

J. Willard

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Biennial Report

OF

The

State Historical and

Natural History

Society

OF

COLORADO.

December 1, 1908, to November 30, 1910.



DENVER, COLORADO

THE SMITH-BROOKS PRINTING CO., STATE PRINTERS

1911.

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DENVER, COLORADO
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OFFICERS OF THE STATE HISTORICAL AND NATURAL
HISTORY SOCIETY OF COLORADO.

President	Edward B. Morgan.
Vice-Presidents.....	{ Nathan A. Baker. Ellsworth Bethel.
Secretary.....	Charles R. Dudley.
Treasurer.....	William D. Todd.
Curator.....	Jerome C. Smiley.
Museum Assistant.....	Horace G. Smith.
File Clerk.....	James F. C. Boyd.

DIRECTORS.

Nathan A. Baker,	Granville Malcom,	
Ellsworth Bethel,	William S. Ward,	Edward B. Morgan,
Charles R. Dudley,	Robert S. Roeschlaub,	
Frank E. Gove,	William D. Todd.	

LETTER OF TRANSMITTAL.

Denver, January 20, 1911.

To His Excellency,

JOHN F. SHAFROTH,

Governor of the State of Colorado.

Sir—I have the honor to submit herewith the report of the State Historical and Natural History Society of Colorado, together with the report of the Secretary of our Academy of Science, for the biennial term that ended on November 30, 1910; and to request that they be ordered to be printed, as one publication.

Very respectfully yours,

E. B. MORGAN,

President.

APPROVAL OF THE REPORT.

The report (within) of the Curator of the State Historical and Natural History Society of Colorado was approved by the Directors of the Society, January 17, 1911, and referred to the members of the Society in annual meeting.

CHARLES R. DUDLEY,

Secretary.

At the annual meeting of the members of the State Historical and Natural History Society of Colorado, held on January 17, 1911, the report of the Curator, for the biennial term that ended on November 30, 1910, was submitted, approved, and adopted as the report of the Society for the term; and also was recommended to be printed.

CHARLES R. DUDLEY,

Secretary.

BIENNIAL REPORT

OF

The State Historical and Natural History Society of Colorado

December 1, 1908, to November 30, 1910.

REPORT OF THE CURATOR.

To the President and Directors of the State Historical and Natural History Society of Colorado.

Gentlemen—I submit respectfully for your information and consideration the following summarized report of the results of transactions by your Society's Curator and his two assistants, in forwarding the purposes of the organization, during the biennial term that began on December 1, 1908, and ended on November 30, 1910. It may not be amiss to mention here that my service as Curator covered the last ten months of the term; and that that of my predecessor extended through the first fourteen months thereof.

The various additions that were made to the Society's collections during the term number and are classified for the intents of this report as follows:

HISTORICAL ACCESSIONS.		
Books—		
In the first year of the term.....	722	
In the second year of the term.....	306	
	1,028	1,028
Pamphlets—		
In the first year.....	230	
In the second year.....	556	
	786	786
Excerpts from Monthly Magazines and Other Publications—		
In the first year.....	79	
In the second year.....	39	
	118	118
Newspapers, Bound Volumes of—		
In the first year (given to the Society in bound form).....	6	
In the second year (given to the Society in bound form).....	6	

Files of newspapers given by their publishers, and bound by the Society under a contract made in the last month of the first year and fulfilled early in the second.....	167	
	<hr/>	179
Manuscripts--		
In the first year.....	16	
In the second year.....	211	
	<hr/>	227
Maps and Drawings--		
In the first year.....	1	
In the second year.....	18	
	<hr/>	19
Pictures (views and portraits)--		
In the first year.....	8	
In the second year.....	80	
	<hr/>	88
Ethnological Objects--		
In the first year.....	167	
In the second year.....	0	
	<hr/>	167
Miscellaneous Objects--		
In the first year.....	31	
In the second year.....	27	
	<hr/>	58
	NATURAL HISTORY ACCESSIONS.	
Birds--		
In the first year.....	11	
In the second year.....	20	
	<hr/>	31
Birds' Eggs--		
In the first year.....	302	
In the second year.....	0	
	<hr/>	302
Mammals--		
In the first year.....	9	
In the second year.....	0	
	<hr/>	9
Reptiles and Batrachians--		
In the first year.....	2	
In the second year.....	4	
	<hr/>	6
Fishes--		
In the first year.....	0	
In the second year.....	127	
	<hr/>	127

Insects—			
In the first year.....	122		
In the second year.....	185		
		—	307
Arachniða—			
In the first year.....	1		
In the second year.....	3		
		—	4
Mollusca—			
In the first year.....	2		
In the second year.....	0		
		—	2
Vermes—			
In the first year.....	0		
In the second year.....	1		
		—	1
Osteological Objects—			
In the first year.....	0		
In the second year.....	2		
		—	2
Geological Objects—			
In the first year.....	12		
In the second year.....	5		
		—	17
Total of historical accessions.....	2,670		
Total of natural history accessions.....	808		
		—	
Grand total of these additions.....			3,478

In the middle part of the second year, for reasons that are stated elsewhere in this report, a considerable reduction was made in the number of newspapers and other periodical publications of which the Society theretofore had been in receipt; those that were discontinued having consisted entirely of issues that were coming from other divisions of the Union. At the close of the term, the Society was receiving and filing newspapers and magazines (all of which, excepting one bi-monthly magazine, are gifts from their publishers) as specified here:

Colorado Publications—		
Daily newspapers	26	
Semi-weekly newspapers	2	
Weekly newspapers	219	
Monthly magazines	35	
Quarterly magazines	1	
		—

Publications From Other Sources—

Daily newspapers	7
Semi-weekly newspapers	1
Weekly newspapers	3
Monthly magazines	8
Bi-monthly magazines	1
Quarterly magazines	4

24

Total of these publications..... 307

The sources of the newspapers of the second group are Kansas, Nebraska, Wyoming, Utah, and New Mexico, with which political divisions our State has numerous historical associations.

All of the newspaper-files that were put into bound form by the Society during the term (167 volumes, as stated above) were Colorado publications; and the cost of the work was charged to the Society's legislative appropriation known as the "Expense Fund." The annual issues of our larger daily newspapers have to be divided into several volumes in order to keep these within convenient size for use and preservation. Upon the other hand, more than one year's issues of some of our weekly newspapers are bound in a single volume of moderate dimensions. The publishers of the *Denver Republican* give the Society a file of their paper ready-bound, in six volumes to the year; and also supply daily another copy. We still have a large number of Colorado newspapers and magazines that should be bound, and of which some files run back ten or twelve years. Our files of Colorado publications constitute a great repository of local history, and therefore form one of the highly valuable assets of the Society. They are consulted often by our citizens, and frequently afford very important information of which no other record readily is available; as, for example, in verifying the due publication of legal advertisements. The periodicals that we are receiving now from outside sources consist, as I have set forth above, of eleven newspapers and thirteen magazines; most of the latter falling into the scientific classification. The accumulations of these accessions also should be bound.

Of the books and pamphlets acquired during the term, much the greater portion was received from Federal departments at Washington and from our own and other State institutions. With some exceptions, that were gifts, the remainder consists in part of accessions which came from other historical societies and in part of publications that were purchased by the Society. Of the latter, the larger number was obtained for the Society's library of historical publications that pertain to Colorado, and which is known familiarly as the "Edward B. Morgan Collection." This gathering, which was rearranged and classified in the second year of the term, contained at the close of the last month of the term, 1,008 bound volumes, including folded early

maps of Colorado and of the Pike's Peak region in cloth-bound cases, but excluding duplicate copies of several works of exceptional value; and 503 pamphlets, exclusive of duplicate copies of several of these items. Therefore this remarkable and invaluable collection of historical material now comprises more than fifteen hundred titles. Among its recent accessions are some very rare books and as many scarce old maps. In the second year of the term, nine volumes of Colorado magazines, five books that were in paper wrappers, and three sets of "Art Works," published in "Parts," and richly illustrated with views in Denver and elsewhere in Colorado, were substantially bound in cloth. All of these belonged to the Morgan Collection. The beginning of selecting and assembling from the other books and pamphlets that are possessed by the Society an orderly collection of scientific publications that are especially useful in the Society's work in Natural History has been made. Of those which thus have been set apart, nineteen coverless volumes were rebound strongly in cloth, the cost of which, as well as that of the like work for the Morgan Collection, was defrayed from the apportionment assigned to the Society by the State Auditing Board from the general Incidental Fund that had been appropriated for the various State departments. The assemblage of scientific publications, to which ten newly-purchased volumes were added, and which is not designed to become an extensive library, now comprises 105 books and 144 pamphlets.

The excerpts from magazines and other periodicals consist of articles dealing with Colorado subjects or otherwise connected with or relative to our State and its people. But not all of the sources of these that the Society has acquired yet have been reached, there being a large number of such publications from which similar material remains to be extracted. These excerpts can not properly be arranged and classified, and so made conveniently accessible, until suitable cases shall have been provided for their reception.

Among the manuscripts received in the first year of the term is a three-page letter written and signed by Major Stephen H. Long in the year 1846, in relation to an invention which he had patented; and another, of four pages, and which is of the nature of an official report, written and signed by General R. B. Marcy in the year 1865. The most interesting addition to this classification that was made in the second year of the term is a contract, written and signed in Douglas County, Kansas, on September 3, 1858, "between H. P. A. Smith and E. W. Wynkoop, of the first part, and David T. Mitchell, Silas O. Hemenway, Robert S. Stevens, Hugh S. Walsh, and William Brindle, parties of the second part," under which the parties of the first part were "to go to the Gold Region in the western part of the Territory of Kansas or in that region of country and obtain information, lay out a town, and send or bring back information to Leecompton in Kansas Territory for the mutual benefit of all

the parties." This document had drifted into the office of the City Clerk of the City of Denver, and its transfer to the Society was in compliance with instructions given by Mayor Robert W. Speer. Its parties of the first part were prominent among our pioneers of the autumn of 1858, and one of them, E. W. Wynkoop, later became distinguished as an officer of the First Regiment of Colorado Volunteers in the War for the Union. The largest number of manuscripts acquired in the second year from one source was received from the Hon. A. D. Jameson, administrator of the estate of the late Captain E. L. Berthoud, of Golden. Among these papers are Captain Berthoud's first commission as an officer of the Second Regiment of Colorado Volunteer Cavalry, which rendered conspicuously gallant service in Missouri and Kansas, in the Civil War; a series of military field-orders that were identified with the movements of the Colorado troops in that part of the West; a collection of memorandum books containing original notes and other data of his surveys for railways in the mountain section of the Clear Creek drainage-basin, together with other manuscript material relating to that work; many tabulated records of his meteorological observations made at Golden some forty years ago, and which were among the very early systematic work of that kind that was done in Colorado; and several manuscript maps, one of which is a fine blue-print copy of an original showing the route taken by the Verendrye brothers when upon their expedition, in the year 1742, into what is now the central part of the State of Wyoming.

Included in the other additions to the Society's resources in the line of maps and drawings made in the term, is a copy of the rare map of the Territory of Kansas (purchased in the first year) on which the Pike's Peak end of that Territory is shown divided into the five impotent counties of "Montana," "Oro," "El Paso," "Fremont," and "Broderick," which were defined by an act of the Kansas Legislative Assembly that was approved on February 7, 1859. Among the accessions that were made to this classification in the second year are several old maps of Colorado and one of Denver; a map of the greater part of the gold-mining districts in the vicinity of Central City, as in the period of the Civil War; a photographic enlargement of Nordenskiöld's map of the Mesa Verde district; a copy of Dr. Edgar L. Hewitt's map showing the location of the "Cliff Dwellers'" mined buildings in Colorado, New Mexico, Arizona, and Utah. The more interesting of the drawings that were received are those that define the form and construction of a military rifle-sight which was invented and patented by Captain Berthoud.

Of the eight pictures that were acquired in the first year, the more important were two portraits of the late Major Jacob Downing, of Denver, and one of John Easter (a Denver pioneer of 1858), of Goldfield, Colorado. Of the former two, given by Mrs. Downing (the subject's widow), one is a large crayon portrait, executed in 1884, while the other is a photographic en-

graving made about ten years ago. Mr. Easter's, given by citizens of Goldfield, of whose executive committee Mr. W. A. Harrison was chairman, is a large pastel-portrait, produced shortly before its reception by the Society. The eighty additions to this classification in the second year of the term consist mainly of small portraits of men who were identified with the history of the Pike's Peak country, and of views of historic structures and places upon the soil of Colorado. Of these accessions, I refer in the following to those most worthy of special mention here. Photographic enlargements of lithographs of two small pictures (drawn in 1845, and given to the Society by the present Curator), of Fort Bent, a large and famous old-time trading-post on the Arkansas River. A photographic enlargement of a small daguerreotype, made in the period of the Mexican War, and now possessed by Mrs. H. L. Lubers, of Las Animas, Colorado, of William Bent, the principal builder and owner of Fort Bent. A photographic enlargement of an old view of Fort Massachusetts, built in 1852, near the foot of the western slope of the Sangre de Cristo Pass, and which was the first United States military post upon the soil of our State. Twelve photographic enlargements of early views in our city of Pueblo. Four large bird's-eye-views, respectively of Pueblo (as in 1874), of Colorado Springs and Colorado City combined (as in the autumn of 1873), of Central City and Black Hawk combined (as in 1873), and of Georgetown (as in 1874), all of which were given to the Society by the Long Island Historical Society, Brooklyn, N. Y. Photographic enlargements of two engraved early views of our city of Boulder (one as in the middle '60s, and the other as in 1878). A photographic enlargement of an engraved view of Georgetown, as in 1878. A photographic enlargement of a daguerreotype-view on Larimer Street, Denver, in the period of the Civil War. Twenty-one photographs of Colorado public school-buildings, together with a photographic view of Denver, all made in 1876, and placed in a frame measuring five by six feet; which valuable group of pictures was directed by Colonel W. K. Burchinell, Secretary of the Board of Capitol Managers, to be transferred from another part of the Capitol to the Society. A bird's-eye view of the West, in colors, and showing the route of the Mormon migration to the Great Salt Lake, in 1846-47. An engraved view of Auraria City, one of the progenitors of the city of Denver. A small photograph of an unusual portrait of Zebulon M. Pike. A photographic enlargement of a small photograph of Major Stephen H. Long, that was made a short time before his death. Photographic reproduction of a crayon portrait of William Green Russell, and photographic portraits of Dr. Levi J. Russell and J. Oliver Russell—the Russell brothers—who organized and led the famed Russell Expedition into the Land of Pike's Peak in the summer of 1858, and who were conspicuous in the events that gave birth to the settlement of the Colorado country in that year by our Anglo-Saxon pioneers. A photograph of our "Cliff Dwellers" "Cliff Palace" and a like picture

of their "Spruce Tree House," given to the Society by Mr. Charles R. Borst, of Denver. A photographic enlargement of Nordenskiöld's view of a round tower, built by the "Cliff Dwellers" upon a conical elevation in the Mesa Verde district. A photographic enlargement of a small picture, made in 1843, of Fort Laramie, a noted trading-post that stood on the North Platte River, in what is now the State of Wyoming. A photographic enlargement of a small view of Santa Fe, as in the year 1846. All of the photographic enlargements cited in the foregoing are acquisitions directly made by the Society.

The Society's collection of ethnological objects from the ruined buildings of the "Cliff Dwellers," in the extreme southwestern part of our State, and which is unsurpassed in magnitude and variety by any of its kind, further was enriched early in the first year of the term by the Society's share of the results of Dr. Edgar L. Hewitt's researches in the summer of 1908, and of which the expense was defrayed jointly by members of the Society and others and by the University of Colorado. The objects that were unearthed by Dr. Hewitt were received by the Society near the close of the previous biennial term, but were not divided between the two interested institutions, and therefore were not available to either, until early in the term here under consideration. In the division, one hundred and sixty-one articles, consisting in the main of pottery and other household utensils and implements, and to which were added five incomplete human-skeletons, fell to the share of the Society, the sources of these being ruined buildings of "Cliff Dwellers" in the valleys of Montezuma and McElmo creeks, in the western part of our Montezuma County. Of the whole, aside from the skeletons, one hundred and eleven of the objects were taken from the "Canon-ball House" (which is on a tributary of McElmo Creek), and fifty from ruins in the Montezuma Valley. Dr. Hewitt generously gave his time and knowledge to the work of placing one hundred and four of these accessions—sixty-nine from the "Canon-ball House" and thirty-five from the Montezuma Valley—in proper order in a case that stands at the entrance to the Society's rooms; and illuminated the exhibit with labels, photographs and engravings. Much of the pottery that was put into this case is of an exceptional type, both in form and decoration. The remainder of the material received from Dr. Hewitt is stored in the sub-basement, awaiting preparations for placing it where it may be seen by our visitors. One stone implement was received from another source in the first year of the term; but nothing for this classification was received in the second year.

For the purposes of this report I have classified sundry accessions made by the Society during the biennial term as "Miscellaneous Objects." Among those of this designation that were acquired in the first year of the term, is the figure-head, or bow-ornament, of the United States armored cruiser *Colorado*. The United States Navy Department having decided to remove from the national war-ships all useless weight, which included that

of their figure-heads, tendered the bow-ornament of the *Colorado* to our State as a loan. In a conference of officers of the Society and several of the State officers it was decided to accept the offer, as a declination might cause the State to appear ungracious. The figure-head was shipped from the United States navy-yard on Puget Sound and consigned to the Society. It is of bright bronze, weighs 7,000 pounds, and extended backward from the ship's stem to a distance of eighteen feet, on each side of the vessel's bow. This accession remains in its shipping-cases, in parts, awaiting a determination of the disposition that shall be made of it. The probability is that some form of special structure upon which to mount it will be required. Another unusual type of accession, made in the first year, is an old-time "Seraphim and Eolian," having the form of a small square-piano, and of which the like was the predecessor of the "Parlor Organ." This instrument, which still is in tuneful condition, was given to the Society by Mrs. Edward H. Collins, of Denver; and who, later in that year, also gave the Society a number of small objects to which historical sentiment clings. She stated that the seraphim was started across the plains to Denver at the close of the spring of 1864, in a wagon that was one of the constituents of a short train; that this caravan, after it had entered Colorado, was attacked by Indians, who killed all the men who accompanied it, pillaged the wagons, and made off with the horses, but left the seraphim unharmed; and that a party of men went from Denver to the scene of the tragedy, and about ten days later brought back the salvage of the wrecked wagon-train, in which the seraphim was included. At the time Mrs. Downing gave the Society the portraits of her late husband, to which I have referred above, she also gave an interesting and worthful collection of some of the personal belongings of Major Downing. This comprises his dress uniform as an officer of Colorado Volunteers in the War for the Union, his fatigue sword and its scabbard, a dress sword and its scabbard, two huge revolvers, a buckskin coat worn in his campaigns, a heavy rifle that was given him by the noted Arapahoe chieftain who was known as "Little Raven," and minor articles that also were associated with his brave and active life. This collection is exhibited in one of the cases in the Society's apartments in the Capitol. Among the miscellaneous objects received in the second year of the term are two warrants drawn by the Auditor of our "Jefferson Territory" upon the Treasurer of that historic political organization, and which were given to the Society by Mr. Peter Winne, of Denver. From Mrs. Frank S. Craven, of Denver, the Society received, as a gift, a fine copper medal, two and one-half inches in diameter, struck in the year 1866 by the Monnier Metallurgical Company, of Colorado, and which operated in the Georgetown district. One of the legends borne by the medal reads: "Struck from the First Copper Produced in Colorado." Another object of special interest that was added in the second year, given by Mr. G. D. McClain, of Denver, is a

flint-lock musket (with the flint in place) that was found, in 1885, buried in the sands of Cherry Creek, between Market and Blake streets, in Denver. By purchase, the Society obtained in the second year a check, made out, upon a printed form, in Denver, "Dec. 22, 1859," on the Treasurer of the "St. Vrain, Golden City & Colorado Wagon Road Company." The "Colorado" in this case meant the present Blue River, of the Western Slope, and which heads in our Summit County. From Mr. J. T. Holbrook, of Denver, the Society received as a gift a curious wooden implement, found in the vicinity of Palmer Lake. It has been designated provisionally as a "Mexican Plow"; but it may turn out to be something else.

Before passing from the subject of historical acquisitions, I deem it proper to refer to the pictures and kindred things that have been framed and placed on the walls of the Society's rooms recently. It appears that nothing of the kind was done in the first year of the term; but in the second year ninety-six of such accessions thus were prepared for public view. However, this total includes thirty-eight subjects that the Society had acquired in previous times. These consist of fifteen photographs (18 by 22 inches in size) of ruined buildings of the "Cliff Dwellers" in the Mesa Verde district, that have been in the Society's possession for many years, and now are made interesting and instructive to our visitors; a group of photographs of the members of the House of Representatives, of Colorado's Fifth General Assembly; a group of photographs of the members of the Senate and of those of the House of Representatives, of the Fifteenth General Assembly, with a photograph of Governor McDonald; a large bird's-eye-view, in colors, of Denver, as in 1892; three large photographic views in Denver, when Cherry Creek and the South Platte River were at high-flood stage, in May, 1864; eight photographic views in the mountain valley of Clear Creek, made in 1864—three at Central City, three at Black Hawk, one of North Empire, and one of the once-famous "Tenth Legion Lode," near Georgetown; a painting of the military post of Fort Collins, the germ of our present city of that name; a large photograph of California Gulch and Iron Hill, at Leadville, as in 1885; two views of the business section of Trinidad, as in 1868; a photographic view in the United States military cemetery at Madison Barracks, in the State of New York, and showing the burial place of Zebulon M. Pike; a map, made in 1868, showing the route then proposed for the Denver & Rio Grande Railway from Denver into southern Colorado; a receipt issued by the Overland Stage Line, at Denver, in 1864, for a shipment of money; a copy of an allegorical picture, with legends, published in Denver in 1876, and commemorating Colorado's admission into the Union; and a photograph, made in 1862, of Clark, Gruber & Company's "Bank and Mint" building, in Denver. Of the fifty-eight others that were framed in the second year, thirty-four, all of which were acquired in that year, have been mentioned on pages 11 and 12 of this report. The more important

of the remaining twenty-four are a large early map of Colorado, in colors, and showing the original Territorial county-divisions; photographic reproductions of two warrants on the Treasurer of "Jefferson Territory," and of the indorsements on their backs, with explanatory notes; photographic reproductions of three "Town-lot Certificates," issued by Denver's pioneer town-organizations—respectively by the St. Charles, the Auraria City, and the Denver City town companies—with explanatory notes; photographic reproductions of the pages of Major Long's letter (hereinbefore mentioned), with the enlarged portrait of him, which has been noted above; photographic reproductions of both sides (the reverse showing indorsements) of one of the "Gilpin Drafts," and of a notary's certificate of its protestation, with a photographic reproduction of an unusual portrait of Governor Gilpin, and explanatory notes; our copy of Dr. Edgar L. Hewitt's map of the district in the Southwest that once was occupied by the "Cliff Dwellers"; the photographic enlargement of Norderskiold's map of the Mesa Verde district; a colored photograph (18 by 22 inches in size) of Theodore Roosevelt and his escort of Colorado sheriffs at Overland Park, Denver, on August 29, 1910; an illustrated placard bearing information concerning the minting machinery of Clark, Gruber & Company, and of that firm's operations; a photographic reproduction of the title page of a copy of the *Iliad* once owned by Zebulon M. Pike; and a photographic enlargement of a portrait of Pike in the Philadelphia edition (1810) of his *Account*.

The biennial term to which this report applies was not one of great activity in the Society's Natural-History division. Only eight days were devoted to field work during the term by the Museum Assistant, to whom such service is assigned; and it happened that those days were divided equally between the two years. In the greater part of the second year the time of the Assistant was required for duties in the rooms of the Society.

Of the eleven specimens of birds acquired in the first year, eight were taken by the Museum Assistant, and the three others were given to the Society. * One of the latter, received from Mr. P. J. Engelbrecht, of Thomasville, Colorado, is a Brown Pelican, captured high up in the mountains, at Wood's Lake, near Thomasville. This remarkable acquisition now is exhibited in the Society's ornithological collection. The others that were presented are a Rock Wren, given by Mr. James S. Proctor, of Denver; and a Pheasant, given by Mr. H. P. Hansen, of the State Department of Game and Fish. Of the twenty birds procured in the second year, eighteen were taken by the Museum Assistant; a Piping Plover, obtained by him at Julesburg, having proved to be the second record for the State. The two other accessions were a Tern, given by Mr. F. C. Law, of Montclair; and a ready-mounted Horned Owl, bought by the Society. The purchased bird is a notable addition to the collection, as it represents a color-phase from the Northwest that visits Colorado in migra-

tory movements. This specimen was taken by a local sportsman near Morrison, Jefferson County, in October, 1909.

Of the 302 Birds' Eggs accessioned by the Society in the term, all were received in the first year. Three hundred of these, a mixed collection, were given by Mrs. Thomas W. Hause, of Denver; and the two others, of a Blue-gray Gnatcatcher, taken at Cañon City, Colorado, were gifts by H. J. and A. H. Stockder, of that city.

All of the specimens acquired for the Mammal classification were received in the first year. Of these, five were obtained by the Museum Assistant, and five were gifts, four of which—Mountain Rats—were presented by Mr. Fred. Roe, of Forks Creek, Colorado.

The two additions to the collection of Reptiles and Batrachians in the first year were Salamanders, given by Guy Bradbury and B. L. Bramwell, of Denver. Of the four in the second year, one, a Salamander, was given by Mr. William Garrett, of Dallas, Texas; and the others were added by the Museum Assistant.

The accessions of Fishes were made in the second year. Three were young sharks, given by Dr. E. A. Scherrer, of Denver; and 124 were specimens taken from the South Platte River, at Julesburg, by the Museum Assistant, some of which have proved to be of exceptional interest. Specimens of one variety of these promise to be of assistance in verifying the name of a species described some fifty years ago, but which in later times seems to have been overlooked by our naturalists, and regarded as a synonym of a closely-allied species. Another variety in this accession, and which now is under examination by a high authority, may be identified as new to Ichthyology. Professor T. D. A. Cockerell, of the State University, was the first to direct attention to the interesting character of these acquisitions.

Of the 122 Insects acquired in the first year, 120 were procured by the Museum Assistant, and two were presented. One of the latter, a Mantispa, was given by Mr. Eugene C. Paine, of Denver; and the other, a Mantis, by Mr. O. H. Marshall, of Fowler, Colorado. Of those accessioned in the second year, 181 were received from Professor Ellsworth Bethel, one of the Vice-Presidents of the Society; one, a Beetle, was given by Mr. C. F. Leach, of Sedalia, Colorado; one, a Beetle, given by Mr. O. W. Nash, of Landsman, Colorado; one, a Moth, given by Mr. Stenson Dillon, of Denver; and one, a Cockroach (from Central America), given by Mr. William Sutorius, of Denver.

The single specimen of Arachnida acquired in the first year was a Spider, given by Mrs. Mary Hamlyn, of Englewood, Colorado. The three accessioned in the second year also were presented to the Society. These were a Spider, from Melvin and Leo Lewin and Jud. Buell; a Spider, from Katherine Schloss; and a Jointed Spider, from Glenn Duffield. All of these donors reside in Denver.

The two specimens of Mollusca added in the first year were Slugs, one of which was given by Mr. Charles A. Burton (colored), of Denver; and the other was obtained by the Museum Assistant.

The solitary specimen of Vermes was received from Mr. Wilbur F. Cannon, of Denver.

But two Osteological Objects were accessioned during the term—both in the last year. One of these, the skull of a small mammal (which has not yet been identified), found buried several feet in the ground, was given by Mr. B. E. Wallace, of Denver; the other, a Bison vertebra, was a gift from Mr. Howard J. Yount, of Vernon, Colorado.

Among the accessions of Geological Objects in the first year are two fossil reptilian-vertebrae, presented by Mr. C. F. Allen, of Denver; a portion of a fossilized tooth, given by Mr. J. J. Shackelford, of Denver. In those of the second year are a fragment of a large bone, uncovered at a depth of thirty-three feet, in excavating for the foundations for the State Museum, and given by Mr. Frank Gurtner, of Denver; a Dinosaur's tooth, given by Mr. Thomas Ireland, of Denver; two fossil shells, from Mr. William Wepsala, of Adams County, Colorado; and two masses of fossil shells, from Mr. F. B. Miller, of Pierce, Colorado. The remainder of the total number consists of minor objects that were brought into the rooms of the Society.

Several boxes of geological material, collected for the Society by Professor George L. Cannon, of Denver, and which have been stored in the sub-basement, have been moved into the light for the purpose of having their contents examined by him with the view of classifying and arranging from them some additional geological-exhibits.

A tabulated record of the Society's collection of birds recently was made, in a manner that indicates the number of specimens it contains of each species, and their distribution in Colorado by counties.

While no accessions to the Society's great botanical collection were made during the term, Professor Ellsworth Bethel, who devotes much time and attention to our herbarium, has continued making extensive collections for the Society. But, for lack of room even for storing them, to say nothing of facilities for exhibiting any part of them, they remain in his keeping. A majority of the specimens in this accumulation of material exemplifies plant-diseases, and therefore is not only of scientific interest, but possesses large economic value.

When the present writer became the Society's Curator, it was obvious, as had been mentioned by members of your Board, that certain physical conditions then existing in the apartments occupied by the Society and its exhibits should be rectified as expeditiously as opportunities for doing so should occur. Since then, this work, for which no special assistance could be pro-

vided, has received the attention of the Curator and his two assistants at times that could be spared for it; and with effective results. The objects of this undertaking also included the examination, enumeration, and a provisional classification after segregating such superfluous material as might be present, of all of the Society's books, pamphlets, and other collections, that had been lodged in the sub-basement of the Capitol. While the larger and more laborious part of this work had been done before the close of the biennial term, its completion, assuming that this must be accomplished under a continuation of circumstances such as those which have attended the task heretofore, will require all the time that is likely to be available for it during the next several months. Until this shall have been done, the number of books and pamphlets in these collections, as well as that of the other accessions that they include, that truly are adapted to the Society's purposes, can not be determined.

In the spring of the second year of the term, I recommended to you that action be taken to stop the inflow of various newspapers and other publications originating beyond the bounds of Colorado and that contributed nothing of value to the fulfillment of the Society's purposes. The accumulations of these already had risen, without definite knowledge on your part as to their quantity and character, to an aggregate that was great and troublesome. Therefore, at your meeting that was held on May 4, 1910, you approved unanimously a motion "that the Curator be and hereby is directed to reduce the number of publications issued elsewhere than in Colorado that are now being acquired and filed by this Society; and hereafter to receive of such publications only those that have some relation to the historical and scientific purposes of the Society."

Pursuant to these instructions, I discontinued the receipt of forty-six daily newspapers, twenty-seven weekly newspapers, four monthly publications, and one quarterly publication; and also have ceased to accession other publications coming by mail from a variety of sources and that fall plainly within the scope of your directions. In consequence of your action, the conditions in the quarters occupied by the Society in the sub-basement of the Capitol have been improved greatly. For convenience and other reasons, the accumulated tens of thousands of newspapers, the further receipt of which had been discontinued, have been put into packages in heavy wrapping-paper, each of which bears a tag indicating its contents, and the whole stored in two rooms in the sub-basement.

The work of arranging in order and wrapping into packages of convenient size, properly tagged, the accumulated unbound files of our Colorado publications next was begun; and at the close of the biennial term it was nearing its completion. This will protect these files from further soiling by dust and other causes until the Society shall have means with which to bind them. But that improvement in their condition ought to be

made soon; and thereafter the aim should be to keep the binding of such accessions abreast with their receipt in numbers sufficient to form volumes of wieldy size.

The rooms occupied by the Society and its exhibits were open to the public during the term at all times in which other departments in the Capitol kept open doors. Throughout the summer of the second year, as well as in the first of its autumn months, the daily throngs of our visitors frequently were so large that they strained the capacity of our accommodations for them.

Expenditures from the funds appropriated for the Society by the Seventeenth General Assembly were made on itemized vouchers, which were approved by the President and the Secretary of the Society, and then filed with and approved by the Auditor of State, upon whose warrants they were paid by the Treasurer of State.

The Seventeenth General Assembly, by an act that was approved by the Governor on May 5, 1909, authorized and directed the State Board of Capitol Managers "to procure by purchase or condemnation for the State of Colorado, a site upon which shall be constructed a public building, to be known as the Colorado State Museum, and procure furniture for the same", the site of which should "be in one of the squares or blocks adjacent to the Capitol grounds in the city and county of Denver." The act further directed that the Board of Capitol Managers, "in the construction of said building, shall provide accommodations for the collection belonging to the State and controlled by the State Historical and Natural History Society of Colorado and its future collections; for the war relic collection; for the museum of mineralogy and all future additions thereto; also for a State gallery of art; and also for any other appropriate exhibit in reference to the resources of the State or to the achievements of its citizens; Provided, that all property accorded space in said building shall belong to the State of Colorado." The act appropriated the sum of \$100,000 with which to acquire a site for the building, to "prepare plans and specifications and to begin construction." Pursuant to this act, the Board of Capitol Managers purchased a tract of ground, 125 by 125 feet in dimensions, situated on the southeast corner of Fourteenth Avenue and Sherman Street, as a site for the building, the construction of which now is well advanced. The plans for the edifice provide that it shall be built of materials the same as those used in erecting the Capitol. The structure will consist of three high stories, a basement story, with a spacious sub-basement under the whole. When the State Museum shall have been completed, the State Historical and Natural History Society doubtless will be enabled properly to arrange and exhibit its collections and more satisfactorily to accommodate its visitors, who number thousands in every month in the year. In the meantime, various preparations for the change of home can and should be made in the Society's present quarters.

In view of the heavy expenditures that shall be required for completing the State Museum, I am of the opinion that the Society should not ask the Eighteenth General Assembly for appropriations, for the support of the Society, different in title or larger in amount than those made by the Seventeenth Assembly for the same purposes; unless it be a request for a moderate sum further to enable the Society to reduce the number of its unbound files of Colorado publications.

Of course, the Society could make good use of a fund with which to defray the expense of publishing Colorado historical collections and treatises on subjects identified with the Natural History of the State. Furthermore, the Society is embarrassed, as it has been always, by its utter poverty of resources for reciprocating courtesies received from like institutions in other States. For favors in the form of books and other publications given by them we have nothing whatever to offer in return.

The middle section of the Rocky Mountain region, which the Society should regard as its reservation, is a large and fertile field that invites the ceaseless activities of such an organization, and in which the historical husbandman has done but little more than to scratch the surface.

JEROME C. SMILEY,

Curator.

Denver, December 31, 1910.

The Colorado Academy of Science

OF

The State Historical and Natural History
Society

OF

COLORADO

Biennial Report, December 1, 1908, November 30, 1910

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COLORADO ACADEMY OF SCIENCE

OF

The State Historical and Natural History
Society

OF

COLORADO

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A. J. Fynn (Chairman), George L. Cannon, Cornelia S. Miles,
Alva H. Felger, Jerome C. Smiley, and *ex-officio* Ellsworth
Bethel and J. Clarence Hersey.

SECTIONS, SUB-SECTIONS AND CHAIRMAN OF EACH.

Astronomy.....	Herbert A. Howe
Botany.....	Ellsworth Bethel
Phanerogams.....	George E. Osterhout
Cryptogams.....	Ellsworth Bethel
Anthropology and Ethnology.....	Dr. A. L. Bennett
Archaeology.....	A. J. Fynn
Geology.....	George L. Cannon
Paleo-Botany.....	T. D. A. Cockerell
Vertebrate Paleontology.....	George L. Cannon
Invertebrate Paleontology.....	Cornelius J. Marvin
Meteorology and Physical Science.....	Philip Fitch
Microscopy.....	Dr. D. A. Richardson
Mathematics.....	Florian Cajori
Forestry.....	W. G. M. Stone
Nature Study.....	Cornelia S. Miles
Zoology.....	Horace G. Smith
Mammals.....	Edward R. Warren
Ornithology.....	Alva H. Felger
Entomology.....	Clarence P. Gillette
Mollusca.....	Junius Henderson
Reptiles and Batrachians.....	Horace G. Smith
Crustaceans.....	A. E. Beardsley

LETTER OF TRANSMITTAL.

Denver, Colorado, January 17, 1911.

To the President and Directors of the State Historical and Natural History Society of Colorado.

Gentlemen: I have the honor to transmit herewith the report of the Secretary of the Colorado Academy of Science of the State Historical and Natural History Society of Colorado, for the biennial term, December 1, 1908, to November 30, 1910.

Yours respectfully,

ELLSWORTH BETHEL,
President, Colorado Academy of Science.

REPORT OF THE SECRETARY OF THE COLORADO ACADEMY OF SCIENCE.

Prof. Ellsworth Bethel, President of the Colorado Academy of Science of the State Historical and Natural History Society of Colorado.

Sir: I have the honor to submit herewith my report, as Secretary of the Colorado Academy of Science, for the biennial period beginning on December 1, 1908, and ending on November 30, 1910.

The last report of the Academy's Secretary having contained full details of the history of the organization, that subject need not be considered here.

The Colorado Academy of Science aims to work in the field of modern science in hearty co-operation with the State Historical and Natural History Society and with the enlightened people of the State to collect, study and bring together into a well-equipped State Museum carefully labeled specimens of the unmatched Flora and Fauna of Colorado, both present and past, and which probably exceed in number of species and variety of forms those of any other State in the Union. Such a museum will be of great educational value to our State, and also will reflect the highest honor upon those enthusiastic students whose labor of love shall have contributed to its success.

The fact is that most of us who are business men are unable to understand and appreciate the glowing enthusiasm of our scientific friends, whose zealous and unselfish work has made possible the excellence of the State's collections.

Conspicuous among the results of such activities is the State Historical and Natural History Society's great botanical collection, made by the present President of the Academy of Science, and which is known as "The Ellsworth Bethel Botanical Collection." It now has a special exhibit of Loco-weeds and other plants poisonous to live stock, collected and carefully labeled by Prof. Bethel, and which attracts much attention. His recent investigations of low forms of parasitic life, such as the pear-blight and the rusts on grains and grasses, as well as those that are destroying the forests in some parts of our mountains, have been recognized cordially by the United States Geological Survey, at Washington, with the work of which along these lines Prof. Bethel now is co-operating. His practice of placing in the Historical and Natural History Society's herbarium bouquets of our wild flowers, properly labeled, as they appear

in the spring season, week by week, has become popular, and especially helpful to the younger students of botany, who assist him now in the work.

Prof. George L. Cannon's participation in the operations of the United States Geological Survey was but an earnest of the good service that he had done, and continues to do, for the State in collecting, classifying and arranging the Historical and Natural History Society's striking and instructive geological and paleontological collections.

Prof. T. D. A. Cockerell, of the University of Colorado, who has well-earned his international reputation as an able and versatile scientist, has given much attention to fossil leaves and insects from the shales of the ancient lake-beds at Florissant. He has studied the Historical and Natural History Society's collections from that interesting locality and labeled the new forms; and, best of all, favored the Academy with a most instructive lecture on the same subject.

Mr. Horace G. Smith, Museum Assistant of the State Historical and Natural History Society, and who stands in the front rank of our State's ornithologists, continues to add to the Society's fine collection of specimens of Colorado birds, which consists so largely of results of his labor since the beginning of his connection with the organization. Besides this he has carried on the work of upbuilding the Society's other zoological collections.

The Academy long has been interested in the matter of the correct identification and naming of the various mountain-peaks in Colorado, and especially of those visible from Denver and other prominent cities of the State. The last *Dictionary of Altitudes*, issued by the United States Geological Survey, at Washington, accords to Mount Massive the highest altitude in the State; but more recent surveys seem to throw doubt upon the correctness of the elevation as therein given, and would demote that noble peak to an inferior position. The Academy has had correspondence with the Geological Survey suggesting joint work in determining the question as to which is the highest peak—not only the loftier summit, but at the same time the culminating point in the Rocky Mountains of the United States.

Leading scientists, who are working along various lines, have read papers of great value and delivered lectures of absorbing interest before the Academy; but, unfortunately for the State, no funds have been available for publishing these, as is done in other States. Among the papers that have been read in the presence of the Academy are those mentioned in the following:

The Measurement of Star Velocities—Dr. John C. Shedd, Dean of Westminster University, Denver, Colorado.

Plant-lice—Prof. C. P. Gillette, State Agricultural College, Fort Collins, Colorado.

- The Cliff Dwellings of the Mesa Verde—Prof. A. J. Fynn, Denver, Colorado.
- Aboriginal Textile Fabrics—General U. S. Hollister, Denver, Colorado.
- Forestry and Irrigation—Prof. L. G. Carpenter, State Agricultural College, Fort Collins, Colorado.
- Colorado Forestry—W. G. M. Stone, President of the Colorado State Forestry Association, Denver, Colorado.
- Pioneer Irrigation and Forestry—Prof. F. J. Stanton, Denver, Colorado.
- Methods of Filtration and Purification of Water for City Supply—George T. Prince, Chief Engineer of the Denver Union Water Company.
- Some Features of the Water Supply of Colorado—Prof. L. G. Carpenter, State Agricultural College, Fort Collins, Colorado.
- The Value of Finger Prints as a Proof or Disproof of Identity—Dr. A. L. Bennett, Denver, Colorado.
- The Fossils of the Florissant Beds (illustrated with lantern slides)—Prof. T. D. A. Cockerell, University of Colorado.
- The President's Address—The Status of Biological Research in Colorado—Prof. Ellsworth Bethel, Denver, Colorado.
- The History of the Nature Study Movement in Denver—Prof. George L. Cannon, Denver, Colorado.
- The Flora and Fauna of the Amazon Valley—Prof. W. H. Clifford, Denver, Colorado.
- The Customs and Habits of the Chinese—Dr. John Inglis, Westminster University, Denver, Colorado.
- What the Denver City Park Board is Doing with Trees—Hon. Jacob Fillins, President of the Park Board.
- Landscape Gardening as Applied to City Lots—W. W. Parce, Boulder, Colorado.
- City (Denver) Planning—Henry Read, Chairman of the Denver Art Commission.
- Plant Diseases—Prof. F. D. Kern, Indiana Agricultural Experiment Station.
- Geology and Its Relation to Landscape (illustrated with lantern slides)—Junius Henderson, Curator of the Museum of the University of Colorado.
- Relation of Run-Off to Precipitation—A. L. Fellows, late in charge of the United States Geological Survey of Colorado.
- The Application of Evolution to Sociology—Dr. D. E. Phillips, University of Denver.
- Mountain Lakes and Their Vegetation (illustrated with lantern slides)—Dr. Francis Ramaley, University of Colorado.
- Through Alaskan Waters (illustrated with lantern slides)—Prof. H. V. Kepner, Denver, Colorado.

- Weather Forecasting—F. H. Brandenburg, United States Weather Bureau, Denver, Colorado.
- Suggestibility: Some Implications—Prof. Frank E. Thompson, University of Colorado.
- Sanitary Production and Distribution of Food Products—Wilbur F. Cannon, Pure Food Commissioner of Colorado.
- Some Suggestions Regarding Health—Dr. R. W. Corwin, Chief Surgeon of the Colorado Fuel & Iron Company.
- Conservation—I. W. McConnell, United States Reclamation Service.
- The Work of the Forest Service in National Forests in Colorado—Walter J. Morrill, Supervisor of the Pike's Peak National Forest, Colorado.
- An Evening of Nature Study: Shade Trees—W. G. M. Stone, President of the State Forestry Association.
- Spring Flowers—Prof. Ellsworth Bethel, Denver, Colorado.
- Mammals of Colorado—Horace G. Smith, Museum Assistant of the State Historical and Natural History Society.
- Birds of Denver—L. J. Hersey, Curator of the Ornithological Department of the Colorado Museum of Natural History, Denver, Colorado.
- Common Rocks—Prof. George L. Cannon, Denver, Colorado.
- The Desert and Its Flowers—Prof. Thomas H. McBride, of the State University of Iowa.

The regular meetings of the Academy are arranged for the third Tuesday evening of each month, except during June, July, and August, when no meetings are held. Through the courtesy of the State Board of Capitol Managers, the Academy has been given permission to hold its meetings in the Senate Chamber, where there is ample room; and to which the public always is welcome.

The need of a fund for publishing meritorious papers inuring to the honor and benefit of Colorado, and especially for publishing a series of hand-books of our own Natural History, is pressing upon the best minds of the State. The growing importance of Nature Study has created a demand for more efficient teachers and text-books for this special work; and the Academy of Science stands ready to help the State to equip the schools with both. It is especially a pity that, during the past year, the Academy could not have had both the funds and the authority to publish, under the auspices of the State, for the benefit of our schools, the beautifully illustrated and valuable work, *The Mammals of Colorado*, by Mr. Edward R. Warren, Director of the Museum of Colorado College, who had given several years to the study of his subject, and has produced a work of rare excellence, and which should be in the hands of every teacher in the State. Unfortunately, he was obliged to seek an eastern publisher, whose copyright necessitated a higher selling price, and

thus defeated Mr. Warren's hopes of a wide circulation of the book among our own people, for whose benefit it was written.

What is true of this case, also is true of others of no less importance. Other scientific workers have been gathering data for years, and now are ready to give us hand-books on the birds of Colorado, the trees and wild flowers of the State, and a local work on our own more important geological features.

The former Secretary of the Academy, Mr. W. C. Ferrill, so well stated the facts of the matter that I can not refrain from quoting his earnest words:

"The Academy has been strong in its work except as to publications. The programme, with the list of prominent speakers, and the subjects considered, are a sufficient guaranty of the importance of the work accomplished. Very able addresses have been given and papers read, at its sessions, but the public at large has not been benefited, as the Academy has been without funds to publish them. It is unfortunate, both from an educational standpoint, as well as for the advancement of all scientific investigation in Colorado, that the Academy was unable to publish these valuable papers."

Again, he says:

"The scientific interests of Colorado have been much retarded, in an educational way, at least in the lower grades of school work, because of the absence of abundant literature on all branches of Natural History, in striking contrast to what has been accomplished in some of the other States where there has been liberality in the publication of Nature Study documents.

"Nearly all the extensive literature on the Natural History of the Rocky Mountains has been published in technical language, in rare and costly volumes, and not of easy access to many in Colorado. While a number of praiseworthy efforts have been made to supply this non-technical literature for educational work, yet more is required to obtain the results needed. Science specialists of the Academy now have ready for publication such documents if an appropriation can be obtained therefor."

The work of the Academy has been done largely as a labor of love, by the enthusiastic scientists of Colorado, who hope to see the organization become of greater power as an educational factor in the scientific work of the State; and its members look forward with great pleasure to the time when it and its parent society shall have an appropriate home in the State Museum Building, now under construction, and which will be the pride of all our people as the only educational edifice owned and maintained by the State in the metropolis of Colorado.

Respectfully submitted,

J. CLARENCE HERSEY,

Secretary of the Colorado Academy of Science.

Denver, December 31, 1910.



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