The basement has seven large, well lighted rooms, in which are our work-shops of the blind boys, our printing office and play rooms for the boys, as well as study rooms. The main story has ten large, commodious, thoroughly-

lighted school-rooms, to each of which there are three doors—one for the teacher and one each for the boys and girls of each class—while the walls of no two rooms touch, but are separated by halls eight feet wide, in each of which there is a partition, and on each side of which there is a cloak closet for those who pass through into the rooms. There is one vast hall passing from end to end of the building, which, with the lateral halls, light this thoroughfare most admirably. Each room is also furnished with a small closet for storing school supplies and with solid slate black-boards. The only thing necessary to render the arrangement perfect is the necessary furniture and apparatus, which we have not the funds to supply.

The next story is composed of four school-rooms, arranged just as those below, an elegant assembly hall, which will seat nearly 1,000 persons, with dressing rooms convenient, commodious halls, an art room, with its necessary storage apartments, the finest of its kind in the State. For beauty, convenience, adaptability, elegance and symmetry it has no equal in any State in the Union for the purpose for which it was erected; nor do I know a similiar institution in Europe which has a school-house that will compare with it. As to its cost, it is a marvel of cheapness. It is acknowledged to be the best public building for the money ever erected in the State. We have not the means to furnish it, and we trust that the approaching legislature will provide the necessary funds.

In the rear of the old building has been erected a two-story pressed brick structure, about 85x90 feet, two stories high, upon whose first story are our kitchen, root cellar, pantries, cold-storage and a large and fine dining-room for the pupils, with sinks and dish-closets convenient. The upper story is occupied as a sewing room and study room for the girls, a linen room, officers' dining room, apartments for the female help, with bath room and closets attached. A large light shaft fills the space between this and the old building, which has the stair-cases in it.

The other is a two-story pressed brick house, 40x40 feet, whose lower story is used as a heating plant, together with a room for a dynamo, as soon as we have means to purchase one. The heating apparatus consists of two huge boilers, 5x16 feet, and they supply heat for all the buildings, as well as the laundry, which is in the second story.

The old building has been thoroughly changed, only two rooms remaining as they were formerly. It has also been supplied with steam heat, which has greatly increased its convenience. There are also bath rooms and plunge baths for the boys and the girls. The deplorable condition of this old structure, however, is such that proper ventilation is impossible, and the health of our pupils can never be preserved while it stands as at present. The only way to

obviate this difficulty is to tear down the walls and use the stone in the erection of a comfortable, healthful and safe house.

There are various other improvements of which space forbids extensive mention, such as the removal of the carpenter shop, the bringing of a six-inch water main upon the premises, placing a fire-plug between the buildings, grading the grounds, planting an orchard, building a terrace, putting in drinking fountains, connecting our sewer with the city (which is soon to be completed), and running a large irrigating pipe through our grounds. Some of these have been done without expense to the school.

#### OUR URGENT NEEDS.

The growth of the school necessitates enlargement in every direction. The wear and tear about an institution also entail expenses for repairs. For the past two years, we have been straining every point to complete the new buildings. The funds which we have usually used for repairs and improvements in general have gone into the building fund.

The old building is in a state of absolute danger, not only from a sanitary point of view, but also from another. The walls are cracked in a number of places from top to bottom. The partitions have sunken some distance, and the condition of the old basements is such as to make it extremely perilous to the health of the occupants. The roof, too, has been patched, until it is now mostly a patch-work, costing considerably each year, and yet it leaks in several places.

Our dormitories are in a most undesirable condition, having no means of ventilation, and a part of them are so situated that the sunlight never strikes them. I am convinced that these things have caused the unusual amount of sickness with which we have had to contend this fall. And these accommodations are not sufficient to meet the demand which is upon us. We have enrolled this session 111 pupils who have been crowded together in poorly ventilated rooms, with three in a bed in some cases. But these are not all. I have to-day the names of 105 other deaf and blind children who should be here at school. And new names come to me almost every week. There are children, too, in neighboring States and Territories which have no schools of their own, asking admission into our school, for a compensation. If we had the dormitory conveniences, we could admit them and thereby improve the condition of our own school, besides receiving a considerable revenue from outside.

We must remove the water closets from their present location, or run the risk of an annual recurrence of fever among the pupils. The fences have fallen down in many places around the premises.

If we had a bakery we could save a good deal annually, besides teaching our pupils a very good trade.



There is a vast amount of paving necessary to keep the water from accumulating under the buildings and undermining them, as well as to provide irrigating conveniences.

The transoms in the school-house need the proper fixtures, and the school-room the proper furniture and electroliers. The assembly hall needs to be nicely seated and the windows need shades.

It will be necessary to put in additional coils for heating the basement rooms in the school-house, or they can not be used in really cold weather.

By the expenditure of a couple of thousand dollars for laundry machinery we can save several hundred dollars annually. And if we had our own electric plant we could save not less than five hundred dollars a year.

A few hundred dollars expended in a gymnasium would be worth many thousands to us towards giving the pupils healthful exercise.

Our storage conveniences are totally inadequate to our needs. If we had a large vegetable cellar we could soon save it scot by storing potatoes and other vegetables at the proper time.

The work in the educational department is greatly hindered for want of a set of philosophical, physiological and chemical apparatus. And we greatly need two more pianos, one for the parlor and the other for the assembly hall.

I cannot see how we can successfully carry on the work of the school longer without a separate building for hospital purposes. The trying experiences of the past few weeks have been enough to make us never want to try such another experiment. With typhoid fever in one room, diphtheria in other and bilious fever in still a third, and all under the same roof, we were not a little perplexed. And if some violent form of contagious disease should break out among us, there is no possibility of isolation.

The extension of our sewer line is demanded by the city and the neighbors, and we can no longer defer this matter. And the time is coming, when we shall greatly need a few more acres of land adjoining our present premises. It is wise to strike while it can be had at a reasonable figure.

The cost of these much needed improvements will be as follows:

For renovating old building . . . . .	\$ 25,000 00
For bakery and root cellar . . . . .	2,500 00
For placing iron fence around grounds . . . . .	5,000 00
For furnishing school building . . . . .	5,500 00
For electric light plant and laundry machine . . . . .	5,500 00
For school room apparatus and pianos . . . . .	3,500 00
For paving and cement work . . . . .	3,000 00
For gymnasium and heating basement . . . . .	2,000 00
For hospital . . . . .	3,000 00
Making a total of . . . . .	\$ 55,000 00

## "A CRYING NEED."

Under this head, two years ago, I called attention to the grave necessity in this State for a school for the feeble-minded children. I am now more convinced of its necessity than ever, as I see more of the children, whose condition could be so much improved in this way, and to whom there is no other way of relief. I have in my possession the names of thirty-one who are fit subjects for such a school, whom I have found in my efforts to secure the attendance of deaf and blind children at our school.

I am glad that a movement was inaugurated last summer to establish an institution for these poor children, and I hope it will be strongly and successfully passed before the next legislature. Our State has made ample provision for her children who have the use of all their faculties, and has even provided higher education for them. Care is taken of the insane, the indigent, the wayward youth and the criminal classes, but these poor unfortunate ones, whose mental force is not sufficient to give them access to any of our other institutions or schools, are left without any care—without even a place where their feeble powers can be trained so as to lessen life's burdens, and at least partially fit them for usefulness, and render them capable of caring for themselves. It will be a burning shame if something is not done for their relief.

## COMING TO COLORADO.

At the invitation of the Board of Trustees of this Institution, coupled with that of the Governor of the State, the Executive Committee, whose duty it is to decide such matters, has decided to hold the next "Conference of Superintendents and Principals of American Institutions for the Deaf" with this Institution, beginning the second Saturday in July, 1892. This is a great compliment to our State and Institution, since there were other invitations extended for this meeting. I trust that the meeting will prove a very great benefit to our school and our work generally in the West.

## COMPLIMENTARY.

In response to a request from the committee which had charge of the American Exhibit at the Paris, France, Exposition, in 1889, this Institution sent some articles of handiwork made by our pupils, and other things of interest. Though there were many such exhibits, and some from older and larger schools, ours was selected as the typical one and we were awarded the first prize, a gold medal, which has not yet been received. The exhibit was so highly prized that a request was received that it be donated to the "Institute of Pedagogics" in Paris, which request was granted, and the articles are now on exhibition in that institution.

We also sent some articles to the National Educational Convention held in St. Paul, Minnesota, during the summer of 1890, which received very pleasing mention.

CONCLUSION.

It is peculiarly gratifying to be able to chronicle the rapid strides toward success made by our school. And when we take into consideration the trying circumstances under which, until very recently, we have labored, it may be regarded as phenomenal. During the past two years the enrollment of new attendants has reached fifty-nine—more than we had altogether three years ago. And the progress made along every line has been very pleasing.

The improvements which have been recently made, and upon whose full enjoyment we have just entered, will enable us to do much more effective work than at any time since the school was established. These, with the improvements we ask funds to make at this time, will place us where we can do as good work as any similar institution in this broad land. And we will be prepared to give instruction to every deaf and blind child within the borders of our Commonwealth. I wish here to express our most sincere thanks for the interest taken in our school by citizens in most parts of the State, for the liberality which enabled us to erect a building for our school which is a credit to the State, an ornament to the city, a comfort to those of us who carry the burdens of the great work, a source of pride to its projectors, and a blessing for all time to the deaf and blind children who are now within its walls and who shall ever be privileged to enter its portals.

JOHN E. RAY,  
*Superintendent.*

VALUE OF BUILDINGS AND GROUNDS.

Value of buildings and grounds Nov. 30, 1888 . . . . .	\$ 65,000 00
Increase in value . . . . .	90,000 00
Present value . . . . .	\$155,000 00

The current expenses for the past two years, including improvements, repairs, etc., have been about \$55,000.00.

The attendance at the time of the former report was . . . . .	81
We have since enrolled . . . . .	59
Making a total enrollment of . . . . .	140
Of these there are removed, died and dismissed . . . . .	32
Leaving a present enrollment of . . . . .	108

BIENNIAL REPORT  
OF THE  
STATE INDUSTRIAL SCHOOL,

1889 AND 1890.

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The State Industrial School is situated about one mile south of Golden. The grounds consist of fifty-seven and three-fourths acres. About thirty-five acres of this are under the Welch ditch, and constitute the garden. There are two main buildings. One of them, formerly the State School of Mines, is a two- and one-half-story brick building with a two-story ell, and contains the offices, hospital, store-rooms and lady officers' sleeping rooms. The other is two hundred feet in length, consisting of three two- and one-half-story brick buildings, 45x30, connected by two brick additions 24x30, three stories high. On the ground floor this building has the shoe-shop, laundry, wash-room, boys' dining room, officers' dining room and kitchen. On the second floor are the tailor-shop, four school rooms, repair room and chapel. On the third floor are five dormitories and the Sunday clothes room.

A two-story brick building, 24x24, with basement, contains the bakery and male officers' sleeping rooms.

BOARD OF CONTROL AND OFFICERS.

President . . . . .	HON. M. N. MEGRUE . . . . .	of Pueblo
Secretary . . . . .	HON. J. M. MORRIS . . . . .	of Golden
	HON. J. C. HUMMEL . . . . .	of Denver
Superintendent . . . . .		D. R. HATCH
Matron . . . . .		MISS EMMA MCNEAL
Physician . . . . .		J. P. KELLY

## FIFTH BIENNIAL REPORT.

To the HON. FRED DICK,

*State Superintendent of Public Instruction:*

The Board of Control of the State Industrial School respectfully submit this, their Fifth Biennial Report for the years commencing January 1, 1889, and ending December 31, 1890.

The Seventh General Assembly appropriated for the salaries of officers and general support and maintenance of the school, including insurance, repair of buildings, keeping up farm and machinery, printing reports and all necessary expenses, the sum of \$60,000. For the purpose of completing the dormitory buildings the sum of \$5,000. For the purpose of procuring water for irrigation upon the grounds surrounding the buildings, the sum of \$1,500. For the purpose of erecting a new building, the sum of \$20,000.

Nothing was done in regard to the new building except the procuring of drawings and specifications, for the reason that the Auditor of State notified us that he would not audit accounts drawn against this fund.

2. For the purpose of procuring water to irrigate the grounds around the buildings and for use in and about the buildings and protection against fire, we have dug and completed a well in the farm about five hundred and fifty feet from the present officers' building. Said well is eight feet in diameter and thirty feet deep, and furnishes about 100,000 gallons of water daily. This water is forced through a three-inch cast iron pipe beneath the surface of the ground to a reservoir on the hill south of the buildings holding 51,000 gallons. We are now having dug another well twenty-four feet in diameter, and when completed we have no doubt that we will have plenty of water for all purposes and to irrigate all the grounds surrounding the buildings. For the purpose of pumping the water from the well to the reservoir and to change the mode of heating the buildings from the use of stoves to steam, we have purchased and set up a sixty-horse power steam boiler and one Smith and Vaile steam pump, with a capacity of seventy gallons per minute.

We have dispensed with the use of coal oil for lighting the building and grounds, and have contracted with the Golden Illuminating Company for electric lights for four years, for the sum of \$650 per year.

We have completed the dormitory buildings at an expense of \$5,000.

## STATEMENT OF RECEIPTS AND EXPENDITURES.

## EXPENDITURES.

Live stock . . . . .	\$ 294 30
Board . . . . .	389 45
Dry Goods . . . . .	4,085 12
Expense Board of Control . . . . .	2,586 60
Drugs and medical attendance . . . . .	782 15
Provisions . . . . .	13,867 30
Tailor shop . . . . .	279 93
House furnishing . . . . .	3,220 87
Police expense . . . . .	600 19
Broom shop . . . . .	701 03
Repairs and improvements . . . . .	4,670 03
Wagons and harness . . . . .	499 92
Farm implements . . . . .	289 90
Feed . . . . .	1,464 08
School requisites . . . . .	300 71
Laundry . . . . .	423 27
Telegraph and telephone . . . . .	207 42
Printing and stationery . . . . .	1,011 67
Fuel and lights . . . . .	2,963 93
Shoe shop . . . . .	1,933 14
Stoves and furnaces . . . . .	502 85
Oil storage . . . . .	60 30
Amusements . . . . .	57 15
Water supply . . . . .	2,287 06
Horsehoeing . . . . .	87 20
Carpenter shop . . . . .	91 60
Library . . . . .	73 30
Bakery . . . . .	2 95
Postage . . . . .	368 62
Insurance . . . . .	327 54
Farm . . . . .	344 00
Trees and seed . . . . .	192 26
Band and music . . . . .	70 16
Boiler and steam heat . . . . .	1,748 71
Electric light . . . . .	945 50
Officers' salaries . . . . .	19,248 30
Total . . . . .	\$ 66,987 51

## MAINTENANCE.

Appropriation . . . . .	\$60,000 00
Balance November 10, 1888 . . . . .	6,498 77
Cash remitted to treasurer since Nov. 10, 1888 . . . . .	8,301 39
Total . . . . .	\$74,800 16
Vouchers drawn . . . . .	66,987 51
Balance in State treasury . . . . .	\$ 7,812 65

## IRRIGATION FUND.

Appropriation . . . . .	\$ 1,500 00
Vouchers drawn . . . . .	1,465 93
Balance in State treasury . . . . .	\$ 34 07

## DORMITORY BUILDING FUND.

Appropriation . . . . .	\$ 5,000 00
Vouchers drawn . . . . .	5,000 00

NEW BUILDING FUND.

Appropriation . . . . .	\$20,000 00
Vouchers drawn . . . . .	261 10
Balance (unavailable) . . . . .	\$19,788 90

RECOMMENDATIONS.

We need more land. There is adjoining that now owned by the school about sixty acres which can be purchased for the sum of \$----- per acre. We ask that the above sum be appropriated for the purchase of this land.

It would be a great saving in fuel as well as a protection against fire to have all the buildings heated by steam. To do so would require another boiler of sixty-horse power capacity, which, with the necessary piping, would require an appropriation of \$5,000. The present boiler-house is only a shed over the boiler. We need a new one of brick with brick smoke stack. Such a one would cost \$3,000. We recommend that the sum of \$8,000 be appropriated to complete the steam heat system and build a new boiler-house.

The buildings are now crowded to their utmost capacity and we need another building. Plans and specifications have been procured for such building, which will cost \$30,000, and we ask that that sum be appropriated.

The average number of inmates of the school for the past two years has been 145. The probable average for the coming two years will be 225. We will need for the general maintenance, repairs of and new machinery, building fences, walks, roads, grading grounds, insurance, stock, and miscellaneous expenses the sum of \$100,000. For full report as to health, condition of school, etc., see reports of Superintendent and Physician.

M. N. MEGRUE, *President.*  
 J. M. MORRIS, *Secretary.*  
 J. C. HUMMEL.

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SUPERINTENDENT'S REPORT.

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*To the Board of Control:*

GENTLEMEN:—My report follows:

I took charge of this institution April 15, 1889.

The attached tables show movement of population, etc., for the last two years. Besides the improvements for which special appropriations were made, the following improvements have been made:

A cellar 18x40 has been dug, walled and roofed.

A coal shed 14x30 has been erected.

A new brick walk 16x36 has been laid in front of the office.

A concrete walk 14x175 has been laid extending in front of the dormitory building for a detail ground.

A concrete walk 200x20 and 12 has been laid in front of dormitory building.

A three-inch main connecting our water system with that of the city of Golden has been taken out and part of it laid about the grounds. The one-inch pipe extending to South Table Mountain has been taken up and used about the buildings and lawns.

A bath tub 6x12 and five feet deep has been put in and furnished with hot water. Four acres in front of the dormitory building have been graded and two acres planted in grass.

Thirty-five cottonwood trees have been set out along the driveways and walks and are thrifty.

The office building and officers' quarters have been painted and papered.

The room formerly used as a girls' dormitory has been made into a hospital, a new floor laid and ceiling and walls painted. An adjacent room has been fitted as a dispensary.

The boys' and officers' dining rooms have been re-floored and the walls painted.

The walls of the school-rooms and chapel have been painted, the seats and desks stained and varnished and the windows furnished with curtains.

The following named buildings have been torn down: coal shed, bone kiln, reservoir, tub cellar, hen house and storeroom.

The boys have been furnished with flannel underclothes.

The boys' uniforms have been changed from jeans to an all-wool cadet grey.

The officers have been uniformed.

The removal of the girls has proven a great benefit to the institution.

We have had religious exercises quite often, and are indebted to the pastors of Golden for their services. Rev. Mr. Wright has been especially attentive. Our Sunday afternoon exercises have been quite largely attended by towns-people. Rev. Father Lyons has attended to the spiritual wants of the Catholic boys.

The farm has furnished all the hay and vegetables, except potatoes, that we have used:

Respectfully submitted,

D. R. HATCH,  
*Superintendent*



## PHYSICIAN'S REPORT.

GOLDEN, COLO., October 1, 1890.

*To the* HONORABLE BOARD OF CONTROL.

GENTLEMEN:—I have the honor to submit for your consideration the following report concerning the Medical Department of the State Industrial School, for the biennial term beginning September, 1888.

In order to get the information on which this report is based, a daily record was kept and visits made to the several departments of the school.

During the past two years there have been 218 sick treated in the hospital.

As a matter of statistical record the following abstract is made:

Average daily attendance at school . . . . .	145
Amenorrhœa . . . . .	1
Bronchitis . . . . .	6
Croup . . . . .	2
Club-foot . . . . .	1
Chronic constipation . . . . .	1
Catarrh . . . . .	2
Chicken-pox . . . . .	5
Diphtheria . . . . .	8
Diarrhœa . . . . .	4
Epilepsy . . . . .	2
Erysipelas . . . . .	2
Fractures, dislocations and other injuries . . . . .	13
Fever, bilious . . . . .	3
Fever, typhoid . . . . .	8
Gastritis . . . . .	1
Gonorrhœa . . . . .	2
Heart disease . . . . .	4
Hæmorrhoids . . . . .	1
Hernia . . . . .	3
Hepatitis, acute . . . . .	4
Hepatitis, chronic . . . . .	2
Herpes Zoster . . . . .	1
Icterus . . . . .	3
Icthyosis . . . . .	1
La grippe . . . . .	16
Masturbation . . . . .	4
Mumps . . . . .	4
Ophthalmia . . . . .	13
Otorrhœa . . . . .	9
Pneumonia . . . . .	3
Purpura hæmorrhagica . . . . .	2
Peritonitis . . . . .	1
Quinsy . . . . .	2
Rheumatism . . . . .	2
Ringworm . . . . .	22
Syphilis . . . . .	1
Syphilis, hereditary . . . . .	2
Synovitis . . . . .	3
Septic poisoning . . . . .	1

Spasms . . . . .	2
Tonsillitis . . . . .	19
Torticollis . . . . .	2
Trachoma, chronic . . . . .	2
Ulcerated mouth . . . . .	24
Ulcer of Cornea . . . . .	2
Urticaria . . . . .	2
Vaccinated . . . . .	182

Minor cases have not been included in the above table. The majority of these occurred during the spring and summer of 1889, and were probably caused by over-crowding and improper feeding during the time the buildings were under repair. At the present time the inmates are in a very healthy condition.

Yours, respectfully,

JOHN P. KELLY,  
*Physician for the School.*

#### EXHIBIT 1.

Showing number of inmates received each month from November 10, 1888, to November 10, 1890, with the numbers previously reported:

	RECEIVED
November 1888 . . . . .	3
December 1888 . . . . .	21
January 1889 . . . . .	8
February 1889 . . . . .	9
March 1889 . . . . .	9
April 1889 . . . . .	9
May 1889 . . . . .	7
June 1889 . . . . .	13
July 1889 . . . . .	11
August 1889 . . . . .	7
September 1889 . . . . .	8
October 1889 . . . . .	6
November 1889 . . . . .	10
December 1889 . . . . .	8
January 1890 . . . . .	11
February 1890 . . . . .	5
March 1890 . . . . .	7
April 1890 . . . . .	3
May 1890 . . . . .	9
June 1890 . . . . .	13
July 1890 . . . . .	7
August 1890 . . . . .	4
September 1890 . . . . .	7
October to November 10, 1890 . . . . .	10
Total number received during fifth biennial term . . . . .	205
Number received during the fourth biennial term . . . . .	169
Number received during the third biennial term . . . . .	115
Number received during the second biennial term . . . . .	116
Number received during the first biennial term . . . . .	80
Total . . . . .	685

EXHIBIT 2.

Showing from what sources children were received and who were complainants:

	PRESENT TERM	PREVIOUS TERMS	TOTAL
Sent by courts on complaint of parents . . . . .	39	154	193
Sent by courts on complaint of others than parents	161	292	453
Placed in school as boarders . . . . .	5	34	39
Totals . . . . .	205	480	685

EXHIBIT 3.

Showing length of sentences given children sent during present term:

6 months . . . . .	1
9 months . . . . .	5
1 year . . . . .	37
1¼ years . . . . .	1
1½ years . . . . .	4
2 years . . . . .	26
2½ years . . . . .	1
3 years . . . . .	112
3¼ years . . . . .	5
5 years . . . . .	3
6 years . . . . .	1
7 years . . . . .	1
Minority . . . . .	3
Boarders . . . . .	5
Total . . . . .	205

EXHIBIT 4.

Showing from what counties children have been sent:

Arapahoe . . . . .	55
Boulder . . . . .	14
Chaffee . . . . .	3
Clear Creek . . . . .	3
Conejos . . . . .	1
Costilla . . . . .	1
Custer . . . . .	1
Douglas . . . . .	1
El Paso . . . . .	19
Fremont . . . . .	15
Garfield . . . . .	4
Gilpin . . . . .	
Gunnison . . . . .	
Huerfano . . . . .	5

Jefferson . . . . .	2
Lake . . . . .	12
La Plata . . . . .	6
Larimer . . . . .	2
Las Animas . . . . .	9
Logan . . . . .	2
Mesa . . . . .	1
Ouray . . . . .	1
Park . . . . .	1
Pitkin . . . . .	3
Prowers . . . . .	1
Pueblo . . . . .	19
San Juan . . . . .	1
San Miguel . . . . .	1
Sedgwick . . . . .	1
Summit . . . . .	2
Washington . . . . .	1
Weld . . . . .	7
Yuma . . . . .	1
New Mexico . . . . .	1
Wyoming . . . . .	3
Total . . . . .	205

## EXHIBIT 5.

Showing ages of children when received:

YEARS	PRESENT TERM	PREVIOUS TERM	TOTAL
7 . . . . .		4	4
8 . . . . .	4	8	12
9 . . . . .		10	10
10 . . . . .	24	66	90
11 . . . . .	22	64	86
12 . . . . .	28	71	99
13 . . . . .	39	67	106
14 . . . . .	41	80	121
15 . . . . .	29	69	98
16 . . . . .	14	41	55
17 . . . . .	1		1
18 . . . . .	3		3
Totals . . . . .	205	480	685

EXHIBIT 6.

Showing nativity of children received:

Arizona . . . . .	1
California . . . . .	4
Colorado . . . . .	44
Connecticut . . . . .	1
Illinois . . . . .	12
Indiana . . . . .	4
Iowa . . . . .	11
Kansas . . . . .	16
Kentucky . . . . .	2
Louisiana . . . . .	2
Maine . . . . .	2
Massachusetts . . . . .	4
Michigan . . . . .	7
Mississippi . . . . .	1
Missouri . . . . .	25
Nebraska . . . . .	9
New Jersey . . . . .	4
New York . . . . .	4
Ohio . . . . .	1
Pennsylvania . . . . .	11
Texas . . . . .	4
Tennessee . . . . .	3
Utah . . . . .	3
Wisconsin . . . . .	6
Wyoming . . . . .	1
	182
Canada . . . . .	2
England . . . . .	9
Germany . . . . .	2
France . . . . .	1
Unknown . . . . .	9
	205

EXHIBIT 7.

Nativity of parents:

United States . . . . .	115
Germany . . . . .	18
Scotland . . . . .	7
Wales . . . . .	3
Mexico . . . . .	3
Italy . . . . .	2
England . . . . .	23
Ireland . . . . .	14
Canada . . . . .	6
France . . . . .	3
Sweden . . . . .	2
Norway . . . . .	1
Unknown . . . . .	8
Total . . . . .	205

## EXHIBIT 8.

Both parents living . . . . .	88
Mother only . . . . .	64
Father only . . . . .	39
Neither . . . . .	14
Total . . . . .	205
<hr/>	
Parents owning homes . . . . .	56
Homeless . . . . .	47
Parents owning chattels only . . . . .	102
Total . . . . .	205
<hr/>	
Had been under arrest before . . . . .	26
Had been inmates of other institutions . . . . .	1
Having parents divorced or separated . . . . .	33

## EXHIBIT 9.

Showing number of inmates on the fifteenth of each month:

December, 1888 . . . . .	167
January, 1889 . . . . .	182
February, 1889 . . . . .	176
March, 1889 . . . . .	177
April, 1889 . . . . .	150
May, 1889 . . . . .	148
June, 1889 . . . . .	144
July, 1889 . . . . .	140
August, 1889 . . . . .	133
September, 1889 . . . . .	132
October, 1889 . . . . .	124
November, 1889 . . . . .	125
December, 1889 . . . . .	131
January, 1890 . . . . .	134
February, 1890 . . . . .	131
March, 1890 . . . . .	135
April, 1890 . . . . .	138
May, 1890 . . . . .	138
June, 1890 . . . . .	138
July, 1890 . . . . .	144
August, 1890 . . . . .	148
September, 1890 . . . . .	145
October, 1890 . . . . .	145
November, 1890 . . . . .	148
Average for term . . . . .	145

EXHIBIT 10.

Sources from which money was received:

Board . . . . .	\$ 4,395 83
Insurance . . . . .	2,138 76
Shoe sales . . . . .	218 80
Broom sales . . . . .	822 41
Farm sales . . . . .	258 57
Live stock sales . . . . .	385 60
Miscellaneous . . . . .	81 42
Total . . . . .	<u>\$ 8,301 39</u>

EXHIBIT 11.

Sent home on tickets of leave . . . . .	139
Sent to places on tickets of leave . . . . .	60
Sent out by expiration of sentence . . . . .	18
Escaped . . . . .	4
Total discharges . . . . .	<u>221</u>

Received during term . . . . .	205
Number in school at last report . . . . .	164
Total number in school during term . . . . .	<u>369</u>
Number discharged during the term . . . . .	221
Present number in school . . . . .	<u>148</u>













