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"Conspicuous Consumption:" Germs and Climate Cures in Denver, 1882-1915

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GERMS AND CLIMATE CURES IN DENVER, 1882-1915

By

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Introduction

In 1907, twenty-five years after German scientist Robert Koch discovered the tubercle bacillus, tuberculosis patient Thomas Galbreath castigated boosters who argued that Colorado's climate cured tuberculosis. "Colorado is most glad to welcome the contents of the purse the invalid brings with him," he sneered, "but she would greatly prefer that the invalid should not accompany the purse. Because of the prevalency of consumption, the heart of the average Denverite has become hardened toward the tubercular patient."[1] Galbreath had spent two years in Colorado seeking a cure for his own menacing case of tuberculosis. In his self-published critique of the Colorado climate cure, he recounted being unceremoniously evicted from a series of boarding houses. While convalescing in Denver between 1904 and 1906, Galbreath encountered hordes of apparent tuberculars in Denver who admitted only to rheumatism or other diseases Denver residents feared less. Galbreath urged readers to stay home to recover from the disease—unless, of course, they were wealthy enough to travel comfortably to Colorado. Although Koch's discovery had changed the basis of medical knowledge about tuberculosis, doctors, patients, and businessmen continued to look to arid Colorado as a source of health, or, in the case of businessmen, health tourism money.

In the quarter century since the cause of TB had been discovered, the only notable change in treatment for the disease was that the order of remedies had been switched around—fresh air edged climate out of its spot as the first line of defense for the treatment of TB. Sandwiched between queries about acne and sweaty feet, a 1917 edition of *Health Magazine* advised a reader stricken with TB to follow "what is known as the 'open air treatment.' Live out of doors night and day, drink plenty of cream and milk, and partaking freely of fat foods, such as good butter

[1] Thomas Crawford Galbreath, *Chasing the Cure in Colorado* (Denver: Self-published, 1908) 25.

and olive oil. Also eat plenty of celery and keep the body absolutely clean, both inside and out."[2] Despite a growing population of doctors and patients who threw their support toward fresh air-driven "at home" cures, however, Thomas Galbreath's anecdote shows that a significant number of TB patients continued to rely on climate to cure their tuberculosis well into the twentieth century. And it was the climate of the American Southwest that drew them.

The nineteenth century brought drastic changes to the practice of medicine, but few advances in the treatment and prevention of tuberculosis. Advances in microscope technology, increasingly sophisticated surgical techniques, and the introduction of x-ray technology seemed to reduce the guesswork and intuition involved in the diagnoses physicians made. Then in 1882, Dr. Robert Koch presented his germ theory of disease, the first convincing and well-supported argument that many diseases were communicated from person to person by microscopic germs. Later the same year, Koch identified the pathogen responsible for tuberculosis. These discoveries made waves in an already changing medical practice. Their implications were wide; as physicians and patients considered Koch's convincing evidence, they wondered how his findings would affect their deep-seated assumptions about the origins of disease and its proper treatment and prevention.

For more than a century, TB had been an ever-present part of American life, responsible for up to one fifth of all deaths annually. Its physical symptoms, often slow progress, and seeming tendency to attack the youngest and brightest members of society, lent it a special place in American culture. Most regarded it as a hereditary disease or one that sprang from certain habits, moral or constitutional weaknesses, or a lifestyle that lacked ruggedness and exposure to the invigorating powers of nature. To many contemporary observers both within the medical practice and outside of it, tuberculosis seemed to represent the decline of a society that was

[2] "Questions and Answers: to Enquirers," *Health Magazine*, Vol 57, No 8, (August 1907) 538.

becoming too urban. Many blamed the massive waves of immigration, unprecedented industrial growth, and increasingly crowded and unsanitary cities that dotted the East for increasing tuberculosis rates during the nineteenth century.

Combining ancient medical wisdom with the various risk factors they identified, physicians had developed a variety of treatment courses for the disease. These prescriptions usually involved rich diets to fend off the wasting symptoms of the disease. Patients were sometimes force-fed when their light appetites did not satisfy physicians. Physicians often combined a rich diet with climatic or open air treatments, where patients either went to a local or distant camp or sanitarium to live a more outdoor-oriented life. In the years before Koch announced the germ theory, however, physicians continued to uphold climatic cures as the most effective cure for the disease. Destinations throughout the American West and Southwest claimed primacy as the healthiest places for ailing tuberculosis patients. Health-seeking destinations advertised the dryness of their air, the number of sunny days they boasted, and the relative immunity of local natives from the dreaded white plague as evidence that their climate could return consumptives to their healthy and robust pre-tubercular conditions. Physicians who prescribed the climate cure to their patients also rejected the benefit of modern developments like urbanization, the increasing scientific nature of the medical practice, and the seeming erasure of personal responsibility for disease that the germ theory implied.

The health-seeking movement –the westward migration of tuberculosis sufferers— continued unabated after Koch announced the germ theory and discovered the tubercle bacillus. Koch's discoveries unfortunately were not followed by the development of effective treatments for tuberculosis or vaccines to prevent it. They presented only new information physicians could use to understand the disease's causes and spread. Many physicians and public health workers

used this new knowledge to turn the public's attention toward sanitation movements in efforts to reduce contagion. While supporters of the climate cure rallied behind these sanitation campaigns, they continued to argue that the real cause of tuberculosis was the slow decay of American society at the hands of modernization. The health resorts of the American West, they argued, gave ailing Americans a chance to reconvene with the hardiness of the frontier life that had forged their rugged forefathers. Because these physicians viewed tuberculosis as a symptom of cultural decline, not just an illness in their view, no scientific advancements or newly-developed drugs could solve the tuberculosis problem. Despite the changing scientific basis of their practice, anti-modern physicians promoted climatic cures in the late nineteenth century based on old medical philosophies that held patients' lifestyles and environmental settings responsible for human health.

In Colorado, the effects of these health-seekers were manifold. The state's Health Department was established largely in response to the growing problems associated with indigent tuberculosis patients. A variety of religious and secular organizations raised funds to build numerous hospitals dedicated to the treatment of tuberculosis. Businessmen opened resorts catering to convalescing TB patients all over the Rocky Mountains. Doctors all over the world joined Tuberculosis Associations that met annually to discuss the TB research physicians conducted in Denver.[3] Although reliable statistics are few and far between, Colorado critic Galbreath and his contemporaries estimated that up to half of Denver's population in the first years of the twentieth century was made up of health-seekers or their families and descendants.[4] The standards of fresh air treatment even shaped the region's architecture—houses had large windows and sleeping porches so tubercular patients could absorb fresh air day and night. As

[3] "American Medical Association: The Forty-ninth Annual Meeting, Held at Denver, Colo., June 7, 8, 9, and 10, 1898 in *Medical News*, June 11th, 1898.
[4] Galbreath, *Chasing the Cure*, 25.

late as the 1930s, people continued to travel or move to Colorado and other regions of the West to try to conquer the disease that science, so far, had failed to cure.

While the introduction of the germ theory did little to discourage physicians who believed tuberculosis signified cultural decline, it did lead to some changes in the way healthy destinations received patients. Westerners began to doubt their touted inherent immunity to the disease and wanted local and state Boards of Health to impose public health measures that would protect them from the germs newly-arrived health-seekers brought with them. They were also very concerned about the economic stress that flocks of indigent tubercular health-seekers posed to their cities. These new concerns gave rise to debates over how climate worked to improve the health of tuberculosis patients. Was it enough to merely breathe the arid air? Did the climate in places like Denver have special, unique healing qualities that could not be found on the East Coast? Did the tuberculosis pathogen survive better in wet climates than dry ones? These debates reached no consensus over the actual benefits of climate, but they did produce further disagreements over how to manage tuberculosis treatment in a new age of scientific medicine.

Indigent patients were especially troubling; while their wealthier counterparts could afford isolated lodging, indigent patients often crowded the streets, boarding houses, and poor farms of healthy destination cities. Historian Conevery Bolton Valencius has written about the interconnectedness of health, gender, familial ties, and economic considerations especially in women's decisions to embark on migrations for health. "Going to a healthy place was a powerful, complex decision in the nineteenth century. Such decisions were informed and constrained by a host of factors involving trading networks and family ties, personal affinity and financial responsibility, calculations of climatic benefit as well as calculations of credit."[5] In the

[5] Conevery Bolton Valencius, *The Health of the Country: How Americans Understood Themselves and Their Land*. New York, NY: Basic Books, 2002) 165

case of tuberculosis, presumed climatic benefit often outweighed economic risk for health-seekerers, and cities like Denver quickly developed large populations of very sick, very poor people. Health-seeking deeply affected the economic development of the cities that hosted these travelling invalids. Physicians, public health officials, and laymen across the nation proposed different solutions to providing treatment for indigent tuberculars. Proposals ranged from forced patient isolation to federal financial assistance to help impoverished patients travel to and stay safely in healthier cities. While states and municipalities across the arid West and Southwest passed public health measures, they were mostly limited efforts aimed at public education and the elimination of especially dangerous activities like public spitting and shared public drinking cups. Tuberculosis represented so much more than a disease to most of the people involved in the debate over its control, and this fostered resistance among physicians and laymen alike to the possibility that science and limited legislation could eliminate the disease.

Tuberculosis cast a shadow over American society for decades after the germ theory, but in public health historiography, the health-seeking movement generally drops from the narrative as soon as science discovered the tubercle bacillus. Health-seekers appear from time to time in histories about the American West, public health, and western migration, but recent historians who mention the phenomenon tend to echo the story lines set by earlier historians like John Baur and Billy M. Jones, both working in the late 1940s through the 1960s. Baur and Jones studied health-seekers in the West and Southwest in the last half of the nineteenth century, exposing health as a surprisingly common motivation for Western migration. Health-seekers, guided by nineteenth-century perceptions of the influence of environmental factors on common illnesses like tuberculosis, flocked to the arid, sunny climes of Western cities like Denver, Colorado

Springs, and Santa Fe.[6] Prominent figures like the Olmsted brothers, Frederick Law and John Charles, travelled for health reasons. Their belief in the relationship between health and environment is clear both in their visits to the West and in their urban landscaping projects, many of which were designed with the intention of restoring a healthful environment to urban areas. These early historical treatments of health-seekers focused mostly on revealing their existence and detailing the sizable role they played in the settlement of the West.

These early studies usually periodize the health-seeker movement between the 1840s and 1882, ending when Koch discovered the tuberculosis bacillus. Toward the end of the nineteenth century, as germ theory took hold in the medical community and the communicability of diseases like tuberculosis became well-established, prescriptions for sickly patients shifted from environmental cures to institutionalization in sanitariums and treatment with medication. Further, because they were suddenly regarded as a threat to the general public, the Western boosters and railroad companies that had pursued health migrants in the past no longer sought health-seekers. Baur argued that this medicalization of tuberculosis led to a shift toward more organizational approaches to treatment rather than individually-run health spas and independent journeys.[7]

Health-seekers vanished from scholarly work in the decades between Baur and Jones' work and the 1990s. Their stories were revived in the wake of the AIDS crisis, which inspired historians to analyze the social effects of tuberculosis in order to better understand how the AIDS crisis might affect different social groups. The AIDS crisis coincided with the rise of drug-

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[6] Billy M. Jones, "Health-seekers in Early Anglo-American Texas." *The Southwestern Historical Quarterly* , Vol. 69, No. 3 (Jan., 1966), 287-299; *Health-Seekers in the Southwest, 1817-1900 (*Norman: University of Oklahoma Press, 1967) 245 p

[7] John Baur, "The Health Seeker in the Westward Movement, 1830-1900."*The Mississippi Valley Historical Review* , Vol. 46, No. 1 (Jun., 1959), 91-110; "The Health Seekers and Early Southern California Agriculture." *Pacific Historical Review*, Vol. 20, No. 4 (Nov., 1951), 347-363.

resistant forms of tuberculosis, which, accompanied by rising rates of TB around the globe, prompted the World Health Organization to declare a global emergency in 1993.[8] Most of these works focus largely on TB patients on the East Coast, and tend to paraphrase Baur and Jones for the perfunctory chapter on the climate cure. Studies like Sheila M. Rothman's *Living in the Shadow of Death: Tuberculosis and the Social Experience of Illness in American History*, Katherine Ott's *Fevered Lives: Tuberculosis and American Culture since 1870*, and Nancy Tomes' *Gospel of Germs: Men, Women, and the Microbe in American Life* examined the social and cultural transformations the experience of illness underwent during the 19th and 20th centuries. These works used advertisements, articles, journals, letters, and other personal accounts of tuberculosis to portray the social experience and cultural effects of living with a frightening and often stigmatizing illness.[9]

Health-seekers appear in chapters of Rothman and Otts' works, but play only bit parts in their larger narratives. Rothman's analysis focuses on the personal experience of illness rather than the ways that the disease shaped social institutions or places. Ott's work is largely a synthesis of the burst of historical work on tuberculosis in the early 1990s, but she uses the previous decade's boom in tuberculosis historiography to elucidate a shifting physical culture surrounding illness in response to the idea of contagion. Like Rothman, Ott tends to focus largely on the social and cultural experience of the disease in cities on the East Coast. Ott ends with a call to present-day public health officials to recognize the social dimension of tuberculosis in order to address it effectively. This branch of newer tuberculosis historiography nearly always

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[8] Richard J. Coker, "Review of *Fevered Lives: Tuberculosis in American Culture since 1870*," British Medical Journal, Vol. 320, No. 7246, 1412

[9] Sheila M. Rothman, *Living in the Shadow of Death: Tuberculosis and the Social Experience of Illness in American History*. Baltimore, MDL Johns Hopkins University Press, 1995. xi+319 pp; Katherine Ott, *Fevered Lives: Tuberculosis in American Culture since 1870* (Cambridge: Harvard University Press, 1996), vii+242pp; Nancy Tomes, *The Gospel of Germs: Men, Women, and the Microbe in American Life*. (Cambridge: Harvard University Press, 1998.) xv+351

traces its inspiration to the outbreak of the AIDS epidemic and Susan Sontag's *Illness as a Metaphor*, which argues against the archaic tendencies of regarding illness as a metaphor for other social or psychological ills and treating illness simply as a faultless bodily ailment.[10] *Illness as a Metaphor* was so influential to this generation of public health historians that reviewers openly chided writers who did not give the work its proper due.[11] Tomes says "the AIDS epidemic has exposed the worst aspects of our modern-day beliefs about the germ. When applied indiscriminately and fueled by homophobia and racism, there can be no crueler punishment of the sick than shunning and fearing them in the name of germ avoidance."[12] Even more recently than these admonitions, the specter of drug-resistant strains of tuberculosis and an uptick in diagnosed cases of the disease have revived conversations about how it can be effectively addressed by public health officials and physicians. At the same time, many research institutes are advocating for a less biased interpretation of the disease.

While the AIDS crisis spurred historians to readdress the social stigma that became attached to tuberculosis as the twentieth century wore on, the immigration crises of the 1990s encouraged another generation of historians to examine the consequences that new knowledge about infectious disease had on immigrant populations. Many of these looked at the stigmatization of various immigrant groups in California. Nayan Shah's *Contagious Divides: Epidemics and Race in San Francisco's Chinatown* uses public health officials' reactions to epidemics and a massive project to collect data about disease and social conditions to explain how conceptions of health and disease shaped racial stereotypes in the city.[13] Emily K. Abel's

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[10] Susan Sontag, *Illness as a Metaphor* (New York: Strauss and Giroux, 1977)
[11] Bill Luckin, "Review of Linda Bryder, *Below the Magic Mountain: A Social History of Tuberculosis in Twentieth-Century Britain* (1988) and F.B. Smith, *The Retreat of Tuberculosis 1850-1950* (1988)," *Social History*, Vol. 14, No.2 (1989) p 285
[12] Tomes, 257.
[13] Nayan Shah, *Contagious Divides: Epidemics and Race in San Francisco's Chinatown.* (Berkeley: University of California Press, 2001.) P. xiv+384.

Tuberculosis and the Politics of Exclusion: A History of Public Health and Migration to Los Angeles and Natalia Molina's *Fit to Be Citizens? Public Health and Race in Los Angeles, 1879-1939* also look at the interactions between immigrant communities and public health officials, focusing especially on how Chinese, Japanese, and Mexican immigrant groups began to use western scientific and medical data to demonstrate their fitness as citizens.[14] These groups often faced expulsion in public health crises while white or wealthy people did not. Abel argues that the germ theory of disease acted in Los Angeles to further efforts to denigrate and deport non-white tuberculosis patients. Her conclusion that public health officials furthered racial stereotypes using scientific justifications and blamed illness among the city's poor on their own behavior rather than socially remediable issues like inadequacy of care echoes Molina's text.

Charles Rosenberg, Barbara Bates, and Howard Markel have also studied the effects tuberculosis and other plagues had on American society.[15] Their works largely focus on the burgeoning isolation of patients that followed in the wake of the germ theory's revelations about disease communicability. Since the 1970s, Rosenberg has written widely on the interactions between science and American social thought, often highlighting the reciprocal relationship between physicians and scientists on the one hand and politicians and other power players on the other. Through these interactions, politicians, physicians, and scientists often used scientific advancements to explain social shifts and reinforce social values. Markel demonstrates that the knowledge that diseases were communicated by invisible means has manifested in xenophobia

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[14] Emily K. Abel, *Tuberculosis and the Politics of Exclusion: A History of Public Health and Migration to Los Angeles* (New Brunswick: Rutgers University Press, 2007); Natalia Molina, *Fit to Be Citizens? Public Health and Race in Los Angeles, 1879-1939* (Berkeley: University of California Press, 2006)

[15] Charles E. Rosenberg, "Disease and Social Order in America: Perceptions and Expectations." *The Milbank Quarterly* , Vol. 64, Supplement 1. AIDS: The Public Context of an Epidemic (1986); Rosenberg's publications are numerous, but *No Other Gods: On Science and American Social Thought* (Baltimore and London: Johns Hopkins University Press, 1976) synthesizes much of his early work. Barbara Bates, *Bargaining for Life: A Social History of Tuberculosis, 1876-1938* (Philadelphia: University of Pennsylvania Press, 1992); Howard Markel, *When Germs Travel: Six major epidemics that have invaded America Since 1900 and the fears they have unleashed,* (NY: Random House, 2004)

and racism when Americans confront the unknown; using jarring anecdotes of mistreatment of different groups of "outsiders," Markel demonstrates how Americans' fear of the dreaded germ fueled horrifying human rights violations. They provide useful insight on the changes the germ theory prompted in medical practice and public health management. Denver offers an interesting counterpoint to these stories because despite the overwhelming presence of tuberculosis, its public health officials could never muster an efficient or effective reaction to a situation that many would have viewed as a public health crisis.

Another approach in the 1990s resulted from a burgeoning call to unite environmental and public health history rather than treating them as separate and unrelated spheres. Historians like Linda Nash, Conevery Bolton Valenčius, and Gregg Mitman explore nineteenth-century Americans' understandings of bodies in the environment. The advent of modern medicine has led to the separation of the human body and its ailments from nature and the environment in which these bodies and sicknesses exist. Before modern medicine, Americans viewed their bodies as porous entities whose welfare was intimately tied to the climate around them. As Nash noted, "health was not a quality that individual bodies possessed or lacked but a state that emerged when a given body was in harmony with a particular landscape."[16] In this tradition, even as tuberculosis treatments shifted toward more institutional settings, conservation advocates continued to tout the social and health benefits of the Western climate. Many early participants in the conservation movement worried that over-extraction of natural resources would compromise the arid West's health benefits. Mitman observed that Helen Hunt Jackson "saw [Colorado]'s destiny not in the overexploitation of its mineral resources, but in the preservation

[16] Linda Nash. *Inescapable Ecologies: A History of Environment, Disease, and Knowledge*. Berkeley: University of California Press, 2006, 210.

and protection of its climate."[17] Teddy Roosevelt, too, famously travelled far and wide on his quest for health, and Mitman argued that "we have yet to fully investigate how such illness experiences translated into political action mobilized around the conservation of forests, fields, and streams."[18] Further, few have investigated the places where these different groups of people experienced a similar illness. The continued championing of the benefits of the West by figures like Roosevelt and Helen Hunt Jackson seems to show a lingering belief in the interdependence of health and the environment.

While health-seeking appears in all of these various approaches, it is often seen as a fairly unimportant phase in American approaches to tuberculosis treatment that faded away as the germ theory became preeminent. Although in historical analysis health migrants appear to fade away, in reality they did not disappear after Koch announced the germ theory. Rather, they continued to travel west by the tens of thousands whether or not they were able to support themselves financially or commit to the physical rigors of the ideal climate cure. Many historians have grappled with the germ theory's effect on the medical field as a whole and on the social receptions and understandings of disease, but few have questioned how this revolutionary moment in medical history manifested change or resistance on the ground in cities that were profoundly shaped by a pre-germ theory ideology. Delving into that story reveals that resistance to the germ theory and physicians' continued prescription of the climate cure arose not only from the failure of medicinal interventions based on Koch's discoveries, but also from a deeper conviction that tuberculosis was a symptom of social decline that could only be remedied by reevaluating and refiguring modern lifestyles.

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[17] Gregg Mitman, "In Search of Health: Landscape and Disease in American Environmental History." *Environmental History*, Vol. 10, No. 2 (Apr., 2005), 199.
[18] Mitman, 200

Chapter one lays the groundwork for an investigation of the effects the germ theory had on health-seeking and climate cures. It describes the cultural position of tuberculosis to explain why it was an important and unique disease in the minds of nineteenth-century Americans. Chapter one also examines the players involved in the climate cure machine—physicians, urban boosters, public health officials, patients, and even railroad companies contributed ideas, theories, and money to the movement. Using secondary texts alongside a collection of contemporary newspaper articles, medical journals, and public health reports, the first chapter also examines the cultural position tuberculosis held on the eve of the germ theory and considers how the announcement of this revolutionary idea influenced the medical practice. It argues that the germ theory had little effect on the phenomenon of health-seeking both because the cultural and social implications of tuberculosis were too deeply set, and because the discovery did not provide any effective treatments or preventative measures to dissuade Americans from their notion of tuberculosis as a social and cultural disease.

Chapter two takes a closer look at the effects the health-seeking phenomenon had on Denver, which was one of the most prominent of the destinations that migrant tuberculars flocked to during the late nineteenth and early twentieth century. Denver became a center for scientific research as well as a mecca for patients pursuing climatic cures, and physicians in the city were central in deliberations among the medical profession over how the practice should balance new scientific advances in medicine with the older, more philosophical and intuitive base of their profession. Many of these physicians feared that the discovery of specific pathogens and the development of medicinal interventions for diseases like tuberculosis would negate the importance of the profession. They foresaw a future where pharmacists supplanted physicians and patients treated their illnesses with a pill. Illness, they feared, would no longer spur

individuals to reevaluate their lifestyles or consider the consequences of their actions. They began to portray their role as a mediator between the rapidly-developing medications and the patients, and argued that health and recovery required a more complex calculus than pharmacists could provide. The physicians who continued to champion the climate cure were often anti-modernists, and based many of their arguments for the climate cure and for their own profession on principles that opposed the increasing urbanization and industrialization that characterized American life during the late nineteenth and early twentieth centuries.

Chapter three examines the inability of Denver and other locales to find satisfying public health approaches to controlling tuberculosis and ensuring treatment and protection to Denverites and health-seekers. Although there was no shortage of proposals for laws, public health measures, and institutional and infrastructural remedies to the economic and public health issues health-seekers imposed on Western cities, disagreement over the level of public intervention the populace was comfortable with stalled decisive action. There was no consensus over how broad or limited the powers of federal, state and local boards of health should be, and this lack of agreement resulted in fairly ineffective health boards that were incapable of decisive action regarding the tuberculosis problem. Most parties agreed that indigent health-seekers posed special difficulties to the city, and someone needed to address the problem. Debates over the issue revealed differing stances among physicians and Denver residents about where responsibility for indigent tuberculars lay. Should the ill themselves be held responsible for their own care? Should private charities shoulder the burden? Or was some form of governmental response at the municipal, state, or federal level appropriate? The warning that Thomas Galbreath voiced in his 1907 critique of Colorado was an accurate representation of the attitudes

of many Denver locals, but it overlooks the raging debate among the cities health professionals about how to address the very problems Galbreath lamented.

"Consumption is the child of civilization"[1]

In 1906, John Muir told a *World's Work* reporter that "home is the most dangerous place I ever go to." As their train steamed past the San Francisco Peaks of northern Arizona, Muir explained to the reporter "as long as I camp out in the mountains and have a warm tent or blankets, I get along very well; but the minute I get into a house and have a warm bed and begin to live on fine food, I get into a draft and the first thing I know I am coughing and sneezing and threatened with pneumonia."[2] Muir was one of the western environment's staunchest advocates, and the connection he drew between a rugged outdoor life and his own health echoed a common consensus of nineteenth century medicine. Even as Muir lauded the benefits of an outdoor life in the West, scientific evidence of the connection between germs and disease filled the pages of medical journals. Muir's attitude, even in the face of this mounting evidence, was a holdover from an earlier era of medicine.

Tuberculosis plagued societies long before nineteenth century Americans waged their battles against it. Evidence of the disease appears on Egyptian mummies and it was common when Hippocrates still took patients. Unlike many diseases, tuberculosis was not associated specifically with the lower classes, recent immigrants, or any of the other popular public health scapegoats of the nineteenth century. Rather, it was a disease that carried romantic connotations both because of its physical symptoms and its seeming tendency to target victims at the prime of their lives. In the words of a contemporary observer, tuberculosis was "most prolific of desolation in the abodes of youth and loveliness…it tramples in the dust the fondest hopes and

[1] S.S. Fitch, "Hints on Consumption," *The Friend*, Mar 27, 1847; Vol. 20, No.27
[2] "A Conversation with John Muir." *World's Work* (London, England, Nov. 1906), 8429

brightest anticipations of life."[3] Tuberculosis attacked both the robust and the sickly, but was most often associated with people who seemed predisposed to illness by heredity or habits. The symptoms generally presented three stages. The first were subtle—"a preternaturally delicate hue of the skin, attended by a slight cough, loss of flesh, some dimension of strength, some degree of shortness of breath…with a bright or glossy appearance of the eye."[4] All of these were subtle and could easily be caused by a number of other, less serious, ailments, so definitive early diagnosis of consumption was nearly impossible. The second phase included more tenable symptoms—a fever that reddened patients' cheeks, a mucous-producing cough, a sporadic and more noticeably increased pulse, and throat ulcers that made speaking and eating difficult. Still, these symptoms were inconclusive. The last stage gave the disease its frightful nickname: "consumption." Patients wasted away, and their cheeks and eyes sunk into their faces, giving them a corpse-like appearance.[5]

In addition to symptoms like weight loss, fever, lung lesions, and frightful coughing fits, tuberculosis patients often had very pale skin with pleasantly flushed cheeks and bright eyes. They shed weight rapidly as the disease progressed.[6] Young women with these symptoms fit the Victorian aesthetic of an ideal woman quite neatly, with lithe figures and pale complexions.[7] A young medical student called it "the most flattering of all diseases" in her 1876 senior thesis.[8] Tuberculosis was made even more romantic by its famous victims, often young writers, artists,

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[3] S.W. Gold, "Observations on the Character, and predisposing and exciting causes of phthisis pulmonalis," *The Boston Medical and Surgical Journal*; October 28th, 1835; Vol. 13, No.12, 1

[4] Armstrong, ""Pulmonary Consumption," *Boston Medical Intelligencer*, March 14th, 1826, Vol. 3, No.44, 174

[5] Billy Mac Jones, *Health-Seekers in the Southwest, 1817-1900*, (Norman: University of Oklahoma Press, 1967) 17; Thomas M. Daniel, *Captain of Death: The Story of Tuberculosis*, (Rochester, University of Rochester Press, 1997)

[6] Thomas Dormandy, *The White Death: A History of Tuberculosis* (New York: New York University Press, 1999) 22; Katherine Ott, *Fevered Lives: Tuberculosis in American Culture since 1870* (Cambridge: Harvard University Press, 1996), 9.

[7] Ott, 13

[8] Elizabeth Bigelow, "A Thesis on Pulmonary Consumption," (Senior thesis, Women's Medical College of Pennsylvania, 1876) 4, quoted in Ott, 10

and other creative types who lent the disease an air of tragic creativity. Victims of the disease appeared as tragic heroes in fiction writing and as subjects in paintings that highlighted their fragile delicacy. For the better part of the 19th and early 20th centuries, the trope of the consumptive had major influences on art, music, and literature.[9] Many of the writers and artists who used the archetypal consumptive to comment on the transience and vulnerability of life suffered from the disease themselves.[10] John Keats, Edgar Allen Poe, and Johann Goethe numbered among the famous victims of the disease.[11]

The physical symptoms of tuberculosis may have seemed appealing and romantic, even sometimes erotic; they were also often associated with innate qualities in the patient. Prevailing medical theories targeted two basic causes for infection from tuberculosis: inheritance or acquisition. Inherited cases resulted from genetic heredity: the children and extended families of consumptives were deemed more likely to fall to the disease as well. This was not because they spent time in close quarters with their ailing family members, but rather because the family carried some trait that rendered them vulnerable to the condition. "This predisposition does not consist in a poison or taint, as it is sometimes termed," one physician asserted, "but merely in the organic formation and tone of the individual."[12] Particularly slender, pale, and sanguine families had been regarded as predisposed to the disease since Hippocrates practiced medicine. The Brontë sisters were all killed by TB, and it was widely assumed that the fragile, artistic nature that seemed natural to their family predisposed them to the ravages of the disease.[13]

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[9] Dormandy, XIII
[10] Ott, 14
[11] Dormandy, 22
[12] S.W. Gold, 4
[13] Stefania Siedlecky, "Review of No Charge: No Undressing: Fronting up for Good Health by Peter J. Tyler," *Health and History*, Vol 6, No. 1 (2004) 135

Often, these assumptions about heredity aligned with ethnic and racial stereotypes. Tuberculosis was often considered a particularly urban malady, so many physicians theorized that rural and nomadic cultures were actually immune to it. Many considered Jewish people "not subjected to all the trouble and expense necessary to consumptive Christians" because they have "become so hardened and fortified against the disease by centuries of national calamities [and] by the dietetics, regimen and sanitas of [their] religion."[14] In the years following the abolition of slavery, some blamed a rise in tuberculosis rates among black populations in the South not on any socioeconomic conditions, but on their abandonment of the field work that was supposedly more "natural" to their race than urban life. Similarly, many physicians interpreted a dramatic increase in deaths among Native American children and teens in boarding schools as a result of their foregoing traditionally Native American behaviors for the civilized but less physically arduous ways of white society. A physician practicing in 1847 recalled at length the various attributes of the "savage state" that had kept Native Americans from developing consumption. The author lamented that once white Americans "bring them into our settlements, civilize them, educate them, and let them adopt our habits, they become as liable to consumption as we ourselves."[15] Another physician echoed his sentiment, explaining that "the Indians frequently develop this disease upon giving up their outdoor life to attend school."[16] In Alaska, physicians blamed increased incidence of TB among the native population on intermarriage between Russians and Indians on the Alaskan frontiers. In an era when racial science held that skin color determined behaviors, susceptibilities, intellectual capacity, and much more, tuberculosis became

[14] Madison Marsh, "Correspondence: Jews and Christians," *Medical and Surgical Reporter*; April 11th, 1874; Vol. 30, No. 15, 343.
[15] S.S. Fitch, "Hints on Consumption," *The Friend: A Religious and Literary Journal*; March 27th, 1847, Vol. 20, No. 27, 211
[16] "American Medical Association: The Forty-Ninth Annual Meeting, Held at Denver, CO," *Medical News*, June 11th, 1898; Vol. 72, No. 24, 767

another of the countless indicators of racial difference. Many of the observers who wrote about rising rates of the disease in non-white races assumed that this would harken the eventual disappearance of these races in North America.

Acquisition, the other supposed cause of tuberculosis, was a critique of patient lifestyles. Any patient who drank, ate the wrong foods, participated in inappropriate activities, or otherwise violated his physician's sensibilities could be held responsible for his own demise. Most of the theories on tuberculosis acquisition were based on the ever-increasing ills of life in rapidly growing urban centers; some of them bordered on the absurd. One physician warned that women's tendency to wear high heels made them more susceptible to consumption because the posture they forced women to assume caved their shoulders over their lungs and kept them from being able to draw in fresh air.[17] Almost any behavior could be finagled into a risk factor for tuberculosis, and the disease was so endemic that it seemed entirely possible that habits or behaviors of many kinds could render someone susceptible to the disease. Just as theories of heredity often echoed racial or ethnic prejudices in wider society, the behaviors social reformers labeled with increasing susceptibility to TB were often ones that they wished to abolish for reasons of social propriety or cultural conformity.

Many saw the high rates of tuberculosis in American cities as a sign of social decay. American cities grew at unprecedented rates during the nineteenth century as industrialization dramatically altered the demographic profile of the country's citizens. Legions of immigrants from Ireland, Germany, and countless other nations swelled the populations of East Coast cities. As more and more Americans began to live in cities, the rates of tuberculosis seemed to rise as the urban population did. Many assumed that it was the "practices and habits of modern

[17] "Do High Heels Cause Consumption?" *The Phrenological Journal of Science and Health*, June 1908, Vol. 121, No.6, 198

refinement"[18] that encouraged rising disease. Urban dwellers found it increasingly difficult to spend time outside exercising and enjoying fresh air. The quality of food and water in cities was often questionable, and living conditions were far more cramped and crowded than was the case for their rural counterparts. By the 1870s, physicians and social reformers frequently published articles lamenting that "the streets are so narrow and the houses so high that sunlight seldom reaches the sitting rooms." Many asserted that "persons predisposed to consumption ought not to be allowed to live in cities."[19] An explosion of middle class employment accompanied the industrial revolution. Urban middle class men worked as lawyers or bankers, businessmen or government employees, occupying a long list of white-collar posts that were nearly always sedentary and required long hours in stuffy, ill-ventilated offices. Indeed, physicians commonly attributed higher rates of tuberculosis in eastern cities to "the sedentary employment of the inhabitants of cities, the close and impure air, the want of sufficient exercise, and, in the poorest classes, absolute want of necessary food and clothing, both as to quantity and quality."[20] Worried that these middle class workers were losing their manly sturdiness, one physician advised readers that "in a thousand instances we may trace back this disease to effeminate habits or exhausting indulgences, which have wasted the energies and enfeebled the general tone of the system."[21] Poor urban workers labored in factories and other blue-collar occupations that were often physically taxing and crowded.

Critics of the rapid, unorganized growth of East Coast cities worried that the changes that industrial work wrought in both middle and lower class lifestyles put both at greater risk for

[18] S. W. Gold, "Observations on the Character, and predisposing and exciting causes of phthisis pulmonalis," *The Boston Medical and Surgical Journal*; October 28th, 1835; Vol. 13, No.12, 2
[19] Frank Donaldson, "Pulmonary Consumption in Cities," *Prairie Farmer*, June 17th, 1876, Vol. 47, No. 25, 195
[20] Manning Simons, "Climate in its Relations the Production, Progress, Amelioration, and Cure of Consumption," *The American Journal of the Medical Sciences*; January 1972, Vol. 63, No. 125, 85
[21] S.W. Gold, 1

tuberculosis. Because urban life was more crowded and the work often more sedentary and repetitive than that of rural life, and since cities seemed to offer freer access to a variety of lascivious vices, many worried that the moral and physical degradation that seemed to accompany modern urban life predisposed many to the dreaded white plague. These aspects of personal conduct in urban life, rather than any concerns about broader social or public health issues, drove the argument that urbanization bred higher tuberculosis rates. It seemed to Americans that tuberculosis had suddenly become prevalent as American cities became increasingly dirty and crowded. Many social observers linked the increased incidence with the changing character of American cities, which only made the ineffectiveness of public health efforts more frustrating. As one historian noted, "a full chorus of criticism and an endless legion of social workers in the nineteenth century did little to alleviate these distressingly infectious conditions."[22]

To explain the sporadic pattern of infection and progress tuberculosis presented, physicians often continued to highlight heredity and behavior. Historian Sheila Rothman observed that "the popular and medical conception was that consumption was hereditary: those whose parents or siblings had contracted it were predisposed to the disease."[23] An 1839 volume of *Lady's Book* warned women that a "luxurious diet" and lack of exercise could lead to ailments of the stomach, and "if that organ be in a perfectly healthy state, we incline to think that consumption can rarely or never occur."[24] An 1853 article in the *Scientific American* questioned the cause of the increasingly common diagnosis of tuberculosis as well. "What is the reason that

[22] Billy M. Jones, *Health-Seekers in the Southwest, 1817-1900*. Norman: University of Oklahoma Press, 1967, 124.
[23] Sheila M. Rothman, *Living in the Shadow of Death, Tuberculosis and the Social Experience of Illness in American History*, (Baltimore: Johns Hopkins Press, 1994) 14.
[24] "Consumption—Climate of America," *Lady's Book*, (1835-1839); Sept., 1839; 119

this disease is so prevalent? Is it caused by evil habits, or climate?"[25] An 1872 article in *The American Journal of the Medical Sciences* pointed to both heredity and habits. "Without denying the hereditary predisposition and vulnerability, we must admit that it is in many instances acquired through the agency of nervous exhaustion." Stressing the popular theme of behavioral causes, the authors continued on to cite "impoverishment of the blood, and consequent malnutrition," and "a loss of balance between the processes of destruction and repair which constitute the phenomenon of life."[26] As late as 1889, Buffalo, New York, doctor Louis A. Bell warned readers of *The Physicians' and Surgeons' Investigator* that "want of exercise, insufficient food, inheritance, excesses of all kinds, sex, order of birth, dampness, change of climate, are powerful factors in the disease."[27]

Although it was romanticized in art, tuberculosis was still a terrifying specter to nineteenth-century Americans. One observer called it "the most fatal and destructive disease which afflicts the human race."[28] Record-keeping was a new and rarely used approach to tracking public health situations when tuberculosis was at its height in the nineteenth century, but most current estimates hypthesize that the disease was responsible for one in five deaths.[29] This stunning statistic meant that most Americans either were consumptive or knew someone who was. The disease had a very real presence in everyday life beyond its allegorical representations in the cultural milieu. Unlike smallpox and other epidemics of the era, it often killed slowly. Symptoms could disappear and recur, leaving the victims unsure of her eventual fate. Although many struggled through years or even decades of cyclical attacks, tuberculosis sometimes

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[25] "Dust and Consumption," *Scientific American* (1845-1908); April 16th, 1853; Volume VIII, Number 31.; s, 248.
[26] Manning Simons, M.D., pg.82
[27] Louis A. Bell, MD, "Non-medical Treatment of Consumption," *The Physicians' and Surgeons' Investigator* Aug 15th, 1889; 10; 10,8; s, 220
[28] "Observations on a change of Climate in Pulmonary Consumption," in *The North American Medical and Surgical Journal* (1826-1831); April 1826; 1,2; s 282.
[29] Rothman, 1

claimed victims with startling rapidity. Unlike smallpox and typhoid fever, which swept through communities with deadly speed, tuberculosis was an ever-present part of nineteenth century American life, and it attracted less fervent efforts at control or prevention than diseases that spread and killed their victims quickly. "If a case of yellow fever or malignant cholera occurs in any part of the country, the whole community become alarmed, and have recourse to measures of prevention," one physician observed in 1836. "Few persons, however, think of resorting to any means to prevent the extension of consumption."[30] Nearly sixty years later, another physician still lamenting the lack of community mobilization in the face of tuberculosis asserted that "the reason for this may be that we feel ourselves, in a measure, helpless. We know not which way to turn to prevent."[31] At any given point, it was more than likely that a person knew at least one friend or family member who was suffering from consumption, or had succumbed to it.

Theories about the causes of tuberculosis and the most effective treatments for the disease abounded in medical circles. In these theories, physicians focused largely on the personal attributes, failings, and habits of the patient and on their relationship with the environment surrounding them. Often in nineteenth century medicine, physicians devised treatments based on matching the symptoms of diseases. Diseases with violent symptoms were often counteracted by violent treatments like repeated emetics to force vomiting. A patient's expression of pain was also a crucial indicator of a treatment's effectiveness. Physicians and patients referred to this practice as 'heroic medicine.' One historian called medicine during this period an "inevitable and tragic failure," noting that "dependence upon false premises left physicians with an imperfect understanding of causal factors and left [patients] to a pragmatic and often desperate

[30] A.B., "Consumption: Pulmonary Consumption, and means of Prevention," *The Knickerbocker; or New York Monthly Magazine*; July 1836, Vol.8, No.1, 1.
[31] Samuel A. Fisk, "The Cottage Plan of Treating Consumption in Colorado," *Medical News*; May 4, 1889; Vol. 54, No.18, 480

search for remedies."[32] Another termed the practice of medicine during the nineteenth century a "medical free-for-all."[33]

The patient often held as much responsibility for her health and healing as her physician, and physicians frequently emphasized the importance of reforming bad habits and adjusting postures and activities. "Medical advice is important to many," one physician commented, "but in regard to no class[than consumptives] is it more true that 'God helps those who help themselves.'"[34] The era's frightening and often ineffective medical practices led many patients to turn to a variety of alternative practitioners—allopaths, homeopaths, hydropaths, chrono-thermalists, Thompsonians, Mesmerists, herbalists, Indian doctors, clairvoyants, and spiritualists, to name a few. As one historian observed, "the conflict between many systems resulted in virtually no system at all; there was no clearly defined standard, no real science of medicine, no absolute or acknowledged authority."[35] In this unregulated atmosphere, physicians recommended treatments that ranged from bloodletting to climate cures for the same ailments.

Pursuing relief from tuberculosis in different climates was a practice almost as ancient as the disease itself. The consistent failures of nineteenth century treatments and the quasi-scientific nature of medicine during the era inevitably led to climate cures as a treatment for consumption. According to Jones, these medical failures "served to increasingly strengthen the faith of health-seekers in the physical rewards of a suitable climate."[36] The arid, open, relatively unpopulated lands of the newly acquired Southwest posed a fitting counterbalance to the dirt and crush of urban life. For a medical discipline built almost entirely around "achieving balance," sending an

[32] Jones, 23
[33] Ott, 9
[34] A. Merrill,"On Choice of Climate for Invalids," *Medical and Surgical Reporter;* August 21, 1869, Vol.21, No.8, 160.
[35] Jones, 28.
[36] *Ibid*, 125

urban consumptive to the deserts and mountains of the West to achieve health seemed like an ideal antidote to many physicians and patients. Pointing to historical precedents to justify his own devotion to climatic remedies, South Carolina doctor Manning Simons told his readers that "Aretoeus recommended sailing; and Celsus enjoined a voyage to Egypt, the pine forests of which are described by Hippocrates as being dry and arid, yet refreshing to invalids."[37]Dr. Woods Hutchinson, a prolific commenter on the practices of nineteenth century medicine and tuberculosis, declared that "no cure could be effected, in any disease, without the powers of nature."[38]

Before the arid West began to draw invalids seeking its particular climatic advantages, invalid consumptives had sought other refuges. The recommendations their physicians made ranged from rest to vigorous exercise to seeking refuge from the city in popular East Coast health resorts like Saranac Lake in upstate New York. But starting in the middle of the nineteenth century, tens of thousands of tuberculosis patients sought the benefits of John Muir's hardy, outdoor life in the high, sunny, and arid western climates of Arizona, Colorado, New Mexico, and Southern California. Fleeing the foul air of increasingly crowded cities, these legions of health seekers embraced Muir's sentiment that "outdoors is the natural place for a man."[39] Before modern medical techniques began to emerge in the late nineteenth century, Americans viewed their bodies as porous entities whose welfare was intimately tied to the climate around them. As historian Linda Nash argues, "health was not a quality that individual bodies possessed or lacked but a state that emerged when a given body was in harmony with a particular

[37] Manning Simons, MD., 82.
[38] Quoted in "Diminished Mortality from Consumption," *The Western Journal of Medicine and Surgery*, March 1852.
[39] "A Conversation with John Muir," *World's Work* (London, England, November, 1906) 8249

landscape."[40] Physicians used Hippocratic and Galenic theories about the relationship between the body and the environment to support their beliefs that illnesses resulted from an imbalance between the two factors.

Although different doctors opined regularly on the values of temperature, altitude, and other climatic features, the most unanimously embraced curative value of western climates was aridity. As an 1858 observer, identified only as W.O.B., noted in an analysis of a volume of the *Medical Statistics of the U.S. Army* published in 1857, "it appears that, while an equable temperature…is highly desirable, a dry atmosphere is even more so, and the last requires to be more carefully ascertained than the former."[41] Travelling for health was not a new practice, but American physicians departed from older justifications for climatic benefit and busied themselves defining and evaluating the health and risks of different climates. Their evaluations grew increasingly sophisticated over the decades of the nineteenth century. By the end of the century, a battery of instruments to measure barometric pressure, wind speed and direction, humidity, and a laundry list of other signifiers were crucial to these determinations.[42]

In the milieu of nineteenth century medical beliefs, the persistent threat of tuberculosis combined with intrigue about new western lands as physicians and patients looked to the arid climates of western mountains and deserts for a remedy. Boosters of the arid West's curative features argued New York, Boston, Philadelphia, and other East Coast cities exhibited various climatic deficiencies that put their denizens at higher risk to develop consumption. Proximity to

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[40] Linda Nash. *Inescapable Ecologies: A History of Environment, Disease, and Knowledge*. Berkeley: University of California Press, 2006, 210.

[41] W.O.B., "Influence of Climate upon Consumption of the Lungs," *Friends Review; a Religious, Literary, and Miscellaneous Journal*; April 17, 1858; Vol 11, No. 32. 506.

[42] A variety of medical journals published extensive articles throughout the latter half of the eighteenth century that listed a battery of scientific measurements to determine the health of the environment of a particular place. Both Nash and Valencius discuss this practice—medical topography or medical geography—at length in their books. See Chapters one and two in Nash's *Inescapable Ecologies* and Conevery Bolton Valencius's *The Health of the Country: How American Settlers Understood Themselves and Their Land* (New York: Basic Books, 2002) for more.

the Atlantic Ocean exposed east coasters to the dangerously moist atmosphere of coastal living. In Salem, for example, a "moist east wind" was blamed for high rates of tuberculosis in 1799.[43] Gathering statistics on the incidence of consumption and other respiratory conditions, many climatic researchers believed that "the most important atmospheric condition for a consumptive is dryness…Next to dryness in importance is an equable temperature—a temperature uniform for long periods, not disturbed by sudden or frequent changes."[44] Elevation seemed to many another assurance against the development of consumption. "Altitude, together with low barometric pressure, appears to be inimical to the origin of the disease," observed one climate cure advocate.[45] Cities like Denver, which stood a mile above sea level and boasted about half the barometric pressure of coastal cities back East, seemed free of the dangerous swings in air pressure and temperature that climatologists associated with higher rates of consumption.

Although they used modern instruments, nineteenth-century physicians based their studies on Hippocratic practices that required careful observations of climatic features and changes. Historian Conevery Bolton Valencius traces this development from a desire by nineteenth century physicians to stabilize their profession, arguing that medical geography "helped create a legitimizing and stabilizing professional history for the practice of medicine while asserting local informant's unique competence to come to terms with the new territories of the United States."[46] According to Jones, "the most important factor in the study of climatology was the air—if it was pure, free of moisture, dust, pollen, and the like—it was thought also to be free of the infectious miasmata."[47] In 1884, medical climatology had developed to the point

[43] Manning Simons, MD, "Climate and its Relations to Production, Progress, Amelioration, and Cure of Consumption," *The American Journal of the Medical Sciences*; Jan 1872, Vol 63, No. 125. 85
[44] W.O.B., "Influence of Climate Upon Consumption of the Lungs," *Friends' Review*, April 17th, 1858, Vol.11, No.32, 508
[45] Manning Simons, 83
[46] Valencius, 182.
[47] Jones, 133.

where a group of prominent physicians from both the West and New York established the American Climatological Association to publish an annual journal of climatological studies. Physicians used these studies to establish the health of new lands for potential settlers and health seekers, but they played an important role in American colonization by "making place intelligible, [so that] medical geographies represented the intellectual dimension of a takeover at once political military, cultural, and environmental."[48]

Many historians estimate that health-seekers comprised about a quarter of western migrants, but have remained relatively under the radar because many of them also farmed, mined, and otherwise blended in with more robust settlers. "Referred to rather inconsistently as lungers, consumptives, pthisics, coughers, hackers, invalids, valetudinarians, sanitarians, asthmatics, white plaguers, pukers, and walking death," health-seekers were "silent but ever present partners of the better-known trail blazers," according to historian Billy Jones.[49] In the early days of western migration, these roaming invalids traveled by the same means as other migrants. They undertook arduous journeys by wagon across the plains or long voyages down the East Coast, across Panama, and up the Pacific coast to California, often heeding their physicians' advice that a journey could mend an ailing constitution just as well as a new climate could.

Doctors and patients were not the only characters in the phenomenon of western health-seekers. Booming populations of consumptives in particularly salubrious towns required the kind of infrastructure that profiteers of western growth so loved. Health resorts, at first rustic, became increasingly elaborate and expensive. The role of transportation, too, developed over time. Early health-seekers, like other migrants, had ridden in wagons across the plains in search

[48] Valencius, 165.
[49] Jones, 44-45.

of the climate that might save them. Doctors touted the benefits of the hard labor and months of camping that this type of travel required—many argued that this, not the eventual destination, was where the consumptive reaped the most benefits. Many physicians believed that cures achieved in the West "may as properly be attributed to the remedial effect of a long journey and mental excitement, as to the climate of the western country."[50] However, like so many other western phenomena, railroad travel revolutionized the health-seeker's quest. Railroads were keenly aware of their role in this migration and they established clinics and hired doctors to tout the benefits of different depots, and sold postcards to illustrate the various benefits at different sites. As Frank Carpenter observed of the range of reports of regional health destinations in 1883, "the doctor can hardly be considered unprejudiced authority. The managers of railways and hotels tell the same story; but the importation of invalids is a matter of business with them."[51]

Despite inconclusive statistics about the effectiveness of climate cures and treatments, reliance on the climate doctrine continued throughout the nineteenth century. Doctors had a difficult time evaluating the effectiveness of climate treatments for a few reasons. Because health-seeking had become a profitable business for hotel owners, city boosters, and railroad managers, success stories were much more highly publicized than deaths. Health seekers were also generally wealthy, and garnered more attention than a poor victim of the disease, as Lawrence Flick pointed out in 1906. "The go-a-ways usually are well-to-do people; the stay-at-homes are poor. A well-to-do go-a-way recovers and attracts attention; a poor stay-at-home

[50] A.B., "Consumption: Pulmonary Consumption, and Means of Prevention," *The Knickerbocker; or New York Monthly Magazine*; July 1836, Vol.8, No.1, 3
[51] Frank Carpenter, "The Climate Cure," *Lippincott's Magazine of Popular Literature and Science* (1871-1885); April, 1883; 5

recovers and is unnoticed, or if noticed is said not to have had consumption."[52] The class divisions inherent in articulating causes and treatments for a patient's tuberculosis often obscured the ability of doctors and other researchers to conduct the kind of statistical analysis of the climate cure that many clamored for. Another doctor pointed to the unpredictable course of the disease as a challenge to evaluating the effect of climate. "Again," he said, "death comes so slowly by consumption, and the invalid, like the stricken deer, so often drags himself elsewhere to die, that the honest statistics of this disease are not so valuable as those of…other causes of sudden dissolution."[53]

For decades, physicians around the world had theorized about a relationship between diseases and objects too tiny for the human eye to see. Girolamo Fracastoro, a physician from Verona who practiced in the early 16th century, theorized that invisible particles he called s*eminaria* were responsible for the spread of tuberculosis and other diseases.[54] Italian cities had passed laws commanding citizens to burn the belongings of deceased phthisis patients, indicating belief in some germ-like entity related to the disease.[55] However, without the advances microscopic technology made during the early nineteenth century, these early theories lacked any physical proof of their validity, and held no more claim to medical truth than competing theories about humoristic imbalance that linked the body's health to its relationship with the physical environment surrounding it.

The early nineteenth century brought advances in microscopes that eventually enabled scientists like Dr. Robert Koch to investigate the long-inaccessible world of microbes. The discovery of the tuberculosis bacteria added a new dimension to the already complex debate

[52] Lawrence F. Flick, MD. "The Relative Value of the Home Treatment of Tuberculosis," *in The American Journal of the Medical Sciences* (1827-1924); Oct 1906; 132, 2.
[53] Frank Carpenter, DY. "The Climate Cure," *Lippincott's Magazine of Popular Literature and Science*, April 1883.
[54] Dormandy, 5.
[55] *Ibid*, 53.

raging over the mysteries of the disease. When Koch discovered the cholera and tuberculosis bacilli and Louis Pasteur theorized that germs caused diseases, their revelations entered the realm of other hotly-contested theories and ideas surrounding tuberculosis. Koch and Pasteur, working independently in 1876 and 1877, both realized that anthrax, which can jump species from cattle and horses to humans, was caused by a microorganism. Two other independent investigators applied Koch and Pasteur's findings to the bubonic plague and found similar results, and the dominos began to fall. Koch soon announced his "germ theory," which asserted that some diseases are caused by microscopic organisms that invade the body and cause illness, at a meeting of the Physiological Society of Berlin on March 24th, 1882.[56] The idea of diseases communicated by beings invisible to the eye took hold, but negotiation over the repercussions of that discovery would pervade the medical practice for decades to come. While physicians were convinced by Koch's evidence, the discovery had relatively little effect on the treatments doctors recommended for tuberculosis. This was in large part because an effective cure for tuberculosis eluded scientists for another half-century and because an inexplicable but modest decline in the death rate of tuberculosis during the latter half of the nineteenth century seemed to promise that the disease was responsive to some of the sanitary and climatic efforts doctors had promoted increasingly throughout the nineteenth century.

For nineteenth century patients and physicians, the idea of a bacteria transferred from one person to another causing tuberculosis did not preclude earlier ideas about the malevolent effects of unhealthy climates on a patient's overall health. In the decade after Koch announced his germ theory, physicians continued to postulate ways that the environment influenced the susceptibility of their patients. As a doctor explaining the rise in tuberculosis cases among

[56] Howard Markel, *When Germs Travel: Six major epidemics that have invaded America Since 1900 and the fears they have unleashed*, (NY: Random House, 2004) 31.

Dakota Indians in 1890 observed, "in a climate as dry as this, with such constant high winds, it is easy to conceive of the very atmosphere we breathe, even in open air, being charged with bacilli of consumption and germs of kindred diseases."[57] Another doctor, reflecting on the case of a woman who had been diagnosed with tuberculosis after her husband died of the disease, commented that "we know that in warm countries, such as Italy and Spain, consumption is regarded as a contagious disease. I can understand this; for it is in such climates where the most active and rapid forms of consumption occur."[58] But in colder climates and places where people spent more time outside, he argued, the disease's symptoms were minor and it was easily treated. The sense of contagion for this doctor arose not from any fact about the newly-discovered germ, but rather from the unhealthy climates that led to higher tuberculosis rates and more vicious infections.

Effective treatments for tuberculosis lagged far behind the culpable germ's discovery. A case study of an early attempt at a remedy using the newly discovered "Koch's Lymph," or tuberculin, chronicled the treatment of a young male tuberculosis patient, who, after nearly three months of experimental tuberculin injections, "died from the natural course of the tubercular disease in the lungs."[59] The treatment had resulted in some mild reduction of symptoms, but for this young man and others in the study it had not halted or even slowed the progress of the disease. Other trials found that the remedy "was too powerful and dangerous to be used in the advanced stages of the disorder," but had some positive effects on cases that were discovered early in their progression.[60] The promise of effective treatment was on the horizon, but early

[57] Dr. Fred Treon, US Agency Physician, Crow Creek, SF. "Consumption and Sanitation Among the Dakotah Indians," in *Medical and Surgical Reporter*, Sept. 20th, 1890; 63, 12; s 335
[58] "The Communicability of Consumption," *Medical and Surgical Reporter*; June 6th, 1885
[59] R.H. Chittenden, Ph.D., and J. C. Foster, MD, "Some Results of The Treatment of Tuberculosis With Koch's Lymph, or Tuberculin," in The American Journal of the Medical Sciences (1827-1924); July 1891; 102.
[60] J.P Hassler, MD, "Dr. Koch and Consumption," in *The Chautauquan: A Weekly News Magazine* (1880-1914); Mar, 1891; 12,6; s 752

attempts at a cure using tuberculin had mixed results. In 1891, a critic of Koch's remedy warned patients that "the physicians who are subjecting their patients to a course of Koch's injections are justifying with a vengeance Voltaire's taunt that they 'pour drugs of which they know little into bodies of which they know less.'"[61]

While Koch and Pasteur's discoveries bolstered the efforts of public health officials working toward more sanitary living conditions for urban dwellers, the germ theory's most noticeable effect on doctor's prescriptions for their tubercular patients was, seemingly, a resignation to the disease's deadliness once contracted. Lincoln Cothran, a San Jose, California, doctor, wrote in 1898 that "while the disease may hereafter be arrested by other means discovered, inevitably as gray hairs and wrinkles come with age, the patient cannot be cured, that is, restored to a condition of perfect health and strength." Cothran went on to detail the life cycle of tuberculin bacillus and the process by which tuberculosis was communicated according to the relatively new germ theory. But he still concluded that "physicians of intelligence everywhere have recognized that residence in a suitable climate is of far more service in saving consumptives than any or all of the systems of medication."[62] While the introduction of the germ theory did reinforce the sanitation and public health movements, it failed to produce immediate treatments or definitive preventions.

As doctors became more convinced that no treatment yet discovered would cure consumption, they continued to recommend travel to the Southwest to tuberculosis sufferers. Their justifications for doing so shifted from quasi-scientific theories to the benefits of a well-regulated outdoor life. In a lengthy essay on the contagious nature of tuberculosis, published in 1894, Hermann Biggs recognized the class divisions in tuberculosis treatment. "There can be no

[61] Dr. Edward Berdoe. "Dr. Koch's Consumption-Cure," in *The Eclectic Magazine of Foreign Literature*; Jan 1891; 53, 1.
[62] Dr. Lincoln Cothran. "The Extirpation of Consumption," in *The Arena*; Aug 1898: Vol XX, No. 105.

question that consumption may, almost as a rule, be completely and permanently cured among the well-to-do classes, if the nature of the disease is recognized early, and the persons moved temporarily or permanently to favorable climates or localities."[63] The cause of tuberculosis seemed definite, but climate still seemed to promise comfort and perhaps some longevity, or for more stubborn adherents to climate, a cure. These advocates of the climate cure for tuberculosis were encouraged by the positive effects that climate had on asthma sufferers, who often found their lung ailments alleviated in high altitude arid climates.

In the case of health-seekers in the Southwest and West, the relative absence of the influence of this significant portion of westward migrants in the popular narrative owes in part to the eventual success of the germ theory over other theories of tuberculosis transmission. That success makes the health seeker experience look like a discrete moment in the history of western development, but as Linda Nash argues, "outside of medicine the decline of Hippocratic ideas was much more gradual and incomplete, and the distinction between environmental and health concerns has often been blurred."[64] At the moment the germ theory began its eventual conquest, and indeed for decades afterward, little changed in the lived experience of people affected by tuberculosis—between ten and twenty percent of the population during this period eventually died from the disease, and their doctors, families, and friends were all doubtless affected by these experiences.

The eventual effect of the germ theory's scientific ascendance was a separation of bodies and illness from the environment, but that process happened slowly within medical practice and even more slowly outside of it. By the mid-twentieth century, research based on the germ theory realized effective treatments for the diseases that had stymied nineteenth century practitioners.

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[63] Hermann M. Biggs, "To Rob Consumption of its Terrors," *Forum*, (1886-1930); Feb 1894, 759.
[64] Nash, 211.

Since that point, the moment that seems transformative to both the medical practice and popular experiences of tuberculosis was the discovery of the tuberculosis bacillus. But, despite the discovery, doctors and patients continued to lobby for the effectiveness of certain environments as they lauded the benefits of the arid climate of the West, and argued vociferously for the healthiness of the kind of lifestyles one found there.

New Science and Old Medicine in Denver, Colorado, 1882-1915

After its establishment in 1858, Denver rapidly became one of the West's most popular health resort destinations. Destination health-seeking is often thought of as a relic of the pre-germ days of medicine, when treatments were based on little more than mythology and most doctors received little training. However, even as the discovery of the tubercle bacillus encouraged a new direction in tuberculosis research that focused increasingly on using the germ to develop vaccines and medicinal treatments, Denver and other southwestern cities actually saw an increase in what might be called "health migration." Denver grew up as a health-seeking destination, and it was fundamentally affected by the debates over the nature of tuberculosis and its relationship to the environment that the germ theory's discoveries fostered. The city also became a center of tuberculosis research. It boasted an unusual proportion of physicians per capita, many of whom were health seekers themselves.

Throughout the late 19th and early 20th century, these physicians actively debated the benefits of Colorado's climate for tuberculosis sufferers. On the surface, their debates seemed to be dedicated to finding better treatments for tuberculosis. A deeper reading of their arguments reveals that tuberculosis often represented a greater social demon for many of the physicians who supported climate cures. As they grappled with the discovery that tuberculosis was communicated by a pathogen, their arguments supporting the climate cure revealed that many of them viewed tuberculosis as a sign of social decay brought on by industrialization and immigration. The climate cure offered more than drier air and more sun; anti-modern modern physicians portrayed it as a regenerating experience for urban tuberculosis sufferers[1]. While the

[1] The turn of the 20th century experienced a wave of anti-modern sentiment that fueled religious and social reform movements throughout the country. For more on the ways Americans reckoned with their modernizing nation in the

germ theory and the new directions in medical research that followed it seemed to signal that the practice of medicine was becoming more scientific and less holistic, physicians throughout the country lobbied for a cautious approach to new technologies and medicines based on the research. Their role as physicians, they argued, was at the intersection between this new laboratory science and the less concrete socioeconomic, cultural, and environmental factors they insisted played an important part in diseases like tuberculosis. Despite new revelations about the mechanisms of the spread of disease, these physicians maintained that the patient's relationship to the environment around them played a crucial role in their health. In the decades spanning 1882-1915, Denver, Colorado often seemed to be the focus of the debate over new scientific approaches to medicine versus older medical philosophies.

Unlike Santa Fe, the coastal cities of California, and some of the other long-established western cities that drew health-seekers, the Denver area had no European settlers until around 1858, when prospectors discovered gold in the South Platte River. Following a pattern that was all too familiar by the late 1850s, the Cherry Creek camp's population quickly swelled with prospectors, merchants, and boosters. In 1859 the settlement's name was changed from St. Charles Town Company to the much sleeker Denver, an homage to Kansas territorial governor General James W. Denver.[2] Despite this early population boom, the South Platte's gold deposits were ultimately disappointing and many of the prospectors who had rushed to Denver moved their operations into the mountains surrounding the growing town. The city remained an

years between Reconstruction and WWI, see Jackson Lears' *Rebirth of a Nation: The Making of Modern America, 1877-1920* (New York: Harper Perennial, 2010) p 418.

[2] Lyle W. Dorsett, *The Queen City: A History of Denver* (Boulder, CO: Pruett Publishing Co., 1977) 1

important retreat from the harsher mountain climate and a hub for resupplying for the miners in the area.[3]

Gold-hungry prospectors and health-seekers were often one and the same, and Denver's new residents were no exception. Local lore holds that one of Denver's earliest citizens, Andrew Sagendorf, brought tuberculosis with him when he journeyed to Denver in search of gold. Arriving on November 6th, 1858, Sagendorf was allegedly in such a miserable condition that his travelling companions stored planks to build a coffin for him on the floor of the wagon their team of oxen pulled.[4] Sagendorf recovered and became a civic leader and lifelong resident. He died at the age of 84 in Denver in 1912.[5] Sagendorf had moved to Colorado for gold and climate, and many others followed in his path. Indeed, Denver's reputation for gold was quickly overshadowed by its apparent healing qualities. Throughout the 1860s, tuberculosis patients embarked on the long, often laborious journey to Denver to seek its climatic benefits. "The physical influence exerted on a man or an animal by the climatic environment which results from two hundred days of sunshine per year, fifteen inches annual rainfall, dry, sandy soil, and six thousand feet altitude," one advocate of Colorado's climate wrote, "makes a difference that is a powerful agent…when compared with one hundred days of sunshine, forty-nine inches of annual rainfall, damp clay soil, and no altitude above sea level."[6] Colorado's climate boasted measurable advantages over the low, rainy, grey cities of the East Coast.

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[3] Robert M. Tank, "Mobility and Occupational Structure on the Late Nineteenth Century Urban Frontier: The Case of Denver, Colorado," *Pacific Historical Review*, Vol. 47, No. 2 (May 1978), 190

[4] Sagendorf's date of arrival is from *Denver Health: 150 Years of Level One Care for ALL*, (Denver: Denver Health, 2010) 8

[5] *Journal of the Executive Proceedings of the Senate of the United States*, Vol 14, Part 2 (United States Congress, 2-7/1866) 550; Maria Davies McGrath, *The Real Pioneers of Colorado* (Denver: The Document Division of the Denver Museum: 1934) Vol. 3, 193

[6] Charles Fox Gardiner, "Colorado-Born Tuberculosis," *Denver Medical Times and Utah Medical Journal*; Vol. 28, No. 4, October 1908, 150

In the 1860s, health-seekers trekked across the plains alongside other Western migrants, but by the end of the decade, railroads began to revolutionize Denver's health-seeker industry. By the 1870s the Denver Pacific, Kansas Pacific, and Denver & Rio Grande Railroads had all arrived in the once-remote mining outpost.[7] A marked change in the rhetoric about climate cures accompanied the ever-growing web of railroads in the West. No longer did physicians who ascribed to the climate cure insist that arduous journeys were an essential feature in the climate cure regimen. As train travel became increasingly convenient, fast, and affordable, "the journey" fell out of favor as a beneficial aspect of the treatment. Instead, physicians fretted over the length of journeys and advised patients to take measures to preserve their health while travelling so that they could start their real healing upon arrival in their chosen climate. An 1878 guide to travelling to Denver advised consumptives undertaking the three-day rail trip from New York to "break the ride…and remain each time until thoroughly rested."[8] The climate itself, not the work the patient put into getting there, was curative. Climate cures continued to revolve around strict schedules and diets, but the body's interaction with the environment around it was the most important aspect of the healing process. In Denver, the arrival of the railroads ushered in a new phase in the city's development. It was no longer remote; it had become the hub of the Rockies, an ideal midpoint between the plains and the West coast. It was the Queen City of the Plains now, and it was also quickly becoming one of the most highly-regarded destinations for health seekers. By 1872, observers from across the nation acknowledged that "every third or fourth man you meet came here in search of health…a considerable proportion of the inhabitants are

[7] Eds Gregg Mitman, Michelle Murphy, and Christopher Sellers, *Landscapes of Exposure: Knowledge and Illness in Modern Environments* (Osiris, Vol. 19, 2004), 95; Richard White, *Railroaded: The Transcontinentals and the Making of Modern* America (New York, NY: Nosrton & Co., 2011) 53

[8] J. W., "Consumption and Colorado: The Journey," *The New York Observer and Chronicle*, November 21st, 1878; Vol. 56, No. 47, 370

either restored or convalescent invalids."[9] Although Denver certainly drew many new citizens interested in mining, farming, livestock ranching, and other ventures, one of its best-known enticements was its healthy climate.

Although its population swelled with tubercular invalids, Denver's municipal government struggled to develop infrastructural responses to its large population of sick patients. By some estimates, in 1880 fully a third of Denver's residents had tuberculosis. The territorial government established the first territorial board of health in 1876, just a few years after the arrival of the railroads opened the flood gates to health seekers. The board was ineffective. The legislature granted it no powers beyond composing a report of the territory's public health situation. [10] When Colorado became a state six months after the board was founded, it was disbanded and the new state legislature established a State Board of Health with similar responsibilities and limits. None of the reports these early boards published survived the 1870s; in fact, very few public health statistics for Colorado's early years exist at all. Later accounts of the Board of Health's early years attributed this lack of archived material to the board's paltry staff—on the early years, the state legislature provided the board of health with funding to hire only one clerk in addition to the nine physicians who composed the board.[11]

Remnants of the efforts the early boards of health made to record statistics appear in newspaper articles and editorials throughout the late 1870s. Revealing the difficulty the board experienced in convincing local officials to submit thorough statistics, the physicians on the Board of Health submitted letters to the editors of various Colorado newspapers reminding local officials that the law was clear about the statistical requirements. In an open letter written in

[9] Rev. G.W. Marlin, "Colorado as a Health Resort," *The New York Evangelist*, June 6th, 1872, Vol. 43, No.23, 1
[10] *Health in Colorado: The First One Hundred Years*, prepared by the Public Information Office, Colorado Department of Health. (Denver, CO, 1969) 8, 5
[11] *Annual Report of the American Historical Association for the Year 1903*, Vol. 1(Washington, D.C., Government Printing Office, 1904) 428

1878, Dr. Charles Ambrook, a physician and member of the Board of Health, reminded local officials that "in death the commencement of the disease is necessary to show the effects of climate on the duration of fatal cases; although physicians dislike to report deaths (for which they are not responsible) yet if each one would report such with a note to that effect, it would make a more reliable set of vital statistics."[12]

In the late 1870s and early 1880s, the Colorado General Assembly appointed some health officials and made what a historian in 1918 called "futile efforts at legislation."[13] The first "carefully framed" law creating a state board of health and enumerating its duties was not passed until 1893.[14] This new, apparently more effective, legislation was not on the books until eleven years after the Dr. Robert Koch publicly announced the germ theory of disease. How did a state whose population was composed largely of sick people get away with such infrastructural paucity? In part, the very nature of theories about the climate's curative nature went against the development of systematic responses to disease. Before the germ theory established the bacillus responsible for the communication of tuberculosis, most believed that consumption was a disease associated with personal characteristics, heredity, and lifestyle deficiencies. The cure for this kind of ailment was based on personal improvement. Hard physical work, sound rest, improved diet, and abstinence from alcohol were all important features of treatment for consumption. Advocates of the climate cure embraced these techniques and argued that the air of Denver (or Santa Fe, Santa Barbara, Colorado Springs, or any number of other towns vying for health tourism money) was the capstone of this treatment regimen.

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[12] Dr. Charles Ambrook, "To the Clerk of the Board of Health," *Colorado Weekly Chieftan*, Pueblo, Peublo County, February 7th, 1878, front page.

[13] Wilbur Fiske Stone, ed. *History of Colorado*, Vol. 1 (Chicago: The S.J Clarke Publishing Company, 1918) 208-209

[14] A 1918 history of Colorado recalled that "the General Assembly, in 1877, 1878, and 1883, created public health officials and made futile efforts at legislation. In 1893, the first carefully framed law creating a state board of health and defining its duties was placed on the statute books." Wilbur Fiske Stone, ed. *History of Colorado*, Vol. 1 (Chicago: The S.J Clarke Publishing Company, 1918) 208-209

Denver boasted numerous climatic benefits according to the many climatologists of the day; as described by a New York writer in 1872, "this climate is a panacea…exceeding dryness, almost perpetual sunshine, total absence of miasmatic vapors and sultry days or nights; tonic, exhilarating air of wonderful transparency; clouds, damp days and dewy nights, are almost unknown."[15] Situated at an altitude of 5,280 feet, Denver possessed air that was arid enough to impress physicians who lauded the benefits of breathing dry air. Because it bordered the Plains, the city could grow without becoming overly crowded, protecting it from the complaints that climate advocates voiced against densely-built East Coast cities.

Denver also had the benefit of being a young frontier city. The frontier, according to climate cure advocate Dr. Woods Hutchinson in 1909, "has always had a reputation as a health resort…the reason, in a nutshell, was that *life in the open was the only life which was possible on the frontier*, and is practically yet."[16] Others cited the same practical benefits Hutchinson championed, arguing that Denver's climate had a special ability to cure tuberculosis, but that Denver was also an ideal locale for the health-seeker because most people there "lived a vigorous outdoor existence." During the late nineteenth and early twentieth century, Americans were gripped with concern that their nation was weakening under the pressures of increasing urbanization, and frontier towns like Denver seemed to offer an ideal compromise between rural life and a bustling economic center. But Denver's advantage was fragile; as more people moved to the city from cities on the East Coast, the vigorous lifestyle of the town began to fade as the city became more metropolitan. Calling on popular imagery of a wilder, more rugged West, one advocate of Colorado's climatic benefits explained that rising tuberculosis rates there were a result of changing lifestyles throughout the West. "As time has gone on," he argued, "towns

[15] W.B., "Don't Go all at Once," *New York Observer and Chronicle*, January 11th, 1872, Vol. 50, No.2, 13
[16] Woods Hutchinson, "Climate and Health," *Outing Magazine*, March 1909, Vol. 53, No. 6, 749-50.

have sprung up all over our dry and elevated regions. Sedentary occupations have replaced outdoor ones, and the crowding of towns and villages has taken the place of the cowboy and hunter, and, as a consequence, non-imported phthisis is not now an unheard-of thing."[17] This increase in the prevalence of tuberculosis did not disprove the efficacy of Denver's climate in curing and preventing tuberculosis, but rather further condemned the evils of the East Coast urban lifestyle in urging Denver to beware of that model.

Despite Denver's climatic and lifestyle advantages, health-seeking in the city became increasingly expensive and risky for poorer consumptives. Pursuing the climate cure came with a very particular set of strictures and requirements—the ability to sleep in open air, eat rich meals of eggs, milk, and meat, and hike and ride horseback through the arid environment were time-consuming and expensive.[18] Even if a poor consumptive found a job in Denver, it was difficult for him to set aside all the time and money it took to follow the climate regimen properly. More often than not, poor consumptives ended up living in substandard, crowded conditions in the darkest parts of the city. Observers recall the streets of Denver being littered with dying indigent consumptives. "It takes money to make the mare go in Colorado as well as elsewhere, and I am sorry to say that many a poor unfortunate landed at our doors like a baby in a basket, without any provision having been made for his maintenance afterward," one observer lamented.[19]

By the time Robert Koch, an Austrian scientist working on various diseases including tuberculosis, discovered the tubercle bacillus in 1882, some Denverites were already concerned about the growing problems indigent consumptives posed to their city's healthy reputation and

[17] C.F. Gardiner, "Immunity from Phthisis as affected by Altitude in Colorado," *The American Journal of Medical Sciences*, July 1892, 55
[18] Reynold Wilcox, M.D., "Diet for Consumptives," *Medical News*; May 17th, 1898, Vol. 78, No. 19, 586
[19] Samual A. Fisk, "Concerning Colorado," *Medical News*; September 16th, 1899; Vol. 75, No.12, 361

the wellbeing of citizens who did not suffer from the dreaded white plague. There were few places for poor consumptives to go in Denver. Early attempts at establishing hospitals and clinics were futile. Koch's announcement of the germ theory in 1882 ushered radical changes in public health approaches toward disease. Though scientists had long suspected that many of the diseases that plagued society during the 18th and 19th century were communicated from person to person by some means, Koch's discoveries identified specific germs responsible for the contagion of diseases.

In Denver, however, Koch's discoveries did little to slow the arrival of new health-seekers. Even decades after Koch discovered the tubercle bacillus, observers noted that "it is obvious that a vast army of sufferers from all sections of the world are continually pouring into Colorado."[20] Although the sanitarium movement nationwide grew rapidly between the 1880s and 1920s, many remained convinced that a climate with purer air and more sunshine were important parts of treating tuberculosis.[21] Many doctors and patients continued to uphold the climate cure because the mere discovery of the germ that caused tuberculosis did not make a difference in the treatment of tuberculosis itself. They also adapted their justifications for claiming that Denver was especially salubrious to reflect the new information the pathogen's discovery introduced. Now, Denverites were not healthier merely because of their lifestyle and healthy climate, but because the climate had direct effects on their bodies' ability to resist the germ itself. Two Denver physicians presented a theory that the dry, sunny climate in the city forced its residents into "the battle for moisture," which they argued was especially fierce in the lungs. Terrifying though this battle sounded, the physicians asserted that it was "one of the factors of immunization" against tuberculosis in Denver residents. "The alveoli are too dry to

[20] Louis Croft Boyd, "The Tuberculosis Situation in Denver," *The American Journal of Nursing*, Vol. 7, No. 4 (Jan., 1907) 268

[21] Irwin W. Sherman, *Twelve Diseases That Changed our World*, (Washington, DC: ASM Press, 2007). 122

offer a nidus for the bacilli, so the conditions are extremely unfavorable for their development," they reasoned.[22] Denver's sunny, arid climate went beyond encouraging outdoor activity; it actually reformed the bodies of its denizens, making them more immune to the transfer of the pathogens at the heart of new medicine.

Sanitary and public health measures gained traction with evidence of germ-fueled contagion, but public health officials and social reformers intended these measures to prevent the spread of tuberculosis rather than treating existing cases. While the discovery of germs that caused other diseases led to effective vaccines for some diseases, early efforts at using the tubercle bacillus to treat or prevent tuberculosis were ineffective and often dangerous. Furthermore, many people were reluctant to embrace fully the consequences of accepting the germ theory's interpretation of the disease. For centuries, tuberculosis had been considered a hereditary disease or the result of personal lifestyles, overwrought passions, or weak constitutions.[23] Now, a microscopic germ threatened to overthrow traditional assumptions about the relationship between personal weaknesses and tuberculosis. One critic argued that "the germ theory of disease exonerates patients from responsibility for their many ills."[24] Many who accepted the germ theory also continued to cling to their older convictions about the disease. They argued that the tubercle pathogen did indeed cause tuberculosis, but a person had to be made susceptible by a number of factors like lifestyle, diet, work, heredity, or race for the germ to take hold. "Consumption, although a distinctly communicable disease through the almost ubiquitous distribution of the bacilli," one Denver doctor wrote, "is nevertheless acquired only

[22] Drs. Mitchel and Crouch, "The Influences of Sunlight on Tubercular Sputum in Denver: A Study as to the cause of the degree of immunity against tuberculosis enjoyed by those living in high altitudes," in "American Medical Association: The Forty-Ninth Annual Meeting, Held at Denver, CO," *Medical News*, June 11th, 1898; Vol. 72, No. 24, 767

[23] Ibid., 105.

[24] Helen Gray, "Modern Medical 'Science,'" *Forum*; May 1915; 608

by those rendered susceptible through environment, occupation, previous disease or inheritance."[25] This range of ideas about the inception of tuberculosis in people existed in both the medical field and the laity, and it complicated receptions of medicinal interventions in tuberculosis.

Resistance to medical interventions derived from the tubercle bacillus sprang from several sources. The most direct was the failure of Koch's first attempt at creating a vaccine using the germ. Although Koch established his reputation with meticulous and methodical laboratory work, he rushed the introduction of tuberculin in 1890, just eight years after he had identified the tubercle bacillus. Apparently he not only had financial interest in the company producing the vaccine, but was also pushed to accelerate the pace of his research by the Prussian government and Otto von Bismarck.[26] Tuberculin proved to be ineffective at protecting against tuberculosis, despite its effectiveness as a tool in diagnosis. Few researchers advanced other medicines derived from the tubercle bacillus during the late nineteenth and early twentieth centuries, but some physicians prescribed arsenic, codeine, morphine, silver nitrate, and heroin as remedies that "can be used for long periods without dangerous sequlae and without losing any of [their] pristine efficiency."[27]

The failure of Koch's prematurely-announced vaccine provided a platform for those who already found the rejection of personal susceptibility to tuberculosis hard to swallow. Advocates of lifestyle-based antidotes to tuberculosis criticized the myopic approach of researchers who believed the tubercle bacillus itself held the key to eliminating tuberculosis. To these critics, tuberculosis was a symptom of society gone wrong. They argued in classic anti-modern fashion

[25] S.G. Bonney, "Consumption Contracted in Colorado and Methods to Restrict its Spread," *Medical News*; May 24th, 1902; Vol. 80, No. 21, 961
[26] Sherman, 122
[27] "Therapeutic Studies of Heroin Hydrochloride," *Denver Medical Times*, November 1900, Vol 20, No. 5 369

that urbanization, industrialization, and immigration had created dangerous environments. Tuberculosis was more than a germ; it was a symptom of a society in decline. The solution could not be found in a serum or vaccine, only in social reform and lifestyle changes. Critics called into question the methods employed by these new researchers who postulated theories about human disease based on experiments conducted with rats, rabbits, livestock, and puppies. In 1891, Denver physician Dr. Henry Sewall demonstrated his own hesitant support for the germ theory's human application in a speech before the Medical Society. "Koch's conclusions were derived from experimental observations on lower animals…but in the case of our human brother it is, for obvious reasons, difficult to reach early and safe conclusions on these subjects, and I have been led to believe that only a comparatively small minority of the medical profession admits the infectiousness of tuberculosis in a man."[28] For many in the medical profession, even in a Darwinian age, accepting that diseases could behave the same way in man as in beast was a difficult hurdle.

The germ theory's introduction coincided with increasing efforts by physicians to professionalize their practice and in doing so, grapple with the role that new forms of scientific investigation and diagnosis played in the "art of medicine."[29] The forty-ninth annual meeting of the American Medical Association was held in Denver in 1898 and featured several discussions and presentations that centered largely on the transformation of medicine from its historic form as an art into a "department of the science of biology."[30] Many of the physicians present at the meeting voiced concern about the dangers of relying on solely medicinal interventions to treat illnesses. "We need not be skeptical of the power of the drug," Philadelphia physician J.H.

[28] Henry Sewall, "Observations on Tuberculosis; and the diagnostic value of the tubercle bacillus," in *Medical News*, July 25th, 1891, Vol. 59, No 4, 89
[29] "American Medical Association: The Forty-Ninth Annual Meeting, Held at Denver, CO," *Medical News*, June 11th, 1898; Vol. 72, No. 24, 767
[30] Ibid, 767

Musser cautioned, "but about its necessity." He and his colleagues recognized, however, that their practice was undergoing a sea change. "Art is gone; science holds sway," Musser observed. "Since the science of medicine is essential to the art we must educate our students to a scientific habit of thought."[31] Although Musser acknowledged the changes his profession faced, he and other physicians emphasized the continued importance of non-medicinal interventions in medical treatment.

The physicians coping with a changing profession were concerned not only about the increasing role of laboratory research, but also the rising number of pharmacists promising miracles drugs for a variety of illnesses, including tuberculosis. In 1909, the *Denver Medical Times* devoted an entire journal to a discussion of the changing role of physicians and the best defenses against profit-driven, under-qualified pharmacists. The best way to counteract these "quacks and patent medicine vendors," it argued, was to unite as a defined and regulated profession and demand legislative intervention to protect patients against the promises of untrained pharmacists.[32] Many physicians argued that encouraging physicians to join medical societies would help eliminate these unsavory pharmacists. The "quacks and incompetents," they believed, could only "flourish because the strength of the profession is being exerted by small groups pulling in opposite directions," but they "would soon die in a clarified professional atmosphere."[33] The most essential characteristic that set qualified physicians apart from "Quacks, Fakers, Frauds, Chieropractics, and Medical 'bucket' shops" was the physicians' commitment to educating the general public and their own patients about prevention, public

[31]Dr. J.H. Musser, "An Essential of the Art of Medicine," in "American Medical Association: The Forty-Ninth Annual Meeting, Held at Denver, CO," *Medical News*, June 11th, 1898; Vol. 72, No. 24, 767

[32] H.D. Niles, "Rational Medicine and Those Who Oppose its Teachings," *Denver Medical Times*, Volume 28, No. 8, February 1909, 201

[33] George H. Stover, "President's Annual Address Before the Medical Society of the City and County of Denver," *Denver Medical Times*, Volume 28, No. 8, February 1909, 1

health, and personal care.[34] Legitimate medical practice, to these physicians, required a holistic approach to illness that involved patients' lifestyles, circumstantial conditions, and the measured and careful application of pharmaceuticals if absolutely necessary. "The findings of the laboratory deal with the condition of the disease," wrote one physician. "We, as physicians, cannot afford to ignore the patient."[35]

Dr. Charles Denison was one of the loudest voices in Denver's medical community during the height of its reign as the Mecca for consumptives. Denison was a Vermont native who had moved to Denver from Hartford in 1873 to treat his own tuberculosis. Denison authored an array of texts about medical climatology, climatic cures, and Denver's special healing qualities.[36] He advocated a careful mixture of medicinal and climatic treatments to cure tuberculosis. In 1892, Denison addressed the failure of tuberculin in an article in *Medical News*. "The failure of distinguished men in using the remedy, according to the rules laid down by its discoverer, seems to have led to a feeling almost universally hostile to its employment."[37] Denison believed and preached that tuberculin was a useful drug, but only when patients faithfully followed the strict lifestyle requirements he saw as necessary to fighting the disease. When tuberculin failed, it was because the patient had not properly reformed his lifestyle, not because the drug itself was flawed or ineffective.

Denison argued that tuberculin was a beneficial tool in the fight against tuberculosis, but only when used as an aide in a treatment regimen that included carefully engineered climatotherapy. "In [medical science of the future's] fight against tuberculosis, [it] will find, in

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[34] Ibid, 362
[35] Reynold Wilcox, M.D., "Diet for Consumptives," *Medical News*; May 17th, 1898, Vol. 78, No. 19, 586
[36] Howard A. Kelly, M.D, LL.D., F.A.C.S, *American Medical Biographies* (Baltimore: The Norman, Remington Co., 1920) 305
[37] Charles Denison, A.M, D.M., "Tuberculin and the Living Cell: An Inquiry as to How the One Aids the Other in the Fight Against Tuberculosis," *Medical News*, September 17th, 1892, Vol 61, No 12, 309

rightly selected cases, the *antitoxine of tuberculin* an unrivalled aid to the best combination of climatic attributes, with sunshine, elevation, and dryness in the foreground, so that with every other aid added, integrity and health may be preserved to the living cell."[38] Other physicians agreed heartily with Denison. In a discussion at the forty-ninth annual meeting of the American Medical Association in Denver, a physician from the city supported Denison's findings, saying "for the use of tuberculin in Colorado I see but little justification. Its use should be limited to early cases, and these cases are they which submit most easily to the favorable climate of this State." Like Denison, he cautioned against using tuberculin as a sole intervention. "I am convinced that the moral effect of this treatment is distinctly bad," he cautioned. "The patient should be out in the sunshine and fresh air, and removed from the depressing influence of the physician's office."[39]

Although Denison embraced the use of tuberculin, he hesitated to accept the germ as the sole cause of tuberculosis. In a 1900 *Medical News* article, Denison likened the broad and growing acceptance of the tubercle bacillus as the cause of tuberculosis to mob rule. "The majority vote settles nothing in the scientific investigation of undetermined conditions, except to show that the greater number of minds are working in the same groove" he warned. "This unanimity reminds one of a band of antelope beguiled by the wily hunter to investigate his red bandanna suspended on his ramrod near his hiding place."[40] Denison clung to his belief in personal susceptibility as a prerequisite for infection and worried that growing support for the germ theory of contagion would cause "the predisposing conditions (without which the disease

[38] Ibid.
[39] "American Medical Association: The Forty-ninth Annual Meeting, Held at Denver, Col., June 7, 8, 9, and 10, 1898," *Medical News*, June 11th, 1898, vol. 72, No. 24, 768
[40] Charles Denison, "The Failure of the Consensus Judgment with Reference to Tuberculosis," *Medical News*, Dec 29th 1900, Vol. 77, No. 26, 1001

could not exist) [to go] undetected and the greatest possible success cannot be obtained."[41] Denison continued to believe that climate played an important role in the ability of a body to avoid or obtain disease.

Sun and fresh air were essential to Denison's idea of health and bodily balance, and they also happened to be increasingly rare in the rapidly-urbanizing East Coast cities where most health-seekers came from. Denison theorized that the only way to eliminate tuberculosis was to address the lack of proper ventilation in buildings, homes, and factories through legislative and educational means. The overcrowded, under-ventilated conditions Denison believed caused widespread tuberculosis infection resulted in part from "a people so ignorant and careless, so rooted to evil habits of living, that they cannot see that there is anything wrong in our 'civilized' mode of life." In classic anti-modern fashion, Denison was sure that focusing on the tubercle bacillus in an effort to eradicate tuberculosis missed the real causes of the disease and promised only failure. "If we were able to determine the faults of our civilization, which cause this susceptibility [to tuberculosis]," Denison wrote, "we could better understand the character of this conflict [between susceptibility and resistance], for then we would comprehend that this disease tuberculosis is but a natural harvest from such degenerate soil."[42] Denison was in good company; many other physicians doubted that the nature of tuberculosis lent itself well to any solutions found in laboratories. In 1903, climatic and open-air treatment advocate Dr. John Effron warned against the embrace of "specific" therapies or medicinal treatments for tuberculosis. Effron pointed at the string of clinical failures that followed in the wake of Koch's tuberculin, and

[41] *Ibid* 1003
[42] Charles Denison, "The 'Specific Therapy of Tuberculosis," *Medical News*; April 1, 1905; Vol. 85, No. 13, 591

argued "in a disease essentially chronic, which under favorable circumstances tends to recovery, clinical evidence is least valuable."[43]

Effron and Denison expressed a common attitude toward the explosion of clinical experimentation that followed the identification of the tubercle bacillus. Like many other physicians and patients, they took a conservative approach to this news and argued that progress in the fight against tuberculosis lay in pursuing the methods that had already proven successful—outdoor lifestyles and climatic cures. Russell Bellamy, a physician who practiced in New York but published numerous articles about the wonders of a "proper climate" agreed with Denison and Effron, arguing that until all of the "novel research workers" revealed some effective treatment for tuberculosis, "the general practitioner and the health boards of our municipalities must put their trust first and foremost in a land where sunshine is longest."[44] Conservative physicians like Denison, Effron, and Bellamy considered the anecdotal evidence of a handful of prominent success stories more convincing than the newly-introduced statistical evidence clinical researchers used to understand the results of their experiments. In an article describing several cases where climatic cures had been beneficial, one physician argued that the case studies on which he based his assessment were "certainly as accurate as the average statistics, if not more so."[45] Faced with a new medical culture that approached the human body as a contained unit vulnerable to germs but uninfluenced by climate and environment, many continued to argue that tuberculosis was different and unlike other diseases that were communicated by germs.[46]

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[43] John L. Heffron, "The Present Status of some of the Problems of Tuberculosis," *Medical News*, Jul 4th, 1903, 26
[44] Russell Bellamy, "Notes on the Selection of a Climate for the Treatment of Tuberculosis," *Medical News*; July 11th, 1903, 54
[45] C. F. Gardiner, "Immunity from Phthisis as Affected by Altitude in Colorado," *The American Journal of Medical Sciences*, July 1892, 56
[46] For full exposition of this shift, see Linda Nash's *Inescapable Ecologies: A History of Environment, Disease, and Knowledge* (Berkeley: University of California Press, 2006)

In 1900, Denison authored an address to the American Climatological Association in which he further outlined his argument that tuberculosis arose from "the mistaken adaptation of man to his environment, i.e., is chiefly due to the faulty civilization of the present time." In his rejection of a strictly medical approach to tuberculosis, Denison echoed the critiques of other physicians who hesitated to apply the behaviors of diseases in lower animals to humans. "This higher order of life—the soul of man with its God-like attributes—involves not only equivalent responsibility but the liability to mistakes because of that responsibility," he asserted. The microscope was a useful tool, Denison argued, but when doctors focused on the bacteria it revealed, they missed the bigger social and environmental picture that he saw as the key to eliminating tuberculosis. Denison argued that legislative ventilation requirements that would essentially recreate the climatic conditions in Denver throughout the nation were necessary to preventing tuberculosis. "Tuberculosis has come here to stay until we, the thinking masters of creation, acquire the education to understand and abolish it. It will not 'down' in response to any edict against street expectoration, the disinfection of rooms occupied by dying consumptives, or even the slaughter of tuberculosis cows, although these measures of prevention are most important."[47] Underlying Denison's interpretation of the causes of tuberculosis was a withering critique of the modern world of the early twentieth century, with its unrelenting urbanization and immigration that led to overcrowded, impoverished cities.

In the late 1800s and early 1900s, Denver's cadre of physicians and their colleagues across the country practiced medicine at a time when the profession was experiencing massive upheavals. The germ theory brought laboratory research to the forefront of the medical profession as researchers used newly-discovered pathogens to understand the spread of diseases

[47] Charles Denison, "Educational and Legislative Control of Tuberculosis," *Medical Times and Register*; September 1900, 276

and attempted to devise medications and vaccines using the tubercle bacillus to curb the disease's grip on American society. Physicians who used climatic cures to treat their tuberculosis patients resisted what they perceived as an increasing cognitive gulf between patients' environment and the germs that spread disease. In Denver, the nexus of the climate cure, they argued that their professional role was to act as arbiters between the patient's natural environment and the synthetic medicinal interventions researchers developed in laboratories.

"The sick man's money is as good as any other"[1]

The germ theory and the discovery of the tubercle bacillus had broad effects on social conceptions of disease. Most physicians and social reformers began to agree by the late nineteenth century that germs did indeed play an important role in the spread of disease. Because of this new understanding that germs and pathogens that could spread indiscriminately of social class, ethnicity, or occupation, the goals and techniques that public health boards pursued shifted toward sanitation measures to contain diseases. Although sanitation reformers targeted germs as their main foes, most physicians still found fault with the lifestyles of people who seemed to be living in degenerate or morally questionable ways. Sanitation reformers often credited unsanitary homes and neighborhoods to laziness, sloth, ignorance, or willful disobedience rather than socioeconomic barriers. A similar oversight with respect to socioeconomic barriers pervaded the ranks of physicians, who continued to prescribe climate cures to their tubercular patients.

Throughout the West and Southwest in the early twentieth century, newspaper editorials decried the careless East Coast physicians who sent insolvent consumptives to the region's cities. Regardless of climate, they argued, these indigent health-seekers were doomed if they could not afford proper care and housing or sustain themselves for months or years without an income. Further, they posed economic and public health threats to the cities where they landed Financially stable or not, health-seekers continued to pour into the region by the thousands. The onslaught spurred debates about whether the region's climate was a national resource or a local treasure, and if it should be democratized to allow both rich and poor to reap its benefits, or whether those benefits should be guarded from the zealous onslaught of penniless invalids. Inherent in the disagreements over how to preserve and utilize the healthiness of the climate in

[1] Frank Carpenter, "The Climate Cure," *Lippincott's Magazine of Popular Literature and Science*, April 1883, 394

health-seeking destinations were the same social critiques that complicated the relationship between physicians and laboratory researchers in the years after Koch announced the germ theory.

Charles Denison, one of the most boisterous supporters of climatic cures in the years after the germ theory became known, was not particularly concerned with the socioeconomic feasibility of his recommendations. His writings suggest no attempt to provide resources to the impoverished urban dwellers who suffered most from the ill-ventilated conditions at the heart of his understanding of tuberculosis susceptibility. Denison was not alone in ascribing these conditions to ignorance and sloth rather than to poverty or systematic exploitation. Most who condemned dirty living situations, badly ventilated homes and buildings, and other living conditions that were suspected to encourage the spread of germs like the tubercle bacillus assumed that the conditions resulted from ignorance of the consequences of the germ theory. Many advocated public education programs to amend this ignorance, but more still assumed that only legislation could force some of the less desirable groups in society to conform to safer living standards. Most commenters drew a distinct line between the citizen "whose mind is large enough to comprehend [the benefits of sanitation]" and "those too ignorant to understand or too lazy or too willful to yield intelligent or willing obedience."[2] Predictably, impoverished urban dwellers most often fell into the latter category and garnered the disapproving glares of middle and upper class public health reformers.

To reap the benefits of Colorado's climate, most argued that patients had to treat the healing process professionally. Cures required sober, industrious dedication to the specific schedules, diets, rest and exercise regimens, and other strictures physicians who oversaw climate cures prescribed. Most importantly, patients had to devote months or even years to their climate

[2] John L. Heffron, "The Present Status of some of the Problems of Tuberculosis," *Medical News*, Jul 4th, 1903, 21

cures in order to benefit from them. Denver physician Samuel Fisk wrote in 1889 that "I am a firm believer…in the efficacy of the Colorado climate in the arrest of a large number of cases of pulmonary tuberculosis… good results are only obtained by paying strict attention to the minutest details in each individual case in regard to diet, exercise, sleep, ventilation, clothing, the several functions of the body."[3] Hard work, stress, and any occupation that required one to spend substantial time inside were all cited as reasons that patients were not cured when they attempted to pursue the climate cure while continuing to work. Many physicians also warned patients against returning to the East Coast from Colorado too soon, or at all. "It should be a rule from which there are as few exceptions as possible," one physician advised, "that when a consumptive patient finds a climate that agrees with him, he should there make his home for the remainder of his life."[4] For many, the climate cure meant a lifelong commitment to living in a relatively expensive setting with few physician-approved occupations.

Physicians who outlined the methods of climate cures advised patients to avoid any kind of indoor work or overly laborious outdoor work. Mining, perhaps the most accessible job for many indigent health-seekers in Denver, was considered a "peculiarly unfavorable occupation." Physicians cautioned that the conditions of mining, with "entire absence of sunshine…the inhalation of an atmosphere not only deficient in oxygen, but vitiated by dampness, dust, and smoke,"[5] were perfect breeding grounds for tubercle bacilli. Physicians warned that "under existing conditions it is impossible for one to secure the advantages of climate who is obliged at

[3] Samuel A. Fisk, "The Cottage Plan of Treating Consumption in Colorado," in *Medical News;* May 4th, 1889, Vol. 54, No. 18, 480
[4] J.T.Eskridge, "Some Observations During Two Years' Residence at Colorado Springs, Colorado," *Medical and Surgical Reporter*, October 30th, 1886; Vol. 55, No. 18, 549
[5] S.G. Bonney, "Consumption Contracted in Colorado and Methods to Restrict Its Spread," *Medical News*, Vol. 80, No.21, 961

the same time to earn a living."[6] Because patients could not count on earning an income during their convalescence if they meant to pursue a cure faithfully, less affluent health-seekers often relied on the financial support of their families, local charities, and municipal or state government aid programs.

The enduring belief that Denver "has done more good by means of her climate in modifying the ravages of tuberculosis…than by her riches of gold and silver" spurred debates over whether tuberculosis patients were entitled to access to this salubrious climate, whether private or public funds should ensure that access, and whether legislation was necessary to protect the curative climate. Casting the climate as Colorado's most valuable natural resource, Denver physician J. T. Eskridge reminded readers that "it is impossible to estimate the number of useful lives that the climate of Colorado has either saved or prolonged."[7] Agreement about the benefits Colorado's climate provided did not end in accordance about the best way to manage the climate as a resource. Many argued that the climate cure should be made available to indigent patients, but disagreed over the best means to provide access for these patients. Some thought private charities and organizations should sponsor poor tuberculosis patients.

Health-seeking was not a cheap endeavor; Denver and other destinations were remote, too arid to grow food easily, and often had limited opportunities for employment and lodging for tubercular travelers. Most sanitaria and hospitals charged patients around twenty-five dollars a week, often more if the patient was deemed healthy enough to work[8]. Even institutions like the Oakes House, a sanitarium established with the intention of providing lodging for those too poor

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[6] A. Mansfield Holmes, M.D., "Some Problems Pertaining to Tuberculosis," *Denver Medical Times*, November 1900, Vol. 20, No.5, 233

[7] J.T. Eskridge, "The Influences of the Climate of Colorado on the nervous System in Health and in Disease," *Denver Medical Times*, June 1901, Vol. 20, No.12, 1

[8] Louie Croft Boyd, "The Tuberculosis Situation in Denver," *The American Journal of Nursing*, Vol. 7, No. 4 (Jan., 1907) 267

to afford most housing in Colorado, but not poor enough to qualify for charitable aide, found the cost of operation too high to maintain a price its target clientele could afford.[9]

After the discovery of the tubercle bacillus and the resulting sanitation movements that swept the nation, many began to argue that those who were too poor to fund a health-seeking trip amply should stay home and adhere to open air treatments and improved sanitation. These physicians, Denver residents, and reformers argued that poor patients who traveled west ran the risk of burdening their families, the cities to which they moved, and their own health. Many of those who argued that private charities should sponsor indigent patents, but should avoid going to the expense of sending them across the country, agreed with an attendee of a 1900 charity meeting who thought that "the united Hebrew charities in every large city should erect a large and comfortable wooden sanitarium for consumptives, surrounded by a large garden with trees and lawns for the recreation of the patients, and after two or three years destroy the building by fire to exterminate the accumulated germs of tuberculosis."[10]

Despite a vigorous early century movement discouraging financially-insolvent patients from seeking the climate cure, many others argued that these patients should be allowed some access to popular health-seeking destinations. A 1902 article in the *Christian Observer* reminded its readers that many health-seekers were impoverished. "Frequently they are ministers, teachers, or clerks who, being ordered by their physicians to give up their small salaries in the East for an indefinite residence in a more favorable climate, find it almost impossible to do so on account of the expense involved."[11] These proponents argued that the climate cure was the best chance tuberculosis patients had to recover from the disease, so poor and wealthy alike should be able to

[9] Dr. Levy, "Discussion of Dr. Holmes' Paper [A. Mansfield Holmes, M.D., "Some Problems Pertaining to Tuberculosis," *Denver Medical Times*, November 1900, Vol. 20, No.5, 237
[10] "National Move in Charities: Jewish Conference Representing Entire Country to Meet in Chicago this week," *Chicago Daily Tribune*, June 10th, 1900, 8
[11] "Aid to Consumptives," *Christian Observer*, Oct. 8th, 1902; Vol. 90, No.41, 19

pursue it. The *Christian Observer* article identified two types of necessary charitable aid—sanitaria to house poor health-seekers and funds to support the rich diets that were necessary for a cure. Many who argued along these lines suggested that private charities and organizations should sponsor poor health-seekers. The *Christian Observer* advised its readers that "since [tuberculosis] attacks so many of the brightest and most lovable men and women, any Christ-like philanthropy that can lessen the number of untimely deaths and bereaved families will be a blessing to humanity."[12] Religiously-affiliated sanitaria around Denver admitted indigent patients and held the patients' local synods responsible for the cost of their care.[13] Even the Census Bureau's 1908 Mortality Statistics publication lamented the effects that tuberculosis mortality had on productive members of society, noting that "The great economic value of life-saving from tuberculosis of the lungs is indicated by the fact that of all deaths of males from tuberculosis, 77.3% were deaths of males gainfully employed" compared with only 52.3% in other causes of death.[14] The discovery that tuberculosis was communicated by germs did little to alleviate its frightening reputation; the disease was still regarded as "the great foe of mankind," and still required a broad social reaction[15] Many physicians argued that it was "the duty of society to care for the victims of the disease, because society alone, through its Board of Health and governmental agencies, can disinfect tenements, can compel notification of diseases, and can remove centres of infection by powers which it alone has."[16]

Denver's physicians, many of them health-seekers themselves, were very conscious of the role that tuberculosis patients played in developing the city. Very few had any desire to ban

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[12] *Ibid.*
[13] Louis Croft Boyd, "The Tuberculosis Situation in Denver," *The American Journal of Nursing*, Vol. 7, No. 4 (Jan., 1907) 266
[14] Mortality Statistics: 1908, Department of Commerce and Labor, Bureau of the Census, E. Dana Durand, Director; Bulletin 104 (Washington DC: Government Printing Office, 1909) 2
[15] Samual A. Fisk, "Concerning Colorado," *Medical Observer*, September 16th, 1899, Vol. 75, No.12, 361
[16] Robert Hunter, quoted in "The Tuberculosis Situation in Denver," by Louie Croft Boyd, *The American Journal of Nursing*, Vol. 7, No. 4 (Jan., 1907) 265

their immigration to the city outright, but by 1900 many began to advocate for increased education, sanitary legislation, and infrastructure to aid patients and protect healthy residents from contagion. While many supported privately-sponsored aid for indigent health-seekers, others argued that the public was responsible for these patients who usually arrived "without knowledge of the danger of infection" yet were often turned away from hotels by wary innkeepers.[17] Within this camp, some advocated for the home states or municipalities of indigent health-seekers to pay for their journeys to Colorado, arguing that the care of health-seeking tuberculars "should be considered, not alone by the states possessing favorable health resorts for tubercular patients, but also by states sending patients to these resorts."[18] Supporters of this interstate cooperation further warned that "without a systematic co-operation between states possessing favorable health resorts and those desiring the advantages of these resorts, many deserving patients will be deprived of comforts which can otherwise be arranged for them."[19] Others thought Colorado owed the health-seeking movement a debt of gratitude, since it had played such an integral role in the development of the state. Among these was S.G. Bonney, a Denver-based physician who wrote in 1902 that "it must be apparent that a double obligation rests upon the State of Colorado with reference, first, to the protection of her communities, and to a scarcely lesser extent to the comfort and welfare of her invalid class who contributed so largely to her prosperity."[20]

Writing about a newly-erected tent camp just outside of Denver, one author advised in 1904 that "tents have been erected by local associations from San Francisco to Springfield, by

[17] A. Mansfield Holmes, M.D., "Some Problems Pertaining to Tuberculosis," *Denver Medical Times*, November 1900, Vol. 20, No.5, 231
[18] *Ibid*.
[19] *Ibid*. 234
[20] S.G. Bonney, "Consumption Contracted in Colorado and Methods to Restrict its Spread," *Medical News*; May 24th, 1902; Vol. 80, No.21, 967

State committees, and by individuals, and every state not possessing Colorado's climate would do well to pitch its tent beside the others."[21] This article reflected a common concern about the cost that indigent health-seekers foisted on destinations like Denver. These patients had contracted tuberculosis in their home states and, following the logic of contemporary physicians, most likely owed their illness to conditions in the state. The patients, overwhelmed with symptoms and unable to work, dragged themselves to Colorado and its cities had to shoulder the burden of another state's making. The views of many of the commentators who argued that other states should fund publicly-available lodging for their indigent consumptives originated from their concern that the home states of these burdensome patients were not held responsible for their own citizens once they were beyond the state's borders. Many claimed that Denver's climate suffered little from the continuing waves of health-seekers and that the problems these new migrants posed were mostly economic. "The State of Colorado does not wish to bar the tuberculous from its territory," observed a 1916 Public Health Report. "Many of her useful citizens were once tuberculous, and if the tuberculosis problem of the State were one of public health only, it would give rise to no special concern. The serious problem arises when, to the public health aspect of the question is added one of economics."[22] Destinations like Colorado took on an unjustified burden as the indigent health-seekers brought both their penury and their diseases to cities like Denver.

Others thought the federal government should have a role in providing access to the nation's most salubrious climate. Opponents of private and state-level solutions to the issue of poor health-seekers argued that access to the arid West's climate as a cure for tuberculosis was a public issue that the government should regulate. Some, like tuberculosis researcher Russell

[21] "A Colorado Camp," *Outlook*; June 25th, 1904; 480
[22] Carroll Fox, "Public Health Administration in Colorado," *Public Health Reports*, Dec. 29th, 1916, Vol. 31, No. 52, 3498

Bellamy, advocated proactive approaches like sanatoria funded in part by public means. Bellamy insisted that "it is imperative that a philanthropic or national reservation with tent colonies should be established in some part of [Colorado]." Cities and states would select indigent patients to send to this "Great Western Tent Mecca."[23] The magnitude of the health-seeking phenomenon and its interstate nature pushed many to view the issues that indigent invalids caused southwestern towns as a federal problem.[24]Although a bill legislating federal aid for travelling TB patients was introduced to Congress in 1916, the bill failed in Congress and never managed to garner support from many in health-seeking destinations. The bill allowed for a daily compensation for indigent health-seekers, but made no provisions to provide infrastructural support to the patients' destinations. Already facing an overflow of patients in every institution, Denverites shuddered at the idea of welcoming even more into the city's strained infrastructure.

Alhough the issue was hotly debated, Denver's charities, hospitals, and sanitaria were unable to settle on strategies to provide affordable access and aid to tuberculosis patients of limited means. A combination of public and private aid created a patchwork infrastructure in the city that provided limited and ineffective aid to some travelling patients. Many of the charities that sponsored patients were religiously-affiliated, but only some of those required that their charges be members of the church. The largest and most successful of the religious charity organizations was the National Jewish Hospital for Consumptives, which opened in 1899 after years of fundraising and a delay forced by the faltering economy of the early 1890s.[25]The

[23] Russell Bellamy, "Notes on the Selection of a Climate for the treatment of Tuberculosis," *Medical News*, July 11th, 1903, 54

[24] For more on the argument for federal regulation of indigent health-seeker resources and travel and the Kent Bill, see chapter two in Thomas A. Krainz's *Delivering Aid: Implementing Progressive Era Welfare in the American West* (Albuquerque: University of New Mexico press, 2005)

[25] Richard White analyzes the role of the railroad companies in plunging the country into economic turmoil during this era in *Railroaded: The Transcontinentals and the Making of Modern America*, (New York: W.W. Norton, 2011)

hospital opened under the motto "none may enter who can pay, none can pay who enter."[26]Five years later, a group of Jewish immigrants, local physicians, and rabbis opened the Jewish Consumptive Relief society, which took in patients considered hopeless by other institutions.[27] A handful of other religiously-affiliated sanitaria populated the outskirts of Denver, but few managed to collect enough financial support to accept indigent patients. By 1916, "except for the county hospitals and the poor farms," there were "no state or local governmental institutions for the isolation of tuberculosis."[28] Denver's lack of support for indigent patients did little to prevent those who could pay little or nothing from making the trip to the famously salubrious city. Against the advice of those who warned that Denver was too expensive for poor tuberculosis patients, many physicians continued to advise travel there. Their adherence to the climate cure was maligned by social workers and physicians who faced the issues of the onslaught of poor patients in Denver, but kept afloat by a lack of medicinal advances in TB treatment and a continuing belief in the curative qualities of an ideal climate.

In an effort to preserve the city's healthy reputation, Denver's Bureau of Health made some efforts toward stemming the spread of tuberculosis and other diseases. In 1895, the board posted large signs warning against public spitting; the signs were later replaced with smaller ones that were not so "harsh or humiliating to that army of unfortunates who are compelled to carry the diagnosis of their disease in their faces."[29] Taking a step beyond merely educational approaches like publicly-posted signs, the city passed an ordinance against spitting in 1905 and

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[26] http://www.nationaljewish.org/about/whynjh/history/

[27] For further analysis of the role the NJSC played in Denver's Jewish community and how it mediated medical advice between reformed and orthodox Jewish patients, see p 13-14 in Alan M. Kraut, "Foreign Bodies: The Perennial Negotiation over Health and Culture in a Nation of Immigrants," *Journal of Ethnic History*, Vol. 23, No.2 (Winter 2004) p 3-22.

[28] Carroll Fox, "Public Health Administration in Colorado," *Public Health Reports*, Dec. 29th, 1916, Vol. 31, No. 52, 3498

[29] "Book Reviews," *The Colorado Medical Journal*, August 1896, Vol. 2, No. 8, 270

restricted the location of sanatoria and boarding houses for tuberculosis patients in an effort to limit the public threats health-seekers presented.[30]

These measures seemed to signify that the Board of Health accepted the communicable nature of tuberculosis, and saw its primary duty as one of attempting to limit the spread of germs in Denver's public spaces. These early efforts focused on managing tuberculosis patients' behaviors in public spaces rather than attempting to address the economic effects an ever-growing population of impoverished tuberculosis patients might have in Denver. By 1907, the state of Colorado had done nothing beyond "the issuance of a circular entitled 'The Prevention of Tuberculosis.'" Although the state Board of Health had unanimously voted in favor of a measure that proposed stricter regulation of tuberculosis, it took no concrete steps toward that goal "owing to a lack of funds."[31] In a later attempt to manage the persistent "army of unfortunates," Denver had opened a dispensary to provide some support to impoverished health-seekers, but it was woefully underfunded and had little effect on the inability of the city to absorb the continuing onslaught of poor tuberculars. Launched in 1913, the dispensary was open for one hour a day during the week, and one hour one evening each week.[32] The state of Colorado had passed only two laws regarding tuberculosis by 1915. The first, passed in 1911, abolished common drinking cups in public places, including "hotels, sanitariums, theaters, public halls, schoolhouses, etc.," at risk of a fine between five dollars and $200.[33] The second law established comprehensive registration laws and charged the health board with providing free examinations

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[30] *Ibid,* 306

[31] "Direct Public Health Measures Taken against Tuberculosis," *Public Health Reports*, Vol. 22, No.8, 178 http://www.jstor.org/stable/4558711

[32] *A Tuberculosis Directory: Containing a list of institutions, associations, and other agencies dealing with tuberculosis in the United States and Canada*, (New York: The National Association for the Study and Prevention of Tuberculosis, 1916) 115

[33] Carroll Fox, "Public Health Administration in Colorado," *Public Health Reports*, Dec. 29th, 1916, Vol. 31, No. 52, 3494

and proper disposal of sputa and disinfection of premises.[34] Physicians were also required to report every case of tuberculosis they treated to the State Board of Health within 24 hours, including the "name, color, age, nativity, sex, occupation, place last employed, present address, part of body affected, stage of disease, and the evidence on which the diagnosis of tuberculosis is based."[35] Governmental involvement remained limited largely to surveys, the collection and publication of statistics, limited financial aid, and limited public health legislation. These measures hardly approached the goals of many who advocated for much more severe legislative regulation of tuberculous patients.

In Denver and throughout the nation, physicians who studied and treated tuberculosis routinely discussed the most effective legislative approaches to controlling the spread of the disease. The most commonly implemented strategies revolved around sanitation, and included small-scale restrictions like bans on expectoration in public, but many wanted the government to limit the travel and social interactions of tubercular patients. They pointed to rising rates of tuberculosis within Colorado to demonstrate the threat that imported tuberculosis placed on Colorado residents. Many physicians in Denver argued that tuberculosis had never been endemic before the arrival of migrating health-seekers, and they worried that the ever-increasing population of ailing and recovered tuberculars threatened the city's healthful climate. The rate of tuberculosis rose in Denver throughout the late nineteenth and early twentieth century, but most physicians refused to acknowledge that this uptick condemned the validity of Denver's curative climate. Instead, they blamed the rise on the increase on the invalid parentage and sedentary lifestyles that newly-arrived health-seekers introduced to the city. These scapegoats allowed

[34] "Nevada State Medical Association Adopts," *Denver Medical Times and Utah Medical Journal,* Vol. 32, No. 1, July 1912, 306

[35] Carroll Fox, "Public Health Administration in Colorado," *Public Health Reports*, Dec. 29th, 1916, Vol. 31, No. 52, 3492

climate cure advocates to maintain the primacy of Denver's climate in the face of statistical evidence that seemed to indicate that Denver's climate made residents no less susceptible to the disease or likely to recover from it than in any other locale. In fact, the tubercle bacillus is negatively affected by sunlight and drier air; one a tuberculosis patient coughs or sneezes the germ into the air, its survival in the atmosphere depends on these conditions. Denver's climate, though not a magic bullet against the disease, does have negative effects on its transmission. Denver citizens who had recovered from tuberculosis or managed to avoid it were not wrong to be concerned by health-seekers who arrived with active cases of the disease, since only people with active TB can transmit the disease.[36] To control these variable factors, many pushed for increased public health legislation. The debate about legislative involvement in the treatment and prevention of tuberculosis centered around the responsibilities and privileges of both the healthy and the infirm.

In 1912, a eugenics editorial in the *Denver Medical Times* argued that tuberculous patients should be restricted from marrying and reproducing in order to "prevent the development of defective children…[who] become state charges of one kind or another ion penal and charitable institutions."[37] Several public health eugenics advocates introduced laws requiring a clean bill of health to acquire a marriage certificate to the Colorado senate, but none ever passed. Some supported the idea of restricting marriage among consumptives, but thought enforcing these bans on the state level would be impossible. They worried that people who could not obtain a clean bill of health would get married in another state to dodge the law, and states could only avoid state-line hopping marriages by regulating marriage if the federal government

[36] "Understanding TB Transmission," National Institutes of Health National Institute of Allergy and Infectious Disease; March 6th, 2012; http://www.niaid.nih.gov/topics/tuberculosis/understanding/pages/transmission.aspx
[37] "Medicine, Health, and Matrimony," *Denver Medical Times and Utah Medical Journal,* Vol. 32, No. 1, July 1912 .297

imposed national statutes.[38] In the same edition of the *Denver Medical Times*, another article pleaded for "giving [health boards] such extended powers as may be necessary to overcome and protect us in our homes, and on our public streets."[39] Advocates of these measures echoed popular eugenicist theories, arguing that the tubercle bacillus could only take hold in a person predisposed to the disease by heredity. Thus, health exams should be conducted before marriage and the state should forbid tuberculars from marrying or reproducing and passing on their consumptive traits.[40]This attitude held even more sway when applied to impoverished patients. Facing the issue of impoverished patients, many physicians and public health reformers resorted to the eugenics explanations popular then that "poverty, disease and crime are traceable to one fundamental cause—depraved heredity." Their proposed answer was to "remedy this great evil…by ceasing to breed strains which are weak and vicious."[41]

The conversation amongst Denver's citizens and physicians was influenced by the steps that other health-seeking destinations took to protect healthy citizens and control the influx of tubercular patients. California had passed legislation prohibiting tuberculous patients from immigrating to the state, New Mexico banned intermarriage with tuberculars, and many other states in the arid West discussed similar approaches. Many Denverites were concerned about the health of citizens who did not have tuberculosis, and often advocated for increased protection from health tourists. Growing concern among healthy and healing Denverites about the risk newly-arrived health-seekers posed to their haven led to increasing hostility toward the movement at the turn of the twentieth century. Nationally, the germ theory had ushered an

[38] "Nevada State Medical Association Adopts," *Denver Medical Times and Utah Medical Journal,* Vol. 32, No. 1, July 1912, 369
[39] *Ibid*, 369
[40] "Sanitary and Other Eugenics," *The Independent*; April 4th, 1912, 753
[41] Clarence M. Clark, "A Plea for Sterilization of Criminals, Epileptics, Imbeciles, and Insane," *Denver Medical Times*, Dec., 1912, Vol.32. No.6, 303

increase in hospitals, sanitaria, and other means of isolating ill patients and removing them from exposure to greater society.[42]

This movement spurred discussions in Denver and other health-seeking destinations that centered on the best methods to manage incoming health-seekers and protect current residents of the city. W.K. McClure, a columnist writing in 1906, argued that the boom in hospital building had been portrayed as a movement centered on goodwill toward the patient, but that it actually had "less in it of kindly emotion towards the suffering than of desire to safeguard the healthy." The reactions he recorded in health-seeking destinations aligned with this interpretation. "Nowhere is this tendency so evident as in the so-called health resorts of the continent: the resentment felt by the more fortunate guests in such places against invalids is steadily increasing."[43] He forecast increasing barriers against new waves of health-seekers due to this resentment, but disagreements between residents, city boosters, local physicians, and other concerned groups seemed to stave off McClure's prediction.

Despite Denver's inability to agree on any measures more extreme than anti-spitting campaigns to protect its residents and its healthy reputation, a variety of concerned residents offered up solutions that ranged from the practical to the absurd. One physician, lauding the importance of containing tubercular patients' sputum, admired an unnamed "Russian savant" who had proposed that "every person suffering from pulmonary phthisis be compelled by law to wear suspended around the neck an elaborate form of spit-cup to receive his expectoration."[44] Quarantine, immigration restrictions, and other attempts to confine tuberculars from the general

[42] W.K. McClure, "Boycott of Consumptives," *The Living Age*; Dec 8th, 1906; 264
[43] *Ibid*., 265
[44] Henry Sewall, "Observations on Tuberculosis; And the Diagnostic Value of the Tubercle Bacillus," *Medical News*; July 25th, 1891; Vol. 59, No.4 92

population gained ideological traction but the Board of Health and the legislature never implemented them.

Until more than a decade into the twentieth century, most viewed tuberculosis and other communicable diseases as local issues. The federal government left municipalities and states to their own devices to try to record, regulate, and control the spread and treatment of diseases like tuberculosis. In many ways, this lack of national oversight seems to have provided no leadership for effective local control. Finally, in 1915, the United States Public Health Service (USPHS) published a report investigating the effects of interstate migration of tubercular patients. The reports published the findings of investigations in California, Texas, New Mexico, Colorado, North and South Carolina, and Arizona. The broad investigations sought to understand the effects that health-seekers had on their destinations, the local populations, and their own illnesses, and finally acknowledged that an expectation of local disease-recording and disease-control was an unworkable solution for a disease whose treatments encouraged so much movement between states. A.J. Lanza, a former Assistant Surgeon for the USPHS, authored the report on Colorado and Arizona. Like the authors who recorded the results of investigations in the other health-seeker destinations, Lanza took stock of the hodge-podge of local hospitals, boarding houses, charities, dispensaries, and other uncoordinated efforts at coping with the continuous onslaught of tuberculosis patients and bemoaned their inability to handle the public health requirements of the community. The reports recognized that "more than any other city in the southwest, Denver has become a mecca of the health seeker…on account of its size, in no other city in Arizona or Colorado are the untoward effects of health migration so evident."[45]

[45] A.J. Lanza, "Interstate Migration of Tuberculous Persons: Its bearing on the Public Health, with Special Reference to the States of Arizona and Colorado," *Public Health Reports*, Vol. 30, No. 25, June 18th, 1915, 1814

The report called the migration of tubercular individuals "one of the most interesting and complex public health problems," acknowledging the fraught discussions over the scientific, social, and legislative issues that health immigration posed to Colorado.[46] Lanza argued that "the handling of tuberculous indigents and the relief of tuberculous poor, either medical or material, are essentially municipal functions and should never be left to private individuals or organizations."[47] But Lanza went beyond merely charging municipal entities with responsibility for the indigent tuberculars that streamed into Colorado; he argued that the problem was beyond the abilities of medical doctors to solve. Denver faced a "sociological rather than medical" problem.[48] To address the burdens that migratory invalids placed on the city's infrastructure, Lanza argued, it first had to recognize that they comprised four different classes. Consumptives in the first two classes had "wealth or ample means" or were "consumptives of moderate means." They were beneficial to the community because they had the capability to recover and were a "valuable asset to the community…who have materially aided in the progress and building up of the southwest."[49]But the third and fourth classes, and Lanza's main focus for the report, posed more serious problems. The "indigent consumptive" and his more foreboding cousin, the "tuberculous tramp," were much more problematic. Too poor to pay for their care and shelter, they "furnish…serious problems to Colorado."[50] The "untoward effects" of health migration that Lanza had noted in Denver were entirely the result of the migration of these two classes, which relied entirely on local municipal and private charities. In 1914, the year the data in the report was gathered, 1,149 indigent tuberculars received aid from a combination of hospitals, poor farms, tuberculosis colonies, and private and public aid programs like the newly-established

[46] *Ibid*., 808
[47] *Ibid*., 808-1818
[48] *Ibid*, .1812
[49] *Ibid* 1812
[50] *Ibid*.

dispensary. Lanza estimated that 400 new indigent consumptives arrived annually to the city, whose overall population in 1914 was 245,523.

To alleviate the stress these new residents posed on the city's institutions, Lanza espoused many of the legislative measures proposed by locals. Lanza identified the biggest shortcomings as Denver's inability to pass proper "settlement laws and protection from indiscriminate transportation of tuberculous indigents" by other states and organizations that operated outside of the transportation agreements. He argued that Denver's solution lay in the ability to "charge against [the consumptive's] own State the expenses of such relief regardless of the length of time over which it extends."[51] Rather than adopting indigent tuberculars as residents and taking on responsibility for their care, Lanza proposed that these poor classes of health-seekers remain permanent residents of the states from which they came. Colorado had benefited economically and culturally from the wealthier classes of health-seekers, but Lanza saw no reason for the state to take on the costs of supporting the remainder of the migratory consumptives in turn. Lanza reasoned that the indigent consumptives were ill-advised to make the trip to Colorado without ample resources in the first place, thus Colorado owed them nothing. Reflecting an increasingly common attitude, Lanza advised that poor tuberculars were better off staying at home, avoiding the stress of scraping by in Denver and maintaining the peace of mind that convalescing with family could deliver. Regarding those consumptives without any social ties, the so-called "tuberculous tramps," Lanza lamented the difficulty of finding legal justification and financial resources to lock them in sanitaria.[52]

Lanza's 1915 federal report and the accompanying reports on other states throughout the Southwest highlighted the issues that cities drawing poor health-seekers experienced. The reports

[51] *Ibid*., 1818
[52] *Ibid*.,, 1821

made it abundantly clear that health seeking continued long after the discovery of the tubercle bacillus because of advice from physicians and word-of-mouth stories of climate cure success stories. Denver's inability to respond effectively to its own rising population of indigent health-seekers spawned from disagreements over the consequences of the discovery of the tubercle bacillus, the role sanitary movements and open-air treatments, and the most effective approaches to funding and regulating care. At the base of these disagreements was a stubborn confidence that tuberculosis stood apart from other diseases like typhoid and cholera. It was a sign that society needed regeneration and reform; it needed to reconvene with a hardy outdoor life in dry air and sunshine.

Conclusion: Still "Chasing the Cure"

Health-seeking mingled with fears about modernization and urbanization during the late nineteenth and early twentieth century. For many physicians, espousing climate as a cure for tuberculosis came along with their rejection of the increasingly urban, sedentary lifestyle and working conditions in the large cities of the East Coast. When faced with new scientific information about the way tuberculosis was communicated, neither these physicians nor many of their patients rethought their conviction that tuberculosis was a symptom of larger cultural decline. Instead, they found ways to accommodate the germ theory's findings into their existing beliefs about civilization and disease.

Although health-seeking tends to disappear from the historical narrative once Dr. Koch announced the germ theory in 1882, this moment in history did little to slow the actual movement. Health-seekers continued to pour into cities across the arid West because they were presented with few alternative cures for their tuberculosis. The discovery of the tubercle bacillus did prompt a wave of new research on tuberculosis that centered largely around developing medications and vaccines based on the germ itself. In Denver, this new scientific research forced physicians to evaluate their professional roles and responsibilities in the face of what they saw as impending medicinal monopolies over the treatment of diseases. When the germ theory met with the Mecca of health seekers in the late nineteenth and early twentieth centuries, it forced physicians to define and reaffirm their importance as mediators between the cultural and biological causes of disease.

Health-seekers continued to stream toward cities like Denver in such numbers that they posed economic and public health crises on their destinations. The knowledge that tuberculosis was communicable by a microscopic germ prompted sanitary measures in cities across the country and encouraged discussions of much harsher measures like eugenic control of patients

and forced isolation to stop the spread of the disease. Like residents of many cities, in the years after the germ theory, many Denverites felt like they were forced to weigh their treasured freedoms against their public health concerns when considering how far to push legislative control over the disease and its victims. In the end, the city took few decisive steps toward controlling the disease because physicians and residents of the city were unable to agree over whether the disease should be addressed by private charities and organizations of public aid and legislation.

The active discussions Denver played host to in the decades after the germ theory demonstrate that the idea of climatic cures continued to persist and shape the city and the medical profession in significant ways. A close analysis of the efforts Denver's city boosters made with regard to tuberculosis legislation in the city could reveal more about the role financial motivations had in preventing Denver and Colorado from banning consumptive migrants or curtailing their freedoms. In 1915, when this project ends, the federal government finally began to take an active role in recording and analyzing statistics regarding the presence, spread, and effects of migrant health-seekers on different cities. A look at how the federal government's new role in public health affected the politics of health-seeking in Denver during the period between 1915 and 1944, when researchers finally developed effective medicinal treatments for tuberculosis might show some interesting changes in the attitude local physicians and residents took toward the role the federal government should have in local public health.

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