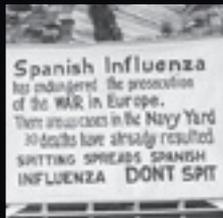


# Historical Studies Journal

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University of Colorado  
Denver

# Historical Studies Journal

Spring 2012 • Vol. 29

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# Preface

The UCD *Historical Studies Journal*, now in its 29th year, provides an opportunity for students to polish their work to a high standard and to learn about the various tasks and phases of publication. It puts a spotlight on the finest papers produced in our department in a variety of fields, and serves as a model of good writing, research, organization and argumentation. But the *Journal* is more than just an opportunity for student historians to hone their craft. The *Journal* contributes to the larger body of historical knowledge and analysis. I can attest to the scholarly value of the *Journal* first hand, having consulted articles in past editions for excellent research that proved important to my own projects.

This year's *Journal* explores a diverse range of topics. The geographical focuses of this year's papers range from near to far; one features a social history of a prominent building on Auraria Campus, while others track the impact of a devastating epidemic around the globe or consider the dynamics of technological exchange between far-flung cultures.

Dart Sebastini's study of the historiography of the Dance of Saint Vitus shows how the improper application of modern analytical paradigms to folk ritual can obscure more than it illuminates. Keith Outcalt's look at the role of German brewing fraternities in early Denver asks how social relations and technological changes affected one another and helped to shape a prominent architectural landmark. Kevin Smith's paper, "Iranian Technological Development," considers the institutional conflicts within a society adapting to new technology in the context of international Cold War politics. In "La Grippe Espagnole," Michael Botello argues that the devastating effects of the Spanish Flu epidemic of 1918-1920 have been under-represented in history, denying us the potential benefits of its lessons. Anna Phillips examines the way French politics and history contributed to the founding of the international Historic Preservation movement in her account of the life and work of Eugène Viollet-le-Duc. Jordan Gortmaker considers the life and after-life of several historic Denver area movie theaters in his study entitled "Neon Ghosts."

On behalf of the editorial staff, we would like to thank the University of Colorado Denver History Department faculty for their continued support of the *Historical Studies Journal*. Special gratitude is due to our faculty advisors: Dr. Rebecca A. Hunt, Dr. Alison Shah and Dr. Thomas J. Noel. Thanks to all the students who submitted papers, and to all the professors who recognized excellence in their students' work and passed their papers along for consideration. Recognition and thanks are due to co-editor Carrie Hartley and our able team of assistant editors, who evaluated submissions and worked with authors to refine their prose and hone their arguments. We would like to thank Justin Bain and Heather Lail of the UCD Writing Center for the very useful seminar they conducted for our editorial staff. Thanks to Shanon Fluckey at Auraria Higher Education Center Integrated Marketing & Communications for her creative design work on the *Journal*, this year and every year. Finally, a special thanks and appreciation to the authors for their hard work researching, composing and revising these excellent essays. It has been a pleasure and a privilege to work with you to bring your fine work to print.

**CRAIG LEAVITT**  
Co-Editor

# The Rites of Saint Vitus

Dart Sebastiani

Historians, anthropologists, and psychologists

still debate what caused the events that occurred in central Europe between the fourteenth and seventeenth centuries variously called dancing mania, dancing plague, choreomania, St. John's Dance, and St. Vitus's dance. The sparse records of these events portray people, often thousands at a time, engaging in apparently uncontrollable screaming, shouting, singing, and dancing. Amounting to just a handful of primary accounts pieced together and rewritten from extant documents in the seventeenth and eighteenth centuries, the documentation of the 1518 dancing outbreak in Strasbourg remains, nevertheless, the most thorough and detailed body of evidence of a single St. Vitus dance event. From accounts compiled after the event, and from the writings of a single nineteenth century medical historian, the 1518 dancing event established itself in both historical and psychological research as a noteworthy historical example of mass hysteria. The most recent DSM-IV diagnostic catalogue of mental illness now excludes "mass hysteria" as a valid illness category, but dancing mania, along with other forms of culturally- and historically-specific incidences of group behaviors unfamiliar to Western cultural norms, still resides within the psychological and historical

*Pieter Bruegel the Elder.  
"The Peasant Dance."  
1567. Oil on panel.  
Kunsthistorisches Museum,  
Vienna, Austria.*



*Dart Sebastiani is pursuing a bachelor's degree in History at the University of Colorado Denver. He is interested in the German Renaissance and Paracelsus, as well as religious esotericism and the New Age movement. Some of these themes intersect with his research on the 1518 St. Vitus dance epidemic.*

literature as a type of maladaptive behavior of unknown etiologies.<sup>1</sup> Previously, ergot poisoning and Sydenham's chorea gained some interest as possible causes of dancing mania, but neither of those conditions match the scale, duration, and particulars of the dancing manias. Nevertheless, some unknown medical or psychological cause of dancing mania remains the orthodox presumptive framework of most analysis.

Besides offering little explanatory rigor, the medicalization of the dancing manias happened more by default than by evidence. A culturally narrow, Western scientific folk diagnosis by a nineteenth-century medical historian crossed into twentieth-century psychological literature without any historical contextualization of the sources, or of the dancing itself. Additionally, the 1518 dancing plague occurred so near in time and space to the Reformation, amidst increasingly strident criticism of various forms of ecstatic religious rituals, saint veneration, and dancing generally, that it comes as no surprise that the sources treated it as an aberrant behavior, either because they were unfamiliar with the religious symbolism behind the dancing, or because the rituals chafed at their versions of orthodox belief and worship. When properly contextualized within this diverse and embattled world of early sixteenth-century Christianity, and much more generally as a nearly universal, and recurring staple of religious devotion and religious controversy, the dancing event of 1518 points squarely at cultural and religious causes for both the dances themselves, as well as their eventual classification as indicative of disease. Fundamentally, the decontextualization of the dancing events begins at the level of language with a remarkable category error that renders the question immune to normal rational investigation. Uncovering the cause of the dancing *plagues* or *manias*, by definition, fences all discourse into a narrow set of postulations of self-referential circularity; the premise of the causal question already implies a medical, rather than socio-cultural, cause. However, the prevalence of ecstatic dancing rituals as a recurrent, and often contested, component of religious worship only very recently entered the scholarship as a possible explanation for the medieval dancing plagues. Indeed, when properly contextualized and treated as a truly open question, the 1518 Strasbourg dance event reveals the existence of a highly structured, ecstatic Christian folk practice devoted to the propitiation of divine providence through a ritual devoted to St. Vitus.

The pathologizing of the St. Vitus dancers in the written record begins with the first chronicler of the 1518 Strasbourg event, Sebastian Brant. With the publication of *Das Narrenschiff*, his satiric treatment of the "ship of fools" morality tale, Brant became a leading light of Renaissance humanism, and Strasbourg's native savant. After the loss of Strasbourg's official city records from an explosion during the Franco-Prussian War, Brant's *Annals* remain the only significant cache of first-hand information about the city during the first decades of the sixteenth century, as well as its strange dancing plague. However, Brant's brief testimonial of the 1518 dancing plague cannot be scrutinized without first recognizing his central role, not only in the singular question of the sanity of the Strasbourg dancers, but in the wider historiographical debate pioneered by Michel Foucault over the sheer novelty and modernity of the sanity question during the Renaissance. In *Madness and Civilization: a History of Insanity in the Age of Reason* Foucault argues that Brant's *Das Narrenschiff* broke with the past in its treatment of

insanity, introducing a revolutionary *episteme*: a new intellectual perception of madness. In it Foucault wrote that the allegorical *ship of fools* “appears in the imaginary landscape of the Renaissance” as a boat loaded with misfits, idiots, the immoral, and the crazy, set adrift on the Rhineland and Flemish canals.<sup>2</sup> Brant, who satirized the un-reason and decadence of his time, also wrote separately from his reports of the 1518 dancing event that no behavior was as “damnable” as dancing, when the people act like “mad folke.”<sup>3</sup> But the esteemed historian of Renaissance Germany Erik Midelfort chastises Foucault in his 1999 *History of Madness in Sixteenth-Century Germany* for theoretically simplifying the past into “symbolically reductionist” forms that he sees withering in an increasingly illuminated sixteenth-century European history.

And so in this kind of scholarship, as Clifford Geertz has remarked, things may also be *found* in translation. The anthropologist or the historian may learn precisely from the process of interpreting another culture, of putting cultural peculiarities into modern Western categories, and of judging them by our own standards (who else’s do we have?). And yet the risks of loss and of misunderstanding, of sovereign overconfidence and inattention to detail, are so great that I have generally resisted the temptation to translate late medieval and Renaissance diseases into modern technical terminology or to judge that German society and its ailments with our fraying sense of right and wrong.<sup>4</sup>

Though Midelfort disagrees with Foucault’s particular systemization of culture, both concur that Renaissance German ideas of sanity break as much with medieval views of sanity as modern understandings do with that of the Renaissance. Sebastian Brant’s account of the dancing plague, the fact that he mentions it at all, and his particular interest in the “folly” of the people, considerably limits the likelihood that he separated sub-cultural behavior from his sixteenth-century concept of insanity. Indeed, Foucault argues that men like Brant invented insanity to delegitimize the most ecstatic cultural practices of his time.

Just seven years after the 1518 Strasbourg dancing event, the colorful alchemist Paracelsus also wrote about the dancing plague, and echoed Brant’s sharp disdain for the Strasbourg dancers. Paracelsus’s writings demonstrate a world-view, like Brant’s, so distinctly broken from the traditions of the late medieval world that historians rightly treat Paracelsus as a topic unto himself. Of course, the revolutionary thinkers of the Renaissance like Brant, Paracelsus, Erasmus, Savonarola, Breughel and Da Vinci deservedly grab our attention, but their suitability as neutral journalistic correspondents of the culture that surrounded them should, obviously, be recognized as deeply questionable. These Renaissance men still partially resided in a landscape of Gothic symbolism and magic, a world openly demeaned and decried by Renaissance thought as a primitive interregnum. Foucault’s interpretation of this complexity redounds upon the new interpretative paradigms brought forth by thinkers like Brant, and Paracelsus.

“Up to the second half of the fifteenth century,” wrote Foucault, “or even a little beyond, the theme of death reigns alone. Then in the last years of the century this enormous uneasiness turns on itself; the mockery of madness replaces death and its solemnity.”<sup>5</sup> With the speedy decay of Gothic symbolism, the leering gargoyles lost their resonance and “freed from wisdom and from the teaching that organized it, the image begins to gravitate about its own madness.”<sup>6</sup> Foucault also mentions the innumerable religious shrines, destinations for pilgrims crisscrossing Europe’s holy lands in search of the right places to propitiate against ill fortune and find cures for pesky ailments, guessing it “possible that these ships of fools, which haunted the imagination of the entire early Renaissance, were pilgrimage boats, highly symbolic cargoes of madmen in search of their reason; some went down the Rhineland rivers toward Belgium and Gheel; others sailed up the Rhine toward the Jura and Besancon.”<sup>7</sup>

Yet these pilgrims, Foucault surmises, suffered not from insanity, but from outmoded rituals and “epistemes” which an increasingly hierarchical, organized, and rationalized society sought to de-normalize. Historian Miriam Usher Chrisman, an expert on the Rhineland cities during the Renaissance, emphasizes the fundamental historiographical error of a decontextualized reading of the humanist sources in Strasbourg. “The humanists remained an intelligentsia,” she says, “an elite set apart from the city as a whole. The intellectual awakening that Strasbourg experienced in the years just before the Reformation was confined to small group and a relatively narrow field.”<sup>8</sup> Nevertheless, nearly all the treatments of the dancing events assume that because so much of the contemporaneous humanist literature paints the dancing events as an unwelcome and odious phenomena, or at least strange enough to document, the dancing must, *a priori*, reflect some kind of localized, historically-unique disease. Though Brant’s writings make no distinction between immorality and insanity, and Paracelsus’s work as a practicing astrologer and alchemist shares little with modern medicine, most modern studies of the dancing events treat their brief testimonies as incontrovertible documentary evidence.

Nevertheless, the accounts of the 1518 dancing event by Brant, Paracelsus, and others affirm the cultural and religious nature of the dancing event, as well as the authors’ distaste for and unfamiliarity with the ritual. The *Annals of Sebastian Brant* gives this description of the 1518 dance:

A dance erupted among the young and old, dancing all day and night until they fell down; with more than one hundred dancing in Strasbourg at one time. The guildhall of the carpenters and dyers was reserved and platforms in the horse market and grain market were erected while people who were paid to stay and dance with them played the fife, and drum, but the dancing continued. The dancers were then sent by wagon to the Vitus shrine beyond Saverne whereupon they collapsed at the site of the saint’s image. The stricken were given a mass, and the sign of the cross was made in St. Vitus’s name. The priest rubbed holy oil on the tops and bottoms of red shoes in St. Vitus’s name and this made them well again. This is why it is called the St. Vitus dance.<sup>9</sup>

Another 1518 description from Strasbourg's municipal archive again speaks of the dancers dancing against their wits and will:

On the second day after Vincula Petri anno 18; when sadly at this time a horrible episode arose with the sick, dancing persons, which has not yet stopped, our lord councilors of the XXI turned to the honor of God and forbade, on pain of a fine of 30 shillings, that anyone, no matter who, should hold a dance until St. Michael's Day (September 29) in this city or its suburbs or in its whole jurisdiction. For by so doing they take away the recovery of such persons.<sup>10</sup>

According to other contemporary sources, the strange plague of dancing began on July 14, 1518 with a single woman, but within just four days another thirty-four men and women also began to dance. According to the seventeenth-century chronicles of Oseas Schad and the Imlin family, the numbers of dancers quickly multiplied, eventually reaching more than 400 in all.<sup>11</sup> Arriving in the city seven years later and presumably able to interview the participants, Paracelsus wrote in depth about the 1518 dancing plague. So it began, according to the wandering alchemist and physician, that in 1518 a woman named Frau Troffea began to dance in the streets of Strasbourg. While Paracelsus gives us the name of the woman who apparently started the dancing, his unrestrained misogyny renders his report rather stilted as he asserts that Frau Troffea faked her dancing disease to embarrass her husband, and that she actively recruited more women to dance with her. Paracelsus also stated that shortly thereafter, "St. Vitus became the belief-spirit, and it then turned into an idol and thereupon received the name of the St. Vitus dance. Henceforth it came about that many entered into this belief, and it was confirmed to be a disease."<sup>12</sup>

Other reports of dance events come from Kolbigk in 1021, Erfurt in 1237, Maastricht in 1278, Hamelin in 1284 (possibly the source of the Pied Piper myth), as well as a number of documented cases in the fourteenth century.<sup>13</sup> Early records name the dances for St. John, but later they came to be called for the fourth-century Sicilian martyr St. Vitus after dancing broke out on a day devoted to his observance.<sup>14</sup> Catholic martyrology tells of Diocletian and Maximilian ordering the execution of the newly converted Christian Vitus by immersion in a vat of boiling lead and tar for refusing to disavow the faith.<sup>15</sup> The heat under Vitus's feet caused him to leap and dance; thus the manner of Vitus's sacrifice sanctified his eponymous connection as the patron saint of dancing and the dancing events. The specificity of the underlying mythology of St. Vitus and the fact that all the cases of St. Vitus dance occur within a limited geographical swath of central Europe exhibits a phenomena shared at the level of culture, not epidemiology.

It should also be noted that some scholars view the St. Vitus dance as a regional variation of the tarantism of Sicily and southern Italy, where tarantist dancers believed that the bite of a tarantula caused uncontrollable dancing that, ironically, could only be cured by more dancing. Just as in the case of the St. Vitus dance, *tarantists* apparently entered into a hypnotic and contagious dance state which seduced others to join in, while onlookers played music and tried to comfort the stricken. The Italian natural history

professor Dominico Cirillo theorizes a utilitarian motivation for the strange custom. The *tarantella* rituals, he thinks, gave local musicians a venue to continue playing secular music and gave peasants the chance to publicly act out behaviors usually restricted by everyday social norms.<sup>16</sup> Though possibly different in terms of motivation, tarantism and the St. Vitus dances share the same set of symptoms: screaming, hallucinations, convulsions, expressions of pain, hyperventilation, sexual gesticulation, and sometimes public sexual intercourse. These symptoms sound precisely like the kind of dancing, revelry, and drunkenness openly enjoyed at a modern rock n' roll concert. And for both, tarantism and dancing plague, cultural norms dictated the counter-intuitive solution of playing of music to the stricken so that the sufferers might dance the malady out.<sup>17</sup> Like the revolting but extremely humble drinking of the puss and eating of the scabs of lepers by St. Catherine and other saints, or the masochistic and penitential self-inflicted abuse of the flagellants, tarantism and St. Vitus dance belong to cultures wherein symbolism and literalism overlap at so many points, it may be safer to say that no dichotomy exists.

One historian of the dance events confidently wrote that in the age of the St. Vitus dance, a common curse was "God give you St. Vitus" or "may St. Vitus come to you" as though the meaning of the statement instantly reveals itself.<sup>18</sup> However, the meanings of modern idioms, religious or secular, rarely translate so literally; the inducement to "break a leg," for example, actually conveys a meaning that not only transcends the parts of speech, but means something rather contrary to its literal denotation. Likewise, some scholars point to other aspects of material culture like the altar panel in the medieval cathedral of Cologne painted around 1500 that portrays a man convulsing at the feet of St. Vitus as documentary evidence of the existence of a St. Vitus disease.<sup>19</sup> Assumedly, the rest of church's ornamentation transcends this sort of literal interpretation conveniently applied to the image of St. Vitus and his devotee. Rather, the symbolism of the St. Vitus curse, or the symbolism of the tarantula bite, supports a ritual regulated by and translated into culturally-specific iconographies and local idioms.

In all the primary reports of the St. Vitus dances, the morality of the dancing and its status as a physical disease fuse into a single, unitary moral affliction. Paracelsus claims that the root cause of the dancing exists in the "voluptuous, lewd, and impertinent" recesses of the imagination as "a mere opinion and idea."<sup>20</sup> To cure the disease, he recommended confinement, punishment, and shame.

Shut the patients into a dark, unpleasant place and let them fast on water and bread for some time, without mercy. This hunger will compel them to adopt a different nature and different thoughts, so that the lasciviousness is driven out by abstinence...Some think they would die if they could not act in such a way (singing, dancing, etc.) but it is not so. It is better to take a good stick and give the patients a good beating and lock them in.<sup>21</sup>

The total lack of sympathy in Paracelsus' writings about St. Vitus dances reveals that the dancers offended norms in such a way that insofar as it was regarded as a disease, the affliction demanded correction, rather than succor. According to a monk who had

witnessed an earlier outbreak of dancing mania, the dancers were “a strange sect, comprising men and women, from various parts of Germany, came to Aachen, and they went as far as Hennegau and France... In Liege they were freed of their demons.”<sup>22</sup> Other accounts show evidence of the dancers moving from somewhere in the east, ending their pilgrimage with a great dancing ritual at Aachen on July 15, which, not coincidentally, happens to be St. Vitus Day on the holy calendar.<sup>23</sup> But elite segments of Strasbourg’s population, especially humanists like Sebastian Brant or Heironymous Gebwiler, severely criticized both the church and the laity for the idolatry and worldliness inherent in the entire structure of saint worship and pilgrimages. According to historian Thomas Brady, they advocated a “more spiritual, interior, and personal religion” which stood in a “many-sided tension with the rich world of ritual practice the agrarian world had created in the deeper past.”<sup>24</sup>

Brady points out that the Renaissance Church contained “two levels of Catholicism—that of the Church Universal, based on the sacraments, the Roman liturgy, and the Roman calendar; and a local one, based on sacred places, images, relics, locally chosen patron saints, idiosyncratic ceremonies, and a unique calendar built up from the area’s own sacred history.”<sup>25</sup> The cults of the saints helped the Church maintain its power over the broad territories and diverse cultures of Europe, by connecting with peasants and artisans through the personal intercessional power of the saints.<sup>26</sup> Importantly, German peasants worshipped their saints not only after they contracted some illness associated with the saint, but more often, as a way to insure a saint’s protection against any future misfortunes. Devotion to, and celebration of the saints existed as a diverse and widespread phenomenon in Europe, and the church’s acceptance of a certain kind of magic and idolatry in exchange for loyalty and easy conversions finally led to many of the Protestant reformers’ harshest criticisms of Church practices.<sup>27</sup>

The historiography of the dancing plagues reveals equally interesting insights as later German Protestant historians blanched at an ecstatic—perhaps pagan—ritual clearly flourishing along the Rhine for centuries. One in particular, the pioneering nineteenth-century medical historian J.F.C. Hecker, helped to invent the myth of a St. Vitus disease, not because he identified anything medically vital to understanding the dancing, but because he, like earlier Protestant writers, found the dancers’ behavior morally repulsive. Nevertheless, his accounts also describe the dancers acting out a very specific and elaborate spiritual practice which he demeans as both a “delusion” and a “superstition.”<sup>28</sup> “This dispensation of the mind,” he states, “altogether so peculiar to the middle ages, and which, happily for mankind, has yielded to an improved state of civilization and the diffusion of proper instruction, accounts for the origin and long duration of this extraordinary mental disorder.” Hecker also echoes Paracelsus’s judgment that most of the dancers suffered from nothing more than immorality: “Secret desires were excited, but too often found opportunities for wild enjoyment; and numerous beggars, stimulated by vice and misery, availed themselves of this new complaint to gain temporary livelihood.”<sup>29</sup> Appreciating the opinions of these writers in their *own* words emphasizes that Brant, Paracelsus, and Hecker, appropriate to their eras, made no separate space in their worlds for disease as

a phenomenon distinct from cultural practice. But recent historians, and especially medical scholars within the field of psychology, ignore the unscientific fusion of morality and disease in the writings of Hecker, from whom much of their presupposition of a dancing disease originates.

In the late seventeenth century, Thomas Sydenheim concluded that the St. Vitus dance was an historical example of *chorea* or basic epilepsy. However, Midelfort points out that the dancers who made pilgrimages to St. Vitus shrines every summer conform to no known forms of epilepsy.<sup>30</sup> Late nineteenth-century medical historians Paul Diepgen and Hellmuth Liebscher as well as Joseph Shumaker thought St. Vitus dance a “diseased activation of folk belief.” Along the same lines, Sigmund Freud’s concept of *conversion hysteria* found wide acceptance in the early twentieth century as a profound explanation of the St. Vitus dances and *tarantism*.<sup>31</sup> Although professional psychology no longer takes *hysteria* or *mass hysteria* as seriously as in the past, a new designation, *Mass Psychogenic Illness (MPI)*, makes the same claims as hysteria without the misogynistic historical baggage. On this account, anthropologist Robert Bartholomew scathingly criticizes MPI as a disease designation without an etiology, designed to medicalize cultural idioms unfamiliar to modern Western science.<sup>32</sup> Indeed, contemporary psychological research and dialogue bears out Bartholomew’s criticism of MPI as a disease in search of victims.<sup>33</sup> However, the latest work in the field now underscores the need to synthesize historical and anthropological perspectives into the general discourse over dissociative disorders generally and Mass Psychogenic Illnesses specifically.<sup>34</sup> Bartholomew warns that the role of culture, and the moving targets it presents in designating maladaptive behaviors, undermines the scientific credibility of psychological and neuroscientific attempts at classifying cultural behaviors as adaptive or maladaptive, or adjudicating standards of cross-cultural normative behavior.<sup>35</sup> Though reports of visions, palpitations, headache, dizziness, fainting, and tremor in cases of *tarantism* and dancing mania might seem to indicate the presence of a disease, the same reports would show up if a large population participated in prolonged dancing, fasting, religious emotionalism, and excessive alcohol consumption. The symptoms of the Strasbourg dancers hardly differ from the same complaints likely to be found in the first-aid tent at today’s Bonaroo, Burning Man, or Lollapalooza music festivals. Esteemed anthropologist Barbara Ehrenreich conveys the discontinuity of reflexive psychological reductionism: “Those dancing, exulting practitioners of ecstatic ritual may have thought they were communing with the deities, building community solidarity, or even performing acts of healing. But in the eyes of Western psychology they were only manifesting symptoms of their illness.”<sup>36</sup> According to sociologists Nachman Ben-Yehuda and Eliche Goode, if mass hysteria exists, or ever existed as a treatable illness per se, the scant evidence in the historical record shows it so rare as to render it “virtually nonexistent.”<sup>37</sup>

John Waller’s recent investigation of the 1518 Strasbourg dancing ritual in *The Dancing Plague* contends that high levels of stress caused by the oppressive role of the Strasbourg’s elite classes in the church, the nobility, and amongst the powerful capitalists inside the city pushed the peasants into a culturally-tendered state of hypnotic

rebellion. Importantly, he claims to see no evidence that the dancers wished to dance, or that “ritualized dancing was typical worshipful behavior in their homeland.”<sup>38</sup> The evidence Waller avoids in this case happens to be every other case in history where we conceive of dancing as a normal, healthy human activity, which, as it turns out, happens to be the rest of them. In his attempt to show that the St. Vitus dancers danced against their will, Waller devotes much of his work to showing Strasbourg’s peasants’ on the ropes, supporting the failed rebellion of Joss Fritz, and suffering from the abandonment of a corrupted church.<sup>39</sup> Indeed, the St. Vitus dance may have been a form of culturally prescribed protest or alms-obtaining display of spiritual millennialism, but that makes the dancers very much witting players in a social game, and not hysterics.

Peter Blicke’s 1978 *Obedient Germans? A Rebuttal* paints a picture of the Alsatian peasantry as both highly rebellious and politically conscious. Blicke’s exhaustive study makes the idea of Waller’s feeble Strasbourg underclass slipping into an unintended hypnotic state of dance because of unbearable stress seem highly unlikely. In fact, Blicke discovered that in every case where famine or economic conditions created hardship for peasants, German peasants rose up in revolt and normally achieved some kind of concession and respite.<sup>40</sup> In contrast, Waller simplifies the institutional complexity of the Renaissance world and treats German peasants like simple ragdolls lacking an integrated role in their society. Nor does Waller discuss the massively important context of dance as a once vital, then banned ritual within Catholicism. Centuries prior to the Reformation the Church began the task of wrenching out many of the pagan or pre-Christian customs, especially the ecstatic dance rituals inside the churches. According to medievalist Penelope Doob, the custom of dancing inside churches was so firmly established that builders put labyrinths into the design of pavements in church naves to serve as an aid to winding, circular dances performed by priests.<sup>41</sup> But ultimately, Barbara Ehrenreich explains, the possession states of many of the dances that allowed the laity to connect to the spirit world without the intercession of an organized clergy threatened the Church’s monopoly on salvation.<sup>42</sup> The church, it follows, exiled dance from the sacred places in the high middle ages.

Though it conflicted with the prevailing current of culture and official Church doctrine, ecstatic dancing still existed in 1518 as one of many specifically saint-related rituals, its meanings and context becoming more and more uncouth and unfamiliar to its observers. Breughel’s famous 1564 drawing of an apparent dancing epidemic shows a sick-looking woman held up by two men, and though the woman appears ill at first, the arrangement perfectly matches the two and one dance, a kind of religious folk dance very common at the time, and likely a variation on what occurred in Strasbourg in 1518.<sup>43</sup> Indeed, religious dancing continued after the Reformation as various Christian groups such as the Shakers, Quakers, Leapers, Rollers, and Barkers made ecstatic possession dances a central part of their religious practice, notably inciting the same kind of criticism and rebuke that followed the St. Vitus dancers. Moreover, churches where adherents perform dances in trance-like states with painful looks on their faces still exist today as the ancient forms and practices of religious ceremonies mostly outside the West have

proven more resistant to the advance of modernity. Indeed, not only religious practices, but whole religions often outlive their assumed expiration date. “In the Scandinavian Alps and in Lapland,” historian Peter Burke points out, “the Norse god Thor was still venerated in the eighteenth century, and Thursday venerated as a holy day.”<sup>44</sup> But even Thor could not ultimately withstand modernity’s pressure on religion to become more uniform, and more rational. Max Weber, E.P. Thompson, and Christopher Hill also blame modernity, and the rise of a sober, industrious middle class for finally shuttering the more Bacchanalian aspects of peasant and proletariat life that once featured the wild religious celebrations like Carnival.<sup>45</sup> Undoubtedly, Europe’s Christian dancing rituals shared the same fate as Carnival, and perished for the same reasons. In 1518 the merchant governors of Strasbourg opened their guildhalls and constructed platforms for the St. Vitus dancers, and eventually paid for a grand pilgrimage to the nearby Vitus shrine, but they did so reluctantly because they, like most of us, preferred progress.



*“Martyrdom of Saint Vitus (detail).” Unknown artist, circa 1450. National Museum, Warsaw, Poland.*

# The Brewery Brotherhood Built:

## Technology, Fraternity, and Denver's Milwaukee Brewery

Keith Outcelt

In their limited study of breweries, historians of technology have focused on resistance to change in the brewing industry. Although more study is necessary, many historians have discussed a tendency among brewers to be conservative in adopting new technology. In his study of brewing technologies in Philadelphia, Patrick O'Bannon showed a "remarkable degree of continuity within a slow process of adaptation...over a 150 year period."<sup>1</sup> E.M. Sigsworth discussed the resistance among English brewers to integrate new German fermentation technologies in the 1800s despite scientific evidence that they reduced infection in beer.<sup>2</sup> The Tivoli-Union Brewery (originally known as the Milwaukee) in Denver, Colorado maintained machinery from 1890 and earlier well into the 1960s, despite its inefficiencies and faults. This paper will endeavor to discuss this brewery in a nuanced way that goes beyond the simple concept of "resistance to change." It will also put forward a possible explanation for the slow pace of technological change, using the concept of fraternity and keeping in mind Judith McGaw's reminder

*The Milwaukee's all-male  
work force in 1890. Photo:  
Denver Public Library.  
Call # X-23896*



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that the men who dominated the brewing business were “Men, not merely people.”<sup>3</sup> With a single known exception, gender historians have not applied their analysis to the fermentation industry before Prohibition.<sup>4</sup> This is in part why the industry’s slow pace in adopting new technologies has not been satisfactorily explained.

Although the Milwaukee did exhibit a resistance to some new technologies, a careful study reveals more than reluctance to utilize the newest machinery. The technologies chosen for the brewery reflected the owner’s understanding of business and social relationships more so than they reflected a resistance to new technologies. Fidelity to the values of the brewing fraternity trumped technological innovation at the Milwaukee.

This analysis is divided into five sections. The first section, *Background*, is a short history of the brewery, followed by a discussion of the history of lager beer and the reasons why a Denver brewery can exemplify the American industry in the nineteenth century. The next section, *Fraternities*, considers Mary Ann Clawson’s four elements of a fraternity, using the Freemasons as a well-known example. It will show how fraternal elements are evident in both the medieval European brewing guild and nineteenth century Denver brewing, while pointing out changes in the meaning of fraternity over time within the craft. The third section, *The Brewery*, discusses the building of the six-story Milwaukee Brewery as a monument to this fraternity, and how its owner, Max Melsheimer, built the elements of fraternity into the structure. The fourth section, *The Process*, follows the process of brewing beer in the Milwaukee, while considering the ways that technologies acted as expressions of fraternity and masculinity. The conclusion, entitled *Change*, discusses the effect of social and economic transformations in the United States that occurred shortly after the brewery was built. The Progressive Era weakened every element of the brewers’ fraternity and replaced it with a system that empowered employees while excluding the owners, for whom fraternity had once been an asset.

Most Denver residents recognize the Tivoli building on Auraria Campus, but few know its history. In 1866 Moritz Sigi, an immigrant from Baden,<sup>5</sup> in what is now Germany, began brewing beer at 244 10th St. near Larimer, in Denver. Sigi’s Colorado Brewery brewed German style lager beer in a German neighborhood.<sup>6</sup> By 1869 he was holding masquerade balls for the local German social club in “Sigi’s New Hall.”<sup>7</sup> Moritz Sigi died in 1874, and Sigi’s Hall was bought by Max Melsheimer, who changed its name to the Milwaukee Brewery. Melsheimer bought the brewery, the hall and the position of proprietor; he probably brought his knowledge of brewing and the workings of the industry with him from Germany. Ship’s records show he had arrived from Germany only seven years earlier, with his occupation listed as laborer.<sup>8</sup> Melsheimer’s first addition to what Moritz Sigi had built was a store on the corner of 10th and Larimer. The top floor acted as an apartment for Melsheimer<sup>9</sup>. In 1882 he added to the existing structures a turnhalle, for the local Turnverein to held meetings, dances and German language operas. Next, Melsheimer took out a loan from one of the founders of Denver’s German Bank, John Good, to improve the brewery. In 1890 he built a six-story brewery that stands to this day. In 1900, John Good repossessed the brewery and re-named it Tivoli, but not before Melsheimer had built it into a monument to the nineteenth century brewing fraternity.

## Background

When considering nineteenth century beer brewing in the United States, Denver makes an excellent case study due largely to factors of location and timing, which kept Denver's early brewing system simple. When the German lager-beer brewing system came to the United States, Denver had no existing ale brewing system for it to compete with. The difference between ale and lager is important in choosing which early brewery to study, so some background on the subject is in order. There are many ways to divide beer into categories, but the most common place to start is with the yeast. Microscopic living yeast organisms are the most important workers at any brewery, tasked with turning a sugary malt solution, known as wort, into alcoholic beer. The two broad categories of brewing yeast, ale and lager, are named for the beer they create. The word "ale" is English. Ale was held in especially high regard in England, but the yeast was common throughout Europe, and indeed the world. Ale yeast floats to the top of a fermenting sugar solution where it digests the sugars while excreting alcohol and carbon dioxide, which creates a churning, bubbling, foamy mass at the surface of the fermenting beverage, until the yeast has digested as much sugar as it can. *Saccharomyces cerevisiae* is the most common ale yeast for beer; it works best between 60° and 75° F. Both the yeast and its name have ancient roots. *Cervisia* was the Roman word for beer, which survives in the Spanish *cerveza*, and the Portuguese *cerveja*. According to one historian of fungi, DNA found in five thousand year old Egyptian wine jugs matches the DNA sequences of *saccharomyces cerevisiae*.<sup>10</sup>

The word "lager" is derived from the German word for storage and only began to be applied to beer in the sixteenth century.<sup>11</sup> Lager yeast does not float so readily and works its magic at the bottom of the vessel at a temperature of 35° – 55° F. The demands of lager yeast for cool temperatures over a long period of time led lager brewers to dig large cellars for beer, usually under the brewery itself or under a tree-shaded beer garden. In most climates ice was brought in to keep cellars at the right temperature. Chemists originally called lager by the scientific name *saccharomyces carlsbergensis* for the Carlsberg Institute in Copenhagen, where a single lager yeast cell was first isolated in a laboratory in 1831.<sup>12</sup> They have recently redubbed it *saccharomyces pastorianus*, to reflect more rural beginnings. A team publishing a paper in the *Proceedings of the National Academy of Sciences* suggests that the lager yeast we know today is a hybrid of common ale yeast and a Patagonian yeast that arrived in Europe after the colonization of the Americas. The process of cold fermentation and storage of beer was developed in what is now Germany before the isolation of the new yeast in 1831. The airborne yeast made its way into fermenting beer and combined with the common ale yeast.<sup>13</sup> Brewers then separated the new hybrid from the ale yeast, and domesticated it by repeatedly using and storing yeast in cold temperatures favorable to lager. In some parts of Germany, brewers took oaths to avoid the lagering process, and traditional practices were enshrined into law.<sup>14</sup> In his 1843 treatise *Chemistry in its Implications on Agriculture and Physiology*, early chemist Justus von Liebig describes using the same process in his laboratory to isolate lager yeast from the contaminated yeast slurry used to brew ale.<sup>15</sup> This isolation and domestication deserves further study by technological historians, but is beyond the scope of this paper.

Historian E.M. Sigsworth established reasons for this new living technology's lack of popularity in Britain, which kept the British and German traditions separate. Despite Louis Pasteur's 1879 study on brewing, which suggested that cold fermentation and storage improved the lasting qualities of beer and reduced unwanted microbial growth, English brewers continued to favor ale yeast, while the Germans favored lagers.<sup>16</sup> This is a story about Germans and lager.

When lager yeast was introduced to America in 1840 and entered established cities in the American Northeast, the new lager brewers had to compete with English ale brewers who already controlled the market.<sup>17</sup> Historian Patrick O'Bannon discussed the resistance of nineteenth century Philadelphia brewers to changing their traditional systems to accommodate the brewing of porter beer, a special style of ale.<sup>18</sup> If the minor change from traditional English ale to porter was resisted in the United States, the more extensive change required to switch from ale to lager in any existing brewery within established brewing cities was even more unlikely. Any new brewer hoping to open a lager brewery in Philadelphia, Boston, or New York faced competition from an established system not created to meet a lager brewer's needs. Cities further west, such as Milwaukee, Minneapolis, St. Louis and Denver, were founded during a decades-long migration of Germans to the United States, and after lager yeast re-crossed the Atlantic in 1840.<sup>19</sup> In these cities, where there were no established breweries, lager brewers catering to thirsty German immigrants started with an advantage over ale brewers. Looking at Denver in the mid-nineteenth century, a historian can attempt to isolate lager brewing in much the same way lager yeast was isolated in Carlsberg.

### **Fraternities**

Before classifying Denver brewers as members of a fraternity, it is important to define the use of the word. The nineteenth century is full of examples of fraternal organizations: the various Masonic orders, the Woodsmen of the World, the Odd Fellows, the Moose, Elks, and others like them. Organizations with goals as varied as the Mormon Church, the Ku Klux Klan, the Grand Army of the Republic, the Knights of Labor, and the Order of Patrons of Husbandry (the Grange) were founded as fraternal associations.<sup>20</sup> In her study of nineteenth century fraternity, Mary Ann Clawson proposed a set of four qualities that allow an organization to be classified as a fraternity. Fraternities include all male membership, shared secrets and rituals, proprietorship, and corporate structure. Shared gender identity is a starting point for equality, and many fraternities exhibit an ethnic, racial or social uniformity as well. Shared secrets and ritual further bond the participants. Proprietorship within a fraternity is the shared potential for authority and ownership of capital property thanks to shared gender and social status. This is commonly reflected in the fraternity as a perception of equality within a rigid hierarchy.<sup>21</sup> Clawson uses the term corporate structure in the sense it was used by William Sewall, as a system using groups of people as the basic element in society, and in which similar groups organize into hierarchal structures.<sup>22</sup> Mary Ann Clawson uses both the Masonic lodge and the medieval confraternity to illustrate her concept of fraternity, and this study will do the same because both groups are familiar to most readers, and both have relevance to the brewers' fraternity.

The creators of nineteenth century fraternities, like the Freemasons, claimed that their orders were descended from ancient organizations, most commonly medieval ones.<sup>23</sup> Hundreds of religious fraternities called confraternities orbited the church hierarchy in the 1500s. In response to the belief that prayers sped the deceased's way to heaven, confraternities emerged as mutual benefit societies, which met to pray for the souls of departed members. Eventually confraternities expanded to control much of the social structure of society. With the emergence of craft based confraternities called guilds, fraternities came to control much of society's economic structure as well. Clawson shows that all of these confraternities, including guilds, were parts of a system that helped male householders to maintain male authority outside of the home. In medieval confraternities this was primarily done by controlling the social and sexual interactions of young members, and through public chastisement of community members who violated social norms.<sup>24</sup> As this interpretation suggests, members had certain commonalities. They were all male, and could potentially gain authority over those without social standing, including women, children, and employees. Religious confraternities drew on the experience of the church, to which they were closely tied. They used rituals to pray for the dead, to create common experiences for members, and to help strangers bond. These religious organizations of lay men were originally created for prayer, but soon served many purposes in medieval society, including organizing religious feasts and festivals, enforcing community morality, and organizing craftsmen. It is the craftsmen's guilds from which the Masons drew their inspiration, and it is the brewers' guild that is of interest in this study.

Clawson notes that guilds, like other confraternities, excluded those lacking "social adulthood," such as "unskilled workers, servants, and women," and children. Guildsmen organized their interpersonal relationships as an extended family - specifically a group of brothers - with master craftsmen acting as paternal figures. As groups they organized into structures that resembled the church's corporate structure, with small independent groups organized into a strict hierarchy. The guilds maintained some of the ritualistic elements they inherited from their religious origins, for example by continuing to march in religious parades and pray for each other in death. Guilds also controlled the secrets of their craft. According to Clawson, "the 'mysteries' of a craft were believed to include the secrets of the trade, some of which might be useful to scientific knowledge or mystical practitioners."<sup>25</sup>

The brewers' guild certainly had trade secrets; they controlled yeast and herbs in ways that were not well understood at the time, and without scientific measurement they used "rule of thumb" measurements of temperature, liquid viscosity, and alcohol content.<sup>26</sup> Understanding these unwritten measurements made by the brewer without the aid of any tool appeared mystical to the novice who was uninitiated in the secrets of brewing. The brewers guild had a special claim to mystical secrets; their craft had been associated with religion and magic since ancient times. Ancient gods and goddesses associated with brewing included the Babylonian Damusi, the Greek Dionysias, the Roman gods Bacchus and Liber Pater, and the Norse gods Odin, and Aegir. For the brewers' guilds of central Europe, the most important ancient mythical associations with beer included the Celtic god Braciaca, the mythical Flemish king Gambrinus, and the Christian Bible, which contains over fifty references to fermented beverages.<sup>27</sup> Yeast had been called "God-is-good"

in some European communities because of its apparently mystical ability to turn fruit into alcohol, and both wine and beer have been traditional products of many European monasteries.<sup>28</sup> This sense of mysticism surrounding the secrets of creating alcohol, along with Clawson's other fraternal elements - masculine membership, corporate structure, and proprietorship expressed in the dichotomy of hierarchical equality - define the guilds as fraternities.

Just as Masonic lodges valorized the medieval masons' guild to create fraternity, Melsheimer's 1890 building invoked the symbols and secrets of the brewers' guild to create a sense of brotherhood among employees and business associates. The first and most apparent clue is found on the tower above what was the main entrance to the brewery. A six-pointed star in a circle, with small circles between the points of the star is carved into the stone, just above the brewery's name (fig. 1). The six pointed star, with slight variations, can be seen above breweries in Germany, Belgium and France (fig. 2), where it once represented a brewery owned by a guild member.<sup>29</sup> To further highlight



Fig. 1: Brewers' star from the Tivoli.  
Photo: Keith Outcalt



Fig. 2: Brewers' star on a brewery in Mannheim, Germany.  
Photo: Michael Ohmsen and Google Earth

the connection with nineteenth century fraternity, the star was also used by Masons to denote the fourteenth degree of the Scottish Rite's Southern Jurisdiction (fig. 3).<sup>30</sup> If the largely middle class Masons, founded in the early 1700s, "involved themselves in the remnants of a tradition-laden medieval institution,"<sup>31</sup> the brewers, whose craft and skill evolved within the guild structure of medieval Europe, certainly had claim to the same lineage. The brewers' star was a concrete reminder of the brewery's link to the past. It symbolized the tradition and the fraternity the brewers saw themselves as a part of. Walking through the Milwaukee's doors meant entering the halls of fraternity as surely as walking into a Masonic Lodge.

The brewers' star hints at the fraternity of Denver brewers, but evaluating their community through the lens of Mary Ann Clawson's fraternal qualities of masculinity, rituals and secrets, proprietorship, and corporate structure can prove it. Examination of historic company photos show that the employees were all men. City directories also confirm the ethnic makeup of the workers; in 1889 those listed in the City directory were Joseph Bensinger, Henry Henggi, Max, and Joseph Melsheimer, George



Fig. 3: Symbol of the 14th Degree Mason.  
Photo: "Theatre of the Fraternity",  
Susan C. Jones ed. 54.

Osten, Herman Souther, Adolph Schunder, and Hans Siebold.<sup>32</sup> It is safe to assume that these are all males with central European heritage. Not only were the Milwaukee's brewers male, they shared a sense of masculinity based on their craft. Brewers were artisans, one of David Leverenz's "basic masculine ideals of the mid-Nineteenth century."<sup>33</sup> Further, the connection between beer and masculinity was well established in Germany. In 1777, Prussian King Fredrick II issued the following manifesto:

"His Majesty was brought up on beer, and so were his ancestors, and his officers. Many battles have been fought and won by soldiers nourished on beer; and the King does not believe coffee-drinking soldiers can be depended on to endure the hardship or to beat His enemies in case of the occurrence of another war."<sup>34</sup>

To understand the element of secret and ritual present in the work of nineteenth century German brewing, it is necessary to understand the process further, and to keep in mind the mystical associations with beer brewing already discussed. Secrets of the trade such as rule of thumb measurements were still common in the late nineteenth century, despite the ready availability of measuring equipment. An 1881 description of traditional brewing describes a literal rule of thumb measure:

Heretofore the workmen in this country and even the brewers themselves have manufactured beer as they had learned the process, not on any scientific basis, but from observation and practice. Hence the work in many breweries was most primitive. The workmen used their fingers instead of thermometers, to ascertain the temperature, and their tongues instead of the saccharometer to test the proportion of saccharine matter in the beer.<sup>35</sup>

In the late nineteenth century the magic and tradition of brewing was being replaced by chemistry. The United States Bureau of Chemistry had involved itself in brewing, and encouraged brewers to give up rule of thumb measurements in favor of scientific measures and mathematical equations. For example, the Bureau suggested that the change in gravity (viscosity) that occurs during fermentation be scientifically measured. "This is ascertained by computation from data given by the alcoholic content and the malt extract contained in the dealcoholized liquid. The specific gravity of the alcoholic distillate, when subtracted from 1.000 gives a number called the 'spirit indication'. The degrees of gravity lost are then ascertained by reference to the table given below."<sup>36</sup> It is difficult to ascertain how the Milwaukee or any individual brewer determined these measurements, but either the rule of thumb method or the scientific method could qualify as a secret of the trade, specialized knowledge known only to brewers.

Proprietorship is a slippery concept, for it deals with how members of a fraternity view other members. To demonstrate proprietorship it is necessary to show that members demonstrated a sense of equality within a rigid hierarchy. City directories show four classifications of job descriptions that are consistently used for employees at Denver brewers.<sup>37</sup> Jobs like clerk, salesman, and laborer seemed to have little or no connection to

the brewing fraternity. They moved freely between breweries and other industries, never rising to the ranks of brewer. Drivers and bottlers held a position which was not fully integrated into the fraternity; they handled only finished beer, and their skills could be applied elsewhere. They often left the brewing industry for other professions, but they sometimes rose to the ranks of brewers. Joseph Brenzinger is an excellent example. In 1882 he started with the Milwaukee as a bottler. A year later he was listed as a “beer bottler” at the Lion, another Denver brewery, but in 1885 he came back to the Milwaukee as a brewer. Joseph disappears from the directory after a few years but re-appears in 1890 with the occupation “brewer,” but no listed employer. Brewers made up the bulk of the workforce. They did the physical, skilled work of turning barley, hops and water into beer. There was always one master brewer at the brewery, the master brewer was usually the owner, but not always; some proprietors opted to hire a master brewer. Master brewers rose from the ranks of the brewers, as Phillip Zang had done at the Rocky Mountain Brewery. Zang eventually bought the brewery from its proprietor, John Good, showing the fluidity between those three positions.<sup>38</sup> The master brewer made all decisions about which equipment should be purchased, and how it should be used, as well as smaller but equally important decisions regarding individual batches of beer. These relationships demonstrate both hierarchy and equality. A proprietor who acted as master brewer was still a brewer, and may even have risen from the low ranks of bottlers.

The corporate structure of the Denver brewers is clearly apparent. Each brewery acted as a fraternity in its own right, with all the other elements of fraternity: masculinity, ritual, and proprietorship. But, each brewery fraternity acted within a larger structure of brewers in the Denver area. Brewers could move within the corporate structure and between breweries. The best example of this is Max Melsheimer’s brother Charles, who between 1880 and 1890 worked for the Milwaukee, Phillip Zang, Denver Brewing, and for one year was listed as a brewer for the national brewer Anheuser-Busch. The additional element of ethnic heritage strengthened the corporate structure of the brewing fraternity by linking Denver brewers to a larger corporate structure of lager breweries in the United States and Germany.

Even before Melsheimer built the building with its brewers’ star, he built another important structure for the brewing fraternity. When he commissioned the building of the 1882 Turnhalle, Melsheimer created a meeting space for the Turners. “Turn,” roughly translated from German means gymnastics. The Turners were an athletic society that began in Germany in 1811, and met in turnhalls and turnplatzs for group exercise, as well as social events. In Germany, the group peaked in popularity in the 1850s, around the time of its founder’s death.<sup>39</sup> The Turners were an international fraternity, meeting Clawson’s four prerequisites: masculinity, proprietorship, corporate structure, and ritual. Ritual in their case meant mastery of precise forms of calisthenics and exercise routines, which men learned in order to be admitted to the organization and to fraternize and bond with other men. Turners organized around the writings of a gymnastic teacher and early advocate of the balance beam, parallel bars, and vaulting horse, Friedrich Ludwig Jahn whom they called Turnvater.<sup>40</sup> This choice of nickname is interesting. It is often translated as “father of gymnastics,” but could also translate as “father of the Turners”;

every brotherhood needs a father. In 1965 the Denver Turnverein published a Centennial Journal which included a section “designated to give new members, prospective members, or anyone else that might be interested some idea of what Turnerism stands for.” In this section the twentieth century Turners described the club as “both a community service organization, like the Rotary or Kiwanis Club, and a fraternal organization, as the Elks Club.”<sup>41</sup>

The Turnverein was not an organization only for brewers, but it was clearly important to brewers. When the Turnvereins held annual masquerade balls and parades, newspapers reported that “the trades took up the greater part of the procession. The brewing works of Max Melsheimer & Co, J. Schueler & Co, and Denver Brewing Company, etc. being the most conspicuous among them.”<sup>42</sup> There were three Turnvereins in the Denver area, each sponsored by one of the three local German breweries, Zang’s, Neef Brothers, and the Milwaukee.<sup>43</sup> From the brewers’ standpoint it was excellent marketing. The Turners organized operas, educational lectures, social events, and of course gymnastics tournaments that highlighted the breweries’ contribution to the community and served their product. The master brewers’ and owners’ patronage of the Turners placed them in positions of prestige and authority, and put them at the center of fraternities made up of customers and employees. In 1880, a year before he commissioned the Turnhalle, Max Melsheimer was elected first Turnwort of the Vorwoerts Turnverein.<sup>44</sup> The club’s vice-president that year was George Heinick one of Melsheimer’s employees, and the club’s secretary, E. Worthman, was a saloon keeper.<sup>45</sup>

The Denver Turnvereins were clearly much more than gymnastics societies. They served a social function like other nineteenth century social fraternities. In addition to operas, lectures, and educational events, masquerade balls made up an important part of the clubs’ social calendars. Gender historian Mark Carnes described the importance of hidden identity in the creation of rituals that form fictive identities such as fraternal associations.<sup>46</sup> Masks, which are common at the initiation rites of Masons and the rituals of other fraternal orders, help to increase interpersonal bonding in fraternal rituals.

Why then did Melsheimer build the Turnhalle before his six-story brewing castle? He was strengthening connections between the systems of two fraternal organizations – the Voerworts Turnverein, a part of the larger community of Denver Turnvereins, and the Milwaukee, a member of the Denver brewing fraternity. In terms of fictive kin relationships this can be thought of as a marriage between two kin groups to reinforce the bond between them. Many members of nineteenth century fraternal orders were members of multiple orders, so this sort of marriage was not unusual.<sup>47</sup>

By linking the Turnhalle to his brewery complex, Melsheimer placed himself into authority positions in two interconnected fraternal systems, and possibly improved his own social status. The fraternities offered a variety of resources beyond the social. In modern terms, fraternities may be thought of as an early form of networking. Clawson discusses fraternities as organizational resources. “When such ties link people into solidary units, they are then available to facilitate communication and action and to serve as the organizational basis for more political acts of mobilization, resistance and struggle.”<sup>48</sup> Although it was a group of craftsmen, the brewers’ fraternity did have political goals; in

the 1890s it struggled against a rising tide of temperance and prohibition forces. Fraternal connections also improved the resources of the brewery by fostering cooperation between different breweries. Historians have shown that during this period, “transfers of malt, hops and other raw materials between brewers occurred fairly frequently,” in Philadelphia. “These transactions seem to have functioned as short-term loans... The recipient simply returned the amount borrowed at a later date.”<sup>49</sup> It is not unreasonable to assume that brewing fraternities encouraged similar cooperation in Denver and elsewhere.

When he incorporated the Turnhalle into the brewery, Max Melsheimer exhibited an inclination to use fraternal systems in business, but the Turnverein is not the only example. For Melsheimer and many other Denver brewers, not all of the fraternal structures involved in brewing and business were fictive. Max’s brothers, Joseph and Charles are both listed as brewers in the 1889 city directory, with Joseph working at the Milwaukee with Max, and Charles at Denver Brewing, an ale brewery that had recently begun brewing lagers.<sup>50</sup> It was not just that brewing was the Melsheimer family business. Max was the second of the three brothers to immigrate to the United States, and the other two followed Max to Denver.<sup>51</sup> For Max, like many immigrants, the business of coming to America was a family business, and family was a part of his brewing business. Brotherhood within business was a system Max Melsheimer was experienced at handling.

In 1889, Melsheimer took on a partner from among the Denver brewers, Joseph Mack. Their partnership was brief, and probably intended to help Melsheimer get through the resource intensive process of building and opening the new brewery building. Joseph Mack brought resources other than money. Like Melsheimer, Mack had connections; he was deeply embedded in brewing kinships, both literal and fictive. His brother Charles was a brewer for Phillip Zang, and his other brother, George was a driver for Denver Brewing.<sup>52</sup> Brewing skills seemed to be transferable through the family, if the example of the men in charge of the Milwaukee at this time is typical. Melsheimer and Mack’s experiences were not unique. Certainly, for many Germans in Denver brewing, familial relationships were also business relationships. Many had fresh memories of the old world and the familial ties that had helped ease emigration. Ultimately both the Melsheimer and Mack families remained brewing families, with the Macks opening breweries in Colorado’s mountain towns, and the Melsheimers remaining in Denver.

### **The Brewery**

These kinship relationships, both real and fictive, enabled Max Melsheimer to build his monumental brewery. He reached out to another German and a former member of the brewing fraternity for help. John Good had owned a controlling interest at the Rocky Mountain Brewery before he sold it to his master brewer, Phillip Zang. Good had since become something of a magnate, as a chairman of the German National Bank with large real estate holdings that included his own apartment block. He loaned Melsheimer \$250,000 to build the Milwaukee<sup>53</sup> Good was a business man, and return on his investment was certainly his priority. The brewing fraternity connection between the two men surely helped facilitate the loan. Perhaps Good saw in the loan a chance to regain his membership in the fraternity as an active brewer.

With the resources acquired through fraternal structures fully in place, Melsheimer was prepared to take on the challenge of creating a monumental brewery which would tangibly express the fraternal nature of Denver brewing. Now all he needed was someone to design it for him. It is impossible to know how Melsheimer decided on which architect to use, but he may have seen an advertisement in the daily *Denver Herald*, Denver's German language newspaper. "F C EBERLY, ARCHITECT, Zimmer 8, 9, 10, und 11, Good Blod, Ode 16 und Larimer Strazen."<sup>54</sup> This translates roughly as, "F.C. Eberly, architect, rooms 8, 9, 10, and 11, Good Block, 16th and Larimer St." Eberly had designed the corner store building for Melsheimer in 1881, during the brewery's first expansion.<sup>55</sup> If Melsheimer had asked around in his brewing fraternity he would have heard Eberly's name from other brewers. He had built brewer Adolph Zang's mansion.<sup>56</sup> In 1889, the year before the new Milwaukee was commissioned, Eberly's listing in the *Western Architect and Building News* credited him with four Denver buildings: a home for a Mr. Gehring, a home for M. Barth, real-estate speculator, and founding member of the Voerworts Turnverein, a distribution operation for out-of-state brewer Valentine Blatz, and "a fermenting and freezing house and stable to accommodate thirty horses," for the Denver Brewery.<sup>57</sup> Eberly was clearly well known to brewers, Turners, and the city's German population.

Author and historian Margaret Coel reports that "Melsheimer oversaw every detail," of the brewery's construction, but no primary evidence to corroborate this is available.<sup>58</sup> The building's architectural style is considered to be Italianate, but it also incorporates High Victorian elements including corbelling, pilasters, massive Roman arches, and a tall iron gate. In places the walls are six feet thick.<sup>59</sup> The overall effect is solid and European. Some people have compared the building to a castle. With the help of Frank C. Eberly, Melsheimer built into stone a reflection of the fraternal structures that had enabled his success in the brewing business.

Hints at fraternal themes in Melsheimer's design can be seen in the placement of the new brewery. Melsheimer had built the Turnhalle, representative of the Turner brotherhood, to the East of the original brewery and North of the store. Now he was building the new brewery to the East of the Turnhalle, while retaining all the old buildings of the brewery, and thereby surrounding the Turners on three sides with his brewery complex.<sup>60</sup> Further, the underground structures of the two buildings are reversed from the usual configuration. A contemporary brewer's manual confirms that the cooling and filtration systems were generally in the same room with the brewing kettle's bottom, that is, below the rest of the brewery. In some cases filtration was attached directly the kettle.<sup>61</sup> When the Milwaukee was built, the filtration system was placed in a different room from the kettles, a flight of stairs and hallway away, under the Turnhalle. Under the brewery was the *rathskellar*, a basement bar. In early Denver the Turners met in taverns like Sigi's Hall, or the Elephant Coral, but when they bought turnhalles, or had turnhalles built for them, they usually included a *rathskellar* in the basement.<sup>62</sup> In Melsheimer's building, the space used by the two fraternities overlapped. The closest bar to the Turnhalle was the brewery's *rathskellar*, so after meetings Turners probably went under the brewery to drink. Brewers, meanwhile, worked below the Turnhalle, filtering and keging beer.<sup>63</sup>

## The Process

The new brewery was six stories tall to accommodate all the process of brewing vertically (fig. 4). Malted grain was lifted by a grain elevator or conveyor belt to the top of the brewery, and then almost no more effort was necessary to move it through the brewing process. In 1902, one author explained how this arrangement worked and why it was preferred (fig. 5).

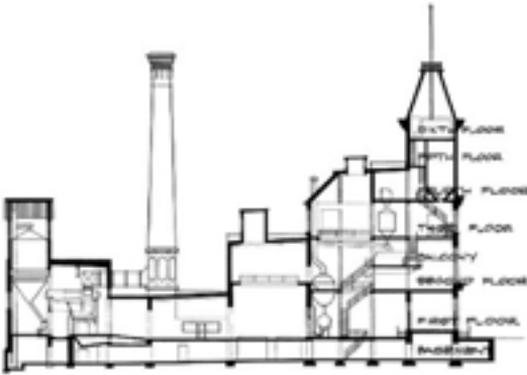


Fig. 4: Cross section of the Tivoli showing the equipment in the tower.  
Drawing: Moore Combs & Burch, 17.

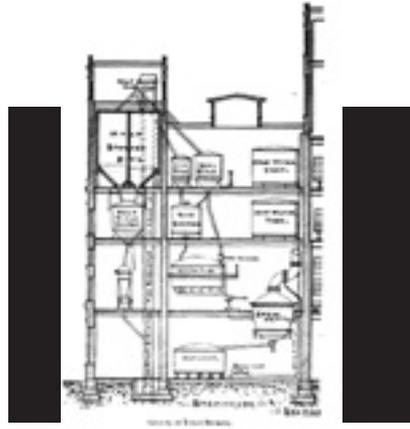


Fig. 5: Common layout of a vertical brewery.  
Drawing: Wahl & Henius, 648.

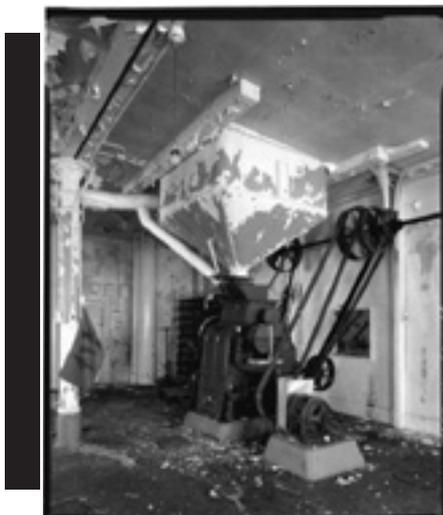
When entirely new breweries are built they are arranged on the gravity plan. By this is meant that in each department the materials or beer are elevated but once to the highest floor of the building, from where they fall or flow downward by their own weight or gravity from floor to floor as they progress from one stage of manufacture to the next. This implies a saving of power and labor by avoiding the relifting or repumping usually necessary in older plants.<sup>64</sup>

From this it is clear that in choosing his design, Melsheimer was not acting strictly on tradition; he was building his plant in the accepted way for “entirely new breweries” and not copying the method used “in older plants,” or indeed the plant he had been producing beer in. Sanbourn maps show his earlier plant had no buildings above three stories.<sup>65</sup> This could be seen to invalidate any arguments regarding the traditional nature of some of the equipment. In fact, the trend to create tall gravity breweries may have developed in response to limited change in the equipment. It is possible to imagine that equipment could be developed in which the “materials or beer” could be “relifted or repumped” between processes, without using any more energy input than was exerted to lift all the water and malted grain six or seven stories up. However, efficiently brewing beer may not have been Melsheimer’s only reason for building the Milwaukee Brewery so tall. Large breweries were highly visible and easily identifiable. They gave the brewer a “branded” place name within the city, in much the same way companies now buy naming rights on sky scrapers and arenas. Many breweries, including Zang’s in Denver, placed photos of their buildings in newspaper advertisements to show their massive old-world grandeur,

although the Milwaukee only used simple text advertisements. If the argument that Melsheimer hoped to create a monument to brewing fraternity is right, then he would want a visible building - one that looked like those that other members of the fraternity had, one that looked like the breweries in the papers.

After the malted grain was lifted to the top of the brewery, brewers weighed it and ran it through a malt mill. The mill ground the malted barley into flour to make the mashing process faster. The malt mill was a six foot tall metal grinder run by a belt-power transmission system installed on the fifth floor. The malt mill is an excellent example of traditional technology lasting beyond its time in the brewery; it remained in use until the brewery was closed. The machine itself exhibits no markings that would identify its maker. It appears similar to German, mid-nineteenth century mills. What can be said for certain is that it has hinges indicative of non-explosive mills. A spark could ignite the highly flammable malt; in the confined internal spaces of the mill this could lead to an explosion and a fire. Non-explosive mills have doors that fly open, belching fire into the work area in case of a spark.<sup>66</sup> The non-explosive mill reduced the chances of explosion or the entire brewery catching fire, but it did not eliminate an element of danger for the brewer operating the machine.

Historic photographs show that the mill was driven by a belt-power-transmission system. A wheel turned in the power plant, and a belt carried the movement to another wheel; a series of belts and wheels powered much of the brewery's equipment. An 1895 trade journal shows an arrangement of a mill with an electric motor housed on its side and powered by electricity instead of belts.<sup>67</sup> This example from only five years after the Milwaukee's construction suggests that the mill could have been converted to use electricity, if not at the time of construction, then shortly thereafter. However, further photographic evidence suggests that in 1970 after the Tivoli (formerly the Milwaukee) was closed the mill still had not been converted to electric power, despite the work area being lit with electricity. (fig. 6) In her essay "Gender and Papermaking", Judith McGaw discusses the danger these belt-driven power-transmission systems represented. "The majority of fatalities and the second largest number of injuries occurred when the transmission system caught men's clothing or arms and they were drawn in and crushed or thrown across the room."<sup>68</sup> She further discusses the Victorian idea "that injury forms an inevitable part of learning, which real men bear with fortitude,"<sup>69</sup> a notion of masculinity reinforced by the stories of Civil War bravery that circulated at the time. Thus, despite the comforting phrase "non-explosive," working in this area was a man's job due to the potential danger the mill represented.



*Fig. 6: The malt mill in 1978 showing belt power transmission and electric light.  
Photo: HAER & Hugh Graham.*

Next, brewers put the milled malt into the mash tun with hot water in a process called mashing, to steep the grain and remove its sugars. There is no clear evidence about the Milwaukee's mashing process, but I will work on the assumption they mashed using the German decoction, or "thick-mash" method, which is commonly associated with lager beer. The English infusion method of mashing involved maintaining constant heat in a heated mash tun, but the German decoction method involved adding three specific volumes of boiling water to the grain at specified times. The decoction method creates certain flavor differences from the English method, but it arose primarily to overcome limitations in technology. Because decoction involves adding already boiling water to the malted grain and water mix, instead of heating the grain itself, the risk of burning the grain on the hot metal was almost eliminated, and an expensive steam jacketed mash tun could be replaced by the combination of an unheated mash tun, and a simple water boiling tank, which could be heated much more cheaply and without concern for scorching.<sup>70</sup> Decoction mashing had an additional useful property for early brewers in that it required no thermometer; instead the method relied on thermodynamics to maintain temperature. Boiling water is always the same temperature, and a set amount of liquid will always cool at about the same rate. So as long as the brewer followed the proper formula on how much boiling water should be added and when, no temperature reading was required. Although anyone could execute either method, decoction formulas were based on thermal loss, and had to be developed over time through trial and error, or by an experienced brewer.<sup>71</sup> This represented a secret of the trade, and reinforced the fraternal power structure in which less experienced brewers followed the instructions of the master brewer.

After all the grain was removed, the liquid solution of water and malted grain sugars called wort flowed down to the next level of the brewhouse to the brew kettles for boiling with hops. Boiling of the wort is necessary to concentrate, sterilize, and caramelize it.<sup>72</sup> Hops, the bitter green flowers of the *Humulus Lupulus* plant were added by brewers, and boiled for at least an hour. Hops were used for their bitter flavor and because the oils in hops help preserve beer, and remove excess proteins that make it cloudy.<sup>73</sup> The shape of the Milwaukee's kettles gives them away as late nineteenth century, steam-jacketed, pear-shaped kettles.<sup>74</sup> These kettles reduced the risk of scorching beer, but to maintain even heat distribution, still required the physically intensive task of stirring. At the Milwaukee, like many other breweries, these copper kettles were built into the floor so that the access door at the top of the ten foot tall kettle would be at waist level for stirring.<sup>75</sup>

Although placing the kettle below floor level made stirring easier, the task still required considerable upper body strength. *Fire Prevention Quarterly* suggests that "The platform around the copper should always be of incombustible material."<sup>76</sup> To accomplish this in the Milwaukee, Melsheimer had the kettle placed into the floor before concrete was poured, making any updating of the kettle impossible without removing the entire floor. Upper body strength is commonly associated with men's work,<sup>77</sup> and Victorian ideals prized men's strength as superior to women's.<sup>78</sup> Thus breweries that invested in pear-shaped kettles expected them to be stirred by men, and built them to optimize men's upper body strength. To be a brewer, an employee had to be able to accomplish all parts of the

brewing process, including stirring the kettle. Thus building the kettle into the floor of the Milwaukee, literally cemented into place the necessity for an all-male workforce, at least in the minds of Victorian men.

In the next phase of brewing, beer was filtered in a network of pipes that led to the cooling system. In the Milwaukee the filtration and cooling systems were not located near the kettle, but instead under the Turnhalle. The staggered placement of the copper kettle and the filtration system encouraged teamwork. Although the cooling system had a valve that could be closed to hold the liquid in the filtrations pipes and stop the flow of liquid, its distance from the valve on the copper kettle meant that one brewer opened the valve below the kettle, while a second brewer operated the valve above the cooling system and the cooler itself. This kind of teamwork allowed brewers to avoid the inefficiency of one brewer having to open one valve on the ground floor, descend to the basement to operate a second valve on the cooler, and then return to close the valve on the ground floor each time before the kettle could be cleaned from above.

The next process for the boiled wort was cooling to lager fermentation temperature, approximately 50° F, before the brewers added yeast. Higher temperatures could injure or kill the yeast cells, ruining fermentation or affecting a beer's flavor. The cooling technologies Melsheimer chose from those offered supports an argument that the brewery perpetuated a traditional fraternal system that resisted technological change. When the guild system prevailed, brewers in Central Europe used a large shallow bowl to hold the hot wort while it cooled. These bowls called *Kuehlschiff* gave the wort a large surface area to cool it quickly, and to allow airborne yeast to inoculate the sweet liquid. To cool lager to temperatures below room temperature, lager brewers developed a system to pump ice water through copper pipes coiled in the *Kuehlschiff*.<sup>79</sup> In 1879, Louis Pasteur recommended against these vessels. Writing that "an excess of air may be injurious, especially to the aroma of beer and that quality which consumers prize so highly, which goes by the name bouche."<sup>80</sup>

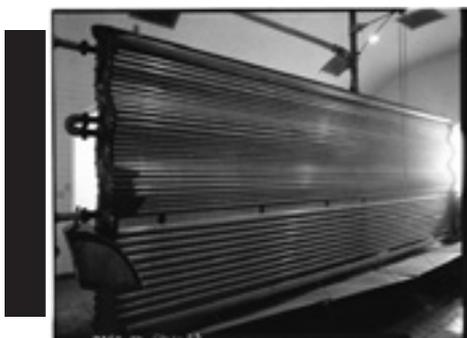


Fig. 7: The Baudelot Cooler in the brewery's basement. Photo: HAER & Hugh Graham.

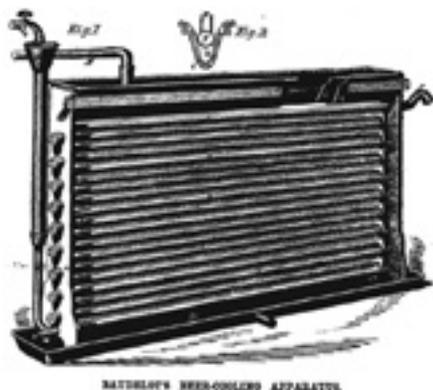


Fig. 8: A smaller Baudelot Cooler was described in an 1860 *Scientific American*. Drawing: *Scientific American Magazine*, 49.

The patented Baudelot cooling system was an extension of the copper tubes in the *Kuehlschiff*. It was invented shortly before Louis Pasteur's work on microbes in beer. Baudelot's system cascaded wort over a series of ice-water and ammonia cooled copper tubes, and into a collection vessel (fig. 7 & 8). Pasteur noted the prevalence of Baudelot coolers, and warned against the high rate of aeration they create

in liquids.<sup>81</sup> But this is the refrigeration system that Max Melsheimer placed in the basement to cool the beer from his new brewery in 1890.<sup>82</sup> Other brewers in the 1890s were using cooling technologies that exposed the wort to even more air. A newspaper article describes one brewery's treatment of the hot wort, which was "forced out in a spray and falls in a shower to the pan."<sup>83</sup> One book on brewing published only a decade later recommends that a Baudelot system be "surrounded or shut off from air by glass partitions, or an entirely different cooling method."<sup>84</sup> Clearly there were a number of options available to cool the wort in the basement of the Milwaukee. Perhaps Melsheimer believed one advertisement for the Baudelot system that promised, "He [the brewer] economizes in water, ice, and coal; its superior efficiency justifies him in adopting it."<sup>85</sup> Melsheimer had a choice between a scientific system that separated the beer from air, or a system that offered efficiency and recalled the traditional technology of the old world. He chose traditional technology. Historian Margaret Coel, underscored this choice when she mistakenly called the device by the ancient term *Kuehlschiff* in the only book ever written on the Tivoli's history.<sup>86</sup>

After the beer was filtered and cooled, brewers added the lager yeast and it all went into large tanks for fermentation. Lager brewers placed the fermentation tanks in the basements of their breweries, where the thick stone walls were surrounded by earth. Once the wort was below 50° F., brewers kept it at that temperature by adding massive amounts of ice to the cellar when necessary.<sup>87</sup> Lager breweries reduced expenditures for ice by incorporating the insulating power of earth and stone. Eberly and Melsheimer spent \$20,000, just preparing the foundation and cellar.<sup>88</sup> Again the design of the building itself acted to lock the brewers into a certain process; in this case a German process. The process had a strong tradition surrounding it, but this time it was endorsed by science. Louis Pasteur praised lager, because of its cold fermentation. "The use of ice and yeast operating at a low temperature so greatly facilitates the preservation of our beer."<sup>89</sup> It is not known if Melsheimer read Pasteur. He made a choice to build the lagering cellar, as was suggested by Pasteur, but his use of a Baudelot cooler suggests that he did not follow Pasteur's advice in all matters. Methods similar to those chosen by Melsheimer had been used by German brewers for generations; before Pasteur, even before the Carlsberg institute isolated lager yeast.<sup>90</sup> Melsheimer followed the advice of the chemists but also the methods of the fraternity.

The original fermentation tanks at the brewery were made of wood, in the traditional way. The contemporary glass-jacketed steel tanks were capable of excluding air completely, allowing brewers to introduce only sterilized air, a process Pasteur would have endorsed. The wood tanks let small amounts of air into the fermentation chamber, allowing microbes other than the selected yeast to gain entry. A book on brewing written only twelve years after the brewery opened discusses only glass jacketed steel tanks in the section on opening a brewery, mentioning wood tanks only as a possible cause of "abnormal symptoms in fermentation."<sup>91</sup> They had become obsolete. Melsheimer combined the tanks not approved for modern brewing with the lagering process recommended by Pasteur. Melsheimer appears to have embraced those scientific findings that reinforced the teachings of tradition and fraternity.

Following the brewing process at the Milwaukee with an eye for fraternity highlights how social structures, which are fluid over time, can be built into concrete structures, literally carved into stone like the brewers' star. Melsheimer selected technologies for his new brewery consciously, and his choice of technologies reflected his understanding of his craft. Melsheimer may or may not have consciously expressed a belief in a fraternity of brewers, but the technologies he chose reinforced the principals of fraternity in the industry. He selected a highly visible architecture style, which was considered modern and efficient, but was also reminiscent of Germanic castles. Then he placed the structure so as to integrate the existing Turnhalle into the brewery complex, integrating the fraternities as well. The design and equipment of his brewery reinforced the values of the fraternity: tradition, secret formulas and measurements, equality and teamwork, and the masculine values of danger and strength.

### **Change**

Viewing nineteenth century brewing through the paradigm of fraternity, it is apparent why brewers appear to have resisted changing technologies. The brewers' existence as a fraternity was predicated on the tradition of the brewers' guild, and they gained certain resources from their fraternal traditions. Max Melsheimer did adopt new technologies, but his choices in technologies necessarily reflected the importance fraternities place on tradition. Melsheimer followed the recommendations of scientists selectively, preferring scientific results that validated methods belonging to the brewers' tradition. When the advantages offered by a new technology could not be ignored, manufactures often incorporated the new technologies into the old, rather than eliminate the old completely. Brewery work often encouraged methods involving distinctively masculine teamwork. Finally, Melsheimer preferred methods that encouraged the image of the craftsman as a keeper of traditional knowledge.

Part of what appears to be resistance to change in brewing is attributable to the increasing understanding of chemistry in the nineteenth century. As chemists like Liebig and Pasteur revolutionized understanding of the chemical process, brewing was still trying to maintain its identity as a craft. Although brewers took advantage of some discoveries, they could not change the physical structures of the brewery quickly enough to adopt all the new technologies that were promoted, nor did most have the financial resources to keep up. Some brewers like Melsheimer chose instead to direct some resources into maintaining the fraternal bonds so important to traditional brewers. Once the choice was made during construction, the future owners and master brewers would require extensive resources to change what had been built into the very brick and concrete.

Not much of the equipment at the Milwaukee Brewery changed, despite major changes in the brewing industry and the country. Pictures from the 1970s show some of the 1890s equipment, including the wood tanks, being removed by a crane. The mash tun was also removed at this time, as were the holding tanks for water and grain. However, many of the old technologies are still in the brewery, now accompanied by interpretive signage that ignores the social history of brewing. Broadly speaking the owners and master brewers

did not change what Melsheimer placed in his brewery, although they continued to add new buildings to the brewery complex. Prohibition drastically altered the products of breweries, but the equipment of the 1960s brewery did not vary greatly from the 1890s. If the Milwaukee is a typical example, brewers were not generally resistant to new technologies, indeed when possible they built new technologies into new buildings, so long as they could retain some image of tradition, both in the brewing equipment and in the building itself. Change, not new technology was a problem. The original technologies were built into the brick and stone of the brewery which limited the possibility of change by increasing the cost of installing new equipment.

In this light, the fraternity of brewers appears inflexible. If all brewers invested so heavily in new plants that relied on traditional technologies, and had limited resources to respond to quickly changing technology, it is no surprise that modern historians of technology continue to find examples of resistance to change. It is important to keep in mind that the Milwaukee Brewery did not lag drastically behind the rest of the industry. *The Handy Book of the Brewing, Malting and Auxillary Trades*, published in 1902, describes much of the equipment and the same gravity layout used in the Milwaukee as desirable and modern. Melsheimer built with the best available technologies that did not violate his understanding of his craft, then could not afford to update them later. If this inflexibility and reliance on fraternal systems is indeed representative of all breweries, the time between 1900 and 1920 can be viewed as a serious threat to the fraternity of brewers, whose responses were limited by the physical structures that perpetuated the social structures of the fraternity. Melsheimer's tower brewery only remained in his possession for ten years; within another twenty years the fraternity as Melsheimer had understood it had disappeared.

In 1898 cracks were beginning to show in the fraternal structure. A threatened strike in Denver breweries underscored a change in relationships between brewers and employees. Unionism gained popularity among many trades at this time, so factors were at play that went beyond the dynamics of brewers' fraternities. The union movement had fraternal roots as well; the Knights of Labor, for one example, began as a fraternal order. Applying Clawson's elements of fraternity to the union shows interesting similarities and differences. The union membership was exclusively male, particularly at first, but it did not have the ethnic overtones of the brewers' fraternity. The union had corporate structure, as each union was a part not only of a national trade union, but of a local group of unions from the various local trades. Unions had secrets and ritual as well. Like the guilds, each union maintained some of its own secrets in the form of tricks of the trade, which the union taught new members. Many unions continued to use initiation rituals and ceremonies into the twentieth century, but these rituals lacked the importance they held for other fraternities.<sup>92</sup> The union had a hierarchy, with local and national leaders, but the unions' idea of equality was different. In the brewers' fraternity, class had seemingly been ignored, much as it was in nineteenth century fraternal orders. The union conceived the social structure of society differently. To the union men the division of society by class was more important than the division by gender. Union men were bound by their ties as workers more strongly than they were bound by shared masculinity. This

fundamental rethinking of societal organization separates the union from the fraternity. The union emphasized hierarchy, while the fraternity emphasized equality.

Details of the near strike of the brewers' union in 1898 are telling when understood as a symbol of this social reorganization. Newspapers reported that "A committee from [brewer's local] No. 44 started out for the express purpose of collecting from the master brewers the labor agreement. The Milwaukee Brewery on Tenth Street was first visited by this committee...During the morning the offices of the Zang's, Neef Bros, Coors, and the Union Brewing Co. were visited by this committee."<sup>93</sup> In the rest of the week's news it is clear that the dispute is about reducing the working day from ten to nine hours, and only one local brewery, Neef Brothers, was blocking the union's plans.<sup>94</sup> The union committee was a group of four men sent to visit each brewer in turn and speak them "man to man" about the problem. This seems to be a liminal moment between two modes of social organization.

For a brief time at the threshold of the twentieth century, both the fraternity and the union functioned simultaneously in the community of Denver brewers. At the same time, the systems struggled for dominance. As a group of working men the union members organized against the owners. But instead of singling out Neef and striking, they first visited the other owners. A united group of workers invoked the kinship of fraternity the owners had shared for so long, and then used it as leverage in their negotiation with the owners of Neef Brothers Brewery. By navigating in both social systems, the union successfully reduced the working day, and the new contract reaffirmed the employees' right to one beer an hour.<sup>95</sup>

In 1900, John Good repossessed the brewery from Max Melsheimer. The depression of the 1890s may have been the cause of Melsheimer's downfall, or he may have overextended himself.<sup>96</sup> For the sake of the story of the fraternity it doesn't matter. Good is emblematic of the changing social system. He had once been a brewer; one of his first Denver businesses was the Rocky Mountain Brewery. He acted like a member of the fraternity in some ways. He kept on both of Max Melsheimer's brothers as employees of the Tivoli; Joseph until 1907, and Charles until 1915.<sup>97</sup> It had been a long time since Good had been a brewer though, and he had grown wealthy independently of the brewery business. He was now a part of the wealthy elite, and not one of the working men. Good certainly did not live above the corner store as Melsheimer had done.<sup>98</sup> He lived in a modern French chateau-style mansion at 1007 Pennsylvania Street in the fashionable Capitol Hill neighborhood. A modern historian could make the argument that Good was still a member of the brewing fraternity, but the union men certainly would not have felt he was one of them.

Following the change of ownership, the years between 1900 and 1930 brought an expansion of progressive thought. In 1916 Prohibition interrupted the active use of the brewers' secrets and rituals. Anti-German sentiment during World War One reduced their ethnic pride and attendance at ethnic events that had helped bind the brewers as a union. The Turnverein's membership evaporated, and eventually the three Denver societies reorganized as one small group.<sup>99</sup> During Prohibition, a changing commercial economy altered the brewers' sense of equality within hierarchy. Before Prohibition,

breweries sold ninety percent of beer to saloons in kegs, but in 1935, one third of beer was sold in bottles for the home market.<sup>100</sup> The numbers of bottlers and drivers grew in proportion to those of brewers to support the new distribution trends. With the ranks of brewers traditionally drawn from the lower ranks of bottlers and drivers, the proportional change must have greatly altered the balance of power. In 1927 John E. Good died and his wife LoRaine took over ownership of the Tivoli.<sup>101</sup> All of these changes weakened the fraternity as a social system, but made little difference to the union's concept of social organization. The union system did not rely on ethnicity or a balance of power between brewers and bottlers. It relied only on the bonds of class and the differences between employee and employer. The gender of the owner made no difference to the union; a female owner was still an owner.

The idea of early Denver brewers as a fraternity can greatly alter our understanding of the Tivoli's failure. The brewery's ultimate downfall occurred in 1969 after many problems, the last of which was a union strike. It was a complete failure of the fraternal bonds that Melsheimer had hoped to propagate. If it demonstrated the power of the social organization the union movement represented, the brewery's workers ended up unemployed nonetheless. The workers' new organizational structure, which was organized by class, circumvented many of the problems inherent in the old style of fraternity. It excluded ownership, it did not have a strong ethnic element, it included the bottlers and drivers (as teamsters), and it did not require masculinity to function. Melsheimer's fraternal model no longer made sense. The class-based organization represented by the union simply fit the post-Prohibition industry better.

# Dams, Planes, and Institutions:

## Iranian Technological Development, 1955-1967

Kevin Smith

In October 1961, the Khuzestan Water and Power Authority of Iran released a promotional booklet on one of the most extensive and grandiose technological projects the country had ever seen – the construction of the Dez Dam. Located in the western portion of Iran, Khuzestan was to be the site of a major economic boon. “Oil fields and refinery installations employ more than 40,000 workers – one-third of the nation’s total industrial labor force,” the booklet boasted. Referring to Khuzestan’s great rivers and canyons, the booklet further emphasized that the “annual [water] discharge is very great – 35 billion cubic meters – but most of this flows unused into the Persian Gulf.”<sup>1</sup> Iranian officials wanted the Dez Dam, designed to provide electricity and irrigation to much of western Iran, to be the proper outlet for Khuzestan’s natural resources and compliment to Iran’s existing industry.

*The Dez Dam in Khuzestan, Iran. David Lilienthal’s Development and Resources Corporation (D&R) began construction on the Dam in the late 1950s to aid in agricultural and economic development throughout the region.*

*Photo: “Development and Resources Corporation Records, 1936-1980 (bulk 1954-1970): Finding Aid,” Princeton University Library; Mudd Manuscript Library; available from: <<http://arks.princeton.edu/ark:/88435/k930bx05d>>; accessed March 14, 2012.*



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However, the commemorative booklet does more than just demonstrate the greatness of Khuzestan and the Dez Dam. In its celebration of the dam's potential upon completion, the booklet alludes to past examples of technological and civilizing greatness to justify its construction. Quoting the Shah of Iran, the booklet explains, "the program is based on the coordinated exploitation of all the resources of the region by the principles of cooperation between public and private groups and agencies, on the lines of the Tennessee Valley."<sup>2</sup> At the same time, the booklet aggrandizes Iran's ancient past in its description of Khuzestan as the Dam site. Referring to the Persian Empire and its influence over ancient Greece, the booklet claims that the very rivers of the Khuzestan at one time nourished the whole world, leaving "influence upon political events and thought, from that day to this." The Dez Dam was supposedly a "modern technology" that would make possible "a fundamental physical rearrangement of the waters of the Khuzestan," to restore past glory.<sup>3</sup>

Why would government officials in 1960s Iran promote a hydroelectric dam with reference to both the American Tennessee Valley and Khuzestan? How does the Shah's discussion of "public" and "private" works in Tennessee correlate with the ancient greatness of the Persian Empire? The way in which the booklet presents the dam reveals that officials pulled from many sources to rationalize and justify its construction. Clearly, the Dez Dam project was international in its conceptualization and development. Both American contractors and Iranian economic planners were involved in the dam's construction, and each group developed its own views on how the project should develop, and why it was important. However, the Dez Dam project was anything but a cohesive and unifying effort; the needs, values, and goals different officials held for the dam were never entirely in agreement. As a hallmark of technological development in Iran, the Dez Dam reveals that the overall process of technological development within the country was in conflict in the 1960s.

Starting at the end of World War II, the United States maintained a pervasive presence in Iran that lasted up to the Islamic Revolution in 1979. Militarily, Iran was a geopolitical hotspot in the emerging Cold War, especially after the US-led coup against nationalist Prime Minister Mohammad Mossadegh in 1953. After the coup, Iran became a beneficiary of American aid and technical assistance. Both economic and military development gained new importance as bulwarks against perceived communist subversion from the Soviet Union along the country's eastern border. Needless to say, technological development underwent significant changes once American aid started to flow. However, American and Iranian officials also began to devise new and conflicting goals, needs, and values for the technologies transferred to Iran. From 1955 through 1967, these officials engaged in heated debates over what kind of technologies would best serve Iran (and US interests) as the Cold War pressed on. The development of various technologies within Iran, namely industrial-developmental and military technologies, cannot be understood simply by studying the specific types of hardware and technical advances the country received from American benefactors; technologies do not express their own uses nor carve out for themselves the paths by which they develop. By examining the aspirations and viewpoints that American and Iranian planners held regarding these industrial and military technologies, a clearer picture of Iranian technological development in the 1950s and 1960s emerges.

The ways in which technologies developed varied significantly depending on the values and functions American or Iranian planners associated with a given technology. For this reason, the historiographic contributions of Arnold Pacey in *Technology in World Civilization* are especially useful. Pacey examines the exchange of technologies from the Middle Ages up to the present throughout the world, and the ways in which exchanged technologies functioned, changed, and advanced over time and space. A central framework to his study is the notion of “technological dialogue,” a process by which peoples of different regions actively engage the traveling technologies they encounter and fit them to their own unique contexts and needs. As Pacey describes dialogue, it has historically been a process “through which not only were [technological] techniques ‘transferred’ from one place to another, but also invention was stimulated in response to the transferred technique.”<sup>4</sup> In other words, technological transfer from one region to another has often been accompanied by a creative dialogue that changes and/or adds to the incoming technology. Iranian officials and development planners often attempted this kind of dialogue with their counterparts from the United States.

Another useful facet of Pacey’s study is its attention to the importance of institutions in the conduct of technological dialogue. In his examination of technological flourishing and stagnation between different regions throughout history, Pacey suggests that the various formal institutions within those regions have often determined the way in which technology has developed in different places. Such institutions, Pacey argues, whether for practical or ideological reasons, have encouraged or discouraged different types of technology that have developed.<sup>5</sup> This attention to institutions is of vital importance in the study of Iranian-American technological dialogue.

American officials and advisers often held differing opinions than Iranians about which technologies were best for Iran. Differences of nationality were not the only influential factors in technological dialogue. In both Iran and the United States, internal conflict between institutions added complexity to the process of technological dialogue. Divisions between American presidential administrations and Congress on the one hand, or between Iranian economic planners and the Shah on the other, were just as important as ideological differences between Iran and America in general. The complex way in which Iranian and American institutions interacted in their partnership to further the technological development of Iran calls for a nuanced and contingent analysis; merely comparing the two countries will not suffice. This study addresses these institutional interactions, to better understand Iran’s technological development.

Modernization theory, a product of American social science in the 1950s, seems to have had an influential effect on how both American and Iranian officials and institutions addressed technological development. This theory gained prevalence with American policymakers right as the Cold War began to escalate. The theory described the United States as a “modern,” industrial, democratic example of progress for a myriad of newly independent countries to follow after the collapse of European colonialism. Modernization theorists viewed the world’s societies on a scale of modernity determined by their level of industry, mode of government, and economic wealth, figuring that the third world would eventually progress up the scale to reach for the pinnacles of modernity experienced by the West and the Soviet Union. Many theorists and officials believed

that it was the United States' duty to guide these fragile nations lest communism swoop in to consume them. Walt Rostow, later an adviser to President John F. Kennedy, was an economist who originally advocated such guidance. Rostow's *The Stages of Economic Growth: A Non-Communist Manifesto* (1960) summarized many of the tenets of modernization, arguing that third world societies needed a "big push" of technical and economic aid from America. This push would result in a sort of "take-off" by which a third world country could engage in self-sufficient economic growth along the scale of modernity. The shift to modernity was supposedly inevitable, but American assistance and intervention could speed up the process for the good of the third world and American security against communism.<sup>6</sup>

Michael Latham's treatment of modernization theory in *The Right Kind of Revolution* is useful in discussing the connections between Iranian and American institutions. Latham describes modernization as having been "systemic" in the minds of most theorists. Social, political, and economic advances in a given society were supposedly integrated; a gain in one area would influence all the rest.<sup>7</sup> Technology was often an intricate part of the social and economic sides of modernization, especially in Iran, where Iranians and Americans alike perceived large-scale technological projects such as factories and dams as being essential for economic growth and increased standard of living. Hence, although Latham does not address it specifically, technological development can be seen here as a fourth aspect of his systemic framework. Even if officials did not allude to modernization theory specifically in their deliberations, technological dialogue within Iran often centered on a progressive interpretation of technology.

The technological dialogue between Iran and the United States from 1955 to 1967 did as much to shape the ideologies, ideas, and goals concerning technologies as it did the physical technologies themselves. Scholars such as Latham have mentioned similar ideas, stating that "foreign actors embraced, modified, and reformulated" modernization for their own purposes.<sup>8</sup> This paper argues that through the complex, inter-institutional technological dialogue between Iran and the United States, various institutions developed differing goals, needs, and values for large-scale projects and military hardware under development. Such differing viewpoints between institutions reveal that technological development within Iran, which ultimately favored military technologies, was not simply the product of outside American interests or the autocratic rule of the Shah alone. Each country had institutions with dynamic individuals guiding them who determined Iran's militant style of technological development in a heated, contingent fashion. Most all of the institutions in dialogue endorsed the idea of modernization through technology, but their policies often differed in significant ways according to nationality, practicality, and various ideological drives.

This paper will examine the early formation of technological dialogues between American advisors and Iranian officials in the 1950s and early 1960s, focusing on extensive technological projects in the Khuzestan region of Iran. The main institutions involved were the Iranian Plan Organization, the Shah and his government, the American Development and Resources Corporation, the Kennedy administration, and, in the later 1960s, the U.S. Senate Foreign Relations Committee. Throughout these dialogues, debates over developmental versus weapons technologies ultimately reflected the ways in which each

institution, and the figures who lead them, envisioned Iranian technological development and how it should progress.

After the US-led overthrow of Mohammed Mossadegh in 1953, the Iranian government faced a momentous economic dilemma. The Iranian Plan Organization (PlanOrg), founded by the majlis (parliament) after World War II to institute economic development, had largely failed to coherently organize the country's resources. The reason for this lay in part with the turbulent nationalist debates from 1951, when Mossadegh nationalized the Anglo-Iranian Oil Company in a bid for increased national independence. Due to a global boycott led by several oil companies during this period, Iran's precious oil revenues plummeted to a point where dwindling investment in economic development complicated the task of planners.<sup>9</sup> More importantly, however, PlanOrg also faced many difficulties with implementation of various projects. The Iranian government accumulated a significant amount of debt to foreign companies, and disagreements between company advisors and Iranian planners left development efforts at a standstill. Continued American aid through President Harry Truman's Point Four Program helped keep the Iranian economy afloat, but early Iranian planners were not able to create a framework for self-sufficient planning and development.<sup>10</sup>

By the mid-1950s, Abol Hassan Ebtehaj began to reform PlanOrg into a centralized, effective arm of the Iranian government. A prominent banker, economist, and governor of the Iranian national Bank of Meli, Ebtehaj became the head of the Plan Organization in 1954 with brand new ideas for Iran's development. Upon entering his position, Ebtehaj summarily abolished the first development plan in place, replacing it with a new seven-year plan in 1955. In addition to planning various industrial projects, Ebtehaj funneled all foreign contract work through the auspices of PlanOrg, effectively cutting any chance for foreign companies to control the rate of development or violate their contracts.<sup>11</sup> Learning lessons from planning disagreements at the turn of the decade, Ebtehaj was determined to gain full control of how the new plan would take shape. Furthermore, Ebtehaj attempted to make PlanOrg the exclusive development institution within Iran, a "government within a government," to increase efficacy and ensure that projects materialized. This goal often ran afoul of ambitious or corrupt officials in already established ministries and positions, however, who would later back their own industrial projects independent of PlanOrg. For these reasons, Ebtehaj often had to rely on the Shah's authority to implement his plans.<sup>12</sup>

Shah Mohammed Reza Pahlavi held very particular views about technological development. The Shah's book, *Mission for my Country* (1960), reveals many of his views about technology in general, discussing the development and modernization of Iran. Part autobiography and part nationalist chronicle, *Mission for my Country* portrayed Iran on a progressive course toward being one of the most advanced countries in the Middle East, if not the world. "With our great scholarly tradition and our thousands of university-trained young men and women," wrote the Shah, "I foresee that my country may help provide leadership in the world-wide quest for a fresh synthesis of East and West, old and new."<sup>13</sup> Viewing Iran as a country brimming with potential, the Shah supported advanced technological projects throughout his reign to display the country's purported greatness. The Shah also alluded to Iran's own historical tradition, the "East" and the

“old,” as being an important part of the nation’s greatness. Such an allusion diverted attention away from the United States as the world’s sole model for modernization, placing Iran in an established, exemplary position all its own for the rest of the world to follow.

The Shah reflected a great deal of idealism in his views of the new development plan. “Under the Second Seven-Year Plan we are making progress,” the Shah wrote. Addressing the seemingly slow progress of developmental projects, the Shah encouraged his Iranian readers to have patience, alluding to the careful assistance given by foreign contractors: “Some of our most basic advances remain largely unseen, because they consist of economic and engineering plans carefully drawn up with the help of foreign experts...It is often forgotten that wise planning of a project may take fully as long as its material realization in steel and concrete, machinery and equipment.”<sup>14</sup> Linking successful projects with high tech components of “steel” and “machinery,” the Shah also envisioned that rapid industrialization, with the help of foreign contractors, would eventually pull Iran into the limelight of technological development. In time, high tech projects would solve all of Iran’s economic problems. The new, centralized plans of Ebtehaj and the Plan Organization offered just the rapid, technological jumpstart that the Shah had in mind from the 1950s up to 1960.

The way in which Ebtehaj ran PlanOrg displayed a preference for large industrial projects, which supported the Shah’s views of modernization. The Shah himself had asked Ebtehaj to run PlanOrg in 1954, and later gave Ebtehaj the authority to carry out the new national plan during the late 1950s.<sup>15</sup> Ebtehaj, for his part, intended PlanOrg to improve the overall economic development of the country. In 1955 the *majlis* approved funds for 6,000 kilometers of roads, six airports, various municipal development projects, and two cement plants at Ebtehaj’s request.<sup>16</sup> Raising the cumulative GDP of Iran was the primary goal among PlanOrg officials, with village-to-village projects and social reform relegated to a secondary priority. As one former planner recollected in a 1982 interview, economic growth was the “philosophy of the times,” figuring that “unless there is growth, there cannot be much to distribute.”<sup>17</sup> The idea that large industrial projects could automatically increase economic stability was paramount to Ebtehaj and other planners within PlanOrg. The “philosophy of the times” seemed to mirror the systemic and “take-off” components of modernization as outlined in American social science theory, establishing technological implementation and economic development that could invariably lead to a raised standard of living. This view also bound economic development to technology, turning industrialization into a panacea for the economic condition of all Iranians. Economic distribution inherently had to wait for the accumulation of capital under Ebtehaj’s new plan. By the late 1950s, however, this kind of viewpoint began to tilt away from the orthodoxy of both formal modernization theory and the idealistic goals of the Shah, as foreign assistance became increasingly prevalent in the planning process.

The United States had played a crucial role in Iranian affairs since the end of World War II. After the overthrow of Mossadegh, America became a key contributor to Iranian funds. Between 1953 and 1960, the United States supplied Iran with \$567 million in economic aid, as well as \$450 million in military supplies.<sup>18</sup> Many private contributors

from America were also involved in technical aid to Iran at the same time that PlanOrg was reforming its own policies and procedures. These included the Ford Foundation, Harvard University, Chase Manhattan Bank, and the Development and Resources Corporation (D&R).<sup>19</sup> The latter organization, D&R, worked directly with PlanOrg to produce one of the most technically impressive projects of the Seven Year Plan: the Dez Dam in the Khuzestan valley. Officials within both Iran and the United States intended this project to provide electricity to rural areas of Iran, as well as improve the growth of sugar cane, a once bustling crop in Khuzestan. A shining example of progress, the implementation of this project ultimately revealed diverging interpretations of technological development between American contractors and Iranian planners.

The Development and Resources Corporation was headed by David E. Lilienthal, one of the founding directors of the Tennessee Valley Authority (TVA) and former director of the American Atomic Energy Commission. By the late 1950s, Lilienthal's company took an interest in various developmental projects within the third world, with Iran as one of the main focal points. Lilienthal's worldview, and subsequent drive for D&R, was guided by an altruistic and modernizing sense of America's purpose in the world. Describing the site for the Dez Dam project in 1960, Lilienthal contextualized its significance alongside American technological development, stating "this pioneer area, this beginning of only 45,000 acres, swallowed in the vastness of the Khuzestan, will become as well known as, say, Salt Lake City, funded by a handful of dedicated men in a pass of the great Rockies."<sup>20</sup> Comparing Khuzestan to the Rocky Mountains, Lilienthal seemed to place Iran in the same evolutionary tradition as America, framing the landscape itself as a site of pioneering technological greatness.

Much of Lilienthal's perspective toward Khuzestan stemmed from his past experiences in the Tennessee Valley. In the 1930s, Lilienthal developed a democratic ideology around the TVA, one that he felt could be spread around the world. Lilienthal first advocated such views at a speech in Knoxville, Tennessee in 1939, where he pressed for "grass roots" democracy through a mixture of centralized authority with decentralized institutions in developmental projects.<sup>21</sup> Lilienthal biographer Steven Neuse notes that "centralized authority" applied to the TVA itself and the federal government that backed it up, while the "decentralized institutions" entailed local, state institutions, commonly referred to by Lilienthal as "the people." Lilienthal's "grass roots" mentality of TVA was thus couched in lofty, democratic rhetoric, even if the real authority of the TVA rested with the federal, and to some extent, state governments.<sup>22</sup> Lilienthal also advocated a more "regional" focus on the Tennessee Valley whereby the skills of all of a region's people, and resources from the land itself, would come together in harmonious development projects.<sup>23</sup> The pooling of resources and manpower by a central authority could supposedly develop an entire region through democratic ideals of participation and inclusion.

Lilienthal's book, *TVA: Democracy on the March* (1941), was the culmination of Lilienthal's philosophy of development. Lilienthal wrote about TVA-style projects as a grand panacea for not just the United States' economic problems, but the whole world's ills as well. "I write of the Tennessee Valley," Lilienthal explained, "but all this could have happened in almost any of a thousand other valleys where rivers run from the hills

to the seas.”<sup>24</sup> For Lilienthal, the TVA served as an example of what could happen for a region when centralized authority guided the efforts and resources of local institutions and people. The Khuzestan region, with its vast canyons and natural waterways, seems to have allured Lilienthal as yet another testing ground for “grass roots” democracy in the 1950s. Ebtehaj’s PlanOrg, in conjunction with D&R’s resources, served as the central authority, while landlords and villagers in Khuzestan appeared to Lilienthal as “the people.”

Lilienthal attached great significance to the Iranian people when reflecting the implications of Dez Dam. Writing in his diary in late 1960, Lilienthal speculated, “It will take a lot of technical knowledge, of course, but when the key is inducing people, whether landlords or farm tenants, to join in an enterprise involving the land and water it takes more than technical knowledge. People’s emotions must be moved, and love of country is one of those springs of emotion.”<sup>25</sup> Lilienthal believed that the Dez Dam would make life better for Iranians down to the village level, and that all Iranians would inevitably play a key role in the development of the Dez Dam. This depiction of the Dez Dam’s success or failure was significantly different from the viewpoints of PlanOrg officials. While Ebtehaj and his planners viewed economic development through large projects as a fundamental precursor to more specific social and economic reforms, Lilienthal viewed large-scale projects as the only true way to help the masses. Lilienthal meant the Dez Dam to represent “democracy on the march” in Iran, leading people to increased living standards and democratic participation just as the TVA supposedly had in The United States. Comparing regional development with village assistance, Lilienthal thought small projects made “primitive village life more bearable, more tolerable.” “[I]f this is the purpose,” Lilienthal reasoned, “this [purpose] runs [sic] the fallacy...that the object of a development program is to make people satisfied with being primitive, whereas most of them have had their fill of being primitive.”<sup>26</sup> To Lilienthal, economic development entailed moving away from “primitive” village life, with great technological works like the Dez Dam serving as beacons for change and development. The village was something to be fixed or abolished on the road to modernity, not improved upon in its own right.

Although Ebtehaj and Lilienthal had different views and strategies regarding technological development in Iran – a means of practical capital accumulation in PlanOrg’s view, a guide for ideological social advancement in D&R’s – the planners became fast friends, working together and sharing ideas for large development projects in Khuzestan. In particular, both men viewed equal international cooperation as a key factor in any successful development project. Ebtehaj specifically looked to the World Bank as an ideal international organization since the beginning of his role as head of PlanOrg. In 1955 he first approached the Bank with plans to install large-scale projects within the Khuzestan region. Ebtehaj met Lilienthal that same year, after the World Bank and some private American interests had encouraged the founding of D&R.<sup>27</sup> By 1959, the Bank agreed to send \$75 million in loans to fund projects outlined in the 1955 Plan, and an additional \$42 million intended for the D&R Dez Dam project, which Lilienthal had vigorously endorsed.<sup>28</sup>

When plans finally got under way for construction, Lilienthal used the Dez Dam as a poster child of modernization in a 1959 article for the American journal *Foreign Affairs*. Lilienthal touted forty different international companies involved in the project under the auspices of D&R, listing American, Italian, Dutch, Japanese, West German, and other firms in a comprehensive breakdown of various development components for the Dam.<sup>29</sup> Lilienthal stressed the cohesiveness of these numerous firms under a principle of “unity,” stressing that “the program is conceived and carried out on the basis of the interaction of each part upon all the other parts, rather than as a miscellaneous collection of separate projects only vaguely related to each other.”<sup>30</sup> This idea was linked directly to the philosophy Lilienthal held regarding the operation of the TVA in the United States. “The reason for inviting Americans with a background in T.V.A.,” Lilienthal explained, “was so that the concept of ‘unified development of a natural region,’ central to the T.V.A. idea, might be applied to Iran.”<sup>31</sup> In this way, Lilienthal continued to apply the example of the United States onto Iran through the Dez Dam project. Lilienthal did share Ebtehaj’s preference for centralized organization as well, however, and increasingly viewed PlanOrg as an important institution to the foundation of the Dam.

Although Lilienthal viewed his work through an explicitly American lens, he also believed in the necessity of helping Iran develop its own economic course of development. In late 1959, Lilienthal grew impatient with how long the process of transitioning authority from D&R to PlanOrg was taking. Lilienthal expressed concern in his diary over the matter, voicing his preference for “integrated development” of a region similar to the TVA ideology. “I am still troubled in my mind about D&R being the contracting party on this big Dez Dam,” Lilienthal wrote. “I want to change our relationship to that of supervising the main construction contractor, but having the construction contract itself between Plan Organization and the successful bidder.”<sup>32</sup> Direct aid and supervision by the United States was not the goal Lilienthal had in mind. Rather, his goal was to foster a grass roots effort by local Iranian institutions like PlanOrg. Without Iranian responsibility, in tandem with D&R oversight, the Dez Dam could not have the same effect as the TVA, in Lilienthal’s mind. The Dam was supposed to represent progress and development for Iran, but the way it was built was just as important as the dam itself in developing Khuzestan. Furthermore, Lilienthal thought that Iranians had their own views on how best to implement projects for local use. The “countries which receive help must develop their own program for these areas,” Lilienthal wrote in 1960. “[T]hey, not Americans, must select the area that they think will be best, what the resources are that are most important, what the goals should be. They should have technical help in developing that program but it should be their judgment, their choice.”<sup>33</sup> Lilienthal preferred large-scale, high tech projects; however he also understood that Iranians had their own, unique needs concerning technological development.

Although Ebtehaj and Lilienthal had their own ideas about Iranian control of development, the Shah grew too suspicious of Ebtehaj’s influence in PlanOrg by the late 1950s to let him fully implement them. Maintaining autocratic control over the government, the Shah viewed anyone with popular political appeal and independent initiative as a threat to his own rule and influence. This kind of tight control over government affairs resulted

in much of the ministerial competition and corruption that was so prevalent after 1953, as even Ebtehaj himself had to rely on the Shah's authority to keep PlanOrg functional and efficient. Ebtehaj's grasp on the Shah's favor did not last to 1960; the Shah's own interests of authority clashed with Ebtehaj's preference for autonomy. In 1959, such differences of opinion and interest culminated in a full-fledged protest from Ebtehaj.

The Shah himself was actually very supportive of the Dez Dam up until the disputes of 1959. The Shah often referred to the Dam in grandiose, nationalistic terms, relating its significance directly to the greatness of Iran. "The Dez Dam will be over six hundred feet tall, or two-thirds the height of the Eiffel Tower in Paris," boasted the Shah in *Mission for my Country*. "It will be located in one of the most amazing canyons ever surveyed for the purpose; at the chosen site the sides are so deep, so straight, so parallel, and so close together that even matter-of-fact experts agree that God must have intended that man should build a dam there."<sup>34</sup> In picturesque detail not unlike Lilienthal's description of Khuzestan, the Shah depicted the Iranian landscape itself as naturally demanding the construction of Dez Dam. The Dam was ultimately another large, high tech project meant to display the greatness of Iran on the world stage.

The Shah also paid close attention to the technical dimensions of the Dam. Boasting the 520,000 kilowatts of electricity and 360,000 acres of irrigated land expected to result from the Dam's operation, the Shah viewed all of Khuzestan as a special region that could push Iran toward a unique international position. "Perhaps nowhere else in the world is there such a generous combination of potential hydro-electric power...and rich agricultural possibilities," the Shah concluded.<sup>35</sup> So why, then, did the Shah ultimately turn his back on Ebtehaj, the planner who had made the funding and construction of the Dam possible? Why did he turn his back on the planner he had supported consistently since 1954? The answer is that the Shah regarded the results of PlanOrg's efforts, the technology itself, as separate from its individual planners. The Shah assumed intimate knowledge of the Dam's technical features and implications for Iran, reaping the benefits while casting an increasingly influential figure like Ebtehaj out of his way. In essence, the Shah desired the technological development behind PlanOrg, but despised the "government within a government" that Ebtehaj attempted to build.<sup>36</sup>

Ebtehaj began to lose the support of the Shah in 1959, just before construction on the Dam was about to begin. Despite continued efforts to centralize the planning process, Ebtehaj also had to deal with significant challenges from other government ministries vying for their own personal development projects in and around Khuzestan. Many of the ministers and officials involved in these projects were close and loyal to the Shah himself. One of the most pertinent figures was Prime Minister Manuchehr Eqbal. Eqbal was part of the Milliyun, or Nationalist party, which the Shah had created in 1957 to create the appearance of democratic reform in his largely autocratic government.<sup>37</sup> Eqbal continued to back the Shah directly from his post as Prime Minister.

Starting from 1958, Eqbal began to butt heads with Ebtehaj over the allocation of oil revenues in government expenditures. Ebtehaj insisted that a majority of the revenues should have gone exclusively to development projects such those in Khuzestan, while Eqbal (with the Shah's support) repeatedly diverted funds to military expenditures, which

was also a violation of the World Bank's terms on its loans favoring development.<sup>38</sup> As a result of this, Eqbal and the Shah began to look toward other government ministries for the management of development projects, curbing the authority of PlanOrg as an administrative body. This shift away from Ebtehaj and his planners culminated in a dispute over the building of a fertilizer plant in Shiraz in 1959, at the same time that PlanOrg was constructing another fertilizer plant in Ahwaz. Eqbal placed the former project directly under the supervision of a foreign contractor and outside the World Bank's terms agreed upon with PlanOrg.<sup>39</sup> The allocation of direct responsibility for the Shiraz plant's construction to a foreign contractor violated both Ebtehaj's views of centralized planning and supervised international cooperation.

Military aid, even more so than the Shah's authority, seems to have been a central theme in the debate in 1959. Meeting with the Shah one more time before his resignation later that year, Ebtehaj specifically highlighted his favor of development projects *as opposed to* high tech military equipment. Recalling the meeting in 1986, Ebtehaj stated, "I repeated what I had told him over the years that we had no right to spend the oil revenues for any purpose other than projects which would affect the daily lives of the Iranian people. I added that if we had to choose between military expenditure and development I would have no hesitation, as in the past, to say that development takes priority over military expenditure...The people of Iran would be behind us, a force far more important than the armed forces of a country."<sup>40</sup> Of course, this statement was taken many years after Ebtehaj met with the Shah, and so the heroic and defiant tone of the message may have exaggerated Ebtehaj's blunt critique of the Shah. However, the dichotomy between military and development technology, and their importance for the development of Iran and its people's needs, appears to be an overarching theme that cannot be ignored. Shortly after his meeting with the Shah, Ebtehaj resigned from his post in the face of overwhelming opposition from the top, temporarily leaving the debate to cool off.

The Shah's preference for military technology was a pervasive feature of his rule. He often referred to his father, Reza Khan, and the military experience he acquired from him. Furthermore, the Shah explicitly saw himself as an actual soldier with considerable military expertise.<sup>41</sup> He was also an avid pilot, which accounted for an almost obsessive preference for a high-tech, state-of-the-art air force.<sup>42</sup> The Shah even had subscriptions to *Aviation Week* and *Space Technology*, just to maintain a working knowledge of the latest in air technology.<sup>43</sup> Throughout the 1950s and 1960s, the Shah used the military to bolster his own power and to try to keep regional rivals in the Middle East in check. Whatever the logic of this technophile obsession, the Shah created a second dimension to the debate on technological development in Iran, which only became more heated after Ebtehaj's resignation. This debate would last in the following decade as well, extending to American and Iranian quarters alike.

The incoming Kennedy Administration in 1962 inherited the burgeoning development-weapons debate. Under Kennedy, American policymakers held distinct views on what kinds of technology were best for Iran that closely followed the tenants of formal modernization theory. Writing in the *Massachusetts Review* in late 1961, Walt Rostow

outlined what he saw as the primary problems facing the new administration, with the engagement of the “underdeveloped areas” of the globe as a crucial concern.<sup>44</sup> Comparing visions of modernism offered by the Soviet Union and the United States, Rostow singled out the Shah of Iran, like Chiang Kai-Shek of China, as a target of Soviet propaganda and subversion. “The Communist leaders believe that these men will fail,” Rostow warned, “and that their western friends and the United States will fail them.”<sup>45</sup> Emphasizing the need for America to take hold of its own model of modernization, Rostow concluded that the United States should use its “economic resources” and “political and human insight” to make sure Asia, the Middle East, Africa, and Latin America underwent “their difficult transitions to modernization.”<sup>46</sup>

Weapons technology did not fit explicitly into the modernization aspects of Kennedy and his advisors’ worldview. In fact, economic development was a more imperative aspect of Kennedy’s early policy toward Iran. Secretary of State Dean Rusk, in a 1961 memorandum of conversation with an Iranian general over continued arms sales, is recorded as stating: “an effective defense against communism must rest not only on military strength but on the positive loyalty and confidence which depend on social and economic progress.”<sup>47</sup> President Kennedy reinforced this notion a month later in a meeting with the general, reassuring him of the importance of modernizing development. “The president stated he was acutely aware of the problem facing Iran,” one State Department record notes, “[and that] the tasks of maintaining internal security and armed forces against outside aggression, in addition to striving to achieve...economic development, were monumental.”<sup>48</sup> Clearly economic development was a key theme in policy discussions with Iranian representatives. However, as Rusk and Kennedy’s discussions show, military considerations were always in the background of talks for economic aid, joined at the hip for considerations of internal security in Iran.

The Shah, for his part, was skeptical of Kennedy’s intentions upon entering the White House. In private conversations with Lilienthal, the Shah apparently misinterpreted Kennedy’s emphasis on modernization as a veiled threat to his own authority. In a speech given during his presidential campaign, Kennedy suggested that third world countries needed a sort of “revolution” which would uplift the world’s peoples. As Lilienthal recorded in his diary in 1961, “[T]he Shah interpreted these words to mean just one thing: we were going to support a revolution in Iran...I explained that what President Kennedy meant, *of course*, was social revolution toward higher living standards.”<sup>49</sup> Regardless of Lilienthal’s interpretation, Kennedy’s views on social betterment through modernization appear to have troubled the Shah. Whether he was genuinely paranoid about another American coup, or he simply favored military aid over economic development specifically, the Shah made sure his benefactors knew that acquiring military hardware was always his priority.

American officials recognized the Shah’s preference for weaponry, and ultimately made it a part of their own agenda for Iran. Shortly after Rusk and Kennedy’s meeting with one of the Shah’s generals, Ambassador Averell Harriman suggested that they placate the Shah with military weapons. In a state department meeting, Harriman relayed that if the United States would “give him [the Shah] reasonable confidence in our nuclear

support and some modern [military] equipment even with reduced forces, he could be reasonably satisfied.” Harriman concluded that the administration “should be able to convince him that he should concentrate more on his economic and social problems.”<sup>50</sup> Harriman, like other officials, placed both weapons and economic aid on the table for discussion. More specifically, however, Harriman framed the two aspects in a carrot and stick scheme: the Shah would get some of the weapons he desired, but only if economic development remained one of his major objectives.

By mid-1962, the Shah largely acquiesced to the Kennedy administration’s demands for economic development, at least rhetorically, and American officials further supplied his demands for arms. During a visit to the United States in April, the Shah reassured Kennedy that “with maximum exploitation of its resources and maximum help from other countries, Iran could establish a high standard of living and a powerful economy which could enable it to carry its necessary arms burden.”<sup>51</sup> In essence, the Shah linked military arms with economic development, suggesting that Iran would inevitably develop enough to grow economically and pay for its military hardware. Diversion of funds was not a stated issue for the Shah. Although Kennedy and his Cabinet members still viewed economic development as a clear need for Iran, his administration (and later the Johnson administration) authorized the delivery of several types of military equipment to Iran over the following five years, from 1962 to 1967. The equipment included twenty helicopters, two squadrons of Jet Fighter Bombers of thirteen planes each, and two additional squadrons of other aircraft.<sup>52</sup> To American policymakers under Kennedy, military aid was to be accompanied by economic development, empowering the Shah to maintain internal security. Military and economic concerns were both imperative to Iran’s modernization and defense against Soviet incursion.

Despite the Iranian government’s tilt toward military technology, the Dez Dam project continued on schedule after Ebtehaj’s resignation. D&R was still able to oversee the construction of various Khuzestan projects, and the World Bank funds that Ebtehaj had secured still technically kept the project afloat. Lilienthal still regarded Ebtehaj as being almost solely responsible for securing the project, and he never lost sight of Ebtehaj’s significance through PlanOrg. In fact, Lilienthal often grew impatient with how government officials criticized Ebtehaj after his resignation. When officials began cutting appropriations for building projects in favor of military expenditures, Lilienthal lamented their use of Ebtehaj as a scapegoat: “When the Government...tells us that the Khuzestan program must be cut back...it is always on the thesis that Ebtehaj overcommitted the amount of money available or did not know what money there was.”<sup>53</sup> Lilienthal commented further that the government allocated \$131 million, less than fifty percent of oil revenues, for the Dam and other projects, while Ebtehaj’s original plans had asked for sixty to eighty percent of the oil revenues.<sup>54</sup> The government ignored PlanOrg’s framework that had been in place since 1955. To Lilienthal, this entailed not only the castigation of an important planner, but also a serious diversion of technological development. After having a discussion with Ebtehaj in late 1959 concerning the Shah’s preference for military aid, Lilienthal believed that “[T]he basic truth is not that there is a ‘financial stringency’ of a temporary character but that the present Government does

not believe sufficiently in putting development first to see to it that such funds...are put in for that purpose over every other.”<sup>55</sup> Military technology became a potential obstacle to development technology for Lilienthal, in much the same way as it had for Ebtehaj.

Regardless of Lilienthal’s reservations over increased military aid, he still seemed to favor the Shah and the way he ruled the country. Lilienthal worked closely with the Shah following Ebtehaj’s resignation, conferring on the progress of Dez Dam as well as talking in friendly conversation. “I really believe in this man,” Lilienthal commented in 1962. “Whether he can manage the difficult chore that is his destiny, whether he can attract and pick able people is a question for the future. But of this I am sure: he means business.”<sup>56</sup> Whenever Lilienthal addressed problems in the Iranian government, his critiques always seemed to have more to do with ministries and lower officials, painting a picture of “the present Government” as a separate, problematic sphere from that of the Shah. Lilienthal placed all blame for Ebtehaj’s resignation on officials who had essentially played along with the Shah’s preference for weapons, and those ministries that advocated projects outside the authority of PlanOrg. In other words, Lilienthal seemed to be oblivious to, if not totally unaware of, the Shah’s direct role in undercutting Ebtehaj.

Ebtehaj moved on to become the president and chairman of the Iranians’ Bank after his resignation in 1959. He did not leave the weapons development debate to cool for long, however. As his conversations with Lilienthal could attest, Ebtehaj still held deep convictions over the proper use of development projects, in direct opposition to the idea of spending exorbitant funds on military hardware. It was not until late 1961, though, that his dissent from the Shah once again came to a boiling point. At the September 12th International Industrial Conference in San Francisco, Ebtehaj spoke on his views of economic growth and government-business relationships before an American audience with press coverage. His talk turned into a scathing critique of the Shah’s handling of Iran’s development.

At first, Ebtehaj only reiterated the basics of his outlook on development and what type of conditions he found imperative for economic growth: a framework of sound national planning, an adequate response from private investors, and international agencies able to supply the manpower and capital needed for development. These values were reflective of his earlier advocacy for international cooperation with multiple other nations, and a propensity for centralized and organized planning efforts. “I, for one,” Ebtehaj emphasized, “have come to believe that appropriate international institutions are of singular importance and, in fact, indispensable to the achievement of rapid economic progress.” However, Ebtehaj quickly turned his attention to the nature of international aid to Iran, and the problems that accompanied it. Although Ebtehaj had only praise for institutions such as the World Bank, he voiced great suspicion toward the kind of aid coming directly from the United States. “The bilateral government-to-government approach of recent years,” Ebtehaj stated, “despite increasingly generous allocations of cash, suffers from inherent weakness which cannot be cured.”<sup>57</sup>

Ebtehaj associated American aid directly with military expenditures. “Under the present bilateral approach,” Ebtehaj continued, “creditor governments are diverted from development projects by military and political considerations. It is characteristic of our

era that expenditures for defense compete with development needs.” Ebtehaj believed bilateral aid – that is, direct assistance from one country to another – was politically tainted and served only “superficial” domestic and geopolitical agendas at the expense of development projects. To stress his point, Ebtehaj stated that bilateral aid delayed “internal pressures toward reform by providing considerable material resources to corrupt regimes and by unwittingly fostering the fear that development aid will be stopped if the old regime is overthrown.” Ebtehaj also concluded that “America is neither loved nor respected; she is distrusted by most people, and hated by many.”<sup>58</sup>

Behind such negative commentary on American aid to Iran lies an important perception of technological development. Ebtehaj clearly stressed the dichotomy between development and military expenditures, which entailed different types of technological development within Iran. Military aid, and the technology that came with it, was a serious distraction from the kind of high-tech projects Ebtehaj would have liked to see come to fruition. In fact, Ebtehaj mentioned the work of Lilienthal and D&R specifically in his speech, citing them as examples of the way proper international cooperation should work under a host country’s oversight.<sup>59</sup> It was not so much bilateral aid in general that Ebtehaj opposed, but rather the assumptions and implications that could come with American aid. With the development of a strong military under foreign funding came a decrease in economic development and domestic xenophobia toward foreign powers; with economic and industrial investment came progress towards growth and a closer relationship toward the international scene. In this light, Ebtehaj characterized Iran’s technological development as something more than material progress. The contest between economic and military development would determine Iran’s place in the world as well. Economic growth both fostered and depended on international cooperation in Ebtehaj’s mind, while military aid only undermined such ties.

Ebtehaj also appears to have viewed bilateral aid from America as having an almost imperialistic hold on Iran. Ebtehaj’s fears that “development aid will be stopped if the old regime is overthrown” were of real importance, as American support of the Shah in a Cold War context was the only thing keeping the aid coming.<sup>60</sup> Even if regime change were not an issue, Ebtehaj figured that continued military aid would only strengthen “corrupt regimes” such as that of the Shah anyway.<sup>61</sup> In this way, Ebtehaj’s vision of a more developed Iran was quite different from that of the Shah and American policymakers. Ebtehaj viewed the accumulation of weapon hardware as a condition that could actually limit the autonomy of Iran and its people. The Shah’s preference for weaponry and American policymakers’ reliance on the Shah for economic development were simply incompatible to Ebtehaj. Guns would only out-muscle butter.

Some American officials shared Ebtehaj’s views on the military-development dichotomy. Senators within the Senate Committee on Foreign Relations, such as Hubert Humphrey, Frank Church, and William Fulbright were skeptical of the Shah because of his autocratic tendencies. These senators distrusted the Shah’s intentions to foster true reform within Iran.<sup>62</sup> Nonetheless, the Defense Department under president Lyndon B. Johnson sent an additional \$250 million in F-4 Phantom aircrafts to Iran in 1967, with the blessing of several State Department officials who still saw the Shah as a protector of

American interests. Departmental officials who spoke negatively of the Shah often did not keep their jobs long, leaving a few Congressmen as the only dissenters to military aid in the late 1960s.<sup>63</sup> In a committee session in March 1967, Fulbright informed a Defense Department official that the Shah should put aside military considerations altogether, focusing exclusively on economic aid and development. Reflecting on an earlier meeting, Fulbright said “I suggested to the Shah that if he spent money on the improvement of the ordinary citizens, he would be more secure than trying to protect himself with arms...[W]hat they [the Shah and his government] are doing is taking it [money] out of the hides of poor peasants. That is what is creating a politically explosive situation.”<sup>64</sup> Fulbright considered military expenditure as a direct diversion from economic development. Of course, Fulbright also considered economic development imperative for the security of Iran, a notion not so different from Kennedy and his cabinet. In this way, Fulbright denounced military sales while still maintaining that Iran was in need of pervasive American support, something Ebtehaj may have differed on. Bilateral aid was still imperative to Fulbright, even if he denounced the military component of it.

The ruckus roused by Ebtehaj in San Francisco did little to deter the Shah’s preference for and acquisition of military hardware. Shortly following the speech, the Shah had Ebtehaj imprisoned for seven months for speaking out against the government.<sup>65</sup> After Ebtehaj’s release, his specific critiques over technological development never achieved the same force that they did in 1959 or 1961. The Dez Dam, later named the Pahlavi Dam, was finally completed in 1962 under D&R guidance, creating the appearance of technological sophistication and mass development within Iran. It was also in the early 1960s that the Shah began the so-called White Revolution, a series of reforms meant to bolster the appearance of the domestic scene of Iran. The Kennedy administration seems to have been content with the reforms, as were later administrations. In the context of the Vietnam War in the late 1960s, the tenants of the Nixon Doctrine placed new emphasis on the responsibility of US allies to deal with geopolitical problems in their respective regions. This policy outlook applied to Iran, giving the Shah more leeway in building his own power, and continuing a massive military buildup.<sup>66</sup> While a few dissenters in Congress such as William Fulbright questioned the logic of sending more weapons to Iran, the Vietnam War context only allowed more such aid to flow to the Shah.

The technological dialogues that took place in Iran from 1955 to 1967 were fraught with diverging viewpoints. Questions of how Iran should have developed technologically, what types of technology were best for the nation’s well-being, and what different technologies could do to the country were always a source of contentious debate between various institutions within America and Iran. The Shah, the Plan Organization, the Development and Resources Corporation, and the US government all expressed distinctive viewpoints on technology through their interpretations of large-scale developmental projects and high tech military aid. The debates over these viewpoints also carried definitive weight with how the physical technologies developed. The coexistence of a few large projects like the Dez Dam with sophisticated military technologies was a reality that ultimately crushed a solely developmental model for Iran.

The way in which American and Iranian institutions interacted in the 1950s and 1960s largely determined this theme of technological development. Both the technologies themselves and officials' goals, needs, and values associated with those technologies were ultimately shaped through a technological dialogue between Iranian and American institutions in and outside Iran. The Shah and his government, with American backing, won the debate for a more militant course of technological development. We will never know what Eftehaji's model for exclusive economic development could have done for the course of Iranian history had it been adopted. However, the Shah's autocratic influence and America's Cold War considerations were clearly not the only forces involved in Iran's economic and military development. By looking at the multiple institutions of Iran, it can be seen that the course of Iran's technological advances was a contingent, multilayered process.

# La Grippe Espagnole The 1918 Spanish Influenza Epidemic:

## A Historiographic Look at a Forgotten Story

Michael Botello

*Influenza and especially the 1918 pandemic...  
inspires anxiety and confusion in us – anxiety  
because it was so awful and we do not know why,  
and confusion because we cannot understand  
how we could have so nearly forgotten it.*

*Alfred W. Crosby!*

The influenza pandemic that ravaged the world between 1918 and 1920 was arguably the worst health-related disaster in human history. Beginning in the waning months of the First World War, the disease rapidly spread between continents, touching all corners of the globe. By the end of the pandemic two years later, influenza killed more people – an estimated 21 to 50 million - than both the AIDS virus of the late-twentieth century and the infamous “black death” of the fourteenth century combined. Disease pandemics have broken out periodically throughout recorded history – usually several times per century – but a number of factors combined in 1918 to make the “Spanish” influenza pandemic the “perfect storm” of disease, public fear, and misinformation. These factors included war and revolution in Europe, technological innovations in communication and transportation, and an increased medical knowledge of the causes of disease. The war created the close quarters of “trench warfare” that enabled an airborne sickness to rapidly spread; improved transportation made travel easier over great distances, allowing for a more rapidly mobile virus; better communication

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facilitated faster reporting of outbreaks (and faster dissemination of propaganda, false rumors, and conspiracy theories about the flu); and the advancements in medical science initially fostered hope that this latest epidemic could be controlled. The 1918 strain of the flu virus, however, was unique in that it killed great numbers of young adults in the prime of their lives (their 20s and 30s), as opposed to traditional influenza, which usually strikes at the elderly and the very young. As the epidemic raged on in three major waves between 1918 and 1920, the world's medical personnel were powerless to stop it, and the resulting crisis of confidence in human ability to overcome nature had social, cultural, geo-political, and scientific consequences that would influence public policy for decades afterward.

It is a strange paradox that the 1918 epidemic, so momentous and consequential to world events while it raged, seemed to slip from the collective memory of history when it ended. It has been ignored by many American history texts. When historians do mention the 1918 influenza outbreak, they usually treat it as a side note to World War I or view it through the lens of a modern viral phenomenon, like AIDS in the 1980s. The 1918 pandemic offers up much useful information for political, military, scientific, medical, social, and cultural historians, and the monographs written on the subject reveal how the multi-faceted aspects of this modern "plague" affected both the human beings who lived through it and those who lost their lives. The works written about it use sources such as diaries, memoirs, and journals to give influenza victims a voice amidst a sea of statistics, census figures, and mortality graphs.

This essay examines the work of seven historians who have researched and written about the 1918 influenza epidemic. Some are medical historians, some are military historians, and some are popular historians, but all have analyzed various research materials to craft an argument about an overlooked part of American history. The focus of this essay is on the United States, but telling the story of the 1918 epidemic obviously necessitates looking at the rest of the world as well, especially Europe in the context of the war. The word *epidemic* usually references a specific population, while *pandemic* denotes a global impact. But the historians examined here often used the terms interchangeably, perhaps reflecting the back-and-forth between the flu's impact on the United States and the larger worldwide framework. Therefore this essay will follow suit and use both terms as appropriate. Historians agree on some points, like medical science's inability to cope with the disease's progression and devastation, while on other major themes – the genesis of the virus, the direction of its movement, and the 1918 epidemic's "uniqueness" among other historical pandemics – there is a level of disagreement. This essay's analysis will focus on how the authors frame their arguments, back up their assertions with evidence, and tie their narratives around a central theme: namely, that the 1918 Spanish Influenza epidemic remains a chronically understudied, underreported, and nearly-forgotten chapter of American (and, indeed, world) history.

## Historiographic Overview of the Epidemic

*If the epidemic continues its mathematical rate of acceleration, civilization could easily disappear...from the face of the earth within a matter of a few more weeks.*

*Victor Vaughan, Surgeon General of the Army, 1918<sup>2</sup>*

Some of the historians of the 1918 pandemic begin their study by providing background information on earlier disease epidemics in history. K. David Patterson's *Pandemic Influenza 1700-1900: A Study in Historical Epidemiology* deals exclusively with eighteenth and nineteenth-century pandemics, utilizing Bureau of Census records, World Health Organization (WHO) records, nineteenth-century medical histories, and a number of contemporary European sources. Patterson has written medical articles on disease ecologies of Sub-Saharan Africa and specific diseases like dysentery, meningitis, and rabies. He acknowledges that the 1918 pandemic attracted attention, but that few historians have looked at earlier epidemics. He does, however, reference historian W.I.B. Beveridge as a prominent student of influenza.<sup>3</sup> Beveridge, a Professor of Animal Pathology, wrote from a medical perspective and detailed the disease's jump from animals to humans, in *Influenza: The Last Great Plague – An Unfinished Story of Discovery*. His other books covered topics such as scientific investigation and comparative medicine where he sketched out early attempts at finding the cause of influenza epidemics. Beveridge recounts how at various times in history, influenza epidemics were attributed to the malevolent influence of heavenly bodies such as planets, comets, and meteors, while at other times volcanic eruptions and earthquakes were blamed for allowing poisonous gases to escape from the earth. By the American colonial era, a vague idea emerged that the spread of the disease was in some way due to the dissemination of a mysterious malign agent, called a miasma, that was a condition of the air akin to a bad smell.<sup>4</sup>

Beveridge provides the etymology of "influenza": Italians introduced the term during an outbreak in 1504 when the disease was attributed to the influence (*influenza*) of the stars. Some later writers referred to '*influenza di freddo*,' influence of the cold, and the English adopted the term "influenza" during an epidemic in 1742-43.<sup>5</sup> Beveridge traces sixteen different pandemics between 1700 and 1900, and uses the flu to contrast the fact that by the late-twentieth century most plagues, like the Black Death, cholera, yellow fever, typhus, and smallpox, were under control. There remains, however, one disease "that continues to flourish and cause pandemics that sweep around the world periodically without restraint by modern medical science." The last of the great plagues, Beveridge believes, is influenza.<sup>6</sup>

John M. Barry has written books on the 1927 Mississippi flood and American church-state relations and published articles in *Nature* and the *Journal of Infectious Diseases*. His work *The Great Influenza: The Story of the Deadliest Pandemic in History* won the 2005 National Academies of Science Outstanding Book Award. In it, he puts forward one theory of the 1918 flu's path, arguing that it spread from Haskell County, Kansas, to Camp Funston (an army training camp), and was then carried by U.S. troops

to France. In tracing the epidemic from its February 1918 appearance in Haskell County, Barry focuses on Loring Miner, a doctor in the area who drew blood, urine, and sputum samples from flu patients and warned national public health officials of the disease's severity. At the time, however, influenza was not a "reportable" disease (mandated by law to report), nor did any state or federal public health agency track it. In fact, Miner's official warning of "influenza of severe type" was the only reference in the *Public Health Reports* journal to influenza anywhere in the world in the first six months of 1918.<sup>7</sup> Carol R. Byerly's Ph.D. dissertation at the University of Colorado at Boulder, *Fever of War: The Influenza Epidemic in the U.S. Army during World War I*, also places the first appearance of influenza in Haskell County, Kansas, in March 1918. This spring epidemic (the "first wave") wasn't even mentioned in 1918 volumes of *The Journal of the American Medical Association*, as Alfred Crosby shows in *Epidemic and Peace, 1918*. Crosby, like Barry, points out that influenza wasn't "reportable" in early 1918, and most doctors listed "pneumonia" (the major secondary effect of influenza) as the cause of death on death certificates. Crosby also believes that the war overshadowed this first wave of the flu. Crosby wrote extensively on the relationship between biological and environmental factors in his book *Ecological Imperialism*, which looked at how disease pathogens and other biological elements facilitated European colonialism. Throughout, Crosby pointed out the lack of historiographical attention given to the 1918 pandemic.

While John Barry believes that the 1918 pandemic probably emerged in the United States and spread eastward to France with the troops, Dorothy A. Pettit and Janice Bailie, in *A Cruel Wind: Pandemic Flu in America 1918-1920*, argue instead that it was a mystery in 1918 where and how the pandemic began. They assert that the earliest epidemics of the "Spanish" flu seemed to erupt simultaneously (or in rapid succession) on three continents – Europe, North America, and Asia.<sup>8</sup> They quote the *Washington Post*, which theorized that the primary epidemic might have originated in China and was spread by Chinese laborers traveling through Montreal or Vancouver en route to Boston.<sup>9</sup> In addition, they quote eminent British scientist Professor John S. Oxford, who postulated that the 1918 influenza virus spread eastward to China from Europe.<sup>10</sup> The war, medical policies treating influenza as a non-reportable disease, and lack of verifiable data from areas of the world that were either in a developing stage (Asia) or in war zones (Europe) all contributed to the problem of establishing a clear chronology and path of the epidemic. Crosby writes that in 1918 the United States did not have the network of effective, well-financed federal, state, and local public health departments that could have put together data to provide a sketch of the epidemic. The only clear picture, he maintains, came from organizations with refined data-collection systems, like the army or California's San Quentin prison.<sup>11</sup> Barry explains the origin of the name "Spanish flu": by May 1918 the disease had spread to Spain, which was neutral and had no wartime government censorship of the press. Consequently, much of the early press coverage of the epidemic came from Spanish journalists, and after King Alphonse XIII fell ill the disease was called "Spanish flu."<sup>12</sup> Crosby refers to the disease as "Spanish influenza" throughout his two books, even using the term in chapter headings.

Barry, as already mentioned, traced the spread of the disease from Kansas eastward through the numerous army camps the U.S. government had hastily erected in order to train and mobilize hundreds of thousands of troops for deployment to France. He reports that by the late spring of 1918, twenty-four of the thirty-six largest army camps experienced influenza outbreaks, with thirty of the fifty largest American cities suffering an April spike in “excess mortality” from influenza.<sup>13</sup> The first European outbreaks were in Brest, France, after American troops disembarked there in April 1918. Crosby writes that the flu struck German troops on the Western Front that same month, with the Germans calling it “Flanders Fever.” By May the disease had reached India; in June British troops returning from the Continent introduced it into England; in August it spread into Africa from the coaling station at Freetown, Sierra Leone; and by September it reached New Zealand and Australia. Carol Byerly provides a rough chronology of the three “waves” of the pandemic, with brief periods of reduced infection in between, during which time the virus was mutating and becoming more virulent. The first wave was the initial spring 1918 outbreak, the second (and deadliest) wave occurred in the fall of 1918, and the third wave occurred in the first three months of 1919, with periodic flare-ups in pockets around the world into 1920. She writes that the spring 1918 flu cases in France, Spain, and Italy were relatively mild, but by August (after the virus underwent antigen-shift) they were fatal, and calls the influenza virus of 1918 “an enemy more deadly to American soldiers than gunfire.” In all, more than 25% of U.S. soldiers – indeed, a quarter of the whole world – would catch the flu.<sup>14</sup> Barry concurs with Byerly in pointing out that outside of the United States, the disease at first was not usually fatal, and by early fall 1918 the epidemic seemed to die out, but was in fact mutating.

By September 1918 the disease had decimated Camp Devens, near Boston. Barry recounts that “care was almost nonexistent.” The base hospital, which was designed for twelve hundred patients, and could accommodate twenty-five hundred at most, now held in excess of six thousand ill. Seventy of the two hundred nurses were sick in bed themselves, with more falling ill each hour.<sup>15</sup> Crosby graphically describes the autopsy findings of scientist William Welch and other doctors on the dead of Camp Devens. The shocking condition of the lung tissue caused Welch to use what Crosby calls “one of the few words in the lexicon of medicine that still have an aura of superstitious horror: ‘plague.’”<sup>16</sup> Crosby also provides the story of one transport ship to illustrate the scope of influenza’s spread to Europe by American troops. The *U.S.S. Leviathan* left New York on September 29th with a crew of over 2,000 and a little under 10,000 army personnel. By the time of its arrival in Brest, France on October 7th over 2,000 men had fallen sick on the voyage and seventy-six had died.<sup>17</sup> Highlighting the global reach of the disease, both Barry and Beveridge write of the flu’s effects on remote Eskimo villages in Alaska, with Beveridge reporting that some villages lost their entire adult population, while others were wiped out entirely.<sup>18</sup> In addition, Crosby writes of the American Expeditionary Force (AEF) spreading influenza to Russia in September and October 1918.

On September 21, 1918 the Philadelphia Board of Health made influenza a “reportable” disease, and by October every single bed in the city’s thirty-one hospitals was filled. Barry reports that the city banned all public meetings, closed all churches, schools,

and theaters, and prohibited public funerals. Philadelphia's overworked nurses turned down \$100 bribes from worried patients who wanted to jump ahead in line, and soon the daily influenza death toll exceeded the city's average *weekly* death toll from all causes combined.<sup>19</sup> Placards posted on buildings read "Spitting equals death," and people who spat on the street were arrested. The first cities invaded by the virus, like Philadelphia, Boston, Baltimore, Pittsburgh, Louisville, New York, and New Orleans, suffered more than cities struck later, which had avoided the first wave. Crosby devotes one chapter each to Philadelphia and San Francisco, relying heavily on *Philadelphia Inquirer* and *San Francisco Chronicle* articles for source material. He also presents numerous statistical charts and graphs on the epidemic's growth from sources like the Navy Department, the Board of Health of Louisville, Kentucky, and Great Britain's Ministry of Health, but acknowledges the difficulty (if not the impossibility) of weaving together a coherent narrative from the available materials. He writes, "The factors at work in the pandemic were so numerous and the ways in which they canceled or gained power from one another are so obscure that very few generalities can be drawn."<sup>20</sup>

Crosby provides mortality figures from the Census Bureau, as does Barry, to give an estimated overall U.S. death toll from the epidemic at between 550,000 and 675,000 out of a population of 105 million. The fact that such a destructive medical catastrophe coincided with the First World War naturally caused speculation about a deliberate plot behind the epidemic. Crosby quotes Lieutenant Colonel Philip S. Doane, head of the Health and Sanitation Section of the Emergency Fleet Corporation, who said in September 1918:

It would be quite easy for one of these German agents to turn loose Spanish influenza germs in a theatre or some other place where large numbers of persons are assembled. The Germans have started epidemics in Europe, and there is no reason why they should be particularly gentle with America.<sup>21</sup>

Crosby also cites an anonymous patriot who favored changing the name of the "Spanish" flu: "let the curse be called the German plague, let every child learn to associate what is accursed with the word German."<sup>22</sup> Additionally, the U.S. government had to test Bayer aspirin tablets to counteract rumors that Bayer, producing aspirin under what had originally been a German patent, was poisoning its customers with flu germs, while others theorized that the war itself had poisoned the world's air with poison gas. Barry cites Denver Health Commissioner William Sharpley, who blamed the flu on "foreign settlements of the city," chiefly Italians, and Dorothy Pettit and Janice Bailie write of French Catholics in the fall of 1918 circulating the theory that God had sent the influenza pandemic to restore the balance between the sexes.<sup>23</sup>

Still, the fact that influenza hit all corners of the globe tended to defuse conspiracy theories. The *London Times* downplayed the rumors that the flu was all a German plot, and instead blamed it on malnutrition and "war-weariness."<sup>24</sup> Barry states that "the 1918 influenza pandemic did not in general demonstrate a pattern of race or class antagonism" as the disease was too universal, while Crosby points out that "Spanish influenza, unlike

tuberculosis, typhoid fever, and venereal disease, did not show a clear preference for the poor, the ill-fed, ill-housed, and shabbily clothed.”<sup>25</sup> The far-reaching pandemic, which killed healthy young people in disproportionate numbers as well as the very old and very young, had by 1920 killed more people than any other outbreak of disease in human history. Although the “Black Death” of the 1300s killed a larger percentage of the population, the 1918-1920 influenza pandemic killed more in raw numbers – between 21 and 50 million deaths worldwide.<sup>26</sup> Such a level of demographic disaster drastically changed the social structure in most countries, and the United States was no exception.

### **SOCIAL EFFECTS OF THE EPIDEMIC**

*It seemed that Nature gathered together all her strength and demonstrated to man how puny and insignificant he and his fellows are, with all his murderous machinery, in the destruction of his fellows.*

*Victor Vaughan, head of the Army's  
Division of Communicable Diseases, 1918*<sup>27</sup>

Historians write of the profound changes that permanently altered the lives of civilian survivors. The disease disrupted traditional generational life patterns by killing so many in the prime years of life, creating orphaned children and elderly “orphaned” parents. In flu-ravaged Philadelphia, John Barry writes of people hanging a piece of crepe on the door to mark a death in the house – white crepe for a young person, black for a middle-aged person, and grey crepe for an elderly person. The city’s morgue, with room for thirty-six bodies, had over two hundred corpses stacked up, and undertakers soon ran out of coffins.<sup>28</sup> Alfred Crosby reports that the coffin shortage in Buffalo, New York caused the city government to enter the coffin-making business, while back in Philadelphia Archbishop Denis Dougherty sent priests down the streets to help remove bodies from homes, and many families had to dig their own graves.<sup>29</sup> Barry writes that in New York City an estimated 21,000 children had been made orphans by the epidemic, while Pettit and Bailie quote New York Health Commissioner Royal S. Copeland, who announced in November 1918 that approximately 31,000 children had been made half or full orphans by the Spanish influenza, and in 7,200 families either one or both parents had died, straining the cities’ overworked social service providers, charity organizations, and churches.<sup>30</sup> Pettit and Bailie provide statistics on mortality rates per 100,000 from influenza in forty-six U.S. cities, illustrating the country-wide reach of the epidemic.

They report on the attempts to temper public fears, out of concern that they might cause a large-scale panic. In the fall of 1918, newspapers, the government, and insurance companies began informing the public about the dangers of the flu and preventative measures, but one citizen dissenter sent a telegram to President Woodrow Wilson on September 26th that told him “it lies within your power to save thousands of lives by preventing all publications from printing any article mentioning epidemics or Spanish influenza...fear makes people susceptible.”<sup>31</sup> Indeed, a Red Cross report concluded that “a fear and panic of the influenza, akin to the terror of the Middle Ages regarding the

Black Plague, (has) been prevalent in many parts of the country.”<sup>32</sup> On October 7th the United States House of Representatives announced a ten-day recess, the Supreme Court was called off for a similar period, D.C.-area colleges and universities cancelled classes and Saturday football games, and the final game of the 1918 World Series had a paid attendance of only 15,238 in a 30,000-seat capacity stadium.<sup>33</sup> Pettit and Bailie, like Barry and Crosby, write of the shortage of gravediggers, undertakers, and caskets, and report that in Philadelphia “death carts” roamed the city.<sup>34</sup> One survivor remembered: “So many people died until they were instructed to ask for wooden boxes and to put the corpse, the people on the front porches. An open truck came through the neighborhoods and picked up the bodies.”<sup>35</sup> The epidemic had a powerful destructive effect in poverty-stricken areas of the country. In Middlebourne, West Virginia, the pandemic wiped out the entire seven-member Linza family. Following the deaths of two boys within four days, the father, mother, and two other sons died the same day. The next day the baby, the last of the family, died.<sup>36</sup>

The American medical community, already overtaxed with war mobilization, found itself overwhelmed by influenza. Crosby writes that nurses were more important than doctors because neither antibiotics nor medical techniques existed to cure influenza. Warm food, warm blankets, fresh air, and “what nurses ironically call TLC – Tender Loving Care” to keep the patient comfortable until the disease (or the patient) passed away substituted for miracle drugs in 1918.<sup>37</sup> Barry writes of the military’s appetite for doctors and nurses for the war, and the resulting decimation of America’s civilian medical care. Doctors who remained in civilian life were “either incompetent young ones or those over forty-five years of age; the vast majority of whom had been trained in the old ways of medicine. The shortage of nurses would prove even more serious. Indeed, it would prove deadly, especially in civil society.”<sup>38</sup> To combat the shortage, Surgeon General of the Army William Crawford Gorgas urged the creation of a corps of “practical nurses” with just a functional education and training. Crosby, Barry, and Pettit and Bailie all note the doctor and nurse shortage due to war needs, and the efforts of the Red Cross in recruiting nurse volunteers.

Historians report a major shift in American public opinion towards anti-German sentiment, resulting from wartime patriotism and propaganda. Crosby writes of the government considering a ban on Bach and Beethoven from concert programs for the duration of the war. American brewers, saddled with Teutonic names and the “Germanness” of beer and ale, took out half-page ads in newspapers proclaiming their loyalty to the United States of America.<sup>39</sup> On June 27, 1918 the *New York Times* reported on its front page that “Spanish Influenza is Raging in the German Army,” while the U.S. government blatantly hid the extent of infection in the American forces. Also on June 27th, the War Department issued a false statement to the American people, entitled “No Influenza in Our Army,” that asserted that “The American troops have at no time shown any form of the disease.”<sup>40</sup> Meanwhile, at Camp Devens, Massachusetts bodies were piled up at the morgue “like cord-wood” waiting to be examined, and by fall Boston schoolgirls were jumping rope to a new song: “I had a little bird...And its name was Enza...I opened the window...And in-flew-Enza.”<sup>41</sup>

## Influenza and the Military

*So here we were, with the whole human race wiped out, not by atomic weapons, or bio-warfare or pollution or anything GRAND like that. JUST THE FLU. I'd like to put down a huge plaque somewhere, in the Bonneville Salt Flats, maybe. Bronze square. Three miles on a side. And in big raised letters it would say, for the benefit of any landing aliens: JUST THE FLU.*

*Stephen King, "Night Surf"<sup>42</sup>*

The consensus among historians is that the rapid war mobilization facilitated the pandemic's spread. Barry argues that the war effort jammed millions of young men into extraordinarily tight quarters, brought millions of workers into factories and cities where there was inadequate housing and where people shared beds, utensils, and lacked good ventilation. He also claims that once the U.S. entered the war, Woodrow Wilson's "hard line" war machine efforts ultimately (if indirectly) intensified the attack of influenza and undermined the social fabric.<sup>43</sup> He maintains that "these were unusual times. The Great War made them so. One cannot look at the influenza pandemic without understanding the context. Wilson had realized his aims. The United States was waging total war."<sup>44</sup> Carol Byerly concurs, agreeing that the rapid pace of troop mobilization and training in hastily-constructed camps facilitated the spread of the disease. She cites Victor Vaughan, dean of the University of Michigan School of Medicine (and Spanish-American War veteran and yellow-fever survivor) warning back in 1915 that "the mobilization of raw, untrained men and their hurried transformation into effective soldiers have always been accompanied by marked increase in morbidity and mortality."<sup>45</sup> Pettit and Bailie assert that due to rapid mobilization, the inductees who began camp life in the fall of 1917 found the camps still under construction, with inadequate sanitary facilities being the general rule, and write of Army Surgeon General Gorgas testifying before the Senate Military Affairs Committee in January 1918 about how the soldiers had been rushed into the camps before they were fit for occupancy.<sup>46</sup> The newly created government "Bureau of War Risk Insurance," which offered life insurance policies to soldiers, incurred liabilities of more than \$170 million in connection with the pandemic-related deaths of 20,000 American soldiers in stateside camps alone. On September 10, 1918 a Boston newspaper, upon learning that more than a thousand cases of the disease had occurred among local Navy personnel, playfully



*Influenza precaution sign at the Naval Aircraft Factory, Philadelphia, 19 October 1918.*

*Courtesy of history.navy.mil, photo #NH 41731-A.*

suggested that the “Girls of Boston Must Cut Out That Germy Kiss.” U.S. Naval stations displayed posters containing the message: “*Avoid the hug, Avoid the lip, Escape the bug That gives the ‘grippe.’*”<sup>47</sup>

Barry and Byerly both wrote numerous narratives about influenza’s infiltration into different military camps around the United States, with Byerly tracing the flu’s progress in Camp Dix, New Jersey from its arrival in April 1918. Barry provides a chilling story about Colonel Charles Hagadorn, commander of Camp Grant, Illinois, who despite repeated warnings about influenza, in September 1918 ordered a crowding of troops that exceeded the authorized capacity. Over the next few weeks thousands in the camp fell desperately ill and over 500 men died. On October 8th Hagadorn ordered everyone out of his office, then placed his pistol in his mouth and took his own life.<sup>48</sup> Barry writes that in the U.S. military influenza-related deaths in the 1918 epidemic totaled just over the number of Americans killed in combat in the Vietnam War, and the flu ultimately killed one in every sixty-seven soldiers.<sup>49</sup> Byerly uses War Department figures to report that most of the American soldiers who lost their lives in World War I died in bed from disease, with 57,460 fatalities due to illness (mostly influenza) and 50,280 deaths from combat.<sup>50</sup> She argues that this carried “subtle and traumatic meaning” and stigma for medical officers, soldiers, and their families, because only “weaklings” died in bed, and to be KIA (killed-in-action) was the more honorable death.<sup>51</sup>

The pandemic grew in strength throughout 1918, and by October the President’s advisors suggested to him that he stop shipping men to France until the epidemic was under control. Crosby reports that Wilson’s Chief of Staff, General March, advised him against it, saying the enemy would take comfort from the news that the stream of American divisions crossing to Europe had been cut. Every American soldier who died on the way to France, the General believed, “has just as surely played his part as his comrade who died in France.” Wilson, after hearing March’s argument, acquiesced, and the troop movements continued.<sup>52</sup> Before the pandemic ravaged the troops in the field in Europe, American soldiers already there had learned of the flu’s devastation in America through letters from home. Byerly quotes future President Harry S. Truman, who was a Captain in the 35th Division, after learning that his sweetheart Bess, her brother Frank, and two other friends were ill with influenza back home. Truman wrote, “every day nearly someone of my outfit will hear that his mother, sister, or sweetheart is dead...It is heartbreaking almost to think that the ones we’d like to protect more than all the world have been more exposed to death than we.”<sup>53</sup>

## THE EPIDEMIC AND AMERICAN LITERATURE

*And when he had opened the fourth seal, I heard the voice of the fourth beast say, Come and see. And I looked, and behold a pale horse: and his name that sat on him was Death, and Hell followed with him, And power was given unto them over the fourth part of the earth, to kill with sword, and with hunger, and with death, and with the beasts of the earth.*

*Revelation, Chapter 6, Verses 7-8<sup>54</sup>*

*Pale horse, pale rider, done taken my lover away.*

*19th Century Negro spiritual*<sup>55</sup>

The 1918 Spanish influenza epidemic left a minimal mark on American literature. Crosby in fact believes it left “no lasting mark,” and reports that the *Reader's Guide to Periodical Literature* for the years 1919-1921 had thirteen inches of column space devoted to citations of articles about baseball, twenty inches to Bolshevism, forty-seven to Prohibition, but only eight inches to the flu.<sup>56</sup> The final section of this essay discusses possible reasons for this cultural amnesia. Pettit and Bailie quote poet Robert Frost, himself recovering from influenza in 1919, who wrote “I don't know whether or not I'm strong enough to write a letter yet...I was sick enough to die and no doubt I deserved to die.”<sup>57</sup> Crosby posits that the two greatest exceptions to the rule were Thomas Wolfe and Katherine Anne Porter, and in fact the dedication page in *Epidemic and Peace, 1918* reads “to Katherine Anne Porter, who survived.” Barry, while acknowledging that “the writers of the 1920s had little to say about” the epidemic, also mentions Porter,<sup>58</sup> as do Pettit and Bailie, who wrote of Thomas Wolfe as well. Wolfe summed up the grief and bitterness many people felt as the pandemic took away their loved ones by fictionalizing the real-life experience of losing his brother to influenza in Chapter 35 of *Look Homeward, Angel*. In his book, the pandemic flu passes by the cancer-riddled Gant only to claim the healthy and youthful Ben, and the family “all felt the grim trickery of Death, which has come in by the cellar as they waited at the window.”<sup>59</sup> Katherine Anne Porter, a reporter for the *Rocky Mountain News* in Denver, almost died from influenza in 1918, but was nursed back to health by her fiancée, who then himself caught the flu and died. Porter recounts the ordeal in her novel *Pale Horse, Pale Rider*, a semi-autobiographical story of “Miranda,” a reporter at a Western newspaper. Miranda catches influenza and is nursed back by her boyfriend Adam, who then dies from the flu in an army camp. While in her fever delirium, Miranda hallucinates a “pale rider” alongside her:

The stranger swung into his saddle beside her, leaned far towards her and regarded her without meaning, the blank still stare of mindless malice that makes no threats and can bide its time...the stranger rode beside her, easily, lightly, his reins loose in his half-closed hand, straight and elegant in dark shabby garments that flapped upon his bones; his pale face smiled in an evil trance, he did not glance at her. Ah, I have seen this fellow before, I know this man if I could place him, He is no stranger to me.<sup>60</sup>

In laying out Miranda's story in poignant, descriptive language, Porter summed up the feelings of fear and trepidation felt by the 1918 survivors, whether they had fallen ill or not:

The road to death is a long march beset with all evils, and the heart fails little by little at each new terror, the bones rebel at each step, the mind sets up its own bitter resistance and to what end? The barriers sink one by one, and no covering of the eyes shuts out the landscape of disaster, nor the sight of crimes committed there.<sup>61</sup>

## MEDICAL AND SCIENTIFIC EFFECTS OF THE EPIDEMIC

*Influenza is something unique. It behaves epidemiologically in a way different from that of any other known infection.*

*Sir Christopher Andrewes, former Director  
of the World Influenza Centre, London<sup>62</sup>*

Historians of the 1918 pandemic could not ignore the technical side of the disease and therefore researched its scientific and medical history. John Barry sketches out key dates in the history of American medicine, like the founding of Johns Hopkins University in 1876, the founding of the Rockefeller Institute Hospital in 1910, and the emergence of the “germ theory” of disease. William Henry Welch, the dean of the Johns Hopkins School of Hygiene and Public Health in 1918, believed in this new theory. Barry explains that influenza is a viral disease that kills in two ways – either quickly and directly with violent viral pneumonia, or slowly and indirectly by stripping the body of defenses, allowing bacteria to invade the lungs and cause a more common and slower-killing bacterial pneumonia.<sup>63</sup> Symptoms include nosebleeds, bleeding from the ears, headaches, body aches, and coughing up blood – the 1918 virus caused coughing so hard that some autopsies showed victims who had torn apart abdominal muscles and rib cartilage.<sup>64</sup> Pettit (a historian) and Bailie (a biochemist) devote the first chapter of their book to an extremely detailed scientific description of the influenza virus that is heavy on medical terminology and describes how the virus breaks up into protein fragments and undergoes antigen shift (Barry also mentions antigen-shift). They write of the severe after-effects of the pandemic disease suffered by many 1918 survivors: hair turning white or falling out due to the high fever associated with the disease, vascular damage, impaired central nervous systems, excessive fatigue, meningitis, paralysis, encephalitis (brain fever), and even psychoses.<sup>65</sup>

By 1918 medical science had made many significant strides in conquering pandemic diseases. Carol Byerly points out that science and medicine had successfully vanquished yellow fever and malaria both in Cuba after the Spanish-American War and in the Isthmus of Panama during the construction of the canal there, and argues that this fed into an imperialistic culture of western dominance.<sup>66</sup> She mentions Major General William C. Gorgas, Surgeon General of the Army and past president of the American Medical Association (AMA), who explicitly linked scientific progress with racial superiority in his book *Sanitation in Panama*, and whose 1909 presidential address to the AMA was entitled “The Conquest of the Tropics for the White Race.” She points out that historians like Eric Hobsbawm and Warwick Anderson have argued that imperialism and medicine facilitated each other.<sup>67</sup> The result of these medical advancements, she argues, was overconfidence among medical personnel at the start of the 1918 pandemic.

Barry provided information on the history of viruses, the three types of influenza viruses (A,B,C), and the fact that influenza viruses do not originate in humans. Their natural home is in wild aquatic birds, and the avian virus cannot travel from person-to-person, but must mutate first to adapt to humans.<sup>68</sup> W.I.B. Beveridge, a Professor of

Animal Pathology, traces the origins of many twentieth-century pandemics and writes extensively about influenza in animals. Like Barry, Beveridge also explains the three types of influenza viruses, with many subtypes and variants within each subtype, but he goes into more detail on three theories of how influenza viruses generate pandemics.<sup>69</sup> The *mutation* theory holds that the virus undergoes antigen-shift and genetically mutates from an old strain. The *adaptation* theory maintains that a strain previously confined to some species of animal succeeds in jumping the species barrier and acquires the capability to infect man. Finally, the *hybridization* theory proposes that crossbreeding occurs between human and animal strains.<sup>70</sup> Beveridge writes of veterinarian J.S. Koen of Fort Dodge, Iowa, an inspector for the U.S.A. Bureau of Animal Industry, who observed a correlation between disease in pigs and the Spanish Influenza. Later, this development led to the isolation of the first human influenza virus in 1933.<sup>71</sup> Barry asserts that most influenza epidemics die down after the virus is transmitted so effectively that the supply of susceptible hosts is exhausted, and though the 1918 virus differed in that it primarily killed the young and strong, the overwhelming majority of victims (even in 1918) nonetheless eventually recovered.<sup>72</sup> Carol Byerly writes that *Pfeiffer's bacillus*, the bacteria that was cultured from patient's tissues, was thought at the time to be the cause of Spanish flu, but it was in fact only the cause of the secondary pneumonia.<sup>73</sup> She reports on different theories of the genesis of the 1918 virus, some that involved the transmission of new strains from animals to humans and some that involved the evolutionary biology of the virus itself, and she quotes evolutionary biologists who theorize that the trench warfare of the Western Front facilitated the mutating virus.<sup>74</sup> Byerly's focus is on the U.S. military, and she agrees with the theories that suggested trench warfare produced an ideal ecological environment for the flu virus to thrive and mutate to "unprecedented virulence."

#### WORLD WAR I, INFLUENZA, AND WORLD POLITICS

*Those pestilences once considered as the inevitable accompaniment of military movement have been shorn of terror by the hand of science.*

*-a Public Health Service (PHS) Official, 1917*

Byerly argues that the epidemic was not a catastrophe at the margins of the war, but instead that influenza *collaborated* with the Great War and the war *created* the epidemic through the trenches, as "war and disease together thus produced a human disaster of global proportions." She writes extensively of the flu's effect on the war, with one of her sources being the diary of Colonel Jefferson Kean, deputy chief surgeon of the American Expeditionary Force (AEF), which "created a telegraphic record of the development of the influenza epidemic in France." She writes of the flu's effect on the AEF's most important military operation, the Meuse-Argonne offensive from 26 September to 11 November, 1918 – six of the eight most intense weeks of the epidemic. She quotes historian Donald Smythe, who described a worn, weary and depressed General Pershing, "who may have had the flu," breaking down in early October while driving toward the front, sobbing his dead wife's name and saying he did not know how he could go on. Byerly cites an October

22nd memo from Brigadier General George Van Horn Moseley to James Harbord, AEF chief of staff, to outline the influenza epidemic in the AEF and writes, “although some historians acknowledge the existence of influenza and pneumonia in the AEF during the final months of the war, few have examined the meaning of the epidemic during the Meuse-Argonne campaign beyond increasing the casualties and the need for replacements.” She points out that some historians have argued that, because the influenza hit all belligerents with equal ferocity – both civilian and military – that it did not affect the outcome of the war, and observes that historians of World War I like Martin Gilbert, A.J.P. Taylor, John Keegan, and Hew Strachan mention the epidemic only in passing.

The flu pandemic ultimately shattered the confidence of the medical establishment. As Byerly writes:

The epidemic damaged medical officer’s masculine and professional pride. Thousands of soldiers died despite the fact that the Medical Department had carefully screened the “weaklings” and “unfit” from the army. The best physicians in the land, vetted by the Medical Department, stood helpless as the healthiest people in the country succumbed to flu and pneumonia.

When the government enlisted American soldiers to make the world safe for democracy, Byerly argues, it assumed the role of the protector of the soldiers’ health. The epidemic “undermined their pride and confidence in being able to conquer disease and protect the men in their care.” To Byerly, this led to a tendency to downplay the pandemic in the historical memory. She argues that medical science, humbled and powerless against the flu, banished it from memory and was reluctant to recognize the epidemic as a meaningful event or to record it as such. This approach, in turn, “has led historians and others to dismiss the influenza epidemic as unimportant or even to ignore it altogether in their stories of the war.” While the 1918 flu has been the subject of much biomedical and epidemiological research, historians gave it scant attention. After the war the epidemic’s hold on public attention waned as news of revolution in Europe, race riots in the United States, the Russian Civil War, President Wilson’s role in the Paris peace talks, and the Senate debate of the Treaty of Versailles and the League of Nations took over. Additionally, “scientific medicine’s inability to conquer the influenza epidemic may have spurred a national amnesia. It was not a story that people of the Progressive Era and the Age of Modern Medicine wished to be reminded of.”

Nonetheless, many of the historians referenced in this essay argue that Spanish influenza played a prominent role behind the scenes in world geopolitics in 1919. As preparations for the peace talks picked up steam in Paris in late 1918, Crosby reports that Colonel Edward M. House, Wilson’s chief advisor on foreign affairs, was laid up in his Paris room with the flu from late December through early January. House wrote, “When I fell sick in January, I lost the thread of affairs and I am not sure that I have ever gotten fully back.” Pettit and Bailie also quote him: “Today is the first day I have taken up my official work in person for over a week. I have had influenza ten days and have been exceedingly miserable...So many people have died since this epidemic has scourged the world.” Crosby, highlighting House’s importance to the diplomatic process before

President Wilson's arrival in France (and the flu's disruption of that process), writes that "At the climax of his life and power, when whole nations hung on his every word, House's body had failed him...and history swept on past his sickbed." Wilson himself wasn't immune – after arriving in Paris for the Versailles Conference he fell ill on April 3, 1919. While other historians and physicians have diagnosed (from afar) the President's illness as cerebral vascular occlusion, viral encephalitis, or cerebral hemorrhage (perhaps looking ahead to the strokes Wilson would suffer six months later, in the fall of 1919), Pettit and Bailie quote Wilson's personal physician Cary Grayson, who diagnosed influenza. In a letter dated April 10th, Grayson wrote that Wilson's sickness "turned out to be the beginning of an attack of influenza."

John Barry argues that the onset of the disease left the President's mind less resilient than before, causing him to yield to demands by French Premier Georges Clemenceau that Germany accept all responsibility for starting the war. Crosby writes: "A number of people who were in close contact with Wilson in spring 1919 noted an abrupt change for the worse in the man at or about the time of his attack of influenza," and he quotes Herbert Hoover, Gilbert Close (Wilson's secretary), British Prime Minister David Lloyd George, and Secret Service guard Edmund W. Starling, who all noted Wilson's lapses in memory and judgment, and change in behavior. Carol Byerly also mentions Wilson's illness, and how the flu would affect other key players at the Paris Peace Conference as well, with Dr. Grayson, Clemenceau, Lloyd George, and Mrs. Wilson all ill with influenza at some point in spring 1919. Back home, prominent figures including three U.S. Congressmen had died from Spanish flu, and both AFL President Samuel Gompers and New Mexico Senator Albert Fall lost children to the epidemic.

## **LEGACIES OF 1918**

Alfred Crosby explains that exact statistics of the 1918 pandemic are impossible to arrive at, because "the worst weeks – exactly when the collection of statistics was most important – were exactly the weeks when physicians and nurses had much more compelling demands to answer than the call to be accurate clerks." The Spanish influenza ended the lives of millions of people, and affected the lives of millions more, changing society, medicine, and government in tangible ways. In the United States alone, 25 million people fell ill and approximately 675,000 died. The epidemic was so powerful that it created a dramatic, downward "blip" in life expectancy statistics, costing both men and women at least twelve years in 1918. The Spanish flu's "mortality curve" was W-shaped (versus the usual U-shape) because it killed especially well at the middle of the demographic spectrum – people in their 20s and 30s. For K. David Patterson, an important legacy of 1918 was the creation of extensive vaccination campaigns conducted annually in many countries, as well as increased research and policies on influenza. The influenza vaccines of 1918 were ineffective and would have no immunological value until flu viruses were isolated later in the twentieth century. Patterson asserts that the single most striking generalization confirmed by his study is the similarity amongst most other pandemics and "the utter uniqueness of the 1918 outbreak." W.I.B. Beveridge, on the other hand, writes of the 1918 pandemic, "perhaps it is not unique." Harvard Medical School's

Warren Vaughan, writing in the *American Journal of Epidemiology* in 1921, believed that “the influenza epidemic of 1918 ranks well up with the epidemics famous in history.”

For Dorothy Pettit and Janice Bailie, another major legacy of 1918 was the rapid growth of public health nursing and increased health education. Some people had blamed the disease on weather, German agents, poor diets, or other sources, but the pandemic revealed how little the public knew about communicable diseases and good health. There was a recurrence of the flu in 1920, but Pettit and Bailie write that “the world of 1920 had become so grief-stricken that it had been stunned into apathy and silence. It needed time to heal itself.” The Spanish influenza had left a trail of ailing victims with Bright’s disease, cardiac irregularities, vascular problems, pulmonary tuberculosis, and a host of nervous and paralytic afflictions – all secondary effects of the 1918 Spanish flu. It was truly “a sick and tired nation – in a sick and tired world.” Crosby, who theorizes that World War I overshadowed the epidemic, decries the historical amnesia among academics concerning 1918. Writing in the 1970s, he argued:

The average college graduate born since 1918 literally knows more about the Black Death of the fourteenth century than the World War I pandemic, although it is undoubtedly true that several of his or her older friends or relatives lived through it and, if asked, could describe the experience in some detail. Of the best selling college texts in the United States history, books by such historians as Samuel Eliot Morison, Henry Steele Commager, Richard Hofstadter, Arthur Schlesinger, Jr., C.Vann Woodward, and Carl Degler, only one so much as mentions the pandemic.

#### **CONCLUSION – Telling a Story of Forgotten History**

*The important and almost incomprehensible fact about Spanish influenza is that it killed millions upon millions of people in a year or less. Nothing else – no infection, no war, no famine – has ever killed so many in as short a period. And yet it has never inspired awe, not in 1918 and not since, not among the citizens of any particular land and not among the citizens of the United States.*

*-Alfred W. Crosby*

Writing about an overlooked and overshadowed historical event like the Spanish influenza pandemic requires extensive research for source material that might be hidden in a larger narrative, like World War I military or medical journals that merely mention the epidemic in passing. Many of the historians studied in this essay cited much of the same primary and secondary evidence, and any further evidence they researched depended on the scope and focus of their work – whether for a general overview (John Barry), social and environmental history (Alfred Crosby), military history (Carol Byerly), medical history (Dorothy Pettit and Janice Bailie), a history of pre-twentieth century influenza pandemics (K. David Patterson), or influenza pandemics in the twentieth century (W.I.B. Beveridge). Types of sources that turned up in most of these works included: medical archives from Johns Hopkins University, National Library of Medicine archives, Library

of Congress documents, Philadelphia Historical Society documents, contemporary newspaper articles, personal letters from scientific researchers, medical journals, oral history tapes, published secondary sources, British medical journals, census records, World Health Organization records, government publications, military communiqués, and personal memoirs and diaries. Additionally, these particular historians referenced each other in the course of their work, perhaps reflecting the small pool of academic work that has been done to date on the 1918 epidemic.

Occasionally, contemporary world events will cause a renewed interest in the story of (and lessons from) 1918. In the late 1980s the AIDS virus epidemic had progressed to the point that Alfred Crosby republished *Epidemic and Peace, 1918*, wrote an extensive preface to the new edition, and re-titled it *America's Forgotten Pandemic: The Influenza of 1918*. Crosby informed the reader in a preface to the new edition that “when I wrote this book at the beginning of the seventies, its subject matter, the 1918 pandemic, seemed more of academic than immediate interest.” Tuberculosis and polio were only bad memories, he asserted, but the characteristic sin of the time vis-à-vis public health and medical science was hubris. Now, however, “hubris has given way to anxiety.” He continued: “AIDS is the first killer disease to spread worldwide during most of our lifetimes. We have to turn to history for instruction as to how our society has reacted to the threat of a pandemic of a dangerous infection.” If society wants to avoid a reprise of that ordeal, “we should reexamine it [1918], because we still do not know why it was as bad as it was.” Crosby gives voice to the frustration of the historians of the 1918 epidemic as to why it has never generated greater interest:

The study of the history of influenza has persuaded me that the malady is one of God's cleverest tricks, one of the best of those 'sly, good-natured hits, and jolly punches in the side bestowed by the unseen and unaccountable old joker' (to quote Herman Melville). The Deity, jaded with omnipotence, seems to have posed Himself a paradoxical problem: just how deadly a disease can I create that humans will barely notice? His answer to His challenge was influenza.

Humans, Crosby maintains, are more frightened of diseases with high mortality rates, but which we are extremely unlikely to ever get, than a disease like influenza, with low (but very real) mortality rates which we are almost certain to get sometime. As to the possibility of another 1918-type influenza pandemic ever recurring, W.I.B. Beveridge sounded a note of caution. Acknowledging the advances in science and medicine, Beveridge (writing in 1976) believed that a program for preventing new human pandemic subtypes might be possible “within a couple of decades.” His conclusion, with its mix of optimism and trepidation, warrants extensive quotation:

Parasites prosper when their hosts become numerous and crowded. The human race has become numerous and crowded. Huge aggregations of people and a vast air transport system have provided ideal conditions for the spread of the airborne parasite we are concerned with. Influenza

pandemics could well become increasingly serious, and there is no known reason why there should not be another catastrophic one like that of 1918 or even worse...Influenza is no respecter of national or climactic barriers and affects rich and poor countries alike. It is a global plague: a spark in a remote corner of the world could start a fire that scorches us all. But one day man will find out how to tame this versatile virus; the story of discovery is not yet finished.

The 1918 epidemic, like history in general, holds lessons on the human psyche that can provide insights into mankind's response to adversity. These lessons will remain unheeded, however, without the research, analysis, and interpretation of all available source materials by dedicated historians who have an interest in enlightening their readers about a story that deserves attention. The historians of 1918 who were examined in this essay devoted themselves to shedding light on what they convincingly show is a "forgotten" story, yet one fraught with serious implications for twentieth century history. Their works serve as an important example of the necessity of good historical research, even when the available sources do not fit into a pre-determined narrative.



*Monument to child victims of the 1918 Epidemic, Westmoreland County, PA.  
Courtesy of usgarchives.org.*

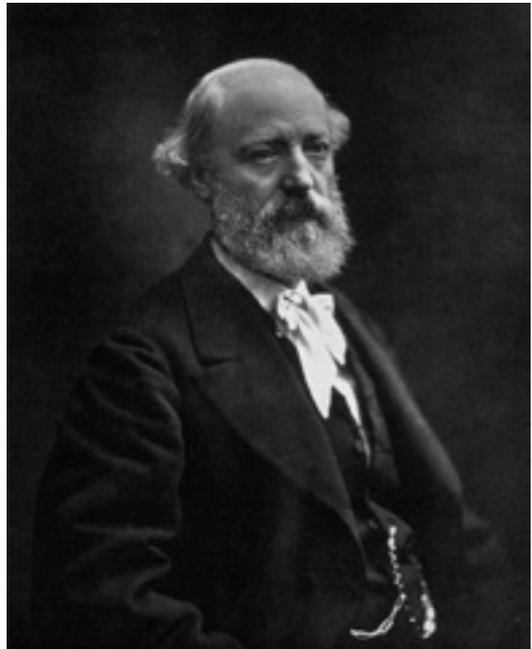
# Viollet-le-Duc:

## His Life and Principles on Restoration

Anna Phillips

The rise of historic preservation of buildings throughout the world has led many cultures to begin an inventory of their own historic structures and to begin their own process of preserving their histories. This idea of preserving a nation's history through saving and restoring its landmarks is not new to the twentieth century, nor does its foundation lie in the United States. The first restoration in the United States occurred in 1827 with a synagogue in Newport, Rhode Island, originally built in 1765. As William J. Murtagh stated in *Keeping Time: The History & Theory of Preservation in America*, "The protection of single buildings of landmark quality and with strong historic significance was the goal of early preservationists [in the United States], whose ranks were filled, for the most part, by women."<sup>1</sup> A further goal of these early preservationists was to preserve or restore buildings related to the nation's heroes, such as the restoration of George Washington's home

Photo by  
Nadar, Félix,  
1820-1910.  
ARTstore  
database.



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at Mt. Vernon, spearheaded by Ann Pamela Cunningham in 1853. As time progressed, preservation and restoration of America's historic buildings included those valued for their architectural beauty, as well as for their historic qualities, whether individually or in a historic district.

Standards for historic preservation and restoration of buildings in the United States did not begin to emerge until the mid-nineteenth century. As this practice became more widespread, the standards regarding restoration of buildings began to coalesce. William Murtagh states that preservation today focuses "on the maintenance and repair of existing historic materials and retention of a property's form as it has evolved over time."<sup>2</sup> Thus, to preserve a building is to maintain and repair it so as to leave as much of the historic fabric intact as possible. Restoration, on the other hand, states William Murtagh, "depicts a property at a particular period of time in its history, while removing evidence of other periods."<sup>3</sup> Therefore, restoring a building to its form in the nineteenth century would allow for removal of materials added to the building in the twentieth century, and maintaining and repairing those materials that originated in the nineteenth century. It is important to note that a structure rebuilt to look as it did during a certain time, either because the building no longer exists or because it has experienced severe damage, is considered a reconstruction, not a restoration.

While these terms are widely understood by preservation and restoration experts today, they were not yet fundamental principles of the practice until the mid to late twentieth century. Architects restoring or preserving structures in the past often had their own ideas of what restoration and preservation of historic buildings entailed, with definitions and standards often varying from one country to the next. Additionally, historic preservation and restoration in the United States began in the private sector with various philanthropists and historic preservation groups addressing buildings they believed warranted such care. Individuals seeking to sell stolen historic artifacts caused the U.S. government to get involved in the historic preservation movement with the 1906 passage of the Antiquities Act, which protected historic monuments, buildings, and landscapes from predation. This Act covered many aspects of preservation and restoration in the United States, including buildings labeled as historic monuments and the national parks. Not until 1935 did the Historic Sites Act pass in the United States to protect historic sites, including buildings and objects. During this New Deal era, the U.S. government first took a strong role in identifying and preserving historic buildings.

Not all nations in the world followed the same road to preserving and restoring their historic buildings. In fact, government intervention in historic restoration of buildings began much earlier in France. England and the United States shared similar ideas in establishing societies to begin overseeing historic preservation and restoration with limited government involvement at first, whereas France's government had already established its historic restoration policies and had begun to fully implement them throughout the country. While these policies and the terms associated with restoration and preservation differed from those being established in England and later in the United States, it was this difference of opinion that allowed for critical debate of restoration and preservation techniques and eventual standards that would be practiced worldwide.

A well-known architect in France who restored many of the country's historic buildings was Eugène Emmanuel Viollet-le-Duc. At the time his restorations took place and even for a while after his death, Viollet-le-Duc's work was highly praised both within and without France. However, as the standards for restoration became more stringent through debate on the best practices for historic restoration, Viollet-le-Duc's work fell out of favor and was no longer viewed as maintaining the standards of historic restoration. During the debates taking place around the world in the nineteenth century on what constituted historic restoration, Viollet-le-Duc's work was criticized; however, since standards for preservation and restoration were still developing, Viollet-le-Duc's restorations received higher praise during his lifetime and for a time, after his death. In the twentieth and twenty-first centuries, Viollet-le-Duc came under increasing criticism by historic preservationists for his restoration of France's historic monuments. These individuals view his restoration projects under the standards established in the mid-twentieth century rather than those of the mid-nineteenth century, the period in which Viollet-le-Duc lived and when standards were not fully formed.

Additionally, Viollet-le-Duc's restoration projects took place during a turbulent time in France's history and this history influenced Viollet-le-Duc's life and work, most especially the restorations he undertook at the direction of the French government. In order to understand the context of Viollet-le-Duc's restorations, it is important to understand France during his era. Placing Viollet-le-Duc in the context of France's history allows one to understand his restoration work through the emerging standards developing in the nineteenth century, not the standards put in place during the twentieth.

Before Viollet-le-Duc's birth on January 27, 1814, France had undergone a very bloody revolution in which the Bourbon monarch, King Louis XVI, his wife Marie Antoinette, and many other nobles were put to death by guillotine. During this reign of terror, many of France's oldest buildings and cathedrals were damaged or destroyed, including the Bastille and Notre Dame de Paris. The destruction of the nation's many cathedrals occurred because the Catholic Church was viewed by French revolutionaries as being closely aligned with the dead king's and his wife's *ancien regime*. While venting their rage against this *ancien regime* and its allies, French citizens damaged or vandalized Gothic cathedrals and other Catholic Church buildings throughout the country.

In 1792, the establishment of the First Republic of Napoleon Bonaparte restored some stability to France. This stability was short-lived, lasting only twenty-two years and disrupted by the Napoleonic wars taking place all over Europe as the French dictator attempted to create a great French empire modeled on the Roman Empire. The Bourbon dynasty once again gained control of France under Louis XVIII in 1814, the year of Viollet-le-Duc's birth. After the death of Louis XVIII, Charles X became king of France, however, his reign did not last long. In July 1830, rather than become a constitutional monarch, Charles X abdicated the throne and Louis-Phillipe became the "Citizen King" of France. This period under Louis-Phillipe's rule came to be known as the "July Monarchy."<sup>4</sup>

The July Monarchy under King Louis-Phillipe was the longest period of stability for the French people since before the French Revolution. Louis-Phillipe's reign lasted from 1830, when Viollet-le-Duc was approximately sixteen years old, until 1848, when

Viollet-le-Duc was thirty-four. Viollet-le-Duc began his restoration work under the regime of Louis-Phillipe, which ended with his abdication in 1848. Louis-Napoleon Bonaparte became President of France's Second Republic in 1848 and eventually proclaimed Emperor Napoleon III in 1852, at the height of Viollet-le-Duc's career. For approximately twenty years, France's Second Republic brought peace and stability to the French people and during this time many of Viollet-le-Duc's restorations took place. Peace for the French people ended in 1870 when the Franco-Prussian war caused the fall of the Second Republic of France. Viollet-le-Duc's involvement in this war had consequences. A short-lived Commune government rose and fell in 1871 before giving way to a new government under the Third Republic of France. At the time of Viollet-le-Duc's death in 1879, the Third Republic of France was still in power. It is important to note that during these periods of instability in the French government there was also unrest among the French people. The changes in government often accompanied or were influenced by changes in French society and attempts by French citizens to gain more rights. Viollet-le-Duc's life spanned a time of change in both French society and French government. This upheaval influenced historic restoration within France, as well as the architects who would carry it out.

### **Viollet-le-Duc's Early Life**

Eugène Emmanuel Viollet-le-Duc was born in Paris on January 27, 1814 to Eugénie Delécluze and Emmanuel Viollet-le-Duc. Eugène's mother was the daughter of a contractor who had built the Théâtre de L'Odéon and Hôtel de Salm; his father was a French civil servant who enjoyed the arts and reading sixteenth century books.<sup>5</sup> The appreciation of arts and architecture that surrounded Viollet-le-Duc in his formative years must have had some influence on his future career. Also formative for the young Viollet-le-Duc were his interactions with the many educated and cultured people who visited with his family at his mother's weekly salons to discuss art, French culture and politics.

Viollet-le-Duc's maternal uncle, Eugène Delécluze, an educated bachelor with anti-clerical leanings influenced by the French Revolution, played a prominent role in the education of Viollet-le-Duc and his brother. Many French citizens held these anti-clerical views during the revolutionary era, as evidenced by their destruction of many Gothic cathedrals and churches in France during that time. Suspicion of the Catholic Church in France emerged during the Revolution due to the Church's association with the *ancien regime*, the Bourbon Dynasty. Therefore, removal of the Bourbon Dynasty also meant removal of things associated with the dynasty, including the Church and its religious buildings. Such anti-clerical philosophies would influence Viollet-le-Duc as well.

Viollet-le-Duc and his brother attended school at Fontenay. Their Uncle Delécluze accompanied them to ensure the quality of their education and supplemented their studies with walks, readings, and charades. Viollet-le-Duc often drew during his childhood. These drawings included people and landscapes, and more frequently in his adult life, buildings. "The majority of drawings relate, inevitably, to restorations," stated Stuart Durant in *Viollet-le-Duc 1814-1817*, "However, the details for these schemes properly

amount to new work.<sup>6</sup> Viollet-le-Duc's drawings were extremely detailed and he would be remembered for these in addition to his architectural and restoration work.

After school at Fontenay, Viollet-le-Duc refused to enroll in the *École des Beaux-Arts* to continue his formal training. He had not enjoyed the early years of his formal education and this may have led to his dislike of institutions.<sup>7</sup> Viollet-le-Duc feared becoming institutionalized through the formal architectural education at the *École des Beaux-Arts* in that he would not learn the proper processes required of an architect. He feared being molded to the school's idea of what an architect was. He believed an architect should learn all aspects of the construction process, from stone masonry applications to understanding the function of various aspects of buildings. Viollet-le-Duc did not believe the *École des Beaux-Arts* provided this type of education.

Additionally, the nineteenth century was an age of specializations in work and schools; as discussed by Jean-Jacques Aillagon in *Viollet-le-Duc and the Role of the Architect*, everyone had their specific place "determined by the subtle balance of property, knowledge, and power."<sup>8</sup> However, the role of the architect was not yet defined in nineteenth-century Europe and architecture was not considered a specialized profession. Viollet-le-Duc maintained that an architect was not a specialist but should have the ability to comprehend all the professions necessary for construction. Furthermore, Jean-Jacques Aillagon maintained that "Viollet-le-Duc also categorically deplored the split between architect and engineer, which meant that the architect was concerned with the 'beautiful' and the engineer with the 'useful.'<sup>9</sup> The requirement that an architect should understand that a building had both beauty and function is a recurring theme throughout Viollet-le-Duc's writings.

In 1832, when he was eighteen years old, Viollet-le-Duc's mother died. A year later he married Élisabeth Tempier and became Professor of Composition and Ornament at the *École de Dessin* in Paris. In 1835, Viollet-le-Duc accompanied a pupil to Italy and spent the next seventeen months travelling and drawing the many attractions he visited. Upon his return to France, Viollet-le-Duc became engrossed with medieval France and the buildings of that era. Sir John Summerson, in *Viollet-le-Duc and the Rational Point of View*, surmised that Viollet-le-Duc "saw through the mere strangeness and romantic intricacy of its [medieval France's] appeal to that essential logic of design of which he was to become the greatest exponent and on which he was to base a whole philosophy of architecture."<sup>10</sup> Viollet-le-Duc produced many drawings of the medieval cathedrals of France to show the functionality of the various parts of the building, such as the use of flying buttresses.

In 1838, at age 24, Viollet-le-Duc was nominated to the position of *auditeur-suppléant* of the *Commission des Monuments Historiques* (Commission of Historic Monuments). He began his restoration career with the government of France, working to restore the nation's historic buildings. Viollet-le-Duc attained this position with the help of a family friend and later confidante, Prosper Mérimée. Mérimée already had a position with the Commission of Historic Monuments. Additionally, Mérimée was a friend of Viollet-le-Duc's parents, and had regularly visited his mother's weekly salons, which welcomed him as one of France's most celebrated novelists and historians.

The July Monarchy in France established the Commission of Historic Monuments as a means of legitimizing their rule. It had only been eight years since the July Monarchy's ruler, Louis-Phillipe, had gained the French throne during the Bourbon restoration, twenty-four years since the fall of Napoleon's First Republic, and almost fifty years since the bloody French Revolution. The July Monarchy recognized that France had undergone turbulent times and the various changes in rulers over that period added to the instability. In an attempt to legitimize his rule, Louis-Phillipe began to restore France's historic structures damaged during the French Revolution. The July Monarchy agreed to "government sponsored restoration project[s] not as the result of widespread consensus on the necessity of a national restoration program," as discussed in Kevin D. Murphy's *Memory and Modernity: Viollet-le-Duc at Vézelay*, "but instead as the consequence of a series of politicized, emotional conflicts over intangible concepts like historical memory."<sup>11</sup> In the process of restoring France's historic structures, many of which were Gothic cathedrals, the government began relating these structures to the French identity by calling them "monuments" as a means of separating the religious connotation associated with cathedrals and the Catholic Church. Gothic cathedrals had to be reinterpreted beyond their associations with religious faith and the despised former monarchy. Viollet-le-Duc changed these perceptions and "made it possible to see a medieval church or cathedral not as a religious site, but as a meeting hall; not as a shrine to Christianity, but as a monument to French architectural genius."<sup>12</sup>

The French Revolution assaulted the previous Bourbon monarchy and the Catholic Church because of its shared affiliation with the ancien regime. Removing the stigma of religious association from the medieval Gothic cathedrals and churches allowed the French to view these historic structures as a tribute to the ingenuity of the French people. As Murphy succinctly stated, "[G]overnment institutions of the July Monarchy were especially concerned to provide a historical justification for the king's rule and to suggest a line of continuity between the formation of the French nation and Louis-Phillipe's regime."<sup>13</sup> The government believed that restoring France's historic medieval monuments would generate a nationalistic fervor and link the July Monarchy to the medieval era of France, thus legitimizing Louis-Phillipe's reign and creating a unified national identity for the French people.

An advocate for the restoration of France's medieval monuments was Victor Hugo, a popular and celebrated French author of many classics, including *The Hunchback of Notre Dame*. He held that the buildings associated with the old regime should not be destroyed because they were also the history of the French people. Viollet-le-Duc thought that Gothic architecture was the high point of French design and that, "Gothic architecture, in its origin, was a protestation against monastic power; it was the first and most vigorous effort of science, investigation, and the pursuit of truth against tradition."<sup>14</sup> Thus, restoration of Gothic architecture by the government displayed a belief that France was once again pursuing truth and tradition but also continued to separate itself from the religious connotations associated with these structures.

Additionally, Viollet-le-Duc addressed government's use of historic architecture and structures as a means of legitimizing its rule. In his *Discourses on Architecture*, he stated that "[W]hen society is in process of formation...art becomes then a powerful agent in

the development of civilization; and if there exist any points of affinity between the races and ancient local traditions, it becomes one of the most active instruments of unity.”<sup>15</sup> Viollet-le-Duc understood the July Monarchy’s restoration of historic monuments as a means of endearing itself to the French people and uniting France. Thus began the restoration of France’s medieval structures, viewed not as religious forms but secularized historic monuments that paid tribute to the French nation.

Viollet-le-Duc’s first restoration was in the town of *Vézelay* in 1840. He was to restore the Madeleine church that had seen previous restoration attempts over the years since the Revolution. The history of *Vézelay* was especially important politically. In the twelfth century, the townspeople had fought against the oppression of the Catholic Church but were unable to combat it and remained subdued until the end of the eighteenth century, at the time of the Revolution. “[A]ssociation with ancient struggles against oppression by religious institutions made *Vézelay* ripe for restoration during the July Monarchy,” stated Murphy, “when skepticism for the church, especially within the Commission of Historic Monuments and its service, ran high.”<sup>16</sup> The emergence of a unified France and the bourgeoisie class was believed to have begun in the Middle Ages and restoring the buildings of this time period synthesized this belief and articulated a national history.

As the July Monarchy and the Commission of Historic Monuments pursued a secular, national identity for France through restoration of the nation’s medieval monuments, Viollet-le-Duc began his work in that spirit. He had firm beliefs as to what restoration entailed. “To restore a building is not to preserve it, to repair, or rebuild it;” Viollet-le-Duc stated, “it is to reinstate it in a condition of completeness that could never have existed at any given time.”<sup>17</sup> This is the philosophy of restoration that Viollet-le-Duc followed throughout his lifetime and for which he now comes under criticism. However, as Viollet-le-Duc himself stated in the nineteenth century, “[i]t is only since the first quarter of the present century that the idea of restoring buildings of another age has been entertained; and we are not aware that a clear definition of architectural restoration has as yet been given.”<sup>18</sup> Historic preservation and restoration had no set standards to follow in the nineteenth century and Viollet-le-Duc and his contemporaries developed standards as they undertook restoration projects on historic buildings.

With an eye to restoring the stability of historic medieval buildings and maintaining that stability for years to come, Viollet-le-Duc believed that damaged historic fabric be replaced with new and better materials. He also held that “[i]n restorations there is an essential condition that must always be kept in mind. It is that every portion removed should be replaced with better materials, and in a stronger and more perfect way.”<sup>19</sup> For example, if the roof of a historic building sustained damage beyond repair then replacement of the roof in iron was acceptable. It would maintain the stability of the roof, was a better material than the original damaged fabric, and was viewed as fire prevention for the building.

In his restoration work, Viollet-le-Duc supplemented his knowledge of architecture with the use of archaeology and photography. Photography, stated Viollet-le-Duc, “presents the advantage of supplying indisputable reports - documents that can be permanently consulted when the restorations mask the traces left by the ruin.”<sup>20</sup> A photograph of a

ruin allowed one to see what a structure looked like before restorations were completed. Viollet-le-Duc's numerous drawings of ruins before restoration fulfilled this task as well. As to his support of archaeology in restoration, Viollet-le-Duc stated that, "before beginning it will be necessary to search for and examine all that remains; to collect the smallest fragments, taking care to note the point where they were found; and not to begin the work until their place and use have been assigned to all these remains, as with the pieces of a puzzle."<sup>21</sup> Archaeological remains aided the restorer in identifying a building's use, the materials used in construction, and its ornamentation.

Viollet-le-Duc believed that the fragments of historic structures found during archaeological investigations should be used in the restoration. He stated that "[i]n erecting the new constructions he [the architect] should as far as possible replace these old remains even if injured: this will furnish a guarantee for the sincerity and exactitude of his investigations."<sup>22</sup> The use of original fabric located during archaeological investigations helped to maintain the historic integrity of a building. While this was not always a procedure that Viollet-le-Duc followed to the letter, but historic restoration experts attempt to follow it today. All of the historic restoration principles that Viollet-le-Duc prescribed are precursors to contemporary standards followed in the present day.

Additionally, Viollet-le-Duc understood, as today's restoration specialists do, that "a restoration can be more disastrous for a monument than the ravages of the centuries and popular upheavals, for time and revolutions destroy but do not add anything."<sup>23</sup> Criticized at times in the nineteenth century for adding to the restorations he completed, Viollet-le-Duc responded that "[w]e understand the point of these principles and we accept them completely, but they apply only when it is a matter of a curious ruin, a ruin without purpose and without actual utility."<sup>24</sup> For those ruins that Viollet-le-Duc believed had functionality, restoration of damaged historic fabric with new materials was acceptable because a historic building had additional value in its functionality. As Viollet-le-Duc stated in his lecture entitled "Construction" in his *Dictionnaire Raisonné de l'Architecture Française* regarding Gothic structures, "if the Gothic builders had had at their disposal cast-iron in large pieces, they would have availed themselves eagerly of this sure means of obtaining supports."<sup>25</sup> Therefore, in addition to the need for function in a restored historic building, Viollet-le-Duc believed a historic monument needed to be restored better than it had been to withstand the further ravages of time, even if this meant the use of new technology.

Finally, Viollet-le-Duc acknowledged that the construction of France's medieval monuments took several centuries. Thus, "each part, added in whatever epoch, ought in principle to be preserved, strengthened, and restored in the style appropriate to it, and this done with a reverent discretion."<sup>26</sup> To Viollet-le-Duc this did not mean that a thirteenth century piece on a twelfth century building should be removed to restore the building to its twelfth century beginnings. Rather, many of France's Gothic cathedrals took hundreds of years to complete and the additions in later centuries were just as important as those completed at the outset of a building's construction. Viollet-le-Duc also held that "the architect entrusted with a restoration should be a clever and experienced builder...that is to say, he should be acquainted with the methods of construction employed at differ-

ent periods of our art and in the various schools.”<sup>27</sup> Therefore, to restore a building, the architect must be familiar with the era of its construction and that era’s artistic elements.

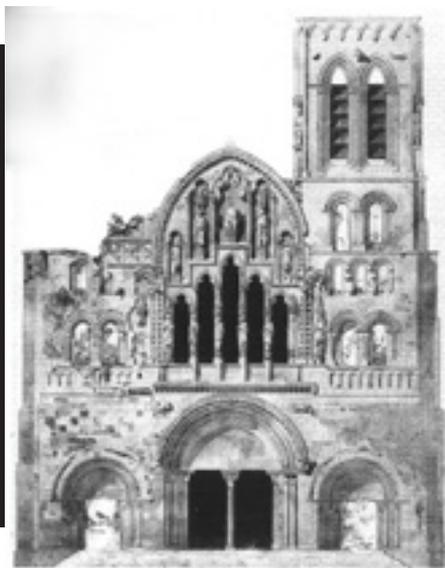
Influenced by France’s nationalistic fervor and the history behind it, as well as his own restoration principles, Viollet-le-Duc began his restoration of the Madeleine at Vézelay in 1840. The restoration included unblocking doors and windows at the narthex, repair of buttresses and chapels at the choir, reattaching sculptures, patching the roof, structural repairs to the nave and restoration of the façade and towers. Murphy stated in *Memory and Modernity*, that “[S]tabilizing the nave at Vézelay was limited by available technological means, but the reconstruction also corresponded closely with [Viollet-le-Duc’s] theoretical assessment of medieval architecture as structurally rational.”<sup>28</sup> Viollet-le-Duc understood Gothic architecture and where reconstruction of the nave was required, he knew how to make the reconstructed elements function as intended by the original architects.

At times, Viollet-le-Duc and his mentor Prosper Mérimée differed on the restoration at Vézelay, just as restoration architects around the world differed in their principles of restoration. Murphy states in his book that Mérimée “insisted on the preservation of original material and the reproduction only of elements that were not archaeologically documented,” while “Viollet-le-Duc acted upon a belief... that the practice of restoration encompassed the enhancement of a building’s completeness.”<sup>29</sup> Therefore, the function and unity of the building were of utmost importance to Viollet-le-Duc when he undertook restorations at Vézelay and elsewhere in France, and preservation of original fabric, while important, had a lesser priority in his restorations. While this has brought criticism to Viollet-le-Duc’s work, it provides evidence that during Viollet-le-Duc’s time, standards were still emerging.



44. Vézelay, facade after restoration (photo author)

Murphy, Kevin D. *Memory and Modernity: Viollet-le-Duc at Vézelay*. University Park, PA: Pennsylvania State University Press, 2000, p. 118.



22. Vézelay, west facade before restoration, watercolor by Viollet-le-Duc, ca. 1840 (photo © A&A, Paris, FRA/CNMFH)

Murphy, Kevin D. *Memory and Modernity: Viollet-le-Duc at Vézelay*. University Park, PA: Pennsylvania State University Press, 2000, p. 85.

Completion of the Madeleine at Vézelay took nineteen years, yet the French government considered this an acceptable period. Knowing that medieval structures sometimes took a hundred years to finish, restoration of these structures in twenty years, and many in even less time, was accepted. Therefore, even though Merimée and others may have disagreed on Viollet-le-Duc's removal of historic fabric in some parts in Vézelay's restoration, Viollet-le-Duc was not criticized within the Commission because, Murphy stated, it was "crucial that the restoration... demonstrate the effectiveness of the Commission of Historic Monuments," and thereby the effectiveness of the July Monarchy.<sup>30</sup> This lack of criticism may have bolstered Viollet-le-Duc's willingness to sacrifice historic fabric for function and a sustainable long-term future.

Another significant restoration performed by Viollet-le-Duc was that of Notre Dame de Paris, a Gothic cathedral damaged and vandalized during the French Revolution. Restoration on the cathedral began in 1845 after Viollet-le-Duc and another architect, Jean-Baptiste Antoine Lassus, submitted a restoration plan, along with many other architects. The Commission on Historic Monuments accepted Viollet-le-Duc's and Lassus' restoration plans for the cathedral. "While it was not thought possible or even desirable to restore to its original form every part of the building," stated Dorothy Gillerman in her *Gesta* article, "The Cloture of the Cathedral of Notre-Dame: Problems of Reconstruction," "the

architects pledged themselves to preserve the style and method of construction of each added part with religious discretion, and to efface themselves completely in the process."<sup>31</sup>

The restoration plan at Notre Dame de Paris, as relayed to the Commission on Historic Monuments, included replacing approximately twenty-four destroyed statues. Acoustic hoods at the columns of the tower's great windows needed replacement "while preserving

the belfry, will leave visible the ample proportions of the windows and no longer spoil the original exterior construction," stated Viollet-le-Duc.<sup>32</sup> The nave chapel walls and buttresses were to be rebuilt, as suggested by Viollet-le-Duc, according to "the remains of the decoration still *in situ*."<sup>33</sup> The architects proposed restoration of the two large rose windows at the transept, as well as the tracery cusps of the tall windows in the nave and choir. Additionally, Viollet-le-Duc determined that the upper rose and two spires flanking the northern gable would have to be "renew[ed] almost entirely."<sup>34</sup> The pilaster buttresses above the chapels of the choir had apparently been restored earlier but they were "poorly contrived...and ought to be removed and the pilaster buttresses repaired," as part of the restoration.<sup>35</sup>



View of Notre Dame from river side. Photo courtesy of Anna Phillips, 2011.

The restoration of the tribune windows, seen at the west façade of Notre Dame de Paris, posed some problems for Viollet-le-Duc. Apparently, work done on them in the fourteenth century was faulty and Viollet-le-Duc believed this work undermined the stability of the building. He proposed replacing the openings of the windows with windows “in harmony with the general style of the facades.”<sup>36</sup> Further restoration at Notre Dame de Paris required major reconstruction on the last two buttresses on the apse where previous crowns were destroyed and replaced in the fifteenth century, even though the “pedestals and even the bases of the columns are still in place.”<sup>37</sup> In addition, the 104-foot tall central fleche needed restoration. Last, the archbishop wished to have the organ loft lowered, but Viollet-le-Duc rejected this as dangerous to the stability of the cathedral.

Viollet-le-Duc’s partner Lassus, died in 1857, two years before completing the restoration of the cathedral, and most criticism of the restorations at Notre Dame de Paris focus on Viollet-le-Duc alone. One critic charged that “Viollet-le-Duc changed the form of the flying buttresses along the nave, the earliest universally acknowledged buttresses in Gothic architecture, the original form of which was therefore historically important.”<sup>38</sup> With the loss of these early buttresses went any knowledge of the materials or form used for Gothic buttresses of this time for future restorations.

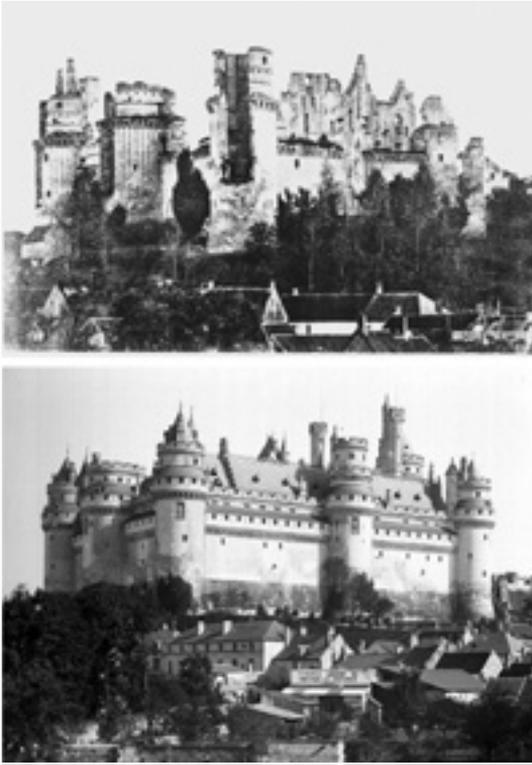
In the middle of Viollet-le-Duc’s restoration of Notre Dame de Paris, the July Monarchy came to an end and France experienced yet another upheaval in its government. On February 24, 1848, Louis-Phillipe abdicated the throne and the Second Republic of France began. By December 10, 1848, Louis-Napoleon Bonaparte (Napoleon Bonaparte’s nephew), was elected President of the Second Republic of France. By the close of 1852, Louis-Napoleon Bonaparte was declared Emperor. Fortunately for the Commission of Historic Monuments, Napoleon III also promoted the restoration of France’s historic monuments, possibly for the same reason as the July Monarchy: as a means of legitimizing his rule. Viollet-le-Duc’s work on Notre Dame de Paris and other projects continued.

Viollet-le-Duc began restoration of St. Nazaire of Carcassonne Church in 1845, just before the July Monarchy collapsed. Restoration continued under Napoleon III and reached completion in 1870. Viollet-le-Duc continued to restore France’s monuments after the change in government and began moving up the civil service ladder at the Commission of Historic Monuments. In 1853, he was promoted to Inspector General of Diocesan monuments and in 1857, he was named the Architect of Diocesan Monuments. Viollet-le-Duc’s more notable restorations during this time include the restoration of Pissy Church in Yvelines from 1846 to 1870; restoration of Amiens Cathedral from 1849 to 1875; restoration at St. Denis in Paris from 1851 to 1879; and restoration of the medieval village at Carcassonne from 1852 to 1879.

One of Viollet-le-Duc’s last restorations was that at Chateau de Pierrefonds, undertaken upon Napoleon III’s request. The restoration of the chateau began in 1857 and it appears that Viollet-le-Duc followed many of his restoration principles discussed above, including maintaining the integrity of the original layout designed by Louis d’Orleans. After archaeological examinations at the chateau, it was determined that each tower should be named after a legendary hero, each with their statue placed in a niche. The original statutes were found during site excavations.<sup>39</sup> According to scholar Penelope

Farrant, “The keep was rebuilt in its original form on the existing foundations...with such faithfully restored details as the great gargoyle in the form of a mythical beast on the north-east façade.”<sup>40</sup> Preservationists and restorationists follow this attention to original detail today. However, there are criticisms of Viollet-le-Duc’s work at the Chateau de Pierrefonds. Archaeological remains and historical documents did not provide evidence of some details of the restoration, such as the small defensive towers outside the main perimeter wall and some of the interior decorations of the castle. The changes resulting from Viollet-le-Duc’s work could be attributed to his attempt to provide function and

*Restoration of Chateau de Pierrefonds*



*Found in Farrant, Penelope, et al. Eugene Emmanuel Viollet-le-Duc 1814-1879, 64-79. London: Academy Editions, 1980, 64.*

unity to the restoration of the chateau under the belief that these towers were built to house Napoleon III’s armor collection.

Restoration work at the Chateau de Pierrefonds ended at the time of the Franco-Prussian War in 1870 and the fall of the Second Republic that same year. During the war, Viollet-le-Duc enlisted as second in command of an auxiliary engineer corps. Part of his responsibility was to fortify the city of Paris, which underwent a siege in September 1870. Before the war ended Viollet-le-Duc attained the rank of lieutenant colonel and his responsibility was to protect the abbey of St. Denis and Notre-Dame. After the fall of the Second Republic, Paris succumbed to the interim Commune government on January 28, 1871. By March, the Commune government had

issued a death sentence against Viollet-le-Duc for his support of the Second Republic during the war, forcing him to flee Paris. He wandered France several months until the fall of the Commune government and then returned to Paris in May 1871.<sup>41</sup>

Several restorations conducted by Viollet-le-Duc occurred during this time of turbulence. Restorations at Carcassonne continued even after Viollet-le-Duc’s death in 1879. Likewise, restoration at the abbey church of St. Denis, begun in 1851, also continued until Viollet-le-Duc’s death in 1879. One of Viollet-le-Duc’s last works was the restoration at Reims Cathedral, which began in 1861 and reached completion in 1873. In addition to his restorations, Viollet-le-Duc built many structures, including his home in Paris, which no longer exists. He also taught for a short time at École dex

Beaux-Arts, the school he refused to attend earlier in his life, perhaps as a means of influencing future architects. Viollet-le-Duc wrote many lectures and published several books during his lifetime, many of which are still in circulation today. Most addressed his principles on architecture; however, he did publish a lecture entitled "On Restoration," which specifically addressed his principles of restoration.

Later in his life, Viollet-le-Duc continued to draw, but instead of buildings, he became more interested in the natural sciences. Viollet-le-Duc's granddaughter, Genevieve, stated in an interview that, "at the end of his life, he took refuge in high altitudes, a total solitude."<sup>42</sup> Viollet-le-Duc moved to Lausanne, Switzerland and died there on September 17, 1879, at sixty-five years of age.

Discussions regarding the appropriate standards for restoration began in the nineteenth century, at the time Viollet-le-Duc had begun his restoration of France's historic monuments. Viollet-le-Duc based his restorations on principles he founded, some of which survive to this day, including the use of historical and archaeological research in determining appropriate restoration procedures. While Viollet-le-Duc deviated from his principles at times and these deviations were anathema to current restoration standards, Viollet-le-Duc's restoration work should not be viewed from current standards but rather from the historical perspective of the nineteenth century. As stated by M.F. Hearn, editor of *The Architectural Theory of Viollet-le-Duc*, Viollet-le-Duc "was, after all, among the earliest of restorers and probably the first to enunciate principles to guide that activity."<sup>43</sup> Indeed, there were no set standards for restoration of historic buildings in the nineteenth century, yet restoration was occurring and standards were developing simultaneously.

Viollet-le-Duc's principles were not unique to the area of restoration. Others followed many of his written principles. In 1839 a group established the Cambridge Camden Society in England with its main focus being the restoration of churches. This society stated that "[t]o restore is to revive the original appearance...recover the original scheme of the edifice as conceived by the first builder...or even carrying out perhaps more fully the idea which dictated them."<sup>44</sup> This is very reminiscent of Viollet-le-Duc's principle of restoring a building better than it was originally built. Additionally, "[t]he overall objective of the Camden Society and its proponents, (who were the great majority) was...the unity and completeness in the edifice."<sup>45</sup> This too is similar to Viollet-le-Duc's restoration principle that a building's restoration must display unity and functionality.

One of Viollet-le-Duc's contemporaries was John Ruskin, who had different ideas and principles regarding historic restorations. Ruskin believed "that preserving the history of the building is of the first and paramount importance, over stylistic or any other considerations because without its history intact the building loses its essential value."<sup>46</sup> This is a principle that has prevailed and is part of restoration theory today. Under Ruskin's theory, Viollet-le-Duc's restorations, which reconstructed parts of historic buildings, were considered to have no historical value. However, one of Viollet-le-Duc's concerns when restoring France's monuments was always the stability of the building. Here, Viollet-le-Duc and Ruskin agree that replacing a building's elements only "where absolutely essential for the stability of the fabric."<sup>47</sup> The restoration debate dominated the profession in the 1870s, towards the end of Viollet-le-Duc's architectural career, and in 1877 England established the Society for the Protection of Ancient Buildings.

Preservation and restoration was moving towards an “anti-scrap” (not replacing historic elements of a building unless absolutely necessary) methodology by 1879, the year of Viollet-le-Duc’s death.

Viollet-le-Duc was a pioneer in establishing principles of restoration during his lifetime. Other European nations became involved in the restoration debate during Viollet-le-Duc’s lifetime, and discussions on the appropriate standards to follow were occurring. Yet, critics of Viollet-le-Duc’s work today tend to forget or dismiss the fact that he was a forerunner in developing and implementing restoration principles. These same critics also tend to view Viollet-le-Duc’s restorations from twentieth and twenty-first century standards rather than the emerging standards of the nineteenth century, which were in their infancy. Additionally, as Aillagon stated, “[d]uring his lifetime, Viollet-le-Duc witnessed many of the upheavals and transformations of the 19th century. Few other centuries have seen the emergence of a world so fundamentally new.”<sup>48</sup> These upheavals and transformations had a significant impact on Viollet-le-Duc’s restorations and French history. The July Monarchy and the Second Republic of France used Viollet-le-Duc’s restorations as a means of legitimizing their rule in France. Viollet-le-Duc was fully aware of this and his medieval restorations were completed to highlight both the ingenuity of the French people in the Middle Ages and to also highlight the current regime’s influence on the restorations. The development of Viollet-le-Duc’s restoration principles was a byproduct of this process.

In essence, restoration standards and principles were in their infancy during the nineteenth century. As discussed by Aillagon, “The 19th century, which made such enormous advances in philosophy, methodology and science possible, saw itself as a builder of systems.”<sup>49</sup> One of the forerunners in building a system and principles regarding restoration was Viollet-le-Duc. While not all of his principles have survived to become the standards of restoration in the present day, many of them have. The use of photography, historical documents, and archaeology before beginning restoration to gain as much background on a building as possible to maintain its architectural and historical integrity, is a principle that Viollet-le-Duc developed. Additionally, critics of Viollet-le-Duc’s restoration work must remember that any criticism should be done in the historical context of nineteenth century France and the turbulent times in which Viollet-le-Duc worked.

# Neon Ghosts:

## The Lives and Afterlives of Six Denver Movie Theaters

Jordan Gortmaker

Once upon a time, movie-going in the United States was a glorious spectacle. Classic movie theaters built during the 20s and early 30s were like palaces. Grand and gilded designs with a multitude of architectural influences competed for the attention of the patron. In terms of style and appearance, theaters could be Gothic, Moorish, Oriental, Spanish, or even Mayan (among others). Dazzling on the outside and within, they boasted grand auditoriums, plush seats, and intricately decorated walls and ceilings. These places of magic left lasting impressions. Vicki Gold Levi of the Atlantic Historical Museum remembered the magic that captivated her as a child:

“One small entrance led into a beautiful outer foyer, then into a sumptuous main lobby and finally into the amazing atmospheric auditorium...the ceiling disappeared into a simulated blue sky with floating clouds and hundreds of stars...I had never been further away than New York City when I first started going to the Warner, but once inside I was in every foreign land I had ever read about or imagined. I gazed at the ornate iron-wrought staircases, the Carrera marble statues, and the twinkling evening stars. I sat there in awe; I was convinced that no other place on earth could ever be as beautiful as this exotic movie palace in my own hometown.”<sup>1</sup>

After the end of the opulent movie palace era in the 1930s, theater designers began to create smaller, less ornate structures. These theaters, often located in suburban shopping areas, favored colorful and streamlined art deco motifs. “Gone was the constant decoration of the downtown palaces, instead replaced by clean simple lines and deeper-set colors.”<sup>2</sup>

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Although now bathed in a neon glow, the American love affair with movie theaters continued unabated. In 1946, box-office revenues reached their highest per-capita level in history.<sup>3</sup>

Unfortunately, this upward trajectory could not continue indefinitely. By the 1950s, fewer people visited classic movie theaters and they began to close. The most visible reason for their decline was urban decay, though the increasing popularity of television and the invention of the multiplex were factors as well. The older movie palaces located deep in urban cores suffered as the more affluent population fled the inner city for the suburbs. This “great American commercial diaspora” first began in the post-war years and then accelerated.<sup>4</sup> Although still occupied by multitudes of scurrying businessmen during the day, the old downtowns saw their nightlife shrivel and die. The rise of television compounded the problem and even affected smaller neighborhood theaters. The number of American homes that owned a television set surpassed 50% in 1954.<sup>5</sup> Movie theaters lost their monopoly on cinematic entertainment. In order to survive, movie theaters had to evolve. The unique appearance and single screen design characteristic of the classic movie theater no longer served as a viable business model.

Durwood Enterprises (later American Multi-Cinema or AMC) shifted the theater paradigm. Piggybacking off the growing success of shopping malls, Durwood opened the Parkway Twin Theater in a Kansas City shopping center in 1963. After this runaway success, the company opened the world’s first fourplex in 1966, first sixplex in 1969, and first eightplex in 1974 (in Kansas City, Omaha, and Atlanta respectively.) Stripped of all ornamentation and luxury, these barebones brick boxes were profitable. As David Gomery writes, “it became possible to operate a half-dozen indoor theatres of a few hundred seats each with one concession counter with two high school students, one projectionist, and one manager who doubled as a ticket taker.”<sup>6</sup> Multiplexes did not dazzle, but they did not need to. The novelty of moving pictures was gone but people still turned out in droves to see the latest Hollywood epic regardless of the building they viewed it in.



*Curtis Street looking southwest from 17th Street. Famed “Rocky Mountain News” photographer Harry Rhoads waited until twilight for this 1927 shot of Theater Row. Credit: Western History Collection, Denver Public Library*

Increasingly abandoned, their audiences and revenues shrinking, the classic theaters struggled to survive. Some eked out an existence as second-run theaters, promising cheap tickets and scratchy film prints, hand-me-downs from the multiplexes.<sup>7</sup> Others took a seedier route and showcased pornography as so-called “blue theaters.” More often than not, these desperate measures proved to be temporary fixes at best. Theater after theater closed, and their shuttered, empty shells littered

the landscape. Many were razed in the name of urban renewal, a policy that prized “out with the old, in with new” as its maxim. Less than twenty years after box office revenues peaked, over half of the 20,000 theaters that had been operating in the 1940s had closed.<sup>8</sup> However, a select few rose from the dead thanks to the dedication of local individuals and groups. These old movie theaters were resurrected as live theater or concert venues, given a second chance, and found success in the face of great adversity.

The patterns described above are national in scope, but this study will not be. Herein are the stories of a few classic movie theaters from the Denver Metro Area, survivors from a bygone age. Like any major American city, Denver had multiple movie theaters during the golden age of movie-going (roughly 1920-1950). Most famous were the theaters of Curtis Street, popularly known as Theater Row and allegedly declared “The best-lighted street in the world” by Thomas Edison. On the west side were the Tabor, America, Empress, Colonial, Palace, Plaza, and Paris. On the east side were the Rialto, Princess, Strand, Isis, and Iris.<sup>9</sup> None of these theaters stand today; all were swept up by the tides of time and urban renewal. Many of the other theaters scattered throughout the city and its surrounding environs were likewise destroyed.

Against the odds, the Fox, Bluebird, Ogden, Paramount, Mayan, and Gothic theaters still stand. However, even these survivors do not persist in their original forms. Of the six, only the Mayan continues to function as a movie theater. If no longer suited to fulfill the demands of the modern movie-goer, how were they repurposed to serve different audiences? What steps could guide their transition from failed movie houses to concert halls or live theater venues and what persons or forces facilitated their resurrections?

### **The Fox Theater**

Most classic movie theaters were somewhat pretentious structures. Not only Rocco movie palaces, but even smaller suburban theaters grasped at grandeur. But Aurora’s Fox Theater at 9900 East Colfax never did. Built in 1946 at a cost of \$100,000, the auditorium of the Fox consisted of a Quonset hut, a type of pre-fabricated military structure consisting of a corrugated steel skin affixed to metal arches. Originally designed for use during World War II, the Fox’s Quonset hut was a surplus unit given to Aurora at the urging of Homer Preston, judge advocate at Rocky Mountain Arsenal.<sup>10</sup> The growing community had no theater to call its own. Military personnel could catch the occasional showing at Fitzsimmons army base but the civilian population had to travel to Denver to fulfill their cinematic needs.

Construction took seven months. In addition to the Quonset auditorium, the Fox had a comfortable lobby, an art deco façade complete with marquee, and a glowing neon sign that towered 61 feet above the ground. Aurorans were thrilled with their new theater, humble origins notwithstanding. A local paper hailed it as “The Theater of Tomorrow” and its opening gala included a torchlight parade down Colfax led by the William Smith High School band. What it lacked in architectural distinction the Fox made up with state-of-the-art technology and design. It was equipped with stadium seating, body-form seats, and a germ-killing air filtration system called “Steri-light” – all recent advancements

in movie theater design at the time. Community leaders expressed the hope that the Fox would stand “as a symbol of community service, ready to take its place as a contributing factor to the future and deserved growth of Aurora.”<sup>11</sup>

For 35 years, the Fox did indeed serve as a cultural hub for Aurora. Generations of Aurorans grew up with the theater, from cartoons and Disney fare to the latest Hollywood epics. Eventually, the theatre’s fortunes declined, along with those of Colfax Avenue, and it scraped by as a second-run theater. However, the Fox never stooped to pornography (like so many classic movie theaters) and it took a disaster to shut it down. In November 1981, a fire set by an unknown arsonist in the trees outside the theater spread to the back of the Quonset auditorium, destroying the movie screen and causing significant smoke damage throughout. All told, the fire did about \$150,000 dollars worth of damage to the Fox.<sup>12</sup> The owner was either unable or unwilling to expend such an amount repairing the theater and the Fox officially closed.



*This is a modern day shot of the Fox Theater.  
Credit: [www.cinematreasures.org](http://www.cinematreasures.org)*

Burnt out and shuttered, it seemed the story of the Fox Theater had come to a tragic end, but this was simply the conclusion of Act One. The Fox had only been closed for about six months before a group of vocal and culturally-minded citizens began pressuring the city of Aurora to purchase the Fox and renovate it as an arts center to showcase local actors and musicians. Aurora had been looking into creating an arts center for several years and the population was mostly supportive of the idea, but the selection of the Fox as the location ignited controversy.<sup>13</sup> Some objected to the size of the facility, calling it too small. Others called it architecturally unsuited for any purpose other than that of a movie

theater. Still others would only be happy with a sparkling new arts center built from scratch somewhere far away from Colfax. Nevertheless, the Fox Theater effort benefited from the advocacy of ardent and convincing supporters. After many months of spirited debate, the city chose to tune out the naysayers and purchased the theater in late 1982.<sup>14</sup>

The renovations at the Fox Theater cost about \$330,000, jointly paid for by the City of Aurora and by private fund-raising efforts. The Fox’s nearly 700 person seating capacity was reduced to 250, allowing for the expansion of the stage and creating a less cramped viewing environment as well as freeing up space for dressing rooms and storage. All of the old seats were removed and replaced with reupholstered chairs rescued from the doomed Aladdin Theater, which had been demolished at 2010 East Colfax in 1984.<sup>15</sup> To improve the acoustics of the Quonset hut, a system called an acoustical cloud was

suspended from the ceiling. The original ticket booth, which sat on the sidewalk just outside the theater, was removed. The unremarkable glass doors which once graced the front of the Fox were replaced with handsome wooden ones. Very much in the spirit of art deco, the lobby was repainted with bright shades of burgundy and teal and carpeted with a swirling, floral-themed rug inspired by a design that once graced the ceiling of the auditorium. The remodeled lobby also provided a small art gallery where local artists displayed their work.<sup>16</sup>

The Fox Theater reopened as the Aurora Fox Cultural Arts Center on March 8, 1985. City officials and the many volunteers who fought to save the theater from destruction turned out in formal wear and paraded down a red carpet laid out for the occasion. Their optimism sparkled. In the intervening 26 years, the Fox has served as a community anchor and an inspirational success story in the larger quest to rehabilitate Colfax Avenue. It has, of course, faced its share of adversity. As a city-owned institution, the Fox is subject to budget cuts in times of economic hardship. From 2010-2011, the Fox faced a 5% reduction in its city subsidy and was forced to cut its number of main stage productions from six to four.<sup>17</sup> Overall, however, public support for the programs at the Fox continues to be strong.

### **The Bluebird Theater**

In the early days of movie houses, even before the age of the great palaces in the 1920s, the Bluebird Theater opened on 3317 East Colfax Avenue. The year was 1914, just one year before D.W. Griffith's infamous *Birth of a Nation* premiered. It was smaller and less ornate than the structures that were to come (i.e. the Paramount and the Mayan) but the Bluebird was still an impressive building for its time. Decorations included pastoral frescos featuring a mandolin-playing woman and skipping cherubs that surrounded the screen and stage.<sup>18</sup> Originally managed by local theater magnate Harry Huffman, the Bluebird and several other Denver-area theaters came under the umbrella of the Fox Intermountain Theater Corporation in 1930.<sup>19</sup>

The Bluebird reached the pinnacle of its fame and fortune under Fox's management. During the Great Depression, the Bluebird stimulated public interest through "Country store giveaways" and theater manager Ralph Batchlet sold more war bonds per seat than any other movie theater in the nation during the war years. The Bluebird's heyday was over by the early 1960s when it made the sad transition to a second-run theater. In 1967, the Art Theater Guild took over operations of the Bluebird, converting the aging theater to an art house and showing classic films such as Humphrey Bogart's *The Maltese Falcon* and Errol Flynn's *They Died with their Boots On*.<sup>20</sup> Unfortunately, this attempted revival was not successful and the Bluebird's decline continued unabated. In 1974, the Bluebird reached the penultimate stage of theater degradation and wet blue.

The Bluebird dealt in smut for thirteen years. In 1977, a group of female anti-porn crusaders calling themselves the Bluebird Five were arrested for plastering leaflets on the outside of the theater. The women were eventually acquitted and claimed a victory but the Bluebird continued to operate successfully as a blue theater for several more years. According to Jim Riley, box office operator of the Bluebird during the last four years of

this period, the porn-seeking crowds were substantial until the mid-80s. “It was a big date thing. It wasn’t a sleazy place then. It was where you went to see an X-rated film.”<sup>21</sup> The deathblow came from the VCR and the rise of cheaper and more convenient home viewing of pornographic films. When the Bluebird finally shut its doors in 1987 a video store next to the theater sold the very same films that had been showing at the theater just a short time before. During the last year of operation, the Bluebird was barely limping by. Picture quality was of exceedingly shoddy quality; many patrons complained and were subsequently ignored. When the Bluebird finally closed, only the most nostalgically-minded took notice.



*This 1995 photo shows the Bluebird Theater as a live music venue.  
Credit: Tom Noel*

The Bluebird sat empty until 1994. That year the Denver Landmark Preservation Commission declared it a city landmark and Denver gave \$220,000 towards its renovation. In October, the theater was reborn as a 500-seat nightclub and music venue. The leaky roof was patched; the original murals uncovered and touched up. An oak dance floor and stage were added as was a small but well equipped bar specializing in local microbrews at the front of the

building. Singer Richie Havens ushered in a new and successful chapter of the Bluebird Theater.<sup>22</sup> Over its first year as a premier concert venue the Bluebird hosted a diverse group of artists ranging from jazz musician Joshua Redman to British rock band Oasis. In 1995, the thriving Bluebird launched a clever plan to keep the theater in operation seven days a week, even on days without musical performances. To accomplish this, the Bluebird returned to its roots “mixing microbrews and movies” to great effect.<sup>23</sup> The owners of the Boulder Theater, another former movie house trying to make a name for itself as a concert venue, even took to consulting with the Bluebird’s management in an effort to replicate their winning formula.

### **The Ogden Theater**

The Ogden Theater, close to the Bluebird geographically and in terms of historic trajectory, opened in September 1917 as a live theater venue at 935 East Colfax Avenue. It was converted into a movie house in the mid 1920s and operated as a popular first run theater for many years, longer than most classic movie houses. In 1970 the Ogden underwent a substantial remodeling in an effort to maintain its audience. It was given a new screen, 700 new seats, and a high-tech sound system. It celebrated its grand reopening with an exclusive engagement of *Women in Love*.<sup>24</sup> At that point, the Ogden still booked first-run films, but not for much longer.

Just seven years after its remodel, the Ogden was in trouble again and flailing about for ways to boost declining revenues. Like the Bluebird before it, the Ogden recast itself as a revival theater. Despite promising “popular oldies, acclaimed classics, camp ‘finds,’ films that you missed and premieres of films that somehow never made it to Denver via the regular commercial route,” the Ogden did not meet with a tremendous amount of commercial success as a revival theater.<sup>25</sup> The *Rocky Horror Picture Show* did represent a bright spot in the theater’s latter days. The popular cult classic ran continuously during midnight showings for the last thirteen years of the Ogden’s life as a movie house. As late as 1989, *Rocky Horror* was bringing in over \$50,000 annually for the Ogden, but in the end it was not enough. On May 26, 1990, Landmark Theaters, which had been operating the Ogden since 1977, shut down the rickety theater.<sup>26</sup>

At the time of its closure, the Ogden was Denver’s oldest continually operating movie theater. A few hundred devotees made it to the finale: a showing of the surrealistic *Sante Sangre* followed by *The Rocky Horror Picture Show*. Tickets became treasured scrapbook items and the theater staff donned black armbands to mourn the passing of the Ogden.<sup>27</sup> Like the Bluebird, its downfall was attributed to the increasing popularity of VHS tapes and home video viewing as well as to the degradation of Colfax itself. The Ogden sat empty for several years until, in 1993 Doug Kauffman – musician, entrepreneur, and former owner of the Gothic Theater in Englewood – saw something worthwhile glimmering beneath the years of neglect. He bought the dingy building, unfavorably likened to “a big white barn” by the *Rocky Mountain News*, and began an extensive renovation project.

Kauffman added a 45 foot curved stage, installed new carpet, and ripped out the old theater seats in favor of individual night club tables and chairs. The original stencil paintings that graced the terracotta walls of the Ogden were painstakingly restored, as was a carved plaster backdrop unexpectedly discovered when the old movie screen was taken down. The exterior underwent less drastic change; a stated goal of the project was to retain the Ogden’s architectural integrity. The peeling white paint was covered over with a new coat of beige and the bright aqua trim was replaced with cooler shades of green and purple. All told, the renovation cost \$550,000, about half of which came from the same city fund that contributed to the resurrection of the Bluebird a year later. Kauffman hoped to create a top-notch cabaret. The small, intimate setting and curved stage allowed for bands to play practically within the midst of the audience. There were three small bars to cater to those thirsting for an alcoholic beverage.<sup>28</sup>



*This is how the newly renovated Ogden appeared in the mid 1990s.  
Credit: Tom Noel, 1994*

## The Paramount Theater

The Paramount Theater, occupant of the gray stone Kittridge Building and a long-time fixture of Denver's famous 16th Street, opened in 1930 as a "Depression Buster." The premiere of the 1.25 million dollar theater was brilliant, literally, with searchlights and flares illuminating the evening gloom. A contest gave patrons the chance to compete for a diamond ring worth \$100 by writing reviews of the opening gala. Famed architect Temple H. Buell designed the Gothic Revival/art deco façade while the Chicago firm of Rapp and Rapp blended art deco and French Renaissance for the auditorium. They created a 2,400 seat auditorium surrounded by murals depicting scenes from the French royal court. The murals were divided by column-like structures topped with light fixtures ensconced behind red glass.<sup>29</sup>



*Paramount Theater interior. Denver's only surviving movie palace, the Paramount at 1621 Glenarm Place is now owned and operated by Kroenke Enterprises. Credit: Western History Collection, Denver Public Library*

Beloved by Denverites, the Paramount remained a popular entertainment venue for years, but even it was not immune to the rise of television and the exodus to the suburbs that had begun to weaken the classic movie palaces in the post-war years. In 1958, it underwent a significant remodeling costing approximately \$30,000. New seats with foam rubber cushions and armrests were installed as was a new box office structure made of glass and marble. A terrazzo sidewalk led to this new box office

and a large planter anchored the center of the foyer. Architect Robert A. Hiester oversaw the remodeling effort.<sup>30</sup> Aesthetically pleasing as the remodeling results surely were, the spotlight had already stopped shining on the Paramount.

As the owners found it increasingly difficult to secure popular first-run films and fill the massive auditorium, they turned to a series of special events and revival showings of classic films. In 1978 the Paramount planned performances by the Denver Opera and the Jefferson Symphony Orchestra as well as a screening of the original, silent *Phantom of the Opera* film in which the newly restored Wurlitzer organ was to be employed to great effect.<sup>31</sup> The Paramount had scarcely initiated its new programs before disaster struck. In October of 1978 an arsonist damaged the theater, necessitating its shut down until February of the following year. Wolfberg Theaters, longtime leasers of the Paramount pushed hard to reinvigorate public interest when the Paramount reopened. They restored the long-neglected organ to working order, screened many classic silent films (including the aforementioned *Phantom*), and the musical performances continued.<sup>32</sup>

Despite these laudable efforts, the crowds did not immediately return to the Paramount. In the early 1980s, the Historic Paramount Foundation took over operation of the Theater and expended three million dollars to try to keep it afloat. Through

their efforts the auditorium was remodeled in 1985 and the theater was designated a city landmark and added to the National Register as well. By 1988, it had become one of the largest historic preservation projects in Denver history.<sup>33</sup> The Paramount began its current role as a concert venue following its 1985 remodeling, an approach that did pay off albeit not immediately. In 1993, the Paramount was forced to file for Chapter 11 bankruptcy protection when it ceased making payments on a 2 million dollar loan that had been arranged back in 1986. The situation seemed quite dire on its face but the reality was far less frightening. Miles Kessler, executive director of the Paramount Foundation, insisted “the theater’s made money the last three years. It’s just that the original loan was ridiculous.”<sup>34</sup>

Kessler’s belief in the theater’s profitability was vindicated the next year when Randall Ship, president of Mayflower Capitol, bought out the Paramount’s loan. Ship had complete faith in the Paramount, promising “it’s absolutely not coming down. I couldn’t replace it. How much is it worth? How do you put a value on a building like that?”<sup>35</sup> With Ship’s help, the Paramount successfully navigated the choppy waters of financial insecurity and cemented its reputation as one of Denver’s premiere concert venues. Today it hosts an eclectic group of musical acts, ranging from the small and largely unknown to well-established artists that simply want to play in a more intimate setting. Kronke Sports now owns and operates the Paramount Theater. They are also the deep pockets owner of the Pepsi Center, the Denver Nuggets, and other major sports teams.

### **The Mayan Theater**

On 110 Broadway, the beautiful terracotta façade of the Mayan Theater has stood watch for over eight decades. Opening in 1930, the name of the theater is somewhat misleading. The great ancient indigenous civilizations of Central America, Mayan as well as Aztec, inspired its design. Denver-based architect Montana Fallis decorated the walls of the lobby and auditorium with hand-drawn images copied from ancient originals, including a pattern featuring a Jaguar god inspired by the Temple of the Sun at Palenque. A publicity stunt shortly before opening had the theater operators bringing in a Native American tribe from New Mexico to “exorcise” any malevolent ghosts that might be lurking in the dark recesses of the building. *The Denver Post* reported that during a torchlight procession through the theater, “every corner and crevice will be gone over to rid the building of ‘evil spirits’ and implore the good ones to make it their abode.”<sup>36</sup>

Over the next 50 years, the Mayan helped serve the cinematic needs of Denver, but the good spirits gradually left. Like many other classic movie houses, it evolved into a second-run theater by the 1970s. However, it never degenerated to the point of showing pornographic films as the more famous and elaborate Mayan Theater of Los Angeles did.<sup>37</sup> The aging theater shut down in 1980 and sat abandoned for about four years. By 1984, the owners of the Mayan, Union Bank and Trust, sought its destruction in order to redevelop the prime real estate it occupied. A devoted and passionate group of concerned citizens calling themselves the “Friends of the Mayan” as well as representatives of Historic Denver Inc. and Denver Mayor Federico Peña passionately fought to save the teater.



*The Mayan Theater narrowly escaped the wrecking ball in 1984 to become the first landmark designated by the Denver Landmark Preservation Commission without the owner's consent.*

The efforts of these preservationists met with an emotionally wrenching roller coaster of both successes and apparent failures. In February of 1984, the Denver City Council voted 8-3 to designate the Mayan a city landmark.<sup>38</sup> Landmark status did not guarantee the survival of the Mayan but it did mean that the Union Bank and Trust had to give at least 90 days notice prior to razing the structure. The undoubtedly frustrated owners responded by successfully obtaining a demolition permit for June 16, 1984. The theater's advocates were understandably disheartened. Elizabeth Schlosser, then President of Historic Denver Inc. commented, "if it is demolished, it will be the first time in Denver's history that a landmark building is torn down. It's very sad. There is nothing much that can be

done. We've exhausted our political avenues, and the only thing that can be done is for a developer to come forward and over to buy the block and develop the theater."<sup>39</sup>

A last-minute reprieve came in the form of the Los Angeles-based Landmark Theater Corporation. Landmark Theaters, a chain specializing in independent and foreign pictures, agreed to lease the Mayan for a 10 year period and help fund a \$500,000 renovation in partnership with Landon Investments, a development company.<sup>40</sup> Restoration of the theater preserved the outer Mayan Revival architecture but the interior underwent a rather significant change. The original 900 seat auditorium was subdivided into three smaller theaters – two 140 seat theaters in what was once the balcony section with a single larger theater below.<sup>41</sup> The Mayan reopened in the summer of 1986 and has successfully served its niche audience of art film advocates ever since. Having extended its original lease, Landmark continues to run the Mayan. It also operates three other Denver-area movie theaters (of less architectural and historic significance).

### **The Gothic Theater**

The Gothic Theater at 3263 South Broadway long struggled to find its identity and assumed many different guises over its career. Opening in the late 30s, well after the end of the palace era, the Gothic nevertheless was quite grand for a suburban movie house. In the spacious auditorium and balcony, the Gothic was capable of seating 750 people. When not staring at the wide movie screen patrons could take in the fancy plasterwork

and art deco flourishes, which included a dark blue ceiling, equipped with hundreds of twinkling red and blue lights – simulating the night sky. Shades of amber, pink, yellow, and blue enlivened the walls along with a similar lighting scheme.<sup>42</sup>

The descent of the Gothic Theater into pornography came quicker with more than the usual controversy. By 1969, the Gothic was showing explicit films and it was drawing heavy fire for doing so. Acting at the behest of a complaining citizen, Littleton District Attorney Robert Gallagher initiated civil action and sought an injunction to prevent the Gothic from showing two films in particular – *Infralsexum* and *Big Sin City*. Gallagher argued the films had no redeeming social value whatsoever and could thus be banned under Colorado’s anti-pornography law.<sup>43</sup> The Denver D.A. had earlier taken action against these particular films; they were, apparently, an especially distasteful pair. Even after the *Infralsexum* case was settled some months later, controversy dogged the Gothic Theater.

In 1982 Frank McLaughlin, owner of the Gothic, was charged with three violations of municipal codes for “displaying and promoting obscenity.” By law, only 15 percent of the City of Englewood was zoned for the regular showing of adult material. That the Gothic frequently showed pornographic films was well known, but different parties had different definitions of the word “regular.” Peter Ney, McLaughlin’s attorney, argued that the law was too vaguely worded. “Does [regularly] mean once a year or every night for a month?” The Municipal Judge ultimately dismissed the charges against the Gothic Theater while simultaneously proclaiming the zoning ordinance itself to be constitutional. Both sides claimed victory in spite of the fact that nothing more than a return to the status quo was actually achieved.<sup>44</sup>

Generally, the next phase in a theater’s lifespan after conversion to pornography is closure but the Gothic bucked the trend by returning to fare that is more legitimate. In 1988, following an extremely brief and unsuccessful run as a dollar theater, the longtime porn house reopened as a revival theater with a family-oriented twist. The debut film was the Disney classic *Bambi*. Administration was a family affair as well. Fred and Velma Kaysbler (son and mother) became the new owners



Today, the renovated Gothic Theater is a popular venue for contemporary musical acts.  
Credit: [www.gothictheatre.com](http://www.gothictheatre.com)

working with new managers Rex and Laura Jensen (husband and wife). The proprietors hoped that nostalgia would fuel the Gothic and that people would be eager to experience the cavernous auditorium and ornate decorations of a vintage movie house. It was to be a place “where you can watch a movie without hearing one from the twin cinema next door.”<sup>45</sup> Unfortunately, the Gothic was a crumbling wreck by 1988, its gilded glory long since tarnished and faded. It needed a far more extensive makeover than a low budget family operation could hope to provide. In 1989, the circuitous route of the Gothic finally led to an all too familiar end and the theater shut down.<sup>46</sup>

The Gothic sat empty for less than a year. In 1990, the aforementioned Doug Kauffman spied the decaying theater and envisioned it as a live music venue. Kauffman quickly leased the Gothic and set about restoring it to working order, an atypically easy task given the short length of its abandonment. The art deco interior survived in reasonably good condition, requiring only minor touch-ups. Repair work focused on more necessary but less glamorous components, fixing leaks in the gas and plumbing systems, reinforcing the stage to compensate for the weight of the anticipated musicians and accompanying equipment, and installing new lighting and sound systems. The Gothic opened as a dry institution due to Kauffman's inability to obtain a liquor license from the city. Despite a dearth of booze, the Gothic enjoyed a noteworthy renaissance as a music hall almost immediately. It hosted Nirvana, Phish, the Beastie Boys, and Green Day among other significant contemporary musical acts.

Having repaired its reputation and regained its popularity after so many years of infamy, the future of the Gothic Theater seemed bright. Unfortunately, it would soon be shuttered once again, this time for non-economic reasons. The architect of its revival, Doug Kauffman, set his sights on the larger Ogden Theater and shut down the Gothic in 1993. Abandoned and neglected until 1998 when Steve Schalk, a movie prop manager, bought it for \$175,000. Schalk instituted a second, far more extensive, renovation. He kept the art deco trappings as intact as possible but ripped out all of the old seats and completely rebuilt the stage. Schalk converted the balcony into a four-level structure and extended through the addition of wings that ran alongside the stage – putting patrons almost directly above the musical acts. Schalk also got a liquor license and added bars on two different levels.<sup>47</sup> Bands returned to the Gothic in 1999 and it continues to operate as a popular and successful music venue to the present day.

## **Conclusion**

Concerned individuals and groups at the local level saved these theaters, but the symptoms of their downfall were far more national in scope. Three primary causes contributed to the decline of these theaters beginning in the 1950s. First, as television became ever more prominent in American households, the novelty of movie theaters wore off. Second, the rapid rise and success of multiplex theaters cut into the already diminished audiences of classic movie houses. Third and most significant was the decay of the older cities and neighborhoods in which these classic theaters were located. As Americans moved en masse to new and homogenous suburban neighborhoods, older business and residential districts descended into disrepair and poverty. The federal urban renewal program aspired to arrest this decay. As defined by President Dwight D. Eisenhower's Housing and Home Finance Agency chief Albert Cole: "Urban renewal is intended to save downtown business, or to clear up traffic congestion, or to restore worn-out areas to the tax rolls, or to get rid of unsightly slum buildings."<sup>48</sup> During a 1954 demolition ceremony in Kansas City, Cole put it even more succinctly, saying that urban renewal was nothing less than "the elimination and demolition of our outworn past."<sup>49</sup>

Urban renewal razed many significant structures – movie theaters included. However in the 1970s attitudes began to change. A “New Urbanism” fueled by nostalgia was instrumental in the creation of “walking neighborhoods with their own retail centers... design enhanced, denser, sociable communities like those that had supposedly existed in the past.” Sometimes urban planners created entirely new walking malls that simply evoked the past by borrowing design elements. However, “the possibility emerged that run-down and abandoned Main Street structures had preservation value, that developers might recycle old buildings to simultaneously evoke history and stimulate consumers.”<sup>50</sup>

This new urbanism merged urban renewal and historic preservation, a policy both fiscally and culturally sound. Urban renewal projects revitalized worn-out structures of the past as vibrant businesses of the future while maintaining their architectural and historical distinctiveness. New urbanism helps to explain why these theaters were saved and the process itself had significant precedent in Denver. In the mid 1960s, wealthy Denver resident Dana Crawford and partners began acquiring buildings on Larimer Street, a once-bustling urban center that had sadly gone to seed. That portion of the city fell under the jurisdiction of the Denver Urban Renewal Authority (DURA) and was slated for destruction as part of the Skyline project. However, as Crawford began her crusade to create a place “where people of all backgrounds could celebrate their history and community” during Skyline’s early planning stages, the DURA directors decided not to interfere.<sup>51</sup> Through hard work and dedication, dilapidated Larimer Street was reborn as the Larimer Square Historic District. It succeeded as both a retail district and as a tourist destination. When Crawford purchased the Larimer street properties in 1965 they were leasing for 11 cents per square foot. Twenty years later, the price had risen to twenty dollars per square foot.<sup>52</sup>

Dana Crawford and others of her ilk proved that saving historic buildings could be fiscally rewarding, a lesson heeded by the advocates of the Aurora Cultural Arts Center, Doug Kauffman, the Historic Paramount Foundation, the Friends of the Mayan, and Steve Schalk. Although these people and groups clearly cared about the history of the structures, they fought to save as evidenced by their careful preservation of the theaters’ architectural heritage. They funded preservation only by convincing investors that sinking money into aging movie houses could be profitable. Importantly, these theaters were not revived in isolation but as part of larger new urbanism projects. For example, the Fox Theater is at the heart of a revitalized section of original Aurora stretching along Colfax Avenue and the Paramount Theater sits along Denver’s famous 16th Street pedestrian mall. As buildings with auditoriums and large seating capacities, movie theaters were particularly well suited to afterlives as live performance venues. Music and plays brought a dose of art to revived districts, thus attracting the culturally minded. The fact that such events took place in preserved movie theaters attracted the nostalgic and history-minded. Regardless of their reasons for attending, patrons brought in money which pleased investors and theater operators – thus creating a winning situation for all involved.

# Notes

## The Rites of Saint Vitus

Dart Sebastiani

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## The Brewery Brotherhood Built: Technology, Fraternity, and Denver's Milwaukee Brewery

Keith Outcalt

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- 65 Sanborn Map Company. Denver, Denver County, Colorado, Sheet 33 [map] 50 ft. per inch. New York, Sanborn Map Company 1887.
- 66 J. Albert Robinson, "The Brewing and Malting Industry, Processes, Fire Hazards, and Protections of Breweries and Malt Houses" in *Fire Prevention Quarterly*, Vol. 9, No. 2, (Oct. 1915), 153-7.
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- 74 Wahl and Henius, *Handy Book of Brewing*, 668. This photo looks exactly like the kettles still in the Tivoli, although to the author's eyes they are shaped more like eggs than pears.
- 75 Dick Johnson, "Brewmaster," *The Denver Post*, Jan 24, 1966, 33. This article shows 1960s brewmaster Welti standing with the access door of the kettle just above his waist level.
- 76 Robinson, "The Brewing and Malting Industry," in *Fire Prevention*, 161.
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- 79 De La Vergne Refrigerating Machine Co. *Catalogue 1890*, De La Vergne Co. (New York: Jenkens & McCowan, 1890), 52.
- 80 Louis Pasteur, *Studies on Fermentation: The Diseases of Beer, their Causes, and the Means of Preventing Them*, Frank Faulkner trans., (London: Mc Millan & Co., 1879), 387. The reference to bouche, which translates literally to mouth, is mysterious.
- 81 Pasteur, *Studies on Fermentation*, 388-9.
- 82 Johnson, "Brewmaster," *The Denver Post*, Jan 24, 1966, 33. Again this article shows the equipment still in use in 1966, which can be compared to the Baudelot coolers in Wahl and Henius, *Handy Book of Brewing*, 674 and Pasteur, *Studies on Fermentation*, 388. As I can find no evidence as to when the cooler was placed there, I assume it was bought during this time. If the cooler was purchases later it only reinforces my point that the Tivoli tried to maintain traditional craft methods.
- 83 "A Glass of Lager Beer," *Washington Post*, January 25, 1891, 9.
- 84 Wahl and Henius, *Handy Book of Brewing*, 675.
- 85 De La Vergne Refrigerating Machine Co. *Catalogue 1890*.
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## Neon Ghosts: The Lives and Afterlives of Six Denver Movie Theaters

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# The Brewery Brotherhood Built: Technology, Fraternity, and Denver's Milwaukee Brewery

Keith Outcalt

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Kevin Smith

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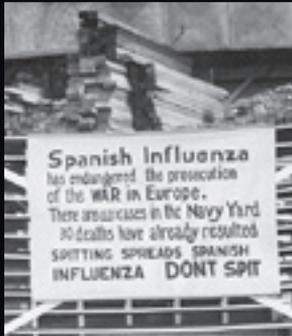
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The Rites of Saint Vitus

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