

SENSING DEVELOPMENT: AGRICULTURE, TOURISM, MINING, AND  
MANUFACTURING IN COLORADO'S ARKANSAS RIVER WATERSHED, 1870-1914

By

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SIGNED: Marcus A. Hernandez

DEDICATION:

For Peyton and my family.

## CONTENTS

<u>ABSTRACT</u> .....	6
<u>INTRODUCTION</u> .....	7
<u>CHAPTER 1: Tasting Rocky Ford: Developing Colorado’s Cantaloupe Industry</u> .....	29
<u>CHAPTER 2: Feeling Colorado Springs: The Development and Sale of the Colorado For Health Belief</u> .....	75
<u>CHAPTER 3: Hearing Cripple Creek: Labor Conflict and Contestation in a Colorado Mining Town</u> .....	113
<u>CHAPTER 4: Smelling Pueblo: Steel City Manufacturing and Olfactory Nuisance</u> .....	159
<u>CONCLUSION</u> .....	195
<u>BIBLIOGRAPHY</u> .....	204

## ABSTRACT

Rocky Ford cantaloupes, naturally occurring hot springs and mountains in Colorado Springs, gold in Cripple Creek, and steel from Pueblo were commodities sold to customers in search of flavor, health, wealth, and safety during the late nineteenth and early twentieth centuries. These commodities dictated how the land was used, attracted settlers to southeastern Colorado, and were symbolic of the economic identities formed in each location, but why did specialized agriculture, health resort tourism, gold mining, and steel manufacturing take place in the regions they did, and what did this economic development and communal identity formation taste, feel, sound, and smell like? In order to address these questions, we must push beyond visual descriptions of land transformation and economic growth. When we examine all sensory experiences, we better understand how people perceive their environments. Agricultural college records, guidebooks and promotional materials, newspaper articles, and medical reports indicate the role the nonvisual senses played in the economic development of Rocky Ford, Colorado Springs, Cripple Creek, and Pueblo. Cantaloupe consumers and distributors purchased a geographically unique flavor, health seekers touched and felt geological features, miners and mine owners heard success and danger, and steel workers smelled and avoided regions of the city to preserve their health. In other words, when we sense development rather than visualize it, we better understand how humans and nonhuman nature interact with one another to create specialized economies and identities.

## Introduction

### Sensing Development: Agriculture, Tourism, Mining, and Manufacturing in Colorado's Arkansas River Watershed, 1870-1914

When studying the economic development of southeastern Colorado during the late nineteenth century, it is clear that the geography, climate, soil, altitude, mountains, hot springs, and mineral deposits of the region played a significant role in determining the types of industries and identities the communities of Rocky Ford, Colorado Springs, Cripple Creek, and Pueblo established. This work focuses on the role the natural world played in helping establish these communities. It also discusses the significance of human decision making and action in the economic development of these places. It was this coupling of environmental circumstance with human ingenuity and labor that created the unique identities each of these regions developed by the turn of the twentieth century. The agricultural pursuits of Rocky Ford paid off as cantaloupes claimed international fame. The health resort and tourist industry in Colorado Springs attracted international consumers. Gold mined in Cripple Creek helped replenish the national treasury, and steel production in Pueblo supplied the demand of a booming railroad industry that connected southeastern Colorado with markets across the United States. By the end of the nineteenth century, southeastern Colorado was the home of several distinct communities with clear economic foundations.

As peoples moved into the Colorado territory and eventual state during the late nineteenth century, they altered and shaped the landscapes of the regions they settled. Although historians often focus on visual transformations of these western landscapes, humans perceive the natural world with more than just their eyes. This work adds to existing scholarship by accounting for the four less written about senses. Colorado residents and outsiders visually

witnessed the economic development of southeastern Colorado, but they also tasted Rocky Ford, felt Colorado Springs, heard Cripple Creek, and smelled Pueblo. In a study of twentieth-century history textbooks, George Roeder set out to determine how many nonvisual sensual experiences were included in these works. He found that most of the authors paid minimal attention to nonvisual sensory experiences, and that those who did include them gave fleeting mention to those experiences deemed desirable or neutral. He also argued that disgusting, oppressive, or painful experiences were mentioned more frequently, although still minimally. He concluded that textbooks published after 1970 were more likely to include nonvisual sensory dimensions, but “the textures and efficacies of smells, sounds, sights, tastes, and other sensations,” he wrote, “continue to be underrepresented and tagged with negative associations in most current as well as earlier texts.”<sup>1</sup> According to Roeder, academic historians should learn “that attention to sensory experience can enliven rather than trivialize history.”<sup>2</sup> This work answers Roeder’s call for more sensorially inclusive historical narratives by focusing on the nonvisual experiences of Colorado residents and others who visited the region during the late nineteenth and early twentieth centuries.

Roeder’s article was published in 1994, and over the next few decades scholars responded to his call for sensual inclusion. In fact, the *Journal of American History* published a collection of essays focusing on visual and nonvisual historical experiences in 2008. In the introduction to this collection, Mark Smith builds on Roeder’s work by arguing that “sensory history offers a framework for understanding historical behavior.”<sup>3</sup> “It begins,” he continues,

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<sup>1</sup> George Roeder Jr., “Coming to Our Senses,” *Journal of American History* 81, no. 3 (December 1994): 1112-1113.

<sup>2</sup> Roeder, “Coming to Our Senses,” 1121.

<sup>3</sup> Mark Smith, “Still Coming to Our Senses: An Introduction,” *Journal of American History* 95, no. 2 (September 2008): 379.

“by adding texture to the past, and at its most powerful, helps explain trends, decisions, and experiences that would otherwise not be understood fully, if at all.”<sup>4</sup> Three years after the *Journal of American History* round table was published, the *American Historical Review* published another collection of sensory histories. Contributing to the work of Roeder, Smith, and others, Martin Jay writes that “in the case of the senses, disentangling what is provided by nature and enhanced-or blunted-by culture is especially challenging.”<sup>5</sup> This introduction by Jay indicates that human senses and sensual experiences are both natural and cultural. “Meaning comes to a great extent,” Jay contends, “through the senses, while the senses filter the world through the prior cultural meanings in which we are immersed.”<sup>6</sup> This makes writing sensually inclusive histories challenging, because sensual experiences are not objective and universal.

It is difficult, if not impossible, to determine precisely how peoples in the past sensed their experiences. This lacuna of knowledge is largely due to the fact that humans do not all see, smell, taste, hear, or touch the world the same way. It is also because the meaning of these sensorial experiences depends on the cultural filters they are processed through. In this way, Jay writes, the senses “function not only as portals of vital information about the world, opening us to stimuli from without, but also as guardians of our integrity, protecting us from external dangers and threats.”<sup>7</sup> Following this line of thought, the sense of taste introduced late nineteenth century peoples to the outside stimuli of Rocky Ford cantaloupes, while tactile experiences linked them to the perceived healthful landscape of Colorado Springs. On the other hand, the sounds of gunshots, whistles, and explosions warned Cripple Creek miners and

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<sup>4</sup> Smith, “Still Coming to Our Senses,” 379.

<sup>5</sup> Martin Jay, “In the Realm of the Senses: An Introduction,” *American Historical Review* 116, no. 2 (April 2011): 308.

<sup>6</sup> Jay, “In the Realm of the Senses,” 307.

<sup>7</sup> Jay, “In the Realm of the Senses,” 309.

business owners that conflict was near, and foul smells alerted Pueblo residents to stay away from medically hazardous zones. Examining economic development and the formation of communal identities from a sensorially inclusive perspective indicates the significance of all of the human senses. It adds sensual depth to the existing literature on the four communities discussed and demonstrates why one should not overlook the nonvisual senses when writing historical accounts.

Environmental and agricultural historians often discuss landscape alteration and community formation in their accounts of specific regions in the American West. These narratives often focus on actions and reactions between humans and nonhuman nature. Despite human ingenuity and desire, the natural world cannot be completely controlled or subdued. When writing about potato cultivation in the Snake River valley of Idaho during the late nineteenth century, environmental historian Mark Fiege explains the successes and failures of Idaho farmers. “By both manipulating the land and adjusting to natural conditions,” Fiege writes, “they created a productive agricultural system.”<sup>8</sup> Although they established irrigation systems that successfully watered their fields, they also helped create a new type of landscape conducive to new forms of plant and animal life. “In fact,” Fiege explains, “when humans disturb the environment, they almost invariably make it better for certain flora and fauna,” because “destruction and creation go hand in hand.”<sup>9</sup> In the process of irrigating the Snake River valley, humans and nonhuman nature created what Fiege calls a hybrid landscape. Just as Idaho farmers believed that they had found solutions to problems involving the watering of their crops,

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<sup>8</sup> Mark Fiege, *Irrigated Eden: The Making of an Agricultural Landscape in the American West* (Seattle: University of Washington Press, 1999), 12.

<sup>9</sup> Fiege, *Irrigated Eden*, 44.

the natural world responded in powerful and unpredictable ways that farmers had to then adjust for once more.

In the process of attempting to control the nonhuman world and reacting to its various and largely uncontrollable responses, agriculture became an industrialized business during the late nineteenth century. In a study of fruit production in California, historian Steven Stoll writes about the industrialization of agriculture and the geographic uniqueness that accompanied it. “The cultivation of specific crops in specific places,” Stoll states, “brought on the industrialization of farming in California and prefigured larger changes in American agriculture.”<sup>10</sup> This was most certainly the case in Rocky Ford, where cantaloupe cultivation created an economic niche that has survived for nearly 150 years. As we will see, the climatic, geographic, and geologic conditions in Rocky Ford were believed to be ideal for melon production. However, as boosters, farmers, and distributors developed a thriving agricultural enterprise during the late nineteenth century, they too encountered nature’s unpredictable responses. In the process of creating the nation’s most desired melon, they dealt with insect and fungal pests that threatened the livelihoods of those involved in the cantaloupe trade. Experimentation on behalf of growers, seed breeders, and agricultural experiment station officials ultimately helped them overcome these insect and fungal issues, but this is just one example of the back and forth relationship between humans and nonhuman nature. As Rocky Ford growers planted more acres of cantaloupes during the late nineteenth century, nature responded by attacking the crops with insect and fungal enemies.

Other than environmental reasons, why else would boosters, growers, and experiment station officials in Rocky Ford work so hard to develop an internationally prized melon? There

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<sup>10</sup> Steven Stoll, *The Fruits of Natural Advantage: Making the Industrial Countryside in California* (Berkeley: University of California Press, 1998), 2.

are economic motivations for sure, but what drove consumers to often pay higher prices for Rocky Ford cantaloupes than melons grown more locally? According to environmental historian John Soluri, we must “account for taste” if we want to understand why specific varieties of crops are grown at the expense of others. In his study of banana cultivation and consumption in Central America and the Caribbean, he discovered that “although researchers identified disease-resistant varieties as early as 1910, the U.S. banana companies that dominated the export trade did not begin to replace the Gros Michel until the late 1950s.”<sup>11</sup> This indicates the major influence of consumer preference. Panama disease threatened Gros Michel bananas and disease-resistant varieties were available, but companies still grew Gros Michels because consumers paid more for them than other varieties. In the case of Rocky Ford, when fungal infestations damaged cantaloupe fields, growers and experiment station officials developed a blight-resistant variety that also shipped well. Even more significantly, this variety was favored because of its believed to be superior flavor. “In other words,” Soluri states, “we have to lend agency to the consuming masses.”<sup>12</sup> Consumer taste buds directly drove land use patterns and created the cantaloupe culture representative of late nineteenth century Rocky Ford.

When we examine the role taste played in linking Rocky Ford to the outside world, we get a better understanding of just how influential flavor was in the town’s economic development. We also learn that the communal identity of Rocky Ford was based on the cultivation of delectable cantaloupes. Thus, neglecting the nonvisual sense of taste leaves an important sensual gap in the narrative. If “tasting allows historians to place the sensory experience in historical context and to utilize an often-ignored tool: the bodies senses,” as Gerard

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<sup>11</sup> John Soluri, “Accounting for Taste: Export Bananas, Mass Markets, and Panama Disease,” *Environmental History* 7, no. 3 (July 2002): 387.

<sup>12</sup> Soluri, “Accounting for Taste,” 388.

Fitzgerald and Gabriella Petrick contend, then historians are not yet using all of the analytical tools available to them when they ignore taste in their historical accounts.<sup>13</sup> “Just as historians of art or music use their senses to analyze material,” Fitzgerald and Petrick continue, “so too can historians of food and taste.”<sup>14</sup> In other words, we may never know what nineteenth and early twentieth century Rocky Ford cantaloupes tasted like, but we can taste them today, and we do know that their flavor was desired and demanded by American and international consumers around the turn of the twentieth century. We know that their flavor was demanded by breaking free from sensual restraints and by placing taste at the center of analysis when examining the economic development and identity formation of Rocky Ford.

In many ways, scholars contend, taste is the most intimate of the senses. According to historian Priscilla Parkhurst Ferguson, “taste, arguably, is the most singular of all the senses, and tasting makes the most private of connections to the material world.”<sup>15</sup> Cantaloupe consumers did more than simply look at the melons they purchased to make sure there were no visual impurities. Likewise, they did not solely purchase melons because of how they sounded when tapped, felt when squeezed, or smelled when cut. They purchased and demanded the believed to be superior flavor of the Rocky Ford cantaloupe because “the tasting subject requires heightened intimacy with the taste object defined by corporeality and ephemerality,” according to Parkhurst Ferguson.<sup>16</sup> Purchasers quite literally bonded with Rocky Ford cantaloupes as their bodies consumed them, processed them, and expelled the parts of the fruit they did not need. It was the sweet and delicious flavor of these cantaloupes that motivated the consumption process. It was

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<sup>13</sup> Gerard Fitzgerald and Gabriella Petrick, “In Good Taste: Rethinking American History with our Palates,” *Journal of American History* 95, no. 2 (September 2008): 393.

<sup>14</sup> Fitzgerald and Petrick, “In Good Taste,” 393.

<sup>15</sup> Priscilla Parkhurst-Ferguson, “The Senses of Taste,” *American Historical Review* 116, no. 2 (April 2011): 371.

<sup>16</sup> Parkhurst-Ferguson, “The Senses of Taste,” 371.

also this flavor that drove investments in irrigation, land, and distribution. Therefore, the story of Rocky Ford's economic development and land transformation cannot be told without accounting for the sense of taste that linked picky consumers with far away and regionally specific locations.

If we move from the irrigated cantaloupe fields of Rocky Ford to the elevated landscapes of Colorado Springs, we get a different story of economic growth and the creation of a communal identity. Here too environmental conditions played a significant role in the economic development of the region. The altitude, climate, and naturally occurring geological features like mountains and hot springs of Colorado Springs led boosters and town officials to create a thriving tourism and health resort industry in the late nineteenth century. This industry attracted physically suffering consumers from localities near and far, and promoted the healthfulness of Colorado Springs. Railroad companies also published guidebooks and promotional pamphlets that helped spread the news of the region's believed to be health restoring qualities. In addition, medical practitioners contributed to the establishment of the "Colorado for health" belief that influenced many people around the nation and world by the turn of the twentieth century.

Historians have often discussed commodity flows in their works on industrial growth and expansion during the late nineteenth and early twentieth centuries. However, many of the commodities they write about are more obvious or traditional goods such as cantaloupes, gold, and steel. Colorado Springs also offered a commodity to the rest of the nation and world, although it was a combination of environmental conditions and geologic structures that could not physically be packaged and transported to eastern markets. Rather, the environmental package had to be consumed locally in Colorado Springs. As environmental historian Kathleen Brosnan writes in a study of development along the front range of the Rocky Mountains in Colorado

during the late nineteenth and early twentieth centuries, Colorado Springs “founders envisioned a resort that combined the advantages of nature and civilization.”<sup>17</sup> She writes about the significance of the tourism industry to western settlements in the late nineteenth century, and discusses the economic benefits of establishing a tourist community. She also suggests that although Denver benefitted from the flood of tourists and health seekers traveling through on their way to Colorado Springs, tourism in Denver “formed a small part of this metropolis’s economy,” but “defined Colorado Springs,”<sup>18</sup> As this statement indicates, the economic development of Colorado Springs and the creation of a tourist community identity based on health restoration went hand-in-hand. In other words, “Colorado Springs existed,” she states, “for consumers seeking the gracious amenities and genteel qualities of an elite city and the primitive sublime wilderness.”<sup>19</sup>

In order for the health resort and tourism industry to thrive, consumers had to be willing to make the journey to the city at the foot of Pike’s Peak. Many health sufferers moved to Colorado Springs in the late nineteenth century in an attempt to rid themselves of tuberculosis or other types of pulmonary diseases. In fact, peoples have historically lived in, or moved to, places that make them feel better physically, and they avoid localities that irritate their bodies or make them feel uncomfortable. In a study of allergies and the impact they have on human settlement, environmental historian Gregg Mitman argues that “the details of environment and place figure centrally in our lives.”<sup>20</sup> As cities grew in the late 1800s and therefore became more crowded, dirty, and disease-infested regions, thousands of people left these urban spaces for less populated

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<sup>17</sup> Kathleen Brosnan, *Uniting Mountain and Plain: Cities, Law, and Environmental Change Along the Front Range* (Albuquerque: University of New Mexico Press, 2002), 92.

<sup>18</sup> Brosnan, *Uniting Mountain and Plain*, 92.

<sup>19</sup> Brosnan, *Uniting Mountain and Plain*, 92.

<sup>20</sup> Gregg Mitman, *Breathing Space: How Allergies Shape Our Lives and Landscapes* (New Haven: Yale University Press, 2007), X.

landscapes. For example, “thousands of healthy hay fever sufferers,” Mitman writes, “fled the heat, filth, and dust of the cities in mid-August each year to lounge at luxurious hay fever resorts in the cultivated wilderness of the White Mountains in New Hampshire, the Adirondacks in upstate New York, and the Great Lakes shores of the Midwest.”<sup>21</sup> Similar to these hay fever sufferers, many peoples suffering from tuberculosis and other asthmatic conditions left their homes and relocated to the supposed health restoring climate of Colorado Springs.

Other scholars have examined the relationship between humans, nonhuman nature, and disease in their respective works. In one of these works, historian Linda Nash writes about westward expansion, the ways in which settlers understood the landscapes they inhabited, and the link between these environments and their health. As she notes, “clearly they looked upon the western landscape as a resource ripe for exploitation,” but settlers were also overwhelmingly concerned “with the region’s effect on their health.”<sup>22</sup> This concern certainly contributed to the growth of Colorado Springs, as many of its new inhabitants left eastern landscapes they deemed uncleanly for the pristine and health rejuvenating altitude, air, climate, and mineral springs of Colorado Springs. In another investigation of the relationship between human health and the environment, historian Conevery Bolton Valencius discovered that in the nineteenth-century United States “people were influenced by their environments in direct and powerful ways, and the exterior world and the human body were not as separate as they are now.”<sup>23</sup> These discoveries indicate that Americans in the nineteenth century did not view themselves as independent beings outside the grasp of environmental conditions. Rather, they understood the

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<sup>21</sup> Mitman, *Breathing Space*, 6.

<sup>22</sup> Linda Nash, *Inescapable Ecologies: A History of Environment, Disease, and Knowledge* (Berkeley: University of California Press, 2006), 3.

<sup>23</sup> Conevery Bolton-Valencius, *The Health of the Country: How American Settlers Understood Themselves and Their Land* (New York: Basic Books, 2002), 3.

potentially harmful, or in the case of Colorado Springs, restoring elements of the regions in which they lived.

Boosters, government officials, railroad companies and physicians encouraged invalids to move to Colorado Springs, but what else motivated the decision to relocate? Also, how did they feel physically once they arrived in the Rocky Mountains? To address these questions, we must turn to the sense of feeling and touching that directly contributed to the economic growth of the region and the creation of the “Colorado for health” construct that symbolized the Colorado Springs identity in the late nineteenth and early twentieth centuries. People experienced Colorado Springs directly through the sense of touch that linked them to the region’s supposed health recovering landscape. When stepping into a mineral hot spring, for example, health seekers described the sensation of the water on their aching bodies. They also described the process of inhaling the mineral fumes that were believed to help cure consumptive and asthmatic sufferers. According to sensory historian Mark Smith, historians might “profitably use this muddling of skin and touch, especially the connection between being touched physically and finding something emotionally touching, to explore the historicized nature of hapticity because it captures many contemporary understandings of the association of skin, touch, and feeling.”<sup>24</sup> A coupling of tactile immersion in the air, waters, and elevation of Colorado Springs with the emotional sense of awe and admiration for the region’s physical beauty and health rejuvenating aura makes Colorado Springs a great place to explore the connection between human bodies, health, and the nonhuman natural world, and we can investigate these connections tactilely. Smith warns us that “any essay on the history of skin and touch is necessarily suggestive simply

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<sup>24</sup> Mark Smith, “Getting in Touch with Slavery and Freedom,” *Journal of American history* 95, no. 2 (September 2008): 388.

because, historiographically at least, there is not much to go on.”<sup>25</sup> Therefore, by studying the underexamined role the sense of touching and feeling plays in economic development and the creation of a communal identity, we begin filling in the sensual gap and realize the significance of yet another nonvisual sense.

Humans experience the world corporeally as much as they do visually, audibly, through taste, and by smell. The feel of a cool breeze on a warm summer afternoon or the warm sensation experienced when sitting in a hot tub, for example, are pleasurable experiences, while subzero temperatures and scalding waters are painful and life threatening. Humans therefore assign meaning to certain experiences based on their tactile interaction with their environments. “The characteristics of the environment,” historian Elizabeth Harvey writes, “are named through their relationship to the sensing instrument of touch.”<sup>26</sup> We know that a cool swimming pool will feel great on a scorching hot summer day not because of how the pool looks, tastes, sounds, or smells, but because we have felt the cool water on our warm skin and remember that experience as soothing and enjoyable. In other words, “if the body constitutes the world through sensation,” Harvey suggests, “the world also reciprocally establishes bodily coherence through that contact.”<sup>27</sup> This connection was precisely what drew health seekers to Colorado Springs. Consumptives and other health seekers felt bad physically, often attributed their failing health to disease-ridden cities, and moved to Colorado Springs to feel better. The physical contact between suffering bodies and the air, mineral waters, and climate of Colorado Springs was believed to be revitalizing, and ultimately drove the economic development in the region. This physical contact also helped create the health restoring identity of Colorado Springs.

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<sup>25</sup> Smith, “Getting in Touch with Slavery and Freedom,” 381.

<sup>26</sup> Elizabeth Harvey, “The Portal of Touch,” *American Historical Review* 116, no. 2 (April 2011): 386.

<sup>27</sup> Harvey, “The Portal of Touch,” 386.

Moving from Colorado Springs to Cripple Creek, we yet again see how environmental resources sparked economic growth and the ultimate formation of another unique regional identity. It was not solely the fertile soil of Cripple Creek, the altitude, or the climate that attracted settlers to the region. It was another valuable element, gold, that encouraged many people to populate the town. It was also gold that symbolized the region and sparked conflict between mine owners and mine workers, thus creating a contentious and often times violent mining town. Several environmental historians have addressed mining in their works, and some of them suggest that humans have forgotten just how tied to the land and natural resources we still are. For example, Timothy LeCain writes about open pit mining in Montana and states that the ease with which “any of us may forget or ignore our fundamental connections to the natural first source of our material world is a problem that lies at the heart of this book’s story.”<sup>28</sup> This may be the case, but precious metals like gold have been valued for thousands of years, and the thousands who left their localities to move to Cripple Creek most certainly did not forget the connection between the golden deposits of Cripple Creek and the value of this natural resource. In fact, they knew that gold was valuable, and that moving to the region could result in them striking it rich. Because of this economic potential, the mountain pastures of Cripple Creek were penetrated, probed, and pummeled. In other words, as LeCain notes, large scale industrial pursuits often destroyed the landscapes of the regions they settled. “Whether the immense area destroyed was a mountain, a forest, or a fishery,” he writes, “the process can only appropriately be termed mass destruction.”<sup>29</sup>

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<sup>28</sup> Timothy LeCain, *Mass Destruction: The Men and Giant Mines That Wired America and Scarred the Planet* (New Brunswick: Rutgers University Press, 2009), 4.

<sup>29</sup> LeCain, *Mass Destruction*, 216.

Whereas LeCain focuses on the impact of industrialization on western landscapes and the ways in which the demand for certain natural resources often led to unintended environmental consequences, other scholars focus on labor disputes in their respective accounts of mining. Thomas Andrews, for example, writes about the Ludlow Massacre in his book *Killing for Coal*. He writes that Ludlow was “a massacre of innocents that exemplified the vulnerability of American workers to corporate rapacity,” and states that the violence indicated “the necessity of government safeguards to ensure working people’s right to organize in defense of their lives and liberties.”<sup>30</sup> In a similar fashion, labor historian Elizabeth Jameson writes about labor disputes in Cripple Creek in *All That Glitters*. When writing about two major labor disputes in Cripple Creek during the late nineteenth and early twentieth centuries, Jameson states that they were “separated in time by a decade,” and “they framed the temporal boundaries of a labor community.”<sup>31</sup> During this time period, Cripple Creek inhabitants established an identity based on gold mining and the conflicts between mine owners and their employees. Focusing on the victory for laborers in the strike of 1894, and the militant victory of mine owners in 1904, Jameson’s work exemplifies the level of conflict and contestation that symbolized the Cripple Creek community. This work builds on the research of LeCain, Andrews, and Jameson by discussing the labor disputes of the time period, while also describing not just the visual alteration of Cripple Creek, but the audible transformation as well. The landscape was drastically altered during the late nineteenth and early twentieth centuries, but so too was the soundscape of Cripple Creek.

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<sup>30</sup> Thomas Andrews, *Killing for Coal: America’s Deadliest Labor War* (Cambridge: Harvard University Press, 2008), 6-7.

<sup>31</sup> Elizabeth Jameson, *All That Glitters: Class, Conflict, and Community in Cripple Creek* (Urbana: University of Illinois Press, 1998), 5.

When gold was discovered in Cripple Creek during the 1880s, it quickly attracted thousands of miners and businessmen to the region. In this process, it transformed from a cow pasture to a much louder industrial center. Although some historians push beyond visual depictions of changing landscapes, their accounts are minimal at best. According to Mark Smith, “histories of industrialization are often indebted to vision—the visual rise of the factories, the slicing of erstwhile rural landscapes by impossibly tall chimney stacks, the visual power of the smoke, sparks, and sheer scale of the early factories eliciting plenty of visually indexed primary evidence.”<sup>32</sup> These vision-based accounts support the fact that the sense of sight attracts more attention in historical narratives than the other senses. However, Smith argues that “of all the principal developments usually associated with the coming of modernity in the nineteenth century, industrialization was understood, especially by contemporaries but also by some historians, as very much an aural affair.”<sup>33</sup> Stressing the importance of multisensorial historical accounts, Smith contends that “the heard worlds of factory workers grant us unusual access to the complexity of their experience.”<sup>34</sup> It is precisely this sensual depth that this dissertation intends to provide. The Cripple Creek soundscape shifted during the late nineteenth and early twentieth centuries, and an understanding of the changing soundscape helps historians better comprehend the past by incorporating more than simply visual experiences of this transition.

Other scholars of sound and hearing explain how conflicts over land are often audible conquests, how differently humans perceive or experience the world around them, and how the audible landscape of each region is culturally specific. In an article on the westward migration of easterners during the nineteenth century, historian Sarah Keyes suggests that as settlers moved

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<sup>32</sup> Mark Smith, “The Garden in the Machine: Listening to Early American Industrialization,” in *Oxford Handbook of Sound Studies*, ed. Trevor Pinch and Karin Bijsterveld (Oxford: Oxford University Press, 2011), 40.

<sup>33</sup> Smith, “The Garden in the Machine,” 40.

<sup>34</sup> Smith, “The Garden in the Machine,” 42.

across the United States, they deliberately transplanted not just the visual or aesthetic elements of their societies, but also their soundscapes. “Documents left by the overlanders,” she writes, “suggest that their westward treks could be understood as sonic assaults that reeked violence on Indians.”<sup>35</sup> These accounts indicate that assaults on Native American lands should be understood as sonic, as well as physical conquests. If “Euro-Americans defined civilized places not only by who populated them and what economic activities transpired there, but also by the soundscape,” as Keyes argues, then perhaps “sounds signaled the nature of a community.”<sup>36</sup> The latter point is relevant when discussing Cripple Creek because the region naturally contained gold, attracted miners and businessmen to the area, loudly transformed the soundscape of the district, and caused audibly violent clashes between the individuals who fought for property and personal liberties. This contentious soundscape signaled the nature of the community, as the sounds of cooperation and conflict could clearly be heard.

It is important to note that humans hear the world differently, and that recognizing these differences helps us understand our historical actors on a deeper sensual level. As sensory historian Richard Cullen Rath states, “if we are to understand people from the past on their own terms and if they perceived their worlds differently than we do, then we need to understand those differences in perception in order to understand the people at all.”<sup>37</sup> In the case of Euro-American westward expansion, for example, the sound of train whistles or school bells in the regions they settled may have represented the western march of comfort and progress. To the Native groups in the regions being invaded, the train whistle may have been threatening, while

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<sup>35</sup> Sarah Keyes, “‘Like a Roaring Lion’: The Overland Trail as a Sonic Conquest,” *Journal of American History* 96, no. 1 (June 2009): 23.

<sup>36</sup> Keyes, “‘Like a Roaring Lion,’” 42.

<sup>37</sup> Richard Cullen-Rath, “Hearing American History,” *Journal of American History* 95, no. 2 (September 2008): 419.

school “bells ordered students’ lives, dictating when to sleep, rise, learn, pray, and eat.”<sup>38</sup> In Cripple Creek, the sound of exploding dynamite signaled progress when mountains were blasted to sink mine shafts. The same dynamite blasts also signaled threats to human life and property during disputes between mine owners and their employees. Recognizing that the same sounds can have entirely different meanings is crucial if historians expect to better understand the characters they analyze. It is also important to recognize the cultural specificity and uniqueness of soundscapes. As historian Sophia Rosenfeld writes, “it is axiomatic that every culture produces different sounds, both natural and manufactured, musical and otherwise.”<sup>39</sup> In Cripple Creek, the sounds of protest and contestation echoed in and around the gold mines whose resources sparked the economic development of the region, and helped create the conflict-based soundscape.

When one shifts their focus to Pueblo, one gets a slightly different story of how environmental conditions impacted its economic growth. Pueblo, although involved in agricultural production, did not economically develop around agricultural pursuits as Rocky Ford did. Likewise, it did not become known as the health capital of southeastern Colorado like Colorado Springs. In addition, it did not develop around an economy based on gold production like Cripple Creek. Pueblo became known as the Pittsburgh of the West and attracted thousands of settlers largely because of the resources in the surrounding landscapes. While raw materials like coal and iron ore were not found in Pueblo itself, they were found in abundance in the surrounding region, thus making Pueblo a great location to bring all of the raw materials together. With access to the raw materials needed for steel production nearby, steel plants were

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<sup>38</sup> Keyes, “Like a Roaring Lion,” 36.

<sup>39</sup> Sophia Rosenfeld, “On Being Heard: A Case for Paying Attention to the Historical Ear,” *American Historical Review* 116, no. 2 (April 2011): 316-317.

constructed and ultimately produced large quantities of steel products in the late nineteenth and early twentieth centuries.

Pueblo, the steel city of the West, developed around the production of steel goods, and created an economic identity based on manufacturing. In fact, it was steel manufacturing that ultimately drew thousands to Pueblo. Scholars have addressed the growth of urban spaces and the subsequent environmental impact in various works. Urban environmental historian Joel Tarr, for example, describes this growth as a metabolic process. The metabolic process, Tarr states, “can be described in terms of the transformation of inputs (sunlight, chemical energy, nutrients, water, and air) into biomass and waste products.”<sup>40</sup> Admittedly stealing this concept from biology, Tarr finds it “useful as a means to comprehend the environmental history of cities.”<sup>41</sup> Industrial cities often rely on raw materials from outside the urban spaces in which these resources are turned into manufactured goods. In other words, as the city grows, it increasingly swallows up natural resources from the surrounding landscapes. This analytical framework is useful for thinking about the growth of Pueblo, because it again did not contain all of the necessary materials for steel production. Rather, it consumed the natural resources of the surrounding environment, and transformed these materials into finished products.

Other urban historians write about the impact of technological advancements after the Industrial Revolution on city growth and expansion. “The modern American city that emerged out of the Industrial Revolution,” Martin Melosi writes, “was both recipient and disseminator of new technologies, benefactor and victim of their application.”<sup>42</sup> This view suggests that

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<sup>40</sup> Joel Tarr, “The Metabolism of the Industrial City: The Case of Pittsburgh,” *Journal of Urban History* 28, no. 5 (July 2002): 511.

<sup>41</sup> Tarr, “The Metabolism of the Industrial City,” 511.

<sup>42</sup> Martin Melosi, “Cities, Technical Systems and the Environment,” *Environmental History Review* 14, no. 1-2 (Spring-Summer 1990): 48.

although many people were hired to work in Pueblo's steel industry, this influx of workers and their families also led to a rise in consequences associated with urban growth and expansion. As technological advancements allowed Pueblo to produce large amounts of steel, workers were needed to operate the machinery because "while technology is critical to city building," Melosi states, "it is the human input into the systems that is crucial to urban development."<sup>43</sup> As more bodies moved to Pueblo to work in the steel mill, more steel was produced, the population grew, and problems of poor drainage and improper waste disposal accompanied this economic growth. Thus, the economic development of Pueblo, and the subsequent establishment of its steel city identity during the late nineteenth and early twentieth centuries also created olfactory nuisances in the area. Before addressing these smelly assaults on the noses of Pueblo residents, however, it is important to mention the work of another historian of urban spaces and the environment. In a study of Seattle in the nineteenth century, environmental historian Matthew Klinge points out that "urban historians have explored how the rise of the American city has been a dynamic process of inclusion and exclusion unfolding in union halls, residential neighborhoods, public parks, and shopping malls," but few historians "consider the role that nature has played in forging the places urbanites call home, or how it has been an instrument to define and enforce the idea of community."<sup>44</sup> This work focuses on the natural resources surrounding Pueblo, how those resources were used to manufacture steel products, and how they ultimately led to the development of the steel city identity that represents Pueblo. In the process, it incorporates the fourth nonvisual sense, the sense of smell, that increasingly detected potential threats to human health and safety.

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<sup>43</sup> Melosi, "Cities, Technical Systems and the Environment," 56.

<sup>44</sup> Matthew Klinge, *Emerald City: An Environmental History of Seattle* (New Haven: Yale University Press, 2007), Preface.

When examining the rise of industrial cities during the late nineteenth and early twentieth centuries, it is important to add sensual depth to existing perspectives. Since we have tasted Rocky Ford, felt Colorado Springs, and heard Cripple Creek, it is only fair that we now smell Pueblo. Historians of smell stress the significance of understanding olfactory experiences in a number of works. Connie Chiang, for example, suggests that “whenever Americans evaluated odors, they revealed something about their culture and their communities at that moment.”<sup>45</sup> She continues by writing that “in deciding what smelled good and what smelled bad, they were making decisions about what activities and people they valued.”<sup>46</sup> In the case of Pueblo, it quickly became evident that more people meant more garbage and waste, and thus more foul smells. It was not just the unpleasant smell of stagnant pools of water, rotting carcasses, or garbage heaps that increasingly worried Pueblo residents as the town grew, but the belief that these odors caused disease and threatened human health. This fear led town officials, physicians, and local inhabitants to push for the draining of stagnant pools, and for the proper disposal of animal carcasses and garbage scraps. They deemed these activities essential in preventing the spread of disease, and it was the sense of smell that alerted them to this threat.

Melanie Kiechle and Mark Jenner suggest that olfactory-inclusive historical accounts are few, and in Kiechle’s case, she writes about the ways in which the sense of smell helped residents navigate the odorous and potentially dangerous regions of growing cities. “For many,” she writes, “the contrast between fresh breezes and foul odors meant the difference between good health and disease.”<sup>47</sup> It was not the taste, feel, or sound of air that warned residents of

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<sup>45</sup> Connie Chiang, “The Nose Knows: The Sense of Smell in American History,” *Journal of American History* 95, no. 2 (September 2008): 406.

<sup>46</sup> Chiang, “The Nose Knows,” 406.

<sup>47</sup> Melanie Kiechle, “Navigating by Nose: Fresh Air, Stench Nuisance, and the Urban Environment, 1840-1880,” *Journal of Urban History* 42, no. 4 (January 2016): 754.

dangerous zones within cities, but rather the sense of smell that detected and informed their decisions to avoid these zones. Kiechle is also quick to state that smells and their meanings do not transcend time and space. Therefore, when creating sensually inclusive historical exhibits, “preservationists must consider both material odors and the historic perception of those smells, which differs from contemporary audiences perceptions of the same sense.”<sup>48</sup> In the case of Pueblo, current medical knowledge makes us less worried about the threat of becoming ill from smelling manure or rotting food scraps, but those same smells were assaults to the noses, and bodies, of late nineteenth century residents. Thus, the story of Pueblo’s economic development and formation of the steel city identity is not complete without an inclusion of the smells that often determined the routes people took to work, and the decisions made to abate these olfactory nuisances immediately. Although histories of smell are few in number, according to Mark Jenner, “smell is not merely an absence from history writing.”<sup>49</sup> Rather, following his argument, “its limited historiography is dominated by accounts of gradual erasure, by narratives of decline and deodorization.”<sup>50</sup> Although the complete elimination of foul smells was not achieved in Pueblo, this is a story of the push for the decline and hopeful erasure of smells residents deemed threatening to their health.

The economic development of southeastern Colorado during the late nineteenth and early twentieth centuries is a sensual story of environmental circumstance, human ingenuity, and the promotion of communal identity. Rocky Ford, Colorado Springs, Cripple Creek, and Pueblo all developed an economic niche in their respective regions, as well as a unique identity based on

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<sup>48</sup> Melanie Kiechle, “Preserving the Unpleasant: Sources, Methods, and Conjectures for Odors at Historic Sites,” *Future Anterior: Journal of Historic Preservation, History, Theory, and Criticism* 13, no. 2 (Winter 2016): 22-32.

<sup>49</sup> Mark Jenner, “Follow Your Nose: Smell, Smelling, and Their Histories,” *American Historical Review* 116, no. 2 (April 2011): 337.

<sup>50</sup> Jenner, “Follow Your Nose,” 337-338.

the commodities they produced and sold. Rocky Ford is still the cantaloupe capital of Colorado. Colorado Springs, although not as revered for its health restoring qualities, still attracts thousands of tourists each year. In Cripple Creek, the economy is no longer based on mining, but casinos currently occupy the town. As Jameson writes, more than a century after Bob Womack “hit pay dirt, a new breed of gold-seekers trekked to this town born of chance.”<sup>51</sup> Miners often moved to Cripple Creek to strike it rich, and peoples currently visit the city in hopes of doing the same. Lastly, the steel plant in Pueblo still produces manufactured goods and Vestas North American Manufacturing Operations opened a wind turbine plant in Pueblo in 2010, thus continuing its manufacturing legacy. Although the landscape of southeastern Colorado was visually transformed during the late nineteenth century, the story of this change is not complete without the nonvisual perceptions and experiences of residents in the region. The point is that vision is one way in which humans experience the world, but they also smell, taste, hear, and feel their surroundings. Therefore, histories that neglect the nonvisual sensory perceptions are flawed in that they exclude eighty percent of our available sensory experience. In this story, the nonvisual senses drove land use decisions, encouraged people to move to Colorado for health purposes, alerted people of violent attacks and labor disputes, and warned inhabitants which parts of town to avoid when dodging illness and disease. Now let us sense development.

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<sup>51</sup> Jameson, *All That Glitters*, 3.

## Chapter 1: Tasting Rocky Ford: Developing Colorado's Cantaloupe Industry

Luscious, sweet, rich, spicy, juicy, flavorful and delicious were just some of the terms used in the late 1800s and early 1900s to describe the Rocky Ford Netted Gem cantaloupe, the most prized melon in the United States. Newspapers and farm journals were among many sources that described the flavor of the melons. For example, when unfavorable weather destroyed part of the famous Rocky Ford cantaloupe crop in 1905, a *Herald Democrat* article warned consumers that only those who ordered quickly would be able to “secure these luscious delicacies” that year.<sup>1</sup> A section in the *Farm Journal*, a magazine for farming families in and around the Philadelphia area, also promoted the flavor of the Rocky Ford melons when it encouraged consumers to “try the Rocky Ford muskmelon; it quickly matures and is sweet and rich.”<sup>2</sup> When explaining the joy one feels as they bite into the prized Rocky Ford cantaloupe, the *Fowler Tribune* noted in 1905 that “when we sink our canines in its juicy pulp, our hearts are full of gratitude and our lips would burst forth in song.”<sup>3</sup> By the turn of the twentieth century, the taste-driven, economic success of the Rocky Ford cantaloupe encouraged growers from other regions to establish a melon enterprise of their own. For example, in 1904, agricultural leaders in Fort Morgan, Colorado, set up a meeting “to discuss the possibility of forming a melon growers’ association and securing contracts from farmers here to grow 300 acres of cantaloupe.”<sup>4</sup> When discussing the potential profitability of establishing a melon industry, the *Fort Morgan Times* stated that profits “may reasonably be expected by cantaloupe growers when

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<sup>1</sup> “Colorado Fruit,” *Herald Democrat*, August 6, 1905.

<sup>2</sup> *Farm Journal* 30, no. 5, ed. Wilmer Atkinson and Walter E. Andrews (Philadelphia: Wilmer Atkinson Company, May 1906): 181.

<sup>3</sup> *Fowler Tribune*, August 25, 1905.

<sup>4</sup> “Raise Cantaloupe,” *Fort Morgan Times*, February 12, 1904.

the proper system is adhered to both in the cultivation, picking and marketing of this delicious and much appreciated fruit.”<sup>5</sup> In a sense, the taste of Rocky Ford’s most famous crop inspired a specific, melon-based form of economic development in the region.

Rocky Ford, a small town in the Arkansas River valley of southeastern Colorado, is the birthplace of the Rocky Ford cantaloupe, where these prized melons have been cultivated since the 1870s. During the last three decades of the nineteenth century, railroad expansion, irrigation projects, and specific taste buds led large numbers of people to migrate to Colorado, establish colonies, and develop communities based on agricultural production. George Swink, the pioneer of the Arkansas Valley cantaloupe industry, helped Rocky Ford become a nationally recognizable name by establishing irrigation in the region. The Colorado Agricultural Experiment Station conducted field research in order to develop a standardized and marketable melon. In addition, growers carefully selected choice seed and advertisers marketed the melon to distributors nationwide. Experiment station reports, personal accounts of growers and distributors of melons, and a variety of magazine and newspaper articles indicate that climatic and soil conditions, early analysis by the agricultural college, and the standardization of melon shipping led local, national, and international consumers to believe that Rocky Ford developed and sold the most durable, disease resisting, and flavorful melons in the late nineteenth and early twentieth centuries. In addition, taste, a sense often ignored in histories of economic development and promoted communal identity, was also significant in the successful growth of the industry. It directly aided economic growth by linking the pocketbooks of distant consumers to irreplaceable, far away tastes.

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<sup>5</sup> “Raise Cantaloupe,” *Fort Morgan Times*, February 12, 1904.

This chapter outlines the development of the Rocky Ford cantaloupe industry during the roughly forty-year period from 1870 to 1910 and the subsequent economic development of the town, with an emphasis on the role of taste in this growth and expansion. Unlike cotton, hemp, and tobacco, which have multiple, non-tasteful purposes, cantaloupes are solely cultivated to be eaten by hungry consumers who willingly pay for products that pleurably satisfy their palates. Rocky Ford growers and distributors understood the importance of developing a flavorful melon, and established an industry that still thrives over 140 years after its birth. Whether fancy New York diners with their new found access to western markets made possible by the completion of the transcontinental railroad advertised Rocky Ford melons as superior because of their linkage to what was then a far away, western town, or simply because they catered to wealthy consumers who were willing to bypass cheaper, more locally grown melons in favor of flavor, the taste of the melon and its impact on economic development has not been fully investigated. As the industry blossomed, growers in California, Georgia, Oklahoma, and many other states/territories quickly sought to purchase the flavor of the Rocky Ford melon. Interested growers bought seed from the Rocky Ford Seed Breeders Association, who felt confident that their efforts in climate and soil analysis, careful selection of desired melons, and standardized shipping techniques gave them the commercial advantage. In addition, Rocky Ford seed breeders made a profit from the sale of their prized seed but believed that although Rocky Ford seed grown elsewhere could be tasty, it could not be as flavorful as the same seeds grown in the Arkansas Valley. In an attempt to duplicate the prized taste of Rocky Ford cantaloupes in their respective regions of the country, many growers often times fell short of the goal. This shortcoming led some to believe that taste is not only important in the development and sale of edible products, but that taste is also localized and environmentally unique to specific locations. Rocky Ford growers and community

leaders, therefore, not only established an economically beneficial industry, but they also promoted a cantaloupe community symbolized by Melon Day each year. It is debatable whether or not the Rocky Ford melon truly tasted better than those grown in other regions of the United States, largely due to the subjective element of personal preference and individualized palates; however, the fact that these melons were so widely marketed as both finished products and cultivable seeds indicates the significance of taste and flavor in economic development and the creation of a promoted communal identity.

When examining the agricultural history of the American West during the late nineteenth and early twentieth centuries, there are many traditional narratives that provide a broad step by step, largely economic and racially exclusive history of specific regions such as Colorado, or larger areas like the West as a whole. In addition to these historic accounts, there are several more specific narratives that address irrigation and the rise of industrial agriculture that began to transform the ways in which land was utilized. LeRoy Hafen and Alvin Steinel wrote accounts focused largely on the contributions of white upper class males and published works in 1926 and 1948 respectively.<sup>6</sup> During the late twentieth century, historians such as Mark Fiege, Steven Stoll, and James Sherow wrote Western agricultural histories from more detailed view points, including the conflicts inherent in relations between humans and nonhuman nature, the agricultural uniqueness of geographical locations, and disputes over water rights.<sup>7</sup> This narrative builds on both approaches by providing a standard account of the growth of a dominant agricultural industry, indicating the key players in the development of this dominance, and

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<sup>6</sup> LeRoy Hafen, *Colorado and Its People*, Vol. 2 (New York: Louis Historical Publishing, 1948). Alvin Steinel, *History of Agriculture in Colorado, 1858 to 1926* (Fort Collins: Colorado State Board of Agriculture, 1926).

<sup>7</sup> Mark Fiege, *Irrigated Eden: The Making of an Agricultural Landscape in the American West* (Seattle: University of Washington Press, 1999). Steven Stoll, *The Fruits of Natural Advantage: Making the Industrial Countryside in California* (Berkeley: University of California Press, 1998). James Sherow, *Watering the Valley: Development Among the High Plains Arkansas River, 1870-1950* (Lawrence: University Press of Kansas, 1990).

describing how taste was significant in the development of the industry and Rocky Ford's communal identity.

Building on the idea that agricultural landscapes are the created results of human land use decisions and the often unpredictable environmental reactions that follow, this work links economic development with the sense of taste that dictated land use policies and communal uniqueness in the Arkansas River Valley of Colorado. Too often historians fail to combine agricultural history with a history of the senses approach, thus ignoring consumer agency on a deeper sensual level. In a study of banana production in Latin America entitled "Accounting for Taste," however, John Soluri writes that "in order to explain how U.S. mass markets shaped banana production, we have to follow the commodity flow beyond the brokers" so that one can "account for the taste of North American fruit eaters."<sup>8</sup> In addition, Gerard Fitzgerald and Gabriella M. Petrick contend that there are many ways to "think about a historical sense of taste (s), including the role taste has played in constructing race, class, gender, regionalism, nationalism, globalization, labor, violence, and power."<sup>9</sup> Following these approaches, it was the taste of Rocky Ford cantaloupes that ultimately drove land use patterns in the region, inspired scientific investigation, and gave local growers and community boosters a sense of social unity based on cantaloupe culture. Although taste is what triggered the economic development of the cantaloupe industry, humans could not create this flavor alone. The sunny, hot weather, minimal rainfall and low humidity, and sandy soils of the region played an equally significant role in the creation of the taste so many consumers desired. Sandy soils of Rocky Ford are great for early planting of cantaloupes because "they warm more rapidly in the spring, while loam and clay

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<sup>8</sup> John Soluri, "Accounting For Taste: Export Bananas, Mass Markets, and Panama Disease," *Environmental History* 7, no. 3 (July 2002): 388.

<sup>9</sup> Gerard Fitzgerald and Gabriella Petrick, "In Good Taste: Rethinking American History with Our Palates," *Journal of American History* 95, no. 2 (September 2008): 403.

loam soils are preferred for main-season production due to greater water-holding capacity, which favors a prolonged harvest.”<sup>10</sup> In order to assure the highest yield, cold temperatures, large amounts of rain, and prolonged cloud coverage should be avoided, and these are all climatic and environmental conditions that are largely negated in Rocky Ford.<sup>11</sup>

Climatic and environmental conditions are conducive to cantaloupe production in Rocky Ford, and the sweetness of these melons is often praised in the late twentieth and early twenty-first centuries because of their high sugar content. A National Public Radio interview of a Rocky Ford grower in 2009 supports this point. Brian Knapp, the grower interviewed, contended that “sugar content is the key to a good cantaloupe.”<sup>12</sup> He continued by stating that “most measure somewhere around 13 percent,” and that “Rocky Ford cantaloupes are running up to 17 percent this year.”<sup>13</sup> Knapp attributed the climate of the region to the increased sugar content when he wrote “it’s the hot days in Rocky Ford that create more sugar in the fruit, and the cool nights that slow down that process, allowing the sugar to accumulate.”<sup>14</sup> Therefore, he continued, “these cantaloupes are sweeter than in places where the temperature is more constant.”<sup>15</sup> Rocky Ford growers were aware of the importance of sugar content in the early twentieth century. As the *Ordway New Era* reported in 1915, the growers and distributors should “enter into an agreement that no cantaloupes shall be shipped from the Rocky Ford country except of a certain proper ripeness and containing a certain sugar content.”<sup>16</sup> When growing sugar beets in the region, growers believed that higher than average rainfall in the late summer and early autumn months

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<sup>10</sup> Marisa Bunning and James Peth, “A Food Production Wiki for Public Health Professionals: Cantaloupes,” Accessed January 10, 2019, <http://fsi.colostate.edu/cantaloupe/>.

<sup>11</sup> Bunning and Peth, “Cantaloupes.”

<sup>12</sup> Jeff Brady, “Rocky Ford Cantaloupes: As Sweet as can Be,” Accessed January 10, 2019, <https://www.npr.org/templates/transcript/transcript.php?storyId=111299624>.

<sup>13</sup> Brady, “Rocky Ford Cantaloupes.”

<sup>14</sup> Brady, “Rocky Ford Cantaloupes.”

<sup>15</sup> Brady, “Rocky Ford Cantaloupes.”

<sup>16</sup> “Make Product A1,” *Ordway New Era* 14, no. 42, December 31, 1915.

“retarded the storing of sugar and thus cut down the sugar output of the factories.”<sup>17</sup> Assuming that increased rainfall also slows down sugar production and storage in cantaloupes, one can again see why the hot, cool, and dry climatic conditions of Rocky Ford are well suited for flavorful cantaloupe cultivation.

Although George Swink was largely responsible for the development of Arkansas Valley agriculture, he was one of many easterners who migrated to Colorado during the late nineteenth century. Following the Homestead Act of 1862, many peoples moved into southeastern Colorado and established colonies in the Colorado territory. As one scholar wrote, “in the 1870s, a new type of town building came to the territory, cooperative and semi-cooperative ventures in wilderness planting.”<sup>18</sup> Colonies popped up across Colorado, focused on agricultural production, and through cooperative efforts, developed means of irrigating their crops. These colonies generally began as an idea in eastern or Midwestern cities and then evolved into cooperation with a railroad company for the purchase of land. During this time, railroad companies held legal rights to large federal land grants, which they willingly sold to settlers who would populate Colorado and cultivate crops for sale in eastern markets.<sup>19</sup> This joint effort had the potential to benefit both settlers and railroad companies. The combination of railroad transportation and settlers willing to establish agricultural colonies in Colorado “provided the instruments by which the farming frontier suddenly leaped from a diagonal line cutting across central Kansas and eastern Nebraska to irrigable lands in the shadows of the Rocky Mountains.”<sup>20</sup> A reporter who surveyed the land in 1868 “was somewhat disappointed in the lower Arkansas Valley, east of Pueblo; as yet not much land was under cultivation, a situation,” historian Robert Athearn

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<sup>17</sup> “Track This Season,” *Rocky Ford Enterprise* 20, no. 35, January 25, 1907.

<sup>18</sup> Carl Ubbelohde, *A Colorado History* (Boulder: Pruett Press Inc., 1965), 125.

<sup>19</sup> Ubbelohde, *A Colorado History*, 125-126.

<sup>20</sup> Ubbelohde, *A Colorado History*, 126.

contends, "he attributed to a lack of market for produce."<sup>21</sup> However, "in a few years the arrival of rail service would alter this situation."<sup>22</sup> The introduction of the railroad and the migration of farmers to Colorado were essential elements of the agricultural success that ensued, but George Swink was the mastermind who put this success into motion.

Historian LeRoy Hafen credits Swink with the early development of the melon industry, which began upon his arrival in the Arkansas Valley during the 1870s. Although he began growing watermelons, cantaloupes ultimately gained interest in national and international markets.<sup>23</sup> On his arrival, he almost immediately began experimenting with a variety of agricultural crops, despite the fact that the Arkansas Valley was believed to be incapable of supporting any serious agricultural production. By 1875, Swink planted a number of crops and "much to his surprise, practically everything planted gave an exceptional production, particularly the vine crops."<sup>24</sup> The successful cultivation of watermelons and cantaloupes convinced Swink that these crops could be marketed and sold. He wasted no time in his decision to produce melons and by 1877, he began the process of developing the Rocky Ford cantaloupe that would become the prized melon of the Arkansas Valley.<sup>25</sup> The Colorado Agricultural Experiment Station and local growers perfected the Netted Gem variety of melon, which became the trademark of Rocky Ford melons; however, the introduction of this variety cannot be credited neither to Swink, nor the agricultural college.

The Netted Gem quickly became the most desirable melon, largely due to its exquisite taste, and J. W. Eastwood, who grew the first cantaloupe of this variety in 1885, introduced it to

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<sup>21</sup> Robert Athearn, *The Coloradans* (Albuquerque: University of New Mexico Press, 1976), 109.

<sup>22</sup> Athearn, *The Coloradans*, 109.

<sup>23</sup> Hafen, *Colorado and Its People*, 143.

<sup>24</sup> Steinel, *History of Agriculture in Colorado*, 524.

<sup>25</sup> Steinel, *History of Agriculture in Colorado*, 524.

the Arkansas Valley. According to Mr. Eastwood, "I removed from Denver to Rocky Ford in November 1884, and as I had previously been growing the Netted Gem cantaloupes, I determined to try them there."<sup>26</sup> During the spring of 1885, Mr. Eastwood planted a half acre of Netted Gem cantaloupes which quickly caught the attention of Swink. "Mr. G. W. Swink," Eastwood stated, "was growing a larger variety" during this time, "but after making several close inspections of the Netted Gem as he saw them growing during the season," Swink said "he was convinced that they were the cantaloupes to grow," and ultimately "he selected a dozen or so for seed which were the first of this variety in Rocky Ford to be saved for seed."<sup>27</sup> Swink's decision to focus on the cultivation of the Netted Gem variety signaled the beginning of the export of the prized Rocky Ford cantaloupes.

J. W. Eastwood is credited with introducing the Netted Gem to Rocky Ford, and he was the first to sell this crop as well. Eastwood's first year crop was mostly shipped to a commission merchant in Leadville, Colorado, by the name of Mr. Woodruff, who sold them for ten cents per pound or about \$6.50 per crate.<sup>28</sup> This transaction represented the first commercial cash exchange for Arkansas Valley melons. It also sparked the interest of local farmers who quickly began growing this crop. During the first few years of expansion, as Eastwood stated, "we had no thought of cooperative organization as yet, but each succeeding year, new growers were added."<sup>29</sup> The eventual cooperation of these growers, along with the leadership of George Swink, accelerated the growth of the melon industry, but not before Swink and other local farmers irrigated the valley, a process that took time and cooperation.

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<sup>26</sup> J. W. Eastwood in Philo Blinn, "The Development of the Rocky Ford Cantaloupe Industry," Bulletin 108, *The Agricultural Experiment Station of the Colorado Agricultural College* (Fort Collins: Colorado State University, March 1906), 3.

<sup>27</sup> Eastwood in Philo Blinn, "The Development of the Rocky Ford Cantaloupe Industry," 3.

<sup>28</sup> Eastwood in Philo Blinn, "The Development of the Rocky Ford Cantaloupe Industry," 3.

<sup>29</sup> Eastwood in Philo Blinn, "The Development of the Rocky Ford Cantaloupe Industry," 3-4.

Initially, George Swink did not relocate to Colorado with the intention of cultivating melons. In fact, he discovered the profitability of melon agriculture by chance. In 1871 he moved from Illinois to Rocky Ford in an attempt to improve his financial status, and he originally believed that ranching would be most profitable.<sup>30</sup> Even though ranching may have been his primary reason for leaving Illinois to establish residence in southeastern Colorado, agricultural production is where he experienced success, but not without necessary agricultural adjustments. Rocky Ford, Colorado, is an arid region with little precipitation annually; therefore, in order to cultivate crops, farmers had to develop a method of irrigating their land. Helping to irrigate the region is where Swink made his most significant contribution to Arkansas Valley agriculture. Rather than making a fortune as a rancher, he helped develop an irrigation system that enabled him and others to cultivate lands that were previously believed to be unsuitable for agricultural production.<sup>31</sup> In his initial agricultural experimentation, Swink utilized dry-land farming techniques; however, he soon discovered the benefits of irrigation to the crops he chose to market. His switch from dry-land farming to irrigated agriculture came again by chance. As historian James Sherow writes, "he had noticed that plants thrived where he threw waste water out his kitchen window" and "as a result, he concluded that garden crops routinely watered would produce well and yield more profits."<sup>32</sup> This conclusion inspired Swink to begin development of what would become the Rocky Ford Ditch Company.

Irrigating the Arkansas Valley was no small task, and it took the cooperation of many to transform the valley into the melon producing region that it became toward the end of the nineteenth century. Sherow writes about the conflict among local farmers and also the disputes

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<sup>30</sup> Sherow, *Watering the Valley*, 12.

<sup>31</sup> Sherow, *Watering the Valley*, 11.

<sup>32</sup> Sherow, *Watering the Valley*, 12-13.

between the neighboring states of Colorado and Kansas. His analysis incorporates the theme of struggle or conflict not only between humans and nonhuman nature, but also between individuals near and far over the commodification of water rights and property. Under his guidance, according to Sherow, Swink and his neighbors joined forces in 1872 and "began building the precursor to the Rocky Ford Ditch Company," where they "located a head gate a couple of miles upstream from the ford," and "by 1875 they had named the project the Little Rocky Ford Ditch," which "stretched just beyond Swink's gardens."<sup>33</sup> Throughout the 1870s, Swink and his network of cooperative farmers worked diligently to provide the means necessary to irrigate their crops. By the end of the 1870s, the ditch stretched out over 16 miles and could irrigate approximately 10,000 acres of farm land. In 1882, the *Rocky Mountain News* stated that Swink and his group of cooperative farmers legally incorporated their enterprise and called it the Rocky Ford Ditch Company.<sup>34</sup> At this point, Swink had already identified the Arkansas Valley as a melon producing region, and took the appropriate measures to assure the survival of this industry. The development of the Rocky Ford Ditch Company was significant not only because it provided farmers a manageable way to water their fields, but it was most important, Sherow states, because it granted the company legal water rights that many other canal systems struggled to obtain.<sup>35</sup>

Although legally incorporated by 1882, the details of the Rocky Ford Ditch Company's water rights were not officially established until 1890. According to Sherow, "a district court decree gave the company a water right dated May 1874 of 111.76 cubic feet of water per second (cfs), which applied to the original ditch, and another right to 96.54 cfs, dated May 1890, for the

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<sup>33</sup> Sherow, *Watering the Valley*, 13.

<sup>34</sup> Sherow, *Watering the Valley*, 13.

<sup>35</sup> Sherow, *Watering the Valley*, 13.

farmers' enlargement of the ditch in the late 1880s."<sup>36</sup> The incorporation of the company and the access to water rights were Swink's greatest contributions to Arkansas Valley agriculture. With the legal security of these water rights, farmers had a reliable means to irrigate their farms. The Rocky Ford Ditch Company was not the only company in the valley to claim legal entitlement to the water of the Arkansas River, but it was the first to be granted such a large amount of water resources. "Since the farmers could rely on this water right to nurture their crops," Sherow states, "they had a degree of economic stability often lacking in other canal systems."<sup>37</sup> With the identification of melons as prime products for market and the development of legal water rights, Swink and other Rocky Ford farmers were ready to push the melon industry into national recognition.

Cantaloupes were not the only crop successfully grown in the Arkansas Valley, but they eventually gained the most attention from the national market and made the small rural town of Rocky Ford a more widely recognizable name. Local farmers joined Swink in his cause to produce melons, but by the mid to late 1880s another group of individuals began conducting experiments of their own to determine which crops, if any, would be especially suited to the climate and soil composition of the Arkansas Valley. The Colorado Agricultural experiment station conducted these experiments, and it published its first annual report in 1888. In 1886, Swink introduced Rocky Ford cantaloupes to eastern markets and up to that point, he had almost entirely been responsible for all melon production in the Arkansas Valley. Although the cost of shipping cantaloupes exceeded profits initially, within a few years "the better hotels and restaurants began to call for Rocky Ford cantaloupes and they were shipped in carload lots to Kansas City and St. Louis," and "in 1897, one hundred crates were shipped to London, where

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<sup>36</sup> Sherow, *Watering the Valley*, 13.

<sup>37</sup> Sherow, *Watering the Valley*, 13.

they sold readily at \$4 a crate."<sup>38</sup> This international shipment demonstrates that the unique taste of the Rocky Ford melon was desired not only in the United States, but also on international markets. When the experiment station began publishing its annual reports, it is clear that station officials expanded cantaloupe production beyond what Swink was capable of doing by himself. Despite his personal success in growing cantaloupes, the Colorado Agricultural Experiment Station deserves an equal, if not greater amount of credit for making Rocky Ford cantaloupes a nationally requested commodity.

The first report of the experiment station was published in 1888; however, the origin of the agricultural college can be traced back almost two decades earlier. As Robert Athearn states, "Colorado Agricultural College, later to be called Colorado State University, had its legal beginnings in 1870."<sup>39</sup> In addition, "some 90,000 acres of federal land had been set aside for the school even before 1870, and when statehood was achieved" in 1876, "the constitution brought the college into existence."<sup>40</sup> In need of funding, "the first session of the new state legislature created an "agricultural tax" to support the school, which by the autumn of 1879, commenced operations with twenty students in attendance."<sup>41</sup> The college grew relatively quickly and by the turn of the century, "the student body numbered almost three hundred fifty," making it "a well-established part of Colorado's system of higher education."<sup>42</sup>

In 1888, the college began developing plans to test the success of a variety of crops in different regions throughout the state. The first report states that "under an act of the sixth general assembly of the state of Colorado, provision was made for the organization of four

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<sup>38</sup> Steinel, *History of Agriculture in Colorado*, 524.

<sup>39</sup> Athearn, *The Coloradans*, 155-156.

<sup>40</sup> Athearn, *The Coloradans*, 156.

<sup>41</sup> Athearn, *The Coloradans*, 156.

<sup>42</sup> Athearn, *The Coloradans*, 156.

experiment stations outside of the one at the college."<sup>43</sup> There were two established that year, including one in Rocky Ford, in Bent County," known as the Bent Agricultural Experiment Station.<sup>44</sup> This auxiliary station, which was a substation of the agricultural college in Fort Collins, became known as the Arkansas Valley Experiment Station in 1889, and it published its own reports for the next twenty years. Following these reports from 1888 to 1909 when the last report was published allows one to trace the development of the cantaloupe industry from its early years of export to its national dominance by the first few decades of the twentieth century.

The establishment of substations in the San Luis Valley and Rocky Ford represented the first attempt to determine what crops could be cultivated in what regions. This process was significant to melon agriculture because it not only helped develop a superior cantaloupe, one that created a national demand, but also because by the first decade of the twentieth century, it gave many farmers a sense of economic security by educating them on what to expect from a years' harvest. During the first year of the Arkansas Valley Experiment Station, Frank Annis, the author of the first report of the agricultural college, stated that nothing was "done at either of these auxiliary stations in the line of experimentation, except to take observations of temperature and rainfall."<sup>45</sup> The experiment farm of the Bent Agricultural substation was located "one and a fourth miles from Rocky Ford," and it comprised "200 acres of land traversed by two county roads and the main line of the A. T. & S.F. Railroad."<sup>46</sup> In addition to observing the temperature of the region and its annual precipitation, the substation planned to test a variety of crops such as corn, wheat, oats, grasses, potatoes, fruit trees, vines, shrubs, and tobacco, and also intended to

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<sup>43</sup> Frank Annis, "History and Organization," in *Report of the Colorado Agricultural Experiment Station*, no. 1 (Fort Collins: Colorado State University, 1888), 6.

<sup>44</sup> Annis, "History and Organization," 6.

<sup>45</sup> Annis, "History and Organization," 6.

<sup>46</sup> Frank Watrous, "Report of the Bent Agricultural Experiment Station," in *Report of the Colorado Agricultural Experiment Station*, no. 1 (Fort Collins: Colorado State University, 1888), 239.

perform "an especially thorough investigation of insect pests relative to their extermination."<sup>47</sup> In their experimentation they were quick to realize the financial potential of melons, and they devoted a significant amount of resources toward this crop. Swink played a major role in irrigating the valley, but members of the experiment station tested a number of cantaloupe seeds, effectively gained control of the insect problem, and managed the blight that threatened the quality or flavor of melons. The development of the cantaloupe industry increased rapidly in the three decades after the establishment of the Arkansas Valley Experiment Station.

Within the first few years of the experiment station's existence, it concluded what Swink already knew, that the Rocky Ford region suited cantaloupe growth. On May 4, 1889, the experiment station planted eighteen types of musk-melons and "large Yellow cantaloupe, Emerald Green, Montreal Market and Wards Nectar proved excellent varieties;" however, the "Netted Gem cantaloupe," was "considered the best market variety, on account of its fine flavor and superior shipping qualities."<sup>48</sup> It was clear that Rocky Ford was capable of producing melons that could eventually be shipped to national markets from the initial success of this planting. As early as 1889, leaders of the experiment station claimed that "it has been found a well-established fact that the soil and climate are well adapted to raising garden vegetables and many species of fruits."<sup>49</sup> Frank Watrous, the superintendent of the Arkansas Valley station, echoed this idea in 1890 when he stated that "it is the common belief among farmers that each season, with its peculiar meteorological conditions and their relations to soil and circumstances

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<sup>47</sup> Watrous, "Report of the Bent Agricultural Experiment Station," in *Report of the Colorado Agricultural Experiment Station*, no. 1 (Fort Collins: Colorado State University, 1888), 242.

<sup>48</sup> Frank Watrous, "Report of the Arkansas Valley Experiment Station," in *Report of the Colorado Agricultural Experiment Station*, no. 2 (Fort Collins: Colorado State University, 1889), 121.

<sup>49</sup> Watrous, "Report of the Arkansas Valley Experiment Station," in *Report of the Colorado Agricultural Experiment Station*, no. 2 (Fort Collins: Colorado State University, 1889), 128.

of growth, shows a marked adaptation to certain varieties of crops."<sup>50</sup> According to station reports, vines and melons were an instant success. As Watrous wrote, "during both years which this station has been in operation, garden crops have thrived," and "fruit trees and vines have made remarkable growth in both seasons."<sup>51</sup> This success supports the idea that the climate and soil composition of southeastern Colorado is well suited for certain crops such as cantaloupes.

In order to determine whether or not specific crops could be cultivated in the valley, station officials needed to establish a standard system that would provide clear results. They decided to establish "the system of half-acre plats," which "was introduced for the purpose of answering the question so often asked, what will this or that crop net per acre?"<sup>52</sup> When examining the half-acre plats, it is clear that cantaloupes were by far the most profitable agricultural commodity. In 1890 the station planted Wheat Sonora from which they netted a profit of \$2.60 per acre, Oats Alexander which resulted in a loss of 26 cents per acre, Navy Beans resulted in a loss of \$1.26 per acre, Sweet Potatoes resulted in a \$128.45 per acre profit, Colorado White Corn resulted in a net profit of \$12.03 per acre, and tomatoes resulted in a net profit of \$156.50 per acre. Even sugar beets, which became a profitable crop in the Arkansas Valley, were much less profitable than cantaloupes. This crop resulted in a \$34.60 per acre profit. When compared with the Netted Gem cantaloupe yield during that season, which produced a profit of \$205.20 per acre, it is hard to deny the belief in the natural suitability of the Rocky Ford region for cantaloupe production.<sup>53</sup> Even when local farmers grew other types of

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<sup>50</sup> Frank Watrous, "Report of the Arkansas Valley Experiment Station," in *Report of the Colorado Agricultural Experiment Station*, no. 3 (Fort Collins: Colorado State University, 1890), 202.

<sup>51</sup> Watrous, "Report of the Arkansas Valley Experiment Station," in *Report of the Colorado Agricultural Experiment Station*, no. 3 (Fort Collins: Colorado State University, 1890), 202.

<sup>52</sup> Watrous, "Report of the Arkansas Valley Experiment Station," in *Report of the Colorado Agricultural Experiment Station*, no. 3 (Fort Collins: Colorado State University, 1890), 203.

<sup>53</sup> Watrous, "Report of the Arkansas Valley Experiment Station," in *Report of the Colorado Agricultural Experiment Station*, no. 3 (Fort Collins: Colorado State University, 1890), 204-207.

crops, the flavor of the Rocky Ford cantaloupe could seemingly not be matched. An article in the *Rocky Ford Enterprise* in 1894 proved this point. “Reynolds grows a new fruit called the vegetable peach, which greatly resembles an orange in size and color,” the article reported, and “in taste it approaches the cantaloupe, but has not so fine a flavor.”<sup>54</sup> A quick recognition of the environmental suitability of the region, and the desired flavor of the Rocky Ford melon, resulted in further experimentation to increase the marketability and sale of these melons.

Station leaders planted eighteen varieties of cantaloupes in 1889, and by 1890 the number had been reduced to six types. According to the third annual report, there were six varieties grown that year including the New Early Hackensack which was an early market melon and one that shipped well, and the Skillman's Netted melon, which was of excellent quality but did not endure long shipping distances. However, “the melon which comes nearest meeting all requirements is the Netted Gem” because “it is early, a good shipper, and of the best quality.”<sup>55</sup> These conditions indicate the three most significant determinants of what the station believed to be a superior melon. The best cantaloupes were those that matured quickly, were sturdy enough to withstand transportation, and tasted the best. In their attempt to create the perfect melon, the station planted a variety of melons in their first several years of existence, none of which could match the combination of durability, uniformity, and flavor that the Netted Gem provided. These qualities proved to be an essential part of the reason why Rocky Ford melons earned their unparalleled reputation and set the standard for growers in other regions of the United States.

The cantaloupe business steadily grew since 1888, but insect and fungal infections threatened the safety of the industry in the last few years of the nineteenth century. Station

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<sup>54</sup> “Church Affairs,” *Rocky Ford Enterprise* 8, no. 11, August 16, 1894.

<sup>55</sup> Watrous, “Report of the Arkansas Valley Experiment Station,” in *Report of the Colorado Agricultural Experiment Station*, no. 3 (Fort Collins: Colorado State University, 1890), 211.

managers developed adaptive strategies to insure the progression of the industry, and the success of the Rocky Ford melon made national headlines. An August 1896 issue of the *New York Times*, for example, indicated the growth of the Arkansas Valley industry when it stated that "the melon crop was never larger, the cantaloupes being especially fine this year."<sup>56</sup> The article continued by stating that "the crop is also earlier this year, and is being shipped as far east as St. Louis," and that "one day last week there was a shipment of 20,000 melons."<sup>57</sup> When the shipments arrived in 1897, the *Rocky Ford Enterprise* boasted that the flavor of the cantaloupes was thoroughly enjoyed by those purchasing them in New York markets. Many carloads of cantaloupes reached New York markets, the newspaper reported, and the "general judgement of those who were fortunate enough to taste this delicious fruit is that nothing so hue has ever entered the New York market heretofore."<sup>58</sup> Ten years after Swink sent the first shipment eastward, 20,000 melons were shipped to eastern markets on a given day and the success of these melons was no longer strictly a local success, but rather a national one. It was this success that urged Rocky Ford growers and experiment station officials to continue developing the ideal melon, and to discover ways to manage the insect and blight problems that would trouble the industry by the turn of the twentieth century. This agricultural growth and success was primarily due to the unmatched flavor of the Rocky Ford melon. This flavor was demanded and purchased by local, regional, national, and international consumers with expensive taste buds.

The threat of injury by insect infestations was a concern of the industry from the earliest reports, but it was not viewed as a significant threat until the last few years of the nineteenth century and beyond. For example, the report from 1892 noted the prevalence of a vine damaging

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<sup>56</sup> "The Peeve: Watermelon Day in Colorado," *New York Times*, August 22, 1896.

<sup>57</sup> "The Peeve, Watermelon Day in Colorado," *New York Times*, August 22, 1896.

<sup>58</sup> "Colorado Cantaloupes in New York," *Rocky Ford Enterprise* 11, no. 25, November 18, 1897.

bug by the name of *Philampelus Ackenion*, which threatened the cantaloupe crop.<sup>59</sup> This insect threat is an example of nonhuman nature expressing its agency and altering the plans of human growers. However, even though insects were an annoyance to melon cultivators, they did not prevent the industry from continually growing and expanding during the 1890s. This growth is evident in the report of 1896 when the station reported that "with the aid of the sprayer and insecticides, the station suffered little loss from insects."<sup>60</sup> By 1898 the problem had become more severe and the insect pests that caused the most significant damage were the striped Cucumber Beetle and the Melon Louse, as indicated when H. H. Griffin, the author of the eleventh report, noted that "the Striped Cucumber Beetle, which is very destructive to the cantaloupe plant, first appeared (in increased numbers) during the last week of May," and that "the Melon Louse appeared upon the cantaloupe vines in a few localities."<sup>61</sup> Griffin continued his report by stating that the Melon Louse "should be at once exterminated to avert serious injury to an important industry," and "some information to this end was given our farmers by means of the local press."<sup>62</sup>

Griffin's statements indicate the significance of the cantaloupe industry and the importance of cooperation between experiment station officials and local growers. The fact that he stressed such a strong need to eliminate the Melon Louse from cantaloupe fields demonstrates the significance of this industry. It is unlikely that he would have used such strong language to explain the need for pest control if the melon industry was not developing into a thriving

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<sup>59</sup> Fred Huntley, "Report of the Arkansas Valley Experiment Station," in *Report of the Colorado Agricultural Experiment Station*, no. 5 (Fort Collins: Colorado State University, 1892), 52.

<sup>60</sup> Philo Blinn, "Report of the Arkansas Valley Experiment Station," in *Report of the Colorado Agricultural Experiment Station*, no. 9 (Fort Collins: Colorado State University, 1896), 161.

<sup>61</sup> H. H. Griffin, "Report of the Arkansas Valley Experiment Station," in *Report of the Colorado Agricultural Experiment Station*, no. 11 (Fort Collins: Colorado State University, 1898), 228.

<sup>62</sup> Griffin, "Report of the Arkansas Valley Experiment Station," in *Report of the Colorado Agricultural Experiment Station*, no. 11 (Fort Collins: Colorado State University, 1898), 228.

agricultural business. Likewise, without cooperation between the experiment station and local growers, the industry certainly would not have been as successful. By 1896, growers began to play a significant role in the industry's expansion. Before properly addressing the role of the growers however, it is significant to note that the experiment station quickly began fighting the insect battle in order to keep the industry growing.

In order to combat the insect problem, farmers used an arsenate compound commonly used during the late nineteenth century, one that was not the safest solution, but a solution that for the most part resolved the issue. This product was known as Paris Green, and as historian Steven Stoll points out, "arsenate of lead was one of a handful of new synthetic poisons in use across the country against insects and other pests."<sup>63</sup> Stoll continues by contending that "the first of this class of compounds was Paris Green, a pigment made of copper and arsenic acid most often used to color paints."<sup>64</sup> This mixture was efficient in some cases and not so efficient in others. For example, with regard to the Striped Cucumber Beetle problem in 1898, the mixture was inefficient. Griffin made this inefficiency clear when he stated that "the remedies used were Paris Green, tobacco water, kerosene emulsion sprays, and dusting with a mixture of lime and Paris Green," that the "emulsion is the only effective remedy of those above mentioned," and that "dusting the plants with lime and Paris Green answers for a short time, but the beetles may soon return."<sup>65</sup> Nonetheless, "the exceptional killing power of the mixture and the spray pumps and long applicators invented to dispense it, promised to change forever the ways farmers managed insects."<sup>66</sup> Fortunately for Rocky Ford cantaloupe growers, insects never became as significant a

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<sup>63</sup> Steven Stoll, "Insects and Institutions: University Science and the Fruit Business in California," *Agricultural History* 69, no. 2 (Spring 1995): 226.

<sup>64</sup> Stoll, *Insects and Institutions*, 226.

<sup>65</sup> Griffin, "Report of the Arkansas Valley Experiment Station," in *Report of the Colorado Agricultural Experiment Station*, no. 11 (Fort Collins: Colorado State University, 1898), 228.

<sup>66</sup> Stoll, *Insects and Institutions*, 226.

problem as they were in the orchards of California that serve as the focus of Stoll's work. They were a secondary issue when compared with the cantaloupe blight that impacted melon development more significantly toward the end of the nineteenth century and on through the first few years of the 1900s.

In addition to keeping insect infestations under control, the station conducted other tests to verify the best type of soil for melon production, the amount of irrigation necessary to cultivate the best melons, and to find a way to manage the blight that served as the primary issue with regard to this expanding industry. Tests performed in 1899 determined that alfalfa sod was great for planting cantaloupe seed, began to determine the level of irrigation necessary to cultivate the best cantaloupe, and also led the way to the effective management of the cantaloupe blight. In other words, by the turn of the century the station was beginning to discover the ideal conditions for cantaloupe production in the Arkansas Valley. In that season, they experimented with planting cantaloupes in alfalfa sod and compared their results with the results of "those grown on a soil cropped in different ways for a few years past."<sup>67</sup> They discovered that planting cantaloupes on alfalfa sod increased production. According to Griffin, "on the alfalfa sod the vines were large and rank, the fruit of good size and quality, and production larger."<sup>68</sup> These tests confirmed that they had found the soil best suited for cantaloupe production, but how often should cantaloupes be irrigated, and at what point throughout the growing season? These matters were also tested in 1899.

Determining how often the fields should be irrigated and how much water was needed to assure the best crop, like virtually all of the experiment station's discoveries, were matters of trial

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<sup>67</sup> H. H. Griffin, "Report of the Arkansas Valley Substation," in *Report of the Colorado Agricultural Experiment Station*, no. 12 (Fort Collins: Colorado State University, 1899), 61.

<sup>68</sup> Griffin, "Report of the Arkansas Valley Substation," in *Report of the Colorado Agricultural Experiment Station*, no. 12 (Fort Collins: Colorado State University, 1899), 61.

and error. In 1899, "different amounts of irrigation were given to three plats of cantaloupe to test the effect on quality and production," and the "soil was of the same character, the seed was planted at the same time and treated in the same manner for the first month."<sup>69</sup> This process insured that the only noticeable difference in production, if any, would be strictly due to the amount of irrigation the crop received. One plat was irrigated seven times, another three times, and the third received only one irrigation. The station reported that "there was no appreciable difference in the yield or the quality of the first two plats mentioned," and that "both the fruit and the vine of the third were smaller and consequently the production less," however, "the quality seemed to be better than the others."<sup>70</sup> Using the results of this experiment, one may conclude that more frequent irrigation resulted in a more productive crop, but a crop inferior in quality to those melons grown in fields given the minimal amount of irrigation. One may also conclude that the level of annual precipitation played a role in determining the overall quality of the crop, as suggested by the report of 1899, when Griffin wrote that "the idea prevails with some that much rainy weather has a tendency to produce a poor quality of melon."<sup>71</sup> For those who argue the particular suitability of Rocky Ford for cantaloupe cultivation, this idea supports their claims, as the town is located in a high plains region that receives a minimal amount of rainfall each year. Following this argument, less rain additionally meant better quality or flavor. This flavor, although subjective and unique to each individual who tastes it, was prized and demanded in and out of the United States during the late nineteenth and early twentieth centuries.

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<sup>69</sup> Griffin, "Report of the Arkansas Valley Substation," in *Report of the Colorado Agricultural Experiment Station*, no. 12 (Fort Collins: Colorado State University, 1899), 61.

<sup>70</sup> Griffin, "Report of the Arkansas Valley Substation," in *Report of the Colorado Agricultural Experiment Station*, no. 12 (Fort Collins: Colorado State University, 1899), 61.

<sup>71</sup> Griffin, "Report of the Arkansas Valley Substation," in *Report of the Colorado Agricultural Experiment Station*, no. 12 (Fort Collins: Colorado State University, 1899), 61.

Although some believed that the semi-arid region in southeastern Colorado increased the quality of cantaloupes, in 1899 the experiment station was still not convinced that a loss in cantaloupe quality was directly linked with the amount of rainfall the crop received in a given year. According to station leaders, "our tests indicate that a too plentiful supply of moisture may deteriorate the melon, but as it is not marked, the loss in quality so much complained of must be traced to some other cause."<sup>72</sup> Regardless of whether heavy rainfall equated to the development of a lesser quality melon, the more precipitation received in a given year, the more melons were at risk of deterioration. In addition, higher rainfall also contributed to the cantaloupe blight that gained the attention of the experiment station and warranted further experimentation in seasons to come. By 1899, the blight demanded the attention of farmers as it had troubled cantaloupe production for the past two or three seasons in the valley, so experiment station leaders immediately addressed the problem and searched for ways to prevent the blight from damaging crop production.

In 1899, station leaders conducted one of the first experiments to understand the blight and begin the process of its elimination. As Griffin wrote, "anticipating that the leaf blight that had been affecting the cantaloupe for two or three seasons previous to 1899 would gradually increase until it endangered this crop, we secured some seed from melons affected in 1898" in order to "note whether the disease was communicated to the plant from the seed."<sup>73</sup> In addition, "the seed was planted separately and on land that had not produced melons for some years at least."<sup>74</sup> Much like the strategy used in the irrigation experiments, planting seeds in regions that

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<sup>72</sup> Griffin, "Report of the Arkansas Valley Substation," in *Report of the Colorado Agricultural Experiment Station*, no. 12 (Fort Collins: Colorado State University, 1899), 61.

<sup>73</sup> Griffin, "Report of the Arkansas Valley Substation," in *Report of the Colorado Agricultural Experiment Station*, no. 12 (Fort Collins: Colorado State University, 1899), 62.

<sup>74</sup> Griffin, "Report of the Arkansas Valley Substation," in *Report of the Colorado Agricultural Experiment Station*, no. 12 (Fort Collins: Colorado State University, 1899), 62.

had not produced melons for several years enabled the station leaders to determine if the blight was a disease passed down from the parent seed. This experiment would not have been as effective if the seeds were planted in soil that had produced diseased melons the previous year because the soil itself, rather than strictly the seed, would have been an equally likely cause of the blight. The results "did not show that the disease is communicated to the plant by the seed."<sup>75</sup> This discovery meant that the seed taken from diseased cantaloupes could be planted in upcoming seasons without the certainty of it reproducing diseased melons.

In addition to the experiment testing the possibility of cantaloupe blight being passed down through seeds, the station also conducted experiments with a Bordeaux mixture, a combination of hydrated lime, copper sulfate, and water, to test its effectiveness in managing the blight. To test the Bordeaux mixture, the experiment station "began early to spray the plants grown from seed taken by blighted melons in 1898."<sup>76</sup> The first application of the spray was done on June 22. There were no visual signs of blight on the crop at that point, and half of the plants were left unsprayed. Station officials administered the second application on June 30, as the disease was then visible. The next spraying was not done until July 22, and by this time, the blight was very noticeable. They applied the Bordeaux mixture again on July 31 and August 11, and according to the station, "the sprayings made after the 22nd of July were a great benefit," and the "vines held up fairly well and the fruit was of good quality while that of the unsprayed vines ripened prematurely."<sup>77</sup> The mixture was also tested on two to three acres of cantaloupes belonging to G. W. Swink, and on about one acre belonging to I. B. Hale. These were sprayed

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<sup>75</sup> Griffin, "Report of the Arkansas Valley Substation," in *Report of the Colorado Agricultural Experiment Station*, no. 12 (Fort Collins: Colorado State University, 1899), 62.

<sup>76</sup> Griffin, "Report of the Arkansas Valley Substation," in *Report of the Colorado Agricultural Experiment Station*, no. 12 (Fort Collins: Colorado State University, 1899), 63.

<sup>77</sup> Griffin, "Report of the Arkansas Valley Substation," in *Report of the Colorado Agricultural Experiment Station*, no. 12 (Fort Collins: Colorado State University, 1899), 63.

once. Each of "these tests confirmed the conclusions formally drawn, and the many people who saw the effect of the spraying were convinced of its benefits."<sup>78</sup> In 1899 the process of blight management and elimination began, but by 1900 the experiment station took this issue to a whole new level and began focusing on specific ways to minimize its damages.

Although cantaloupe development demanded the attention of George Swink and the leaders of the agricultural college during the last three decades of the nineteenth century, the experiment station devoted a more significant amount of time and effort to this crop by the turn of the century and blight became its most immediate concern. The report of the Arkansas Valley Substation for the year 1900 noted an increased level of focus on the cantaloupe crop when H. H. Griffin stated that "the principal field work of the season has been done with the cantaloupe and sugar beet."<sup>79</sup> As they focused their attention on the cantaloupe, they faced its most significant issue, the blight. In 1900 an entire press bulletin was dedicated to this subject. The press bulletin proudly declared that "Rocky Ford Colorado has long been famous for its cantaloupes," which indicates the element of community uniqueness and honor the experiment station associated with melon agriculture, and continued by contending that "until of late, the industry has moved along at a rapid pace, little disturbed by insects or plant diseases."<sup>80</sup> This was not the case, however, by 1902 when Griffin admitted that "both the farmers and the shipping agents realize that the trouble is a serious one and are considering its consequences," and "that the trouble was only temporary is no longer held as a tenable opinion, but rather one demanding

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<sup>78</sup> Griffin, "Report of the Arkansas Valley Substation," in *Report of the Colorado Agricultural Experiment Station*, no. 12 (Fort Collins: Colorado State University, 1899), 63-64.

<sup>79</sup> H. H. Griffin, "Report of the Arkansas Valley Substation," in *Report of the Colorado Agricultural Experiment Station*, no. 13 (Fort Collins: Colorado State University, 1900), 141.

<sup>80</sup> H. H. Griffin, "The Cantaloupe Blight," *Press Bulletin 4, Colorado Agricultural Experiment Station* (Fort Collins: Colorado State University, 1900), 12.

such treatment as will lessen its ravages."<sup>81</sup> The Bordeaux spray was effective in managing the blight, but the station conducted several other experiments to aid them in fighting the battle against it.

In addition to the use of Bordeaux spray, a new method of controlling the blight showed promising results during the first decade of the twentieth century. The experiment station worked to develop a blight resisting cantaloupe. In order to do so they tested five strains of seed in 1904, and mentioned that "the season was especially favorable for the development of rust," which meant that there was more moisture that year.<sup>82</sup> One of the five strains showed some blight resisting traits, as the rows planted with it remained green while other rows died or were badly affected by the blight. This strain was planted in several different hills, and the same result was achieved. According to experiment station leaders, "from these most favorable hills, seed of different individual melons was saved to carry on this experiment, which promises great value to the melon industry."<sup>83</sup> Officials repeated this experiment in each of the next several years, which led them to believe that they had discovered a solution to the blight problem.

By 1907, farmers in other regions of the country conducted the same experiments, and the results were satisfying. As the report of 1907 indicates, "several practical tests of the rust-resistant strain were made with the commercial growers in the vicinity of Rocky Ford, and in Indiana and Illinois similar tests were conducted with growers of these states," and the results determined that "without exception the reports have all been to the effect that the rust-resistant seed had exceeded the highest expectations, remaining green and producing fine flavored melons

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<sup>81</sup> H. H. Griffin, "Arkansas Valley Substation: Pasture Grasses, Leguminous Crops, Cantaloupe Blight," Bulletin 68, *Colorado Agricultural Experiment Station* (Fort Collins: Colorado State University, 1902), 13.

<sup>82</sup> Philo Blinn, "Report of the Arkansas Valley Field Agent," in *Report of the Colorado Agricultural Experiment Station*, no. 17 (Fort Collins: Colorado State University, 1904), 112.

<sup>83</sup> Blinn, "Report of the Arkansas Valley Field Agent," in *Report of the Colorado Agricultural Experiment Station*, no. 17 (Fort Collins: Colorado State University, 1904), 112.

after other varieties in adjacent fields were dead with the disease."<sup>84</sup> It seems as though the experiments had worked. So much so that in the report of 1908, the experiment station deemed the process "the work of the practical seed breeder rather than the experimenter."<sup>85</sup> One might ask why Rocky Ford seed breeders were so willing to sell their valued seeds to other producers, thus creating cantaloupe competition. The answer can be summed up in a quote from the *Rocky Ford Enterprise*. "Through the energy of our people," the author wrote, "and the many natural advantages of our climate, prosperity has smiled upon our community."<sup>86</sup> This combination of human ingenuity and environmental circumstance indicated that cantaloupe success in Rocky Ford was unmatched because of the climate, soil, and air composition of the region. They sold cantaloupe seeds to make a profit, and they were confident that the seeds grown in Rocky Ford would remain more desirable than Rocky Ford seeds grown elsewhere. By the end of the first decade of the twentieth century, the station stated that "it is gratifying to report that the practical merits of the rust-resistant strain of cantaloupe developed by the station is receiving recognition from growers; not only in the vicinity of Rocky Ford, but from the United States inquiries and reports are coming in, this strain is being extensively planted, and except for the one objection, its late maturity, it would soon become the exclusive strain."<sup>87</sup> From the origin of the agricultural college and its subsequent branch stations, the desire to develop a superior melon motivated station officials and scientists. After many experiments the station finally determined the type of melon best suited for market, decided when to plant it, what soil to plant it in, how much to irrigate it, and how to efficiently manage the insects and diseases that threatened the

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<sup>84</sup> Philo Blinn, "Report of the Arkansas Valley Field Agent," in *Report of the Colorado Agricultural Experiment Station*, no. 20 (Fort Collins: Colorado State University, 1907), 49.

<sup>85</sup> Philo Blinn, "Report of the Arkansas Valley Field Agent," in *Report of the Colorado Agricultural Experiment Station*, no. 21 (Fort Collins: Colorado State University, 1908), 27.

<sup>86</sup> "Dedication of the New Masonic Hall," *Rocky Ford Enterprise* 16, no. 25, November 21, 1902.

<sup>87</sup> Blinn, "Report of the Rocky Ford Field Agent," in *Report of the Colorado Agricultural Experiment Station*, no. 21 (Fort Collins: Colorado State University, 1908), 27.

industry; however, what good is this if there was no demand for their superior product? While G. W. Swink urged the development of a reliable irrigation system in the Arkansas Valley and as station managers worked diligently to develop a melon of durability, standard size, and unmatched flavor according to national and international consumers, a third group of individuals, growers, worked to thrust Rocky Ford melons into the national spotlight.

Although Rocky Ford melons were first shipped eastward in 1886, the establishment of the Rocky Ford Melon Growers Association in 1896 significantly contributed to the growth of the industry in several ways. These growers cultivated the cantaloupes known to possess the most important characteristics, they formed a cooperative group to reduce shipping costs and maintain consistent market conditions, they developed the standardized shipping crate, and they established trade networks with distributors in eastern markets. The significance of this organization cannot be over stated. Referring back to a narrative of J. W. Eastwood published in Bulletin 108 of the Agricultural Experiment Station gives one a look into the development of the growers' association through the perspective of the growers themselves. According to Eastwood, in 1889 Swink attended a sugar beet convention in Nebraska with the hopes of gaining interest from others to introduce a beet sugar factory to the Arkansas Valley. He believed that the population of the valley was too small and the farms too large to successfully establish a sugar factory, but "he had the hope, however, that the cantaloupe industry which had already brought encouraging returns, would provide a larger population and smaller farms, and thus bring about the conditions necessary for the beet industry."<sup>88</sup> When Swink returned from the sugar beet convention, he divided his lands "into five and ten acre tracts; and opportunities to secure homes were freely offered to health seekers without means, good intention being the

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<sup>88</sup> Eastwood in Philo Blinn, "The Development of the Rocky Ford Cantaloupe Industry," 4.

principle requirement."<sup>89</sup> The division of his land and encouragement to inhabit it contributed to the increased settlement of the Arkansas Valley, and subsequently the expansion of the cantaloupe industry as there were now more growers in the area to cultivate the flavorful crop.

Settlement in the semi-arid climate of southeastern Colorado would have undoubtedly been less appealing had Swink not urged the development of a reliable means of irrigation. Likewise, had cantaloupes not been successfully cultivated and marketed in previous years, the region would have been less attractive to potential growers. The fact that farmers could effectively irrigate their crops, coupled with the success of the cantaloupe industry up to that point, "appealed to an intelligent class of people who found the climatic conditions of the East too severe."<sup>90</sup> Thanks to Swink, farmers could inhabit a small acreage of land and grow a crop that had already demonstrated its potential profitability. The early economic success of cantaloupes was significant to the overall growth of the melon industry because even though the experiment station conducted the tests necessary to produce the ideal melon, farmers were needed to cultivate the crop for the market. "The public spirit which was early manifested," Eastwood declared, "as well as the enterprising character of the community, were potent factors in the development of the cantaloupe industry and led to the intensive farming which had since characterized the vicinity of Rocky Ford."<sup>91</sup> These statements indicate that Rocky Ford farmers established a shared economic self-interest based on melon agriculture during the late nineteenth century. Over the next ten to twelve years the number of small farms devoted to cantaloupe production increased.<sup>92</sup> The growth in the industry created a number of issues that growers set

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<sup>89</sup> Eastwood in Philo Blinn, "The Development of the Rocky Ford Cantaloupe Industry," 4.

<sup>90</sup> Eastwood in Philo Blinn, "The Development of the Rocky Ford Cantaloupe Industry," 4.

<sup>91</sup> Eastwood in Philo Blinn, "The Development of the Rocky Ford Cantaloupe Industry," 4.

<sup>92</sup> Eastwood in Philo Blinn, "The Development of the Rocky Ford Cantaloupe Industry," 4.

out to resolve through cooperation, and this cooperation was driven by the flavor of the Rocky Ford cantaloupes that so many consumers demanded.

One issue growers immediately addressed was the cost of shipping their product to markets around the country. Prior to 1894, farmers shipped their crop individually and therefore were responsible to pay for their own costs associated with transporting their goods. "In 1894," however, J. W. Eastwood noted that "the first step toward cooperative effort in marketing cantaloupes was taken, groups of neighbors collaborated to load a ventilator car and ship by freight, thus securing greatly reduced transportation costs."<sup>93</sup> Some of the earliest shipping representatives of Rocky Ford were George Swink, A. C. Comer, and A. P. Kouns. "The next step towards cooperative organization," Eastwood continued, which occurred during the last five years of the nineteenth century, was "when one of the shipping groups, already referred to, added a few members, elected officers, and effected a formal organization which has since been known as the Kouns party."<sup>94</sup> The Kouns party was soon incorporated into the Rocky Ford melon growers association because from 1894 to 1896, cantaloupe shipments were not very profitable, which "created a strong public sentiment that something must be done," and "the time seemed to be ripe for a more comprehensive cooperative organization."<sup>95</sup> By the end of 1896, farmers established the Rocky Ford Melon Growers Association and it incorporated the vast majority of Otero County growers. This cooperative effort enabled growers to more permanently establish business relationships with prominent merchants and distributors, while also preventing the glutting of melon markets.

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<sup>93</sup> Eastwood in Philo Blinn, "The Development of the Rocky Ford Cantaloupe Industry," 5.

<sup>94</sup> Eastwood in Philo Blinn, "The Development of the Rocky Ford Cantaloupe Industry," 5.

<sup>95</sup> Eastwood in Philo Blinn, "The Development of the Rocky Ford Cantaloupe Industry," 6.

During the first year of cooperation, 1897, the Rocky Ford Melon Growers Association and the Western Poultry and Game Co. of St. Louis, Missouri, agreed on a contract. The company "agreed to take thirty-five cars during the season," at "75 cents per crate."<sup>96</sup> The melons were an instant success and the company purchased the crop of the next season for 97 cents per crate. This agreement was a huge victory for the Rocky Ford growers, and their association ballooned to 800 members in that year. The excitement of the association and the significance of cooperation between the various farmers of the region is indicated by J. W. Eastwood in Bulletin 108, as he proudly stated "never before was there a closer organization of growers, or one in which members were more persistent in their determination to remain loyal to the organization."<sup>97</sup> This loyalty again highlights the strong sense of community brought about by successful agricultural production and the sense of taste that drove land use patterns and communal belonging in the Arkansas Valley.

In 1898, farmers produced over 150 cars of melons; however, the profits of the season were a failure because of the inability to keep the carloads refrigerated while en route to St. Louis. According to Eastwood, this failure demonstrated that "experience in handling the crop had not kept pace with the increased production."<sup>98</sup> Although the Rocky Ford Growers Association split up into smaller factions in 1898, largely due to what some believed were unrealized promises on behalf of the association, several separate growers associations established a federation to manage cooperation between these groups, and throughout the first decade of the association's existence, most of the cantaloupes were "marketed through the organizations and commission men above mentioned."<sup>99</sup> The organization of the various melon

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<sup>96</sup> Eastwood in Philo Blinn, "The Development of the Rocky Ford Cantaloupe Industry," 7.

<sup>97</sup> Eastwood in Philo Blinn, "The Development of the Rocky Ford Cantaloupe Industry," 7.

<sup>98</sup> Eastwood in Philo Blinn, "The Development of the Rocky Ford Cantaloupe Industry," 7-8.

<sup>99</sup> Eastwood in Philo Blinn, "The Development of the Rocky Ford Cantaloupe Industry," 9.

growers and their ability to successfully establish contracts with eastern distributors was a big part of the reason why Rocky Ford growers were able to take control of the United States cantaloupe industry. They were not the only growers, but they fed the insatiable taste buds of consumers near and far who believed in the superiority of the Rocky Ford product, and developed contracts with distributors that set them apart from growers in other regions. An article from the *Fowler Tribune* in 1898 indicates the significance of flavor in the story of Rocky Ford's economic development. It stated that "wherever seen and tasted," the Rocky Ford cantaloupes "became at once a favorite."<sup>100</sup> They were the favorite because they combined "the sweetness of honey and the odor of flowers with the fascinating flavors of fruit and wine, they gave a new delight to the epicurean palate, and thus by invitation, last season, passed from city to city throughout the land."<sup>101</sup> When pointing out the most important distinguishing characteristic of the Rocky Ford cantaloupe, the article noted that "its chief distinction is that of its superior sweetness and its peculiar richness of flavor."<sup>102</sup> Although economic opportunity and market conditions contributed to the development of Rocky Ford, flavor drove land use patterns and sparked the creation of a cantaloupe culture there by the turn of the twentieth century.

As more and more farmers began cultivating melons, the demand soon exceeded the capacity of farmers to transport their prized product, which led a Rocky Ford grower to develop the standardized crate that revolutionized the industry. This crate is another significant contribution made by Rocky Ford growers and one that aided them in making their crop more marketable and desirable. Within ten years of the division of Swink's land, Eastwood wrote, "it became evident that the production of cantaloupes had reached the limit of the market then

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<sup>100</sup> "Fowler the Great Center," *Fowler Tribune* 1, no. 34, May 6, 1898.

<sup>101</sup> "Fowler the Great Center," *Fowler Tribune* 1, no. 34, May 6, 1898.

<sup>102</sup> "Fowler the Great Center," *Fowler Tribune* 1, no. 34, May 6, 1898.

developed."<sup>103</sup> The result of this over production was more significant to the growth of the industry than one might initially believe. It created a need for shipping crates as the amount of melons produced resulted in a "lack of boxes and barrels for shipping."<sup>104</sup> This concern seems like an issue that would be detrimental to the industry, since a lack of shipping materials meant that many melons were unable to be transported to market. However, it inspired the development of the standardized crate that was eventually adopted by melon growers nationwide. According to Eastwood, necessity "became the mother of invention, and someone conceived the idea of making a crude crate" in which "twelve-inch board and common lath were utilized, half of the length of the lath being used for slats, and as this happened to accommodate 45 average sized melons, the size of the future crate was thus arbitrarily determined."<sup>105</sup> The standardization of melon crates was just one of the many ways in which the melon growers of Rocky Ford established a level of uniformity unmatched by growers in other regions.

Not only were the growers of Rocky Ford credited with the development of the first standardized shipping crates for melons and responsible for establishing networks that enabled them to ship their fruit across the nation, but along with the experiment station, they were also significant contributors to the development of the seed that became most desirable to growers across the United States. One of the most notable qualities of the Rocky Ford cantaloupe was its uniform size which did not occur naturally, but rather through experiments with seed breeding and a careful seed selection process, tasks performed by experiment station officials and local growers alike. As early as 1898-1899, this uniformity led growers from other regions across the country to demand seed produced in Rocky Ford. Frank Emerson, a Nebraska vine grower in an

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<sup>103</sup> Eastwood in Philo Blinn, "The Development of the Rocky Ford Cantaloupe Industry," 4-5.

<sup>104</sup> Eastwood in Philo Blinn, "The Development of the Rocky Ford Cantaloupe Industry," 5.

<sup>105</sup> Eastwood in Philo Blinn, "The Development of the Rocky Ford Cantaloupe Industry," 5.

article in *Gardening* magazine published in 1898-1899, indicated the increase in this demand when he wrote, "four years ago the so-called Rocky Ford muskmelon was unknown," but "a year later a stray lot would now and then be occasionally heard of," and "two years ago seed dealers in Boston, New York City, and Rochester N.Y., were inquiring what is this Rocky Ford musk melon that came in on our market this season, and where is it grown?"<sup>106</sup> Emerson continued by noting that "during this present season it is safe to state that there is hardly a city of any importance whatever as far east as Portland ME, wherein this musk melon has not been sold at prices ranging from two to three and four times higher than local stock, which certainly should be to any one indisputable proof as to its superlative quality."<sup>107</sup> The fact that Rocky Ford melons were more expensive than locally grown melons but still more widely purchased, demonstrates their appeal to the public, and it was largely the taste of the melon that encouraged consumers to pay a higher price for the desired commodity. Emerson, like many other growers, recognized the undeniable superiority of Rocky Ford melons, and he believed that the development of the seed was one of the most significant reasons behind its unmatched quality. "The superior qualities referred to," he stated, "are the direct result of a rigid system of selection of the fruit."<sup>108</sup> For Emerson, this selection was a two-part process in which Rocky Ford growers were the most trusted.

The first part of the seed development process began with the selection of seed for planting. The seed planted by Rocky Ford growers was believed to be superior because it was taken from only the best melons of each year. A careful selection process on behalf of the growers assured this superiority. As the best seeds were planted each season, the melons that

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<sup>106</sup> Frank Emerson, "Rocky Ford Musk Melon," *Gardening* 7, (Chicago: Gardening Co., 1898-1899): 116.

<sup>107</sup> Emerson, "Rocky Ford Musk Melon," 116.

<sup>108</sup> Emerson, "Rocky Ford Musk Melon," 116.

grew from these seeds underwent the same selection process as the year before and had to meet the standard of Rocky Ford growers. Melons that were not satisfactory were disregarded and were not placed on the market. "Constant vigilance in the selection of seed stock first," Emerson argued, "then of the crop itself," established "the reputation of, and ever increasing demand for the Rocky Ford melon."<sup>109</sup> In Emerson's view, Arkansas Valley melons tasted better to consumers because of the growers' attention to detail with regard to determining which melons were the best each harvest, and carefully saving seed from these melons to repeat the cycle. This process played a significant role in the growth of the Rocky Ford melon; however, other growers attributed the success to more than simply a matter of careful seed and fruit selection.

While growers like Frank Emerson of Nebraska contended that the selection of the fruit and the careful process of planting only the seeds taken from the best melons of each year were the primary reasons behind the success of the Rocky Ford melon, other growers supported the idea that climatic conditions and soil composition were more directly responsible. Roland Morrill, for example, a Michigan grower interviewed in the same issue of *Gardening* magazine, believed that "the local conditions seem to be entirely responsible for its uniform high quality, as it is simply nothing more or less than the Gem grown to perfection."<sup>110</sup> This assessment indicates the human and nonhuman elements that worked often times unpredictably to create superior cantaloupes. Morrill stated that he "tested seed grown at Rocky Ford and planted in Michigan, and find it to be identical with the strain already grown by the Michigan growers."<sup>111</sup> He argued that he was not the only grower to conduct such tests, only to arrive at the same conclusion. According to Morrill, Rocky Ford "has a perfect climate, dry and sunny, and the

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<sup>109</sup> Emerson, "Rocky Ford Musk Melon," 116.

<sup>110</sup> Roland Morrill, "Interview with Mr. Morrill," *Gardening* 7, (Chicago: Gardening Co., 1898-1899), 102.

<sup>111</sup> Morrill, "Interview with Mr. Morrill," 102.

growers being provided with means of irrigation, and having acquired a good knowledge of the business, the conditions are nearly ideal for producing a first-class melon."<sup>112</sup> Although Morrill and Emerson disagreed on the primary cause of Rocky Ford melon superiority, they agreed that the growers of this region were the most experienced in the process of producing melons that consumers deemed most flavorful. The experiment station deserves much of the credit for conducting the wide range of tests that helped determine the best conditions to cultivate melons, but the growers were equally important to the growth of the industry. The careful selection of seed, the development of the standardized crate, and the overall experience of cantaloupe culture were just some of the contributions made by Rocky Ford growers.

It is likely that the careful selection of seed and the climatic and soil conditions of the Arkansas Valley were significant in the development of the nationally accredited melon; however, the advertising and marketing of the melon on behalf of the Rocky Ford Growers Association were equally significant factors. As Emerson wrote, "there has never before to our knowledge been so systematic a process of developing, advertising, and so successfully and profitably marketing anything in fruits or vegetables in this country as has been demonstrated by this association with the Rocky Ford melon."<sup>113</sup> Likewise, Morrill stated that "another point which seems to be in favor of these Colorado growers is the fact that they have an organized association, having competent management, and these ideas of careful sorting and correct marketing are enforced upon them."<sup>114</sup> These statements verify the significance of the Rocky Ford growers to the overall success of the melon industry. It was Rocky Ford growers who grew the melon developed by the experiment station in accordance with the climatic and geologic

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<sup>112</sup> Morrill, "Interview with Mr. Morrill," 102.

<sup>113</sup> Emerson, "Rocky Ford Musk Melon," 116.

<sup>114</sup> Morrill, "Interview with Morrill," 102.

conditions necessary for perfection, it was the growers who carefully selected seeds from only the best melons of each season in order to continue improving the quality of the fruit, and it was the growers who established trade networks with experienced distributors in the east that fulfilled the final phase of melon production, which involved getting the product to markets across the nation and world. These commission men and distributors and the role they played in the success of melon agriculture in the Arkansas Valley will now be addressed.

There were three primary distributors of Rocky Ford cantaloupes during the industry's infancy. These distributors were Lyons Brothers Co. of New York, M. O. Coggins Co. of Pittsburgh, and H. Woods of Chicago. Each of these distributors agreed that the seed produced in Rocky Ford, the standardized crate also developed in Rocky Ford, and the increased cooperation of growers, yet another product of Rocky Ford, were all what made these melons so desirable and marketable. In an article entitled "The Cantaloupe, From a Luxury to a Necessity," M. O. Coggins noted the significance of the standard crate when he stated "after the year 1897, when Rockyfords were placed on the different markets and the standard crate established, the Rockyford seed for planting came to be in great demand in the southern states."<sup>115</sup> He noted that as early as 1898 Rocky Ford melons were being grown and shipped from Texas, Florida, Georgia, the Carolinas and other southern states, and continued his report by stating that the most significant "effect of the use of the Rockyford seed and of the standard crate was to make the cantaloupe a standard article of trade, so that regular quotations could be made."<sup>116</sup> The introduction of standard seed and shipping crate directly contributed to the explosion of the industry from 1897 to 1905, which is indicated when Coggins reported that "in 1897, the amount

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<sup>115</sup> M. O. Coggins, "The Cantaloupe: From a Luxury to a Necessity," Bulletin 108, *Colorado Agricultural Experiment Station* (Fort Collins: Colorado State University, March 1906), 11.

<sup>116</sup> Coggins, "The Cantaloupe," 11.

consumed throughout the United States was not over 400 carloads, gradually increasing until the past season of 1905, 6,920 carloads were used throughout the United States."<sup>117</sup> This drastic increase was due to the fact that several regions of the country were producing Rocky Ford melons by the turn of the century, suddenly making cantaloupes available to consumers for a longer period of time, since climatic conditions enabled melons grown in Texas and Florida to be cultivated earlier than those actually grown in Colorado. It is again important to note, however, that melons grown in Rocky Ford were deemed superior to Rocky Ford seeds grown elsewhere.

As melons became more marketable and appeared on national markets for longer periods of time, farmers celebrated a level of economic security they did not have prior to seed and crate standardization. As Coggins noted, "before the advent of the Rockyfords, a ten-acre patch was considered a large venture for any one grower, and it is now well known that in some states one grower may sometimes attempt as high as 150 acres."<sup>118</sup> Without standardization, it is doubtful that Rocky Ford melons would have gained the attention they did from growers in other regions of the country. For the first time, farmers could be certain that the melons cultivated from Rocky Ford seed would be uniform in size, shape, and flavor. To assure the distinct flavor of the Rocky Ford melon, before they were shipped, "melons should be cut and final judgement passed as to tailor, taste, thickness and texture of them."<sup>119</sup> So that purchasers knew exactly how many melons they were buying, growers also packaged their product in standardized crates. It was this uniformity that directly contributed to the expansion of the industry.

Lyon Brothers Company, like Mr. Coggins, also contributed an article to Bulletin 108 of the Colorado Agricultural Experiment Station that echoed the importance of standardization and

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<sup>117</sup> Coggins, "The Cantaloupe," 11.

<sup>118</sup> Coggins, "The Cantaloupe," 12.

<sup>119</sup> "Otero County Farmers' Institute," *Rocky Ford Enterprise* 12, no. 44, March 30, 1899.

cooperation among growers. In this article, the company stated their dissatisfaction with the melons that arrived on eastern markets before the Rocky Ford claimed its superiority in 1897. They also complained of a lack of cooperation among growers from other regions of the country, which resulted in a less successful cantaloupe enterprise. As they indicated, "evidently there was no systematic organization of the growers as the shipments were spasmodic; at times the market was glutted, at other times deficient, and the irregular conditions which prevailed made it impossible to give a standard market quotation."<sup>120</sup> The Company continued by stating that "the ready sale of the Rockyfords, the organization of the growers which insured the use of standardized crates, and the fact that the melons were grown under irrigation and about the same quality could be produced every year, were facts that convinced us that the Rockyford would become as standard an article of trade as a barrel of apples."<sup>121</sup> These statements indicate the level of confidence distributors had in Rocky Ford melons. They knew what to expect from seed distributed by Rocky Ford growers and according to Lyons Brothers, "the cooperative spirit that has been shown in some of the communities of the melon growing section in Colorado, is worthy of being emulated in other sections of the country."<sup>122</sup> This local cooperation or sense of a promoted communal identity directly aided the sale of what international consumers deemed the most flavorful melons in the world. Likewise, the taste of the Rocky Ford cantaloupe brought growers, town boosters, and experiment station leaders together around a shared belief in cantaloupe culture.

As indicated, Mr. Coggins of Pittsburg and the Lyons Brothers Company of New York attribute the success of Rocky Ford melons to the seed that produced standard and reliable

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<sup>120</sup> Lyons Brothers Company, "Early Market Conditions of Cantaloupes on the New York Market," Bulletin 108, *Colorado Agricultural Experiment Station* (Fort Collins: Colorado State University, March 1906), 13.

<sup>121</sup> Lyons Brothers Company, "Early Market Conditions of Cantaloupes on the New York Market," 13.

<sup>122</sup> Lyons Brothers Company, "Early Market Conditions of Cantaloupes on the New York Market," 13.

melons, the standard shipping crate, and the cooperation of the growers, and Mr. H. Woods of Chicago was no different in his account of the Rocky Ford industry. As Woods stated, "the adoption of the standard crate and the cooperative idea of some of the growers made possible the wider development of the cantaloupe market throughout the United States."<sup>123</sup> Woods continued by arguing that "the subsequent organization of the growers to provide a satisfactory market for their cantaloupes was a wise step."<sup>124</sup> M. O. Coggins, Lyons Brothers Company, and H. Woods were the three most significant cantaloupe distributors in the east, and the fact that they chose to do business with Rocky Ford growers illustrates the level of dominance the Rocky Ford melon achieved within the first decade of the 1900s. Growers and distributors were convinced that the Rocky Ford melon was the best available, and some of the nation's most prominent newspapers also began praising the flavor of the Rocky Ford melon.

As distributors conveyed their satisfaction with the Rocky Ford melon, articles began to mention it more frequently in newspapers across the country during the explosion of the cantaloupe industry around the turn of the twentieth century. Many of these articles focused on the superbly sweet and juicy flavor of the melons. They also suggested that cantaloupes grown in Colorado were superior to those planted in other localities, and argued that the Rocky Ford growers were a vital part of the industry's success. An article in the *Atlanta Constitution* stated that the Rocky Ford cantaloupe "is perhaps the most favorite of any in the market."<sup>125</sup> The success of the industry, the article contended, "has large been due to the action of the growers themselves."<sup>126</sup> According to the *Constitution*, the growers of the region all shipped their

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<sup>123</sup> H. Woods, "Market Development of the Rocky Ford Cantaloupe," Bulletin 108, *Colorado Agricultural Experiment Station* (Fort Collins: Colorado State University, March 1906), 15.

<sup>124</sup> Woods, "Market Development of the Rocky Ford Cantaloupe," 15.

<sup>125</sup> "Giant Crops of Giant Fruit," *Atlanta Constitution*, August 27, 1899.

<sup>126</sup> "Giant Crops of Giant Fruit," *Atlanta Constitution*, August 27, 1899.

product through a "cooperative association which has taken particular pains not to overstock any single market."<sup>127</sup> Although the article stated that the Rocky Ford was by that point being cultivated in other regions of the country, it was sure to mention that "the only genuine Rocky Ford is a product of Colorado."<sup>128</sup> A year later, in 1900, similar articles in the *Washington Post* appeared. One of these articles noted that "Washington restaurants make a specialty of Rocky Ford melons."<sup>129</sup> Likewise, a separate article stated that everyone "knows that Rocky Ford is the home of the finest, sweetest cantaloupe that is grown anywhere in the world," and it also concluded that "there is a certain peculiarity in the soil which makes the melons so delicious."<sup>130</sup>

The *Chicago Tribune* shared similar sentiments about the Rocky Ford melon in several issues. An article in 1905 reported that "seven years ago several farmers in the Arkansas Valley of Colorado shipped a few crates of this fruit out of the state as an experiment, the East bought the fruit, tasted it, and knew that it was well."<sup>131</sup> It continued by encouraging the reader to "witness the result of a suddenly created demand."<sup>132</sup> This issue was published during the eight year period between 1897 and 1905 in which the export of Rocky Ford cantaloupes dramatically increased. The growth of the industry is "indicated by the fact that in 1897 only about 400 carloads of muskmelons were marketed, while in 1905 the shipments amounted to 6,920 carloads."<sup>133</sup> The melon became so popular that the January 1, 1905 issue of the *Chicago Tribune* declared that "the Rocky Ford cantaloupe is known everywhere."<sup>134</sup> As this article indicates, the melon that began its journey to national recognition in southeastern Colorado

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<sup>127</sup> "Giant Crops of Giant Fruit," *Atlanta Constitution*, August 27, 1899.

<sup>128</sup> "Giant Crops of Giant Fruit," *Atlanta Constitution*, August 27, 1899.

<sup>129</sup> "Talks with Hotel Guests," *Washington Post*, September 12, 1900.

<sup>130</sup> "Capital Chat," *Washington Post*, January 4, 1901.

<sup>131</sup> "Country's Fruit Product is over A Billion Dollars," *Chicago Tribune*, January 1, 1905.

<sup>132</sup> "Country's Fruit Product is Over A Billion Dollars," *Chicago Tribune*, January 1, 1905.

<sup>133</sup> L. H. Bailey, "Development of the Industry," *The Standard Cyclopedia of Horticulture* 4, (New York: Macmillan Company, 1916): 2029.

<sup>134</sup> "Country's Fruit Product is Over a Billion Dollars," *Chicago Tribune*, January 1, 1905.

during the 1880s officially became a nationally demanded commodity by the turn of the century, and this growth would continue.

Colorado newspapers also praised the taste of the Rocky Ford melon around the turn of the century. The *Herald Democrat*, for example, argued that "other crops may wither and fall, but the luscious, juicy melon continues to hold us sway in this vicinity," and it declared the fruit the "monarch of the farm and garden."<sup>135</sup> Another article discussed the superiority of the Rocky Ford melon by stating that "when the restaurants of the coast think it worthwhile to advertise the fact that the melons they serve are from Rocky Ford, it is certainly evidence that the luscious fruit" has "reached the zenith of perfection in this wonderful climate."<sup>136</sup> Likewise, the *Salida Mail* reported that when news of the Rocky Ford melons is released, "the mouths of the public in all parts of the country water," and that "it takes but the first mention of the cantaloupe crop to awaken the thoughts of the whole world of this delicious fruit."<sup>137</sup> Not only did these melons awaken the taste buds of American consumers, but they also excited the tongues of foreign customers. The local paper argued that "the menus of all the leading hotels of Europe have on them this delicacy from Colorado," and "so when the word begins to go out about the coming crop, interest is revived and there is a longing for a sight and a taste of the fruit, of which there is none better."<sup>138</sup> Philo Blinn, the experiment station leader discussed throughout the chapter, also pointed to the taste of the melons as being the driving force behind their popularity when he stated in the *Durango Democrat* that "it was the uniform sweet spicy flavor of the Rocky Fords in contrast with the tasteless cantaloupes of other sections" that gave them the advantage.<sup>139</sup> The

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<sup>135</sup> "Melon Day at Rocky Ford," *Herald Democrat*, September 6, 1907.

<sup>136</sup> "Colorado Fruit," *Herald Democrat*, August 6, 1905.

<sup>137</sup> "Making Our Mouths Water," *Salida Mail* 35, no. 115, July 24, 1914.

<sup>138</sup> "Making Our Mouths Water," *Salida Mail* 35, no. 115, July 24, 1914.

<sup>139</sup> "For Rocky Ford Raisers: Suggestions for Growing Produce," *Durango Democrat*, September 10, 1910.

*Wet Mountain Tribune* also contributed to the belief in the superior flavor of the melons when it reported that "Rocky Ford cantaloupes had for some years attained a country-wide fame through their sweetness and fine flavor."<sup>140</sup>

By the end of the first decade of the twentieth century, Rocky Ford cantaloupes found their way onto New York dinner tables with ever more frequency. A *New York Times* article that highlighted some of the most magnificent and elegant restaurants New York could offer demonstrated this point. In a 1906 article, the author provided an outline of a successful night on the town with that special someone. The author contended that "there is nothing so fascinating to many minds as the ordering of a little dinner, and if it is to be, like the picnic for two, and she, the adorable she, is to sit opposite there is much more, in these practical days, to offer than the loaf of bread, the jug of wine, and the book of poems, which seemed the acme of enjoyment to the Persian poet."<sup>141</sup> The author further paints the picture of a romantic dinner for two in one of the nation's premiere dining establishments when they outline the attire worn by restaurant attendees. The "men uniform in evening clothes and the women in their best gowns and prettiest hats, gathered about daintily furnished tables, deliciously tempting and inviting, with their vases or plateau of well-arranged flowers, silver, china, napery, and electric lights, subdued by pink or flowered candle shades."<sup>142</sup> At this point, the question becomes what to order, and the significance of this decision cannot be overstated, as "you wish to demonstrate that you are not only generous, but likewise you are an epicure and know the ropes."<sup>143</sup> To impress the lady and satisfy your craving for the best cantaloupe available to mankind, especially "if the evening is warm, it would be better to begin your dinner with either a Canadian or Rocky Ford

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<sup>140</sup> *Wet Mountain Tribune*, February 24, 1906.

<sup>141</sup> "Covers for Two: A Gastronomic Study," *New York Times*, September 2, 1906.

<sup>142</sup> "Covers for Two: A Gastronomic Study," *New York Times*, September 2, 1906.

<sup>143</sup> "Covers for Two: A Gastronomic Study," *New York Times*, September 2, 1906.

cantaloupe."<sup>144</sup> Although the author mentions the Canadian melon as an equally delightful cantaloupe, the previous pages indicate the reasons why it was not of the same quality of the Rocky Ford. The fact that melons directly linked to Rocky Ford, Colorado, through actual cultivation in the town, or indirectly linked to this region through the seed produced there, were to be found and demanded on dinner tables in some of the finest restaurants in the United States, illustrates the national success of the cantaloupe industry in Colorado within the first decade of the twentieth century. It also demonstrates the significance of taste in land use decisions and the formation of an economically driven, booster-promoted communal identity.

The success of the melon flavor is also represented in the profitability of cantaloupe production and the increase in Arkansas Valley land value by 1910. "Cantaloupe Growing Pays," a *Washington Post* article in the July 11 issue of 1908 contended that "everybody who owns a patch of land in the vicinity devotes a certain part of it to the raising of the cantaloupe, and through the raising of this one kind of fruit the land along the Arkansas Valley, which fifteen years ago was worth from but \$5 to \$10 an acre has now advanced in value to \$500 in certain cases."<sup>145</sup> The author continued by arguing that Rocky Ford "soil is wonderfully productive."<sup>146</sup> As this article indicates, the value of Arkansas Valley land would not have increased so dramatically had it not been for the Rocky Ford cantaloupe. Also, this author attributes a certain element of the melon's success to the climatic conditions and soil composition of the Arkansas Valley. All of these factors contributed to the cantaloupe that another *Washington Post* article claimed to be "the real and delicious variety of cantaloupes."<sup>147</sup> The list of articles mentioning

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<sup>144</sup> "Covers for Two: A Gastronomic Study," *New York Times*, September 2, 1906.

<sup>145</sup> "Cantaloupe Growing Pays," *Washington Post*, July 11, 1908.

<sup>146</sup> "Cantaloupe Growing Pays," *Washington Post*, July 11, 1908.

<sup>147</sup> "Food Cost Still High," *Washington Post*, September 2, 1911.

the satisfaction of the Rocky Ford cantaloupe is lengthy, and by 1910 there was no doubt that the Rocky Ford melon was the most sought melon in the nation.

If one doubts the dominance of the Rocky Ford cantaloupe industry by 1910, they need only look to reports issued by the Rocky Ford Seed Breeders Association during this time. These reports included everything one needs to know about how to produce the nationally accredited Rocky Ford melon. As Philo Blinn wrote in *Cantaloupe Culture*, "the questions of seed, soil, planting, cultivating, moisture, combating pests, picking and harvesting are all pertinent factors in successful cantaloupe growing."<sup>148</sup> By the time of this publication, men such as Swink, leaders of the Agricultural Experiment Station, and the Rocky Ford Melon Growers Association successfully developed, packaged, and shipped the nation's most highly demanded melon, and reports such as *Cantaloupe Culture* demonstrated their consumer driven superiority in the industry. These men were innovators, which is indicated in the comprehensive guides issued that stated the proper way to plant, cultivate, pick, package, and ship the melon they worked so long to create. As the pioneers of the industry by 1910, they could then produce reports that shared their unmatched knowledge of cantaloupe culture with others.

The cantaloupe industry in the Arkansas Valley of Colorado is still in operation and the melon continues to be known as one of the best melons in the world. If you ask the Rocky Ford Growers Association, they will tell you that their product is the best in the world. George Swink did a lot to begin development of the industry and the agricultural college and subsequent stations expanded the wealth of knowledge available to melon growers. The growers, through cooperation and carefully executed standardization strategies, also aided the industry in reaching its success. However, it was ultimately the strongly desired flavor of the melons that pushed the

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<sup>148</sup> Philo Blinn, *Cantaloupe Culture: A Treatise on Cantaloupe Growing Under Irrigation in Colorado* (Rocky Ford: Rocky Ford Seed Breeders Association, 1910), 3.

industry into the international spotlight, determined how the land of Rocky Ford would be used and transformed, and united local growers around a cantaloupe culture that provided them a level of economic security. Whether one believes the climate of Colorado is the secret behind the superior melon, whether it was the scientific expertise provided by the experiment station or the careful attention to detail on behalf of the growers with regard to seed selection and uniformity, one cannot speak of Arkansas Valley agriculture without mentioning the Rocky Ford cantaloupe, the pride of the Arkansas Valley.

## Chapter 2: Feeling Colorado Springs: The Development and Sale of the Colorado For Health Belief

Invigorating, revitalizing, restoring, rejuvenating, refreshing, relieving and relaxing were tactilely experienced descriptors used in the late 1800s and early 1900s to promote the health resort and tourism industry in Colorado Springs, the health capital of Colorado. In some cases, town officials even shipped the restorative elements of Colorado's environment to soldiers abroad. For example, an *Aspen Daily Times* article in 1904 reported that "the fame of Colorado's mineral waters and their great medicinal qualities have become worldwide, and within the next few weeks the curative, life giving, health restoring and disease preventative aqua that bubbles and flows from the heart of" Manitou Springs, a region slightly west of Colorado Springs, "will become a part of the daily rations" of the soldiers.<sup>1</sup> When writing about Colorado Springs, a *Tiger* newspaper article reported that "so invigorating is this dry, rare atmosphere, that many students who are unable to work in other places come here and not only succeed in keeping up with their classes, but in some cases even earn a part of their expenses while making steady progress in health."<sup>2</sup> An 1872 article in the *Colorado Miner* also expressed the superiority of Colorado's air and health-rejuvenating qualities. "Now their healing waters," the article proclaimed, "bubbling up with their continual freshness," provide physical relief to people "from all parts of this world."<sup>3</sup> In addition, when describing the naturally occurring springs of Manitou, an 1877 *Colorado Springs Gazette* article also stated that the water in the Navajo

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<sup>1</sup> "Pleasing to Americans," *Aspen Daily Times*, October 6, 1904.

<sup>2</sup> *Tiger* 10, no. 30, May 8, 1908.

<sup>3</sup> "The Climate of Colorado," *Colorado Miner Weekly*, June 6, 1872.

spring was “strongly charged with carbonic acid, having a refreshing taste.”<sup>4</sup> Health seekers poured into Colorado Springs to feel the physical benefits of its environment, and thus tactile experience drove the health-based tourism industry developed there.

The last three decades of the nineteenth century represented for many Western states and territories a time of unparalleled growth and development as settlers moved westward, and Colorado Springs, Colorado, was one of the countless cities structured around a specific type of commodity during this time frame. This commodity was different, however, than the standard gold, silver, or agricultural products that sparked the development of other regions. Rather than physically extracting precious metals or agricultural products from the land, Colorado entrepreneurs, government officials, railroad companies and physicians packaged the Colorado Mountains, rivers, valleys, and hot natural springs and sold them to consumers by linking environmental qualities to human health and medical treatment more specifically. Medical practitioners prescribed the environmental package to consumptives or invalids during the late nineteenth century with the hope that their illnesses would be cured or at least better managed in Colorado Springs, and this belief quickly spread throughout the nation, attracting tourists and invalids alike. Whereas gold and silver mines in Cripple Creek, steel producing factories in Pueblo, and cantaloupe fields in Rocky Ford directly influenced economic development and promoted communal identities in those regions, Colorado Springs developed around a construct that relied on the commodification of its climate, geological make up and medical advice that drew many upper-class consumptives to its elevated borders at the foot of Pike's Peak. However, tactile experience, a sense often ignored in histories of economic development and communal uniqueness, was also significant in the successful growth of the health resort and tourism

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<sup>4</sup> *Colorado Springs Gazette*, June 23, 1877.

industry. Consumptives moved to Colorado Springs to feel better physically. The inhalation of mountain air and linking of human bodies with naturally occurring hot springs ultimately convinced many consumptives that Colorado Springs offered medical relief through a combination of human tactile experience and nonhuman nature.

Situated in the middle of the American continent, 6,000 feet above sea level, Colorado Springs, Colorado, is an arid region of moderate temperatures and high altitude. According to town developers, government officials, and physicians, this high altitude location is what made its climate an agreeable one for those suffering from various respiratory illnesses during the latter half of the nineteenth century. Charles Denison, for example, a nineteenth-century physician who specialized in the study of tuberculosis and consumption, wrote that "the clearness of the air is a potential factor in producing the dryness of a given section," and that "this is the case on the backbone of the American continent, as the Rocky Mountain region is sometimes termed."<sup>5</sup> Denison was not alone in his belief that the climate of Colorado offered consumptive patients environmental relief, and several environmental historians such as Kathleen Brosnan and Gregg Mitman have addressed the commodification of the Colorado Springs environment in their respective works. As Brosnan writes in *Uniting Mountain and Plain: Cities, Law, and Environmental Change Along the Front Range*, Colorado Springs' "entrepreneurs proved particularly adept at marketing to wealthy consumptives the restorative powers of climate, altitude, and other natural resources lacking dimension and gravity."<sup>6</sup> Along these lines, Mitman agrees that in the American West, "health was a natural resource mined and sold by late

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<sup>5</sup> Charles Denison, "Dryness and Elevation the Most Important Elements In the Climatic Treatment of Phthisis," in *Transactions of the American Climatological Association for the First Annual Meeting in 1884* (New York: Appleton and Company, 1884), 39.

<sup>6</sup> Kathleen Brosnan, *Uniting Mountain and Plain: Cities, Law, and Environmental Change Along the Front Range* (Albuquerque: University of New Mexico Press, 2002), 92.

nineteenth and twentieth century town boosters and physicians to those afflicted with chronic pulmonary illnesses such as Tuberculosis and asthma."<sup>7</sup> The development of Colorado Springs in the late nineteenth-century West serves as a specific example of these forces and processes at work, and early Colorado Springs entrepreneurs such as William Palmer urged the growth of the city by recognizing and taking advantage of a post-Homestead Act trend in the American West that encouraged the commodification of nature.<sup>8</sup> Entrepreneurs like Palmer, although not solely responsible for the creation and promotion of the health restoring belief, were significant contributors to its advancement.

Before the health and tourism industry took off in Colorado Springs, several important medical discoveries changed the contemporary understanding of tuberculosis and how people become infected. A French physician in the 1860s, Jean Antoine Villemin, published several papers that described the contagious nature of tuberculosis. People then understood that tuberculosis was contracted from others with the illness.<sup>9</sup> A couple decades later, another discovery again changed medical understanding of the disease. According to scholar Connie Staudohar, "consumption became known as tuberculosis with Robert Koch's discovery in 1882 of the tubercle bacillus, the bacterial cause of the disease."<sup>10</sup> Before this discovery, consumption was viewed as a disease of the frail and genetically unfortunate. "All this changed," Staudohar suggests, "when it was found that a bacteria, not a constitutional weakness or heredity, caused

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<sup>7</sup> Gregg Mitman, "Geographies of Hope: Mining the Frontiers of Health in Denver and Beyond, 1870-1965," in *Landscapes of Exposure: Knowledge and Illness in Modern Environments*, ed. Gregg Mitman, Michelle Murphy, and Christopher Sellers, *Osiris* 19, no. 1 (2004): 93.

<sup>8</sup> Brosnan, *Uniting Mountain and Plain*, 95.

<sup>9</sup> John F. Murray, Dean E. Schraufnagel, and Philip C. Hopewell, "Treatment of Tuberculosis: A Historical Perspective," *Annals of the American Thoracic Society* 12, no. 12 (December 2015): [https://www.atsjournals.org/doi/full/10.1513/AnnalsATS.201509-632PS#\\_i8](https://www.atsjournals.org/doi/full/10.1513/AnnalsATS.201509-632PS#_i8)

<sup>10</sup> Connie Staudohar, "Food, Rest, and Happiness: Limitations and Possibilities in the Early Treatment of Tuberculosis," *Montana: The Magazine of Western History* 47, no. 4 (Winter 1997): 50.

consumption.”<sup>11</sup> Since Koch’s discovery was new in the late nineteenth century, Colorado Springs physicians often adopted the beliefs of Hermann Brehmer, a European physician. Brehmer, a German physician who founded the sanatorium movement in the 1850s, “opened the first-ever high-altitude sanatorium to treat pulmonary consumptives, at Gorborsdorf, in the Silesian mountains, today in Poland.”<sup>12</sup> Brehmer initially thought that living an active life in high altitude regions would restore health to sufferers, but ultimately switched his position and argued that salubrious rest in outdoor lounges, open-air shelters, mild exercise, and a healthful diet were the best treatments for the disease. Building on Brehmer’s ideas, Joseph Gleitsmann established the first American sanatorium for pulmonary tuberculosis in Ashville, North Carolina, in 1875.<sup>13</sup> Colorado Springs boosters established sanatoriums in the Rocky Mountain region thereafter, but not before railroads linked the eastern and western United States.

General William Jackson Palmer, the founder of Colorado Springs, contributed to the vast expansion of railroad development during the 1870s. The transcontinental railroad's Union Pacific branch reached Wyoming in 1868 and two years later the Denver Pacific, along with help from the Union Pacific, connected Denver to Cheyenne and the transcontinental railroad as a whole.<sup>14</sup> Almost immediately following this connection of rail lines, Palmer cut costs in 1871 by using "narrow-gauge rails that measured three feet across, rather than the standard four-feet-eight and one-half inch gauge," and "built a line from Denver to what became Colorado Springs."<sup>15</sup> This railroad expansion meant that the more heavily populated regions of Eastern America were connected with the mountains of Colorado and their soon-to-be health resorts. More specifically,

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<sup>11</sup> Staudohar, “Food, Rest, and Happiness,” 50.

<sup>12</sup> Murray, Schraufnagel, and Hopewell, “Treatment of Tuberculosis.”

<sup>13</sup> Murray, Schraufnagel, and Hopewell. “Treatment of Tuberculosis.”

<sup>14</sup> Frederic J. Athearn, *Land of Contrast: A History of Southeastern Colorado* (Denver: Bureau of Land management, 1985), 99.

<sup>15</sup> Athearn, *Land of Contrast*, 99.

the “Colorado for health” belief could now be more readily transported and sold to consumers in distant continental markets. Founded in 1871, Colorado Springs had a population of 1,500 by the end of 1872.<sup>16</sup> The population increased rapidly over the next few decades and wealthy health seekers were among the many who traveled to the Rocky Mountain city. As an early twentieth-century promotional history of Colorado touted, Palmer "organized the company that secured title to ten thousand acres of land, upon part of which the city was laid out," and he is also "identified with the founding of South Pueblo, Alamosa, Durango and several towns of lesser importance."<sup>17</sup> Palmer was a key figure in the early development of Colorado Springs largely because of his involvement with railroads and his initial purchase of land that would become the city.

As railroads connected the Colorado territory and eventual state with eastern markets, the extraction of raw materials and cultivation of agricultural products increased, and the packaging and selling of a construct that deemed Colorado Springs a paradise for consumptives or invalids spread throughout the United States and the world. In addition to obtaining title to land that became Colorado Springs and increasing railroad development in the region, General Palmer also appreciated Colorado Springs' open landscape and geological make up. As a quote from the *Colorado Springs Gazette* included in judge and journalist Wilbur Fiske Stone's early twentieth-century *History of Colorado* stated, "love of nature was the fundamental characteristic of General Palmer," which "is shown first in his great and constant devotion to the mountains rather than the crowded and artificial centers of the East or Europe."<sup>18</sup> The same article suggested that

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<sup>16</sup> Athearn, *Land of Contrast*, 100.

<sup>17</sup> Wilbur Fiske Stone, *History of Colorado Illustrated Volume 3* (Chicago: The S. J. Clarke Publishing Company, 1918), 8.

<sup>18</sup> "Unknown *Colorado Springs Gazette* Article," in Wilbur Fiske Stone, *History of Colorado Illustrated Volume 3* (Chicago: The S. J. Clarke Publishing Company, 1918), 8.

"it was Palmer's daily delight to take long horseback rides over the hills and through the glorious ravines which surround his home, and which to him held all that compelling power of attraction that the true lover of nature feels for God's most glorious handiwork."<sup>19</sup> These quotes are significant for several reasons. The above quotes from the *Gazette's* article in Stone's book seem to suggest that the author had a deeper familiarity with Palmer than a random observer or later scholar would, but this is beside the more significant point. Regardless of whether the author and Palmer were close friends or never met during their lifetime, when the author wrote about Palmer's "love of nature" or his surroundings which "to him held all that compelling power of attraction that the true lover of nature feels for God's most glorious handiwork," they conveyed the idea that the Colorado environment was compelling and in some way divine. It is unclear if Palmer believed in the healing power of the Colorado Springs landscape, but this belief was more rapidly sold to citizens who could afford the journey to the Rocky Mountains thanks to the expansion of railroads. As gold, silver and coal were shipped across the country and agricultural products became available in eastern markets, the commodified "Colorado for health" belief could also be shipped eastward even though the climate, latitudinal position, geological structure and elevation could not. Entrepreneurs like Palmer helped provide the necessary infrastructure that would later bring thousands of consumptives to the Rocky Mountains in search of health.

In addition to the financial backing of early entrepreneurs, government agencies and officials also contributed to the development of a "Colorado for health" philosophy based on the belief in its restorative qualities. During the 1870s, for example, annual reports of the Colorado State Board of Health advanced the idea that Colorado Springs was a place of unparalleled

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<sup>19</sup> "Unknown *Colorado Springs Gazette* Article," in Wilbur Fiske Stone, *History of Colorado*, 8.

natural healing qualities. In the report of 1877, Board President Dr. F. J. Bancroft not only stressed the significance of further investigation of questions regarding Colorado and its healing qualities, but also indicated the expansion of the belief in these traits. As he stated in his annual address, "to the subjects for information upon which the civilized world looks to us with greatest interest, namely: pulmonary consumption, bronchitis, asthma, etc., etc.; their history in Colorado, and the locality best adapted to the benefit of sufferers from each, we have as yet given only partial attention."<sup>20</sup> These comments indicate the significance of Colorado's supposed restorative properties as the "civilized world" looked to health officials in the state to answer these questions. These questions did in fact earn more attention in the last two decades of the 1800s and, as historian Kathleen Brosnan points out, by "1880, the flood of visitors to Colorado Springs reached 30,000 annually and by 1890, some 200,000 arrived."<sup>21</sup> In addition to support from the State Board of Health, prominent governmental leaders also promoted the "Colorado for health" construct. Near the end of the nineteenth century, Colorado Governor Alva Adams stated that "climate and scenery are valued beyond many natural resources that have a dimension and gravity," and that "someday this climate will be recognized as an asset, as real and tangible as the product of field or mine."<sup>22</sup> State health officials and political leaders strongly encouraged the sale of the natural environment, which included the packaging and sale of a belief based on its physical landscape and its ability to alter and enhance the human corporeal experience. Thus, air and water in Colorado Springs, when interacting with human bodies, often strengthened these bodies. It was this belief that was sold to people nationwide.

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<sup>20</sup> F. J. Bancroft, "Annual Address of the President," in *Second Annual Report of the State Board of Health of Colorado for the Year 1877* (Denver: Tribune Steam Job Printing and Publishing House, 1878), 21.

<sup>21</sup> Brosnan, *Uniting Mountain and Plain*, 104.

<sup>22</sup> Brosnan, *Uniting Mountain and Plain*, 91.

Further state support for the expansion and sale of this belief is evidenced in the fact that late nineteenth century residents of Colorado Springs, along with support from Denver inhabitants, capitalized on a growing tourist industry in the American West and therefore used the “Colorado for health” idea to attract tourist dollars. According to Brosnan, “a western city that controlled the tourist trade created a viable economic niche,” and “the people of Colorado Springs seized this opportunity.”<sup>23</sup> Denver supported the Colorado Springs tourism industry because the Union Pacific Railroad connected it to Eastern markets and Colorado Springs accessed the Union Pacific through Denver; therefore, tourist dollars would also find their way into the Denver economy. Recognizing the potential economic benefits from tourism, Denverites “quickly jumped into the trade,” and “their city became the transfer point for visitors seeking the natural wonders of Colorado and the Rocky Mountains.”<sup>24</sup> Although Colorado Springs developed its public identity around the commodification of its weather and landscape, other cities such as Denver also capitalized on the influx of those seeking health. This point is evidenced in the *Atlanta Constitution* when it printed an article in 1903 stating that “it is safe to say that seven of every ten tourists who come to Colorado take in Denver, and that nine of every ten go to Colorado Springs and Manitou.”<sup>25</sup> Regardless of whether Colorado's climate was beneficial to patients in search of consumptive or asthmatic relief, there was money to be made through the distribution of the “Colorado for health” belief, and this money would find its way into the pockets of business leaders, governmental agencies and railroad companies alike.

So what made Colorado Springs unique, and what justified a move west that was encouraged by entrepreneurs, state agencies, political officials, and medical leaders? The

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<sup>23</sup> Brosnan, *Uniting Mountain and Plain*, 92.

<sup>24</sup> Brosnan, *Uniting Mountain and Plain*, 92.

<sup>25</sup> Frederic J. Haskin, “Oddities and Splendid Attractions of Colorado; Tide of American Tourists Turning to Rockies,” *Atlanta Constitution*, July 12, 1903, d5.

Colorado Springs climate, which offered warm days and cool nights during warm seasons and moderately cold and dry conditions in winter months, made it an attractive and sellable quality according to many physicians nationwide. Likewise, the Rocky Mountains and their vast expanse of snow topped peaks, flowing rivers, and geological location in the center of the United States, were unique features that intrigued many Americans. A number of historians have echoed this belief. As Frederic Athearn states, "Colorado was always known for its healthy climate," and "Colorado Springs, for instance, was the site of several clinics for lung disease."<sup>26</sup> Similarly, Steven Mehls suggests that "early northeastern Colorado cities found themselves popular with vacationers from around the nation and Europe," and argues that "the primary reason was Colorado's environment."<sup>27</sup> But what made this region such a popular destination for those seeking restored health and what did physicians believe with regard to its supposed curing elements? Mehls contends that "while the waters and climate were not really capable of miracles, the Colorado Springs area did prove life-giving for some and it became home of the 'one-lung army' because of a large number of its residents who suffered from Tuberculosis."<sup>28</sup> Mehls, who published his work in 1984, had nearly a century's worth of medical knowledge since the late nineteenth century to support his argument, but what did contemporary physicians believe with regard to the healing properties of the environment and its direct link with respiratory illnesses? Did they believe in the restorative qualities of Colorado Springs or were they simply larger participants in the ongoing encouragement of the commodified construct that was sold to many consumptives during the last several decades of the nineteenth century? One may never know the answer to the latter query, but the Colorado State Board of Health and the

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<sup>26</sup> Athearn, *Land of Contrast*, 143.

<sup>27</sup> Steven Mehls, *The New Empire of the Rockies: A History of Northeast Colorado* (Denver: Bureau of Land Management, 1984), 117.

<sup>28</sup> Mehls, *The New Empire of the Rockies*, 117.

American Climatological Association set out to address questions about the impact of specific environments on consumptive patients during the 1870s and 1880s. Their reports indicate the significance of tactile experience in economic development and community promotion by supporting the idea that a mixing of physically suffering humans with Colorado Springs' air and water resulted in improved physical ability and a prolonged life.

The first report of the Colorado State Board of Health was for the year 1876, and it was published in 1877. When discussing the physical effects of moving to Colorado, Dr. W. Edmondson wrote in the first report that "the physical functions, which it may be for years past have been accomplished in a sluggish, inefficient manner, at once assume a vigor of action to which the system has heretofore been a stranger."<sup>29</sup> He continued by stating that the newly arrived health seeker will revel "in what might be called an intoxication of good health."<sup>30</sup> In the same report, Dr. T. G. Horn expresses a similar belief. As he wrote, "change of air, we all know, has a most remarkable effect in many cases and various diseases."<sup>31</sup> "For instance," he continued, "we see the subject of asthma, one of the distressing diseases known to humanity, relieved the moment the patient reaches this state."<sup>32</sup> In addition to pure air, many physicians believed that naturally occurring hot springs in Colorado also aided the restoration of physical health, and this success was largely attributed to sensations of heat and cold on the skin. Horn argued that "waters cold in temperature, containing considerable carbonic acid gas, and alkalins [sic] in constitution, will prove sedative, both to that organ and the arterial system, while hot

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<sup>29</sup> W. Edmondson, "Altitude; Its Influence on Health," in *First Annual Report of the Colorado State Board of Health for Fiscal Year ending September 30, 1876* (Denver: Rocky Mountain News Steam Printing House, 1877), 23.

<sup>30</sup> Edmondson, "Altitude; Its Influence on Health," 23.

<sup>31</sup> T. G. Horn, "Special Paper on the Mineral Springs of Colorado," in *First Annual Report of the Colorado State Board of Health for Fiscal Year Ending September 30, 1876* (Denver: Rocky Mountain News Steam Printing House, 1877), 52.

<sup>32</sup> Horn, "Special Paper on the Mineral Springs of Colorado," 52.

waters, and those highly charged with sulphureted hydrogen, will prove stimulant."<sup>33</sup> These reports indicate that late nineteenth century medical practitioners believed that the inhalation of Colorado's mountain air and contact between human skin and mineral springs both revitalized and strengthened bodies. The reports also focus on the sensual experience of touching and feeling waters of various temperatures. According to geographer Janet Valenza, by the 1930s "the use of mineral springs for therapeutic purposes declined for several reasons."<sup>34</sup> "With the rise of germ theory and the discovery of sulfa drugs and antibiotics," Valenza writes, "the belief in the usefulness of mineral water diminished."<sup>35</sup> Although pharmaceutical treatments are more commonly prescribed today, this current method does not take away the fact that physicians in the late nineteenth century believed in the health restoring properties of mineral waters. These current treatments also do not discredit current use of cold and hot water therapy, because "the exact therapeutic potential of spa therapy still remains largely unknown."<sup>36</sup>

At the first annual meeting of the American Climatological Association held in New York in 1884, a number of leading physicians presented papers on topics ranging from the investigation of various respiratory illnesses to the analysis of Colorado's climate. Some physicians stressed the importance of consumptives moving out of congested cities. Dr. B. F. Westbrook, for example, stated that "overwork, particularly where it is carried on indoors and on a poor diet, is a very frequent cause of phthisis pulmonalis, will I think, be admitted by anyone who has had practical experience in our large cities."<sup>37</sup> This idea echoed a larger belief in the

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<sup>33</sup> Horn, "Special Paper on the Mineral Springs of Colorado," 52.

<sup>34</sup> Janet Mace Valenza, "Mineral Water Springs and Wells," *The Handbook of Texas Online*, Accessed January 24, 2019, <https://tshaonline.org/handbook/online/articles/sbm11>.

<sup>35</sup> Valenza, "Mineral Water Springs and Wells."

<sup>36</sup> A Van Tubergen and S van der Linden, "A Brief History of Spa Therapy," *Annals of the Rheumatic Diseases* 61, no. 3 (March 2002): <https://ard.bmj.com/content/61/3/273>.

<sup>37</sup> B. F. Westbrook, "On the Etiology of Pulmonary Phthisis," in *Transactions of the American Climatological Association for the First Annual Meeting in 1884* (New York: Appleton and Company, 1884), 19.

benefits of moving away from crowded urban areas and into the more open, unsettled regions of the West. As Westbrook wrote, being stuck indoors for large periods of time and living in more populated cities directly related to diseases of the respiratory system. The outdoor beauty and open landscape that signified late nineteenth century Colorado promised such consumptives an escape from polluted city life. Charles Denison, the Colorado-based physician mentioned at the outset of this chapter, also shared his work at the meeting of the association and supported the belief in Colorado's superb restorative ability. In addition to the clearness of the Colorado air, Denison argued that temperature, altitude, latitude, the change in seasons, distance from the ocean, mountain ranges, absorbing power of the earth, radiation and sunshine all contributed to the dryness of the region and the subsequent healing properties of Colorado's environment.<sup>38</sup> These were common assumptions in the medical community; however, not all doctors agreed.

Although physicians like Denison championed Colorado's climate and geological structure, other doctors were not so convinced. Dr. Boardman Reed, for example, contended that "it has been shown that sea air contains more ozone, is denser and therefore more invigorating, as well as moister and purer than the atmosphere of interior localities," and that "these facts being admitted as well established, the therapist should, on a priori grounds, expect certain definite effects from sea air upon patients afflicted with diseases of the respiratory organs."<sup>39</sup> In direct opposition to the belief held by medical experts such as Westbrook, Denison, and others, Reed identifies sea air as a potential healing element. Despite the support of this theory by several prominent doctors, many other physicians firmly encouraged consumptives to move to

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<sup>38</sup> Denison, "Dryness and Elevation, The Most Important Elements in The Climatic Treatment of Phthisis," 35-41.

<sup>39</sup> Boardman Reed, "The Effects of Sea Air Upon Diseases of The Respiratory Organs, Including a Study of The Influence Upon Health of Changes in The Atmospheric Pressure," in *Transactions of the American Climatological Association for the First Annual Meeting in 1884* (New York: Appleton and Company, 1884), 54.

the rare and unique climatological, geological and atmospheric region of Colorado Springs, Colorado, and it was this expert testimony that contributed to the development and growth of the “Colorado for health” belief. This belief was appealing because it offered consumptive sufferers hope by catering to their sense of touch, thus demonstrating the significance of tactile experience in economic development.

Dr. Frank Donaldson, who also presented a paper at the first meeting of the American Climatological Association and who was an advocate of Colorado's healing properties, pointed out that being outside as much as possible was good for consumptives and that Colorado's moderate climate and high number of sunny days each year were conducive to outdoor treatment or recreation. "Persons predisposed to consumption, or who have a delicacy about the organs of respiration," Donaldson wrote, "should not, if possible, be allowed to live in large cities where the air is so impure, but should be given outdoor occupation in the country, where, even in doors, the open fireplaces and the penetrating winds force the impure air out and the pure air into the house."<sup>40</sup> This argument suggests that a young and sunny Colorado Springs offered consumptives a less crowded and naturally ventilated home nestled in the Rocky Mountains. A late nineteenth century traveler agreed with the notion that Colorado offered an abundance of sunshine. As he noted in *The Colorado Handbook: Denver and Its Outings*, "our climate is dry, its atmosphere is clear and pure, it has more sunny days than any other."<sup>41</sup> Physicians clearly linked days of sunshine with restoration and revitalization of human health and sold it to applicable consumers. In this way, physicians directly linked human tactile experience with Colorado Springs and its subsequent economic development. The link between environmental

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<sup>40</sup> Frank Donaldson, "City Air and City Life Injurious to Consumptives," in *Transactions of the American Climatological Association for the First Meeting in 1884* (New York: Appleton and Company, 1884), 76.

<sup>41</sup> William Stone, *The Colorado Handbook: Denver and Its Outings* (Denver: Barkhausen and Lester Printers, 1892), 18.

conditions and human sufferers created a physician and booster-promoted Colorado Springs identity that was based on tourism and medicine in the Rocky Mountains.

While early entrepreneurs, governmental agencies, and well-known American physicians justified a move west on several environmental grounds, a fourth group of contributors, tourist guide books, newspapers, and railroad companies, further advanced the environment and personal health construct. The man whose name became synonymous with guidebooks in the nineteenth century was Karl Baedeker, a German who produced some of the most popular tourist books in Europe. According to historian Harold Otness, “the first Karl Baedeker (1801-1859) entered the guidebook business in 1827, and by the time of his death,” his guidebooks “covered Europe and dominated the guidebook trade.”<sup>42</sup> As Baedeker produced tourist books for largely European markets, American guidebooks also appeared in the United States. “When the first American tourist guidebook was published in 1822,” the scholar Richard Gassan writes, “it was published in Saratoga Springs, New York, the epicenter of American tourism.”<sup>43</sup> As tourism expanded, so too did the number of guidebooks published each year. Whether they encouraged a move west during the Colorado gold rush of 1858-1859 or promoted settlement in Colorado Springs immediately after its incorporation as a town in the early 1870s, guidebooks were widely distributed to consumers nationwide. William Stone, a nineteenth-century traveler and author of *The Colorado Handbook* published in 1892, wrote one of the many accounts supporting the healthful claims of business leaders, government officials, and physicians. He noted that “as mineral springs are believed by medical authorities to rank next to climate in all cases of phthisis,” another term for pulmonary tuberculosis, “it becomes specially interesting to invalids

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<sup>42</sup> Harold Otness, “Baedeker’s One-Star American Libraries,” *Journal of Library History* 12, no. 3 (Summer 1977): 222.

<sup>43</sup> Richard Gassan, “The First American Tourist Guidebooks: Authorship and the Print Culture of the 1820s,” *Book History* 8, (January 2005): 52.

to seek their benefit in Colorado, because of the double value of medicinal waters combined with climate."<sup>44</sup> In this instance, Stone links the climate of the Colorado Springs region with the city's geological hot spring formations and suggests that this coupling of environmental circumstance was beneficial for invalids or consumptives. Other promotional literature expressed a similar belief.

Another piece of tourist literature, *The Gem of The Rockies and Its Attractions*, stated that Manitou Springs, the town slightly west of Colorado Springs, is a place of unmatched beauty and natural qualities. "In the midst of the most magnificent mountain scenery, blessed by the grandest climate and the finest group of mineral springs in the world," the book suggested, "it is the model resort of this country. Nowhere else can be found such a combination of conditions as unite to make this place the favorite resort of tourists and a veritable sanitarium for those in search of health."<sup>45</sup> So why was it believed to be such a "veritable sanitarium for those in search of health?" In addition to medical advice and guidebook promotion, newspaper articles also publicized the supposed success of Colorado Springs in curing consumptive patients, which undoubtedly contributed to the belief in Colorado's natural healing qualities.

Reuel Bartlett wrote an article in the *Boulder Daily Herald* in 1888 arguing that thousands of consumptives benefitted from a move to Colorado. In a section entitled "Twenty Reasons Why Colorado Has The Best Climate in The World for Those Suffering From Diseases of the Throat and Lungs," Bartlett encouraged readers to believe in its healing qualities "because of the thousands who have tried it and been cured."<sup>46</sup> This article does not include direct

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<sup>44</sup> Stone, *The Colorado Handbook*, 19.

<sup>45</sup> *The Gem of The Rockies and Its Attractions: Manitou Springs, Colorado: A Brief Description of This Resort, Its Attraction for The Tourists and Advantages for The Invalids* (Manitou Springs: Barker Hotel, 1889), 6.

<sup>46</sup> Reuel Bartlett, *Colorado for Consumptives, Asthmatics and Inquiring Invalids with Examination Chart*, (Boulder: *Daily Herald* Jon Print., 1888), 31.

testimony of consumptives stating their personal success in overcoming respiratory illness, but it does highlight the top twenty reasons why the environmental conditions were believed to be beneficial. The list begins with the amount of sunshine in a year, includes the altitude, dryness of air and soil, the great amount of ozone in the air, and even suggests that the environment of Colorado increased appetite.<sup>47</sup> An increased appetite, of course, meant that consumptive patients would eat more, thus strengthening and better preparing them to fight their illnesses. In this sense, the Colorado environment, it was believed, indirectly contributed to the recovery of consumptives by heightening one's appetite. The mountains, natural hot springs, and rivers supplied by melting snowpack, all to be found in abundance in Colorado Springs, were promoted by doctors such as Reuel Bartlett and spread through various media outlets including newspapers.

Books providing therapeutic advice were also among the types of literature that promoted the commodification of the health ideal. Some of these books mention Colorado, but also provide other locations said to be similarly helpful in the treatment of consumptives. A Chicago doctor named William Burt published a book in 1876 contending that a "change of climate will often be of much value," particularly "if the patient will go to a place where the atmosphere is very much rarefied, such as found in Colorado, New Mexico, and the mountainous portion of North Carolina and Virginia."<sup>48</sup> As this idea suggests, Colorado was not the only region of the United States that was said to have healing qualities, but its elevated status and its geological and geographical foundation separated it from other health resorts in the American West. One promotional pamphlet stated that "experienced travelers affirm that in the grandeur and variety of

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<sup>47</sup> Bartlett, *Colorado for Consumptives*, 31.

<sup>48</sup> William Burt, *Therapeutics of Tuberculosis: Or Pulmonary Consumption* (New York: Boericke and Tafel, 1876), 20.

its natural objects," Colorado "is unrivaled; artists vainly strive to depict its wonders; physicians testify to the healthfulness of its climate, and the worldly-wise covet the wealth of its mountains and plains."<sup>49</sup> To be fair, this quote is from a pamphlet published in Colorado Springs, which most certainly skewed its content, but it simply supported the idea that Colorado was a revitalizing region for health, which was also supported by physicians and newspapers nationwide.

Newspapers local to Colorado printed articles encouraging people in search of health restoration to move to the region during the late nineteenth century. The *Colorado Springs Gazette*, for example, published numerous articles advancing this idea. An 1874 article advised "all invalids, of whatever sickness, to lose no time in reaching the favored place prepared by the great God of the universe-the great physician of the world-for the restoration of health."<sup>50</sup> Other *Gazette* authors wrote about the experiences of travel in other regions of the country that seemed to be less satisfactory in their healing capacity. "Mr. Duncan," an article in 1877 noted, "returned from his Eastern trip Tuesday night, reporting that he did not see in all his travels a town that could begin to compare with Colorado Springs for beauty and comfort."<sup>51</sup> A third article in the 1870s discussed the healing qualities of the Colorado environment and the springs of Manitou more specifically. "Do not omit the joy of a soda bath," the author wrote, because "it is an experience not to be forgotten."<sup>52</sup> The travelers described their experience bathing in the springs. They remembered an absence of soap in the bath house and thought this was strange until the keeper of the bath house indicated that soap was not necessary. The author then "sank

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<sup>49</sup> D. W. Ensign and Company, *Colorado Springs, Manitou, and Vicinity*, (Colorado Springs: D. W. Ensign and Company, 1878), 1.

<sup>50</sup> "Another Medical Article," *Colorado Springs Gazette*, February 7, 1874.

<sup>51</sup> *Colorado Springs Gazette*, June 23, 1877.

<sup>52</sup> "Colorado Springs and Its Vicinity," *Colorado Springs Gazette*, March 18, 1876.

back in the healing fluid and after a time rose like a newly-made creature" because the water "left its effects in a glowing skin, an invigorated form and added glow, and enthusiasm."<sup>53</sup> As these articles indicate, whether people sought health restoration from the land blessed by the "great physician of the universe" or beauty and comfort at the foot of Pike's Peak, it was attention to sensual experiences of health restoration and physical comfort that attracted people to Colorado Springs.

Some of the most popular newspapers of the late nineteenth century such as the *New York Times*, *Chicago Tribune*, and *Washington Post* also promoted Colorado Springs as a worthwhile health resort by appealing to sensual experiences of touch, strength, and physical recovery. Likewise, an *Atlanta Constitution* article in 1903 printed a story about an ill child who spent her days in Colorado in search of health restoration. As the story reads, "one morning a sturdy broad-shouldered chap came swinging down the winding mountain trail, and paused to speak to someone in front of the veranda where the little sufferer was sitting."<sup>54</sup> After looking over each other, the sick little girl and the "sturdy, broad-shouldered" man agreed to go on a walk further down the mountain path. "She soon sank down upon a boulder, her face flushed and her heart fluttering from the exertion," when "he told her the story of the heights; of the exhilaration of the trail; of the great spaces and the majestic silences; of the trim, proud pines, standing guard over the eternal solitudes; of the noisy little brook telling its secrets of the wild, and, above all, of the thin, delicious air, which is elixir to starved and famished lungs."<sup>55</sup> This excitement interested the little girl and it was agreed upon that the man would take her up to the heights he mentioned. At first the girl's strength was tested and "during the second night" she "came near coughing

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<sup>53</sup> "Colorado Springs and Its Vicinity," *Colorado Springs Gazette*, March 18, 1876.

<sup>54</sup> Haskin, "Oddities and Splendid Attractions of Colorado," d5.

<sup>55</sup> Haskin, "Oddities and Splendid Attractions of Colorado," d5.

herself to death;" however, although "it was a battle of weeks and months," the girl "never relinquished the struggle, and finally her strength began slowly to return."<sup>56</sup> The story concludes with the sick girl ascending the heights as "she went gradually up the mountain, up to health and to love and to the joy of living."<sup>57</sup>

This story serves as a prime example of the significance of touch and tactile experience in the economic development of Colorado Springs. The author focused on sensual feelings of a fluttering heart and a flushed face to tell a story of health rejuvenation. They also wrote about the interaction between human bodies and nonhuman Colorado nature that invigorated health sufferers. A physical struggle between the frail little girl and nonhuman mountain ranges believed to contain the perfect blend of air, scenic beauty, and climatic conditions, resulted in a strengthened human body and prolonged life. This struggle was also used as a promotional tool for the Colorado Springs health resort and tourism industry. By linking physical health recovery with the Colorado Springs environment, the author appealed to all ill-bodied consumptives and supported a belief in the "Colorado for health" construct.

Nearly three decades before the above mentioned story and only six years after the connecting of Colorado Springs with the transcontinental railroad in 1871, a special correspondent of the *New York Times* indicated the strong link between the naturally occurring springs of Manitou, sensations of physical enjoyment and satisfaction, and ultimately the economic development of Colorado Springs. The correspondent wrote of a time he and a friend accepted the challenge of climbing Pike's Peak and mentioned the springs of Manitou that offered them physical relief after the roughly 8,000-foot hike to the summit of the mountain. "seventeen years ago an adventurous companion accompanied me in a three days tramp to the

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<sup>56</sup> Haskin, "Oddities and Splendid Attractions of Colorado," d5.

<sup>57</sup> Haskin, "Oddities and Splendid Attractions of Colorado," d5.

top of this mountain," they noted, and "when we reached the soda springs on our return, we sat down at the largest and bathed our blistered and swollen feet in the cool, sparkling waters."<sup>58</sup> In this instance, the "cool, sparkling waters" were not only memorable for the author, but corporeally soothing and relieving. Blistered and swollen feet are signs of physical discomfort, and the submerging of them in the spring demonstrates a belief in the supposed healing qualities of the water. The sensual experience of their feet touching cool water also deserves mention because it was the linking of lungs and mountain air in some cases, and the connection between exterior components of human bodies and other forms of nonhuman nature such as water in other instances, that ultimately appealed to consumers nationwide. Published in 1877, this account indicates that the Colorado Springs for health belief and the subsequent economic growth and promotion of a created communal identity based on tourism and health resorts was supported not only by physicians nationwide, but also by many travelers throughout America.

Grace Greenwood, a late nineteenth-century traveler and writer for the *New York Times*, often wrote about her experiences in the Rocky Mountains. In what she titled "Notes of Travel," she provided a personal account of health recovery during the 1870s. When writing about Manitou Springs in 1873, she noted, "I will say that for the first time for more than twenty years I was well through all the month of September, the season in which I am especially liable to terrible attacks of nervous asthma and acute bronchitis."<sup>59</sup> She continued by stating "through all my stay at the springs, nearly three months, I never lost a day, a night's rest, or a meal from sickness."<sup>60</sup> Greenwood expressed her belief in the "Colorado for health" construct and

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<sup>58</sup> "A New Look at Old Fields: Colorado Revisited, the Contrasts of Seventeen Years--Resources of the Young State--Railways, Their Character and Services--Mines and Their Revenue--Farming and Other Statistics--Pike's Peak Tourists--the Soda Springs of Manitou," *New York Times*, May 31, 1877, 3.

<sup>59</sup> Grace Greenwood, "Notes of Travel," *New York Times*, November 15, 1873, 3.

<sup>60</sup> Greenwood, "Notes of Travel," 3.

mentioned other individuals who experienced similar success in Colorado. She wrote about a "Mr. F. B J. Crane, of Detroit, who came to Colorado as a last resort, after thirty years of suffering from asthma."<sup>61</sup> According to Greenwood, "here he has good sleep, good health, good spirits, and devotes himself to good works."<sup>62</sup> This article provides two examples of individuals who believed in the "Colorado for health" idea. Personal experiences of restored health and the direct link between human bodies and nonhuman nature in Colorado Springs indicate the role corporeal experience played in its economic development.

The *Washington Post* also printed articles about travels and experiences in Colorado during the late nineteenth century. A correspondent for the *Post*, much like the previous New York correspondent, designated Colorado a health-restoring State in an article published in 1888. The author first wrote about a friend they encountered immediately after arriving in Denver. As the correspondent stated, "twelve years ago I had parted with this gentleman in the city of Washington," and "he was then an exceedingly sick man."<sup>63</sup> The author was certain that the man would soon be dead and surely did not expect to see him twelve years later. However, "here he was, as robust and healthy as in his best days."<sup>64</sup> The previously ill man told the author that "I thought I might as well die here as in Washington," so "shortly after you left, I came to Colorado, and I aint dead yet."<sup>65</sup> Not only did the article provide an example of yet another person who claimed to have been healed by the Colorado climate, geographical location and high altitude, but it also explained the process of breathing in these elements and experiencing bodily stimulation as the result of it. For example, the author noted that the atmosphere in Colorado

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<sup>61</sup> Greenwood, "Notes of Travel," 3.

<sup>62</sup> Greenwood, "Notes of Travel," 3.

<sup>63</sup> "Health Giving Denver: Natural Springs with Wonderful Powers to Tone Up the System," *Washington Post*, April 22, 1888, 6.

<sup>64</sup> "Health Giving Denver," *Washington Post*, April 22, 1888, 6.

<sup>65</sup> "Health Giving Denver," *Washington Post*, April 22, 1888, 6.

contained just the right amount of ozone "so that every breath you draw sends the life blood leaping through your veins with exhilarating vigor."<sup>66</sup> Again they focus on the interaction between mountain air and human lungs, as well as the resurgence of energy and strength that accompany the physical act of breathing. In doing so, the author expresses support for the "Colorado for health" belief by linking the packaged environment to physically sensual bodily experiences of power and rejuvenation.

An article published in 1892 also appealed to sensual experiences of strength and energy; however, rather than demonstrating how physical exertion in the Rockies led to improved health, the author noted how a lack of activity in Colorado Springs could also result in refreshed human bodies. The author noted that "insomnia is unknown, and one does not need rocking to sink into the forest fullness of slumber in this delightful climate."<sup>67</sup> This belief indicates that Colorado Springs attracted people suffering from physical ailments such as Tuberculosis and asthma, as well as others who have trouble sleeping. A lack of sleep results in decreased energy levels of humans, and people cannot survive without sleep. In this way, the Colorado Springs for health belief tapped into a vital element of human survival and encouraged people from all walks of life to strengthen themselves in the Colorado sun. Sleep is a necessary bodily function, it is uninterrupted and inviting in Colorado Springs, and a linking of resting bodies in this case with the nonhuman natural world, according to the article, charged human bodies. Therefore, the connection between physically sensual experiences and economic development is yet again evident.

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<sup>66</sup> "Health Giving Denver," *Washington Post*, April 22, 1888, 6.

<sup>67</sup> "The Garden of the Gods: Some of the Beauties of the Wonderful Rock Formations, Memories of Helen Hunt, Vandalism at the Spot Which She Had Selected for Her Grave--Days Spent in the Balmy Atmosphere of Colorado Springs, the Old Method of reaching the resort," *Washington Post*, November 14, 1892, 7.

Support of this belief was not limited to the United States however, and Colorado Springs gained international recognition during the last few decades of the nineteenth century. *Climate and Health Resorts*, a book published in 1890, demonstrated a familiarity with Colorado Springs as an internationally known health resort. J. Burney Yeo, a physician of King's College in Europe and professor of clinical therapeutics, wrote the book and compared Colorado Springs with other well-known health resorts across the globe. As Yeo wrote, Colorado Springs, unlike Denver, "has been selected and laid out for the purposes of a sanitarium."<sup>68</sup> In this book, Yeo noted the wide distance between dwelling houses, mentioned that the city's "ground has a very gentle slope from north to south," and discusses its means of obtaining water, as these were significant elements of a successful health resort.<sup>69</sup> "There is," Yeo continued, "a top soil of two feet resting on seventy feet of sand and gravel, which is very porous, so that there is a perfect natural drainage."<sup>70</sup> In addition to the gently sloping decline and natural geologic water filter, "a supply of pure water is obtained from the mountain-side six miles off."<sup>71</sup> Yeo's account of Colorado Springs is significant for several reasons. First, it indicates the rapid circulation of the "Colorado for health" belief, and second, it shows how even on an international level, Colorado Springs was recognized and often suggested to consumptives. International attention meant international travelers, and more money to the city of Colorado Springs. This income was generated through a correlation between human health, physical experience, and the Rocky Mountains.

Railroad services lifted many Americans to the elevated health sanctuary of Colorado Springs, which also made possible the economic growth of the region. As ideas of health and

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<sup>68</sup> J. Burney Yeo, *Climate and Health Resorts* (New York: Castle and Company, 1890), 279.

<sup>69</sup> Yeo, *Climate and Health Resorts*, 280.

<sup>70</sup> Yeo, *Climate and Health Resorts*, 280.

<sup>71</sup> Yeo, *Climate and Health Resorts*, 280.

Colorado were increasingly intertwined and transported on railroad cars, people with the financial means to make the trip boarded trains headed to the Rocky Mountains. Simultaneously, railroad companies produced pamphlets and brochures advertising the natural wilderness and Colorado's health industry. In 1888, for example, the passenger department of the Colorado Midland Railway published a promotional pamphlet stating that "Colorado Springs is known particularly as a health resort and sanitarium."<sup>72</sup> The pamphlet sold health restoration to consumptives and outdoor enjoyment to wealthy individuals across the globe. As the guidebook promoted, many individuals during the late nineteenth century traveled to Colorado Springs in search of health as well as natural beauty and climatic conditions that encourage outdoor activities. "What has induced them to make their homes here," the guidebook questions, "may be answered in a few but very significant words: an unrivaled climate, nature's beautiful and grand attractions in many forms and a society that is all that could be desired by either lady or gentleman of refinement and wealth."<sup>73</sup> Published by the Colorado Midland Railway in 1888, this source reflects the company's desire to attract passengers, and it provides reasons why consumptives and those not suffering from respiratory illnesses should move to the Centennial state. Guidebooks and promotional pamphlets highlighted the qualities Colorado had to offer and described Colorado Springs in a predictably divine manner given their economic interests.

At the turn of the century, railroad companies took full advantage of the supposed restorative qualities of Colorado's environmental make up. In 1905, for example, The Chicago, Rock Island and Pacific Railway Company released a promotional pamphlet comparing Colorado health resorts to other world-famous locations in Europe. Davos Platz in Switzerland

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<sup>72</sup> Passenger Department, Pike's Peak Route, The Colorado Midland Railway, From *Plains to Peaks: A Hand-Book For Tourists in The Rocky Mountains* (Denver: Passenger Department of the Colorado Midland Railway, Pike's Peak Route, 1888), 6.

<sup>73</sup> Passenger Department, Pike's Peak Route, the Colorado Midland Railway, *From Plains to Peaks*, 6.

was one of these world renowned resorts, but "the leading climatologists and specialists of London, Glasgo, new York and Boston," the pamphlet noted, "say that Colorado is far superior to Davos Platz for pulmonary troubles," and that "Colorado, as compared with Davos Platz, has a higher average temperature, less rainfall, less humidity, and about twice the number of hours of sunshine."<sup>74</sup> Each of these qualities, as noted above, were designated elements of a healthful region. In following the ideas of entrepreneurs, government agencies, and physicians, guidebooks and railroad promotional materials reinforced the "Colorado for health" belief about Colorado Springs. In fact, as Tom Kilton argues, railroads often served as libraries for travelers. We do not know all of the types of reading materials that were exclusively distributed by railroad companies, Kilton writes, but we know that "the station newsstands and often the trains themselves served as primary retail outlets for recreational reading materials," and that "they were indeed the chief suppliers of certain materials written solely for the pastime of railroad travelers."<sup>75</sup> Guidebooks were just one of the many types of literature sold on railroads and in railroad stations. "For example," Kilton continues, "there were the cheap nineteenth century softcover fiction series (commonly referred to and sometimes actually entitled railroad libraries; the soft- and hard cover travel guides issued by the private railroad companies, and various works intended for the entertainment of train travelers, such as the popular nineteenth-century hardcover books on humor."<sup>76</sup> From 1864 onwards, The Union News Company was a key distributor of guidebooks and promotional materials. There were a few publishers like Frank Leslie who employed their own news agents on the trains, but according to Kilton, "when a

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<sup>74</sup> Passenger Department, Rock Island Line, the Chicago, Rock Island, and Pacific Railway Company, *Under the Turquoise Sky in Colorado: In Which is Shown How Pleasant, Healthful and Economical A Sojourn in the Ideal Vacation-Land May Be* (Chicago: Passenger Department, Rock Island Line, the Chicago, Rock Island, and Pacific Railway Company, 1905), 16.

<sup>75</sup> Tom Kilton, "The American Railroad as Publisher, Bookseller, and Librarian," *Journal of Library History* 17, no. 1 (Winter 1982): 40.

<sup>76</sup> Kilton, "The American Railroad as Publisher," 40-41.

book's end pages state that the book was for sale at station newsstands and on the trains, one can be fairly certain that it was distributed by the Union News Company."<sup>77</sup>

It is important to note some of the most significant figures involved with the development, promotion, and sale of the "Colorado for health" construct, and in this case, it is equally, if not more important to mention the lack of statistical evidence or personal testimony in many of the available sources. This statistical gap suggests that the belief, rather than actual results, was the commodity. It should also be stated that in addition to the medical advice of some experts such as Boardman Reed which encouraged consumptives to move to locations near the ocean, there were other alternatives sold to those who could not or would not physically make the move. As Dr. J. Solis-Cohen wrote in the 1880s, "for the benefit of individuals whose lack of money or whose domestic duties preclude their resort to a temperate climate, there is a substitute in periodic inhalations of air subjected to modification of pressure."<sup>78</sup> In this paper, Dr. Solis-Cohen suggests that one did not have to necessarily move to be cured of consumption, but could purchase a product that would pressurize the air in their homes. "Patients whose means permit them to purchase apparatus for their own use," Solis-Cohen stated, "can be instructed how to take their inhalations at home; and the method of treatment will begin to receive the professional attention it merits whenever apparatus of moderate cost can be supplied for this purpose."<sup>79</sup> In this example, specific atmospheric qualities such as pressurized or rarefied air that were believed to be found in abundance in the elevated regions of Colorado were again being transported to willing and able consumers. Obviously, air from Colorado Springs

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<sup>77</sup> Kilton, "The American Railroad as Publisher," 41.

<sup>78</sup> J. Solis-Cohen, "The Use of Compressed and Rarefied Air As A Substitute For Change of Climate in The Treatment of Pulmonary Diseases," in *Transactions of The American Climatological Association For The First Annual Meeting in 1884* (New York: Appleton and Company, 1884), 59.

<sup>79</sup> Solis-Cohen, "The Use of Compressed and Rarefied Air," 60.

could not be directly shipped to outside markets, but the ideology surrounding it could relatively easily be transported and sold. The fact that one did not necessarily need to move to Colorado to achieve similar results, although Solis-Cohen contended that relocating to dryer elevated regions "is far superior to any artificial administration," suggests that the physical environment of Colorado was preferred, but not required.<sup>80</sup> It also demonstrates the portability of a developed belief focused on structures or substances such as mountains and air that are not transportable.

By the turn of the century, the health belief had already been established and successfully sold to consumers globally. Physicians like Charles Denison continued writing articles and presenting them at conferences, while others prescribed Colorado Springs to a more specific type of consumptive and cautioned against unnecessary travel. The Colorado State Organization of The International Congress on Tuberculosis printed a souvenir book including many medical experts who expressed the belief that only certain consumptives should move to Colorado, while others should not. Denison, who presented another one of his many papers on matters of respiratory illness for this organization in 1908, stated that "if it is good for the fit, it is proportionately bad for the unfit; therefore, you are to be favored by other writers with authoritative information as to the suitable and unsuitable classes of tubercular invalids for this high plateau and mountain country."<sup>81</sup> The souvenir book also contained the work of physicians like Sherman Bonney who educated readers on what types of consumptives should move to Colorado and which consumptives should not. Bonney argued that Colorado's environment can be effective in curing some patients, but that it is not necessarily the answer for all invalids. As Bonney wrote, "it is thus readily understood that there can be no single climate adapted to the

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<sup>80</sup> Solis-Cohen, "The Use of Compressed and Rarefied Air," 59.

<sup>81</sup> Charles Denison, "How Does Colorado's Climate Influence Tuberculosis?" in *Colorado Souvenir Book For the International Congress on Tuberculosis*, ed. W. Beggs (Denver: Press of Denver Engraving Company, 1908), 8.

needs of all pulmonary invalids."<sup>82</sup> This statement indicates the level of difference within the medical community with regard to the treatment of respiratory ailments and materially absorbing human bodies. This difference did not prevent early Colorado Springs' developers from selling a widely debated idea that the physical characteristics of Colorado were helpful in curing consumptive patients.

While Bonney indicated which types of consumptives should move to the Rocky Mountains, others presented papers about which consumptives should not waste their time traveling to Colorado Springs. Those who encouraged patients to not waste their energy and resources relocating often based their opinions on how long a patient suffered from pulmonary ailments. "The Progressive case, too far advanced," one physician wrote, "has no business to come to Colorado."<sup>83</sup> The same physician stated that "it is an injury to himself, it is an injury to Colorado, and what is worse, it is an injury to the untold thousands who, while still in a stage and condition permitting benefit and recovery, are deterred from coming here by the unfavorable impression produced by the futile efforts in unsuitable cases."<sup>84</sup> These are strong words that illustrate the growth and acceptance of the "Colorado for health" ideology by the turn of the twentieth century. Not only do they express a belief in the idea that Colorado was a place where one could be cured of tuberculosis, but they also threatened those in late stages of respiratory diseases, who challenged the ideology that developers created and sold to other consumptive patients. The group of invalids who did not experience health improvement in the Rocky Mountains directly threatened the economic development of Colorado Springs and the physician,

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<sup>82</sup> Sherman Bonney, "What Consumptives Should Come To Colorado?" in *Colorado Souvenir Book For the International Congress on Tuberculosis*, ed. W. Beggs (Denver: Press of Denver Engraving Company, 1908), 12.

<sup>83</sup> W. Beggs, "What Consumptives Should Not Come To Colorado?" in *Colorado Souvenir Book For the International Congress on Tuberculosis*, ed. W. Beggs (Denver: Press of Denver Engraving Company, 1908), 16.

<sup>84</sup> Beggs, "What Consumptives Should Not Come to Colorado," 16.

government official, and booster-promoted community identity based on strong, healthy individuals and a healing environment. These uncured sufferers lead one to wonder just how effective the Colorado prescribed environment was in curing consumptives. This is a great question that one might never fully answer. “As the problem of varying climates is somewhat more complex,” historian of medicine Frank Rogers wrote in 1969, “it might be reasonable to conclude that we shall never know the effects of altitude on this disease.”<sup>85</sup> Rogers pointed out multiple variables that made statistical information difficult to accurately obtain. He wrote that diagnosis was difficult until the disease reached an advanced stage, noted that inadequate records make treatment efficiency hard to determine, and argued that it is hard to figure out which cases of tuberculosis originated in Colorado, and which were brought to Colorado from other regions of the country and world. Because of these issues, Rogers wrote, “the efficacy of altitude therapy in tuberculosis was a classic case of the problem of multiple variables.”<sup>86</sup> Although a complete and detailed record of deaths caused or prevented by tuberculosis may not exist, the role of corporeal experience in the promotion of a communal identity cannot be ignored.

The link between sensual experiences of physical healing and the environment of Colorado Springs with the economic development of the region is significant; however, the well-promoted community identity based on tactile experiences is also worth mention. Colorado Springs citizens became extensions of the region they inhabited. Grace Greenwood, the *New York Times* correspondent mentioned above, wrote another article detailing her experience in the bath house at Manitou Springs in 1877. “The grand hotel of Manitou,” she wrote, “is this season kept by Mrs. Beebee, formerly hostess of that coziest and comfortablest of hostelries so long and

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<sup>85</sup> Frank Rogers, “The Rise and Decline of the Altitude Therapy of Tuberculosis,” *Bulletin of the History of Medicine* 43, no. 1 (January-February 1969): 15.

<sup>86</sup> Rogers, “The Rise and Decline,” 14.

pleasantly known to Colorado tourists, mountaineers, and Miners, as the ‘Beebee House,’ at Idaho Springs, that has not gone out of the family.”<sup>87</sup> She continued by stating that “Mrs. Beebee is a representative Colorado woman for energy, enterprise, and business capacity.”<sup>88</sup> These statements support two points. First the economic success of bath houses in Manitou Springs, and more importantly the idea that the environmental qualities of Colorado Springs directly transferred to human hosts. The Colorado Springs climate, altitude, and geological infrastructure which was believed to physically alter and improve human health, also created a specific type of Colorado Springs citizen. This citizen was energized, strong, and symbolized the link between physical sensual experiences, economic development, and a promoted community identity.

Boosters of Colorado Springs quickly understood the role the “Colorado for health” belief played in the development of the city and the creation of a communal identity based on strength and other physically detected experiences. Many physicians and travelers believed in this construct. As a traveler to Colorado in 1888 reported, “I have come here for health and I have found it.”<sup>89</sup> The author also mentioned the type of people they experienced in Colorado. As they wrote, the people “know that in this State they have a good thing and they are wise enough not to kill the goose that lays the golden egg by charging exorbitant prices for accommodations.”<sup>90</sup> Another description of the people who populated late nineteenth century Colorado Springs is found in a *Chicago Tribune* article in 1880. The author, who used the pen name A.C., wrote that “the citizens are of a thrifty and enterprising character, as is shown by the

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<sup>87</sup> Grace Greenwood, “Summering in Colorado: Rocky Mountain Watering-Place, the Journey and its Incident's Reflection on the Strikes, the Army, and the Cognate Subjects Life at Manitou, a Remarkably Forgiving Disposition, from Our Special Correspondent,” *New York Times*, September 10, 1877, 1.

<sup>88</sup> Greenwood, “Summering in Colorado,” 1.

<sup>89</sup> “Health Giving Denver,” *Washington Post*, April 22, 1888, 6.

<sup>90</sup> “Health Giving Denver,” *Washington Post*, April 22, 1888, 6.

general appearance of the town, and the rapid rise in real estate, which has during the past year advanced at least 100 percent."<sup>91</sup> They continued by writing about a search for two sisters who previously lived in New York, but moved to Colorado Springs. Upon finding the sisters, the author wrote that "restored health to one and prosperity to both gave cheerfulness to all the surroundings."<sup>92</sup> This discovery suggests that the people of Colorado Springs were not only physically strong, but also aware of the quantifiable and profit generating material environment that was packaged and sold to people internationally. The product they had was a blend of mountains, hot springs and rarefied air, and they sold it to consumers worldwide. In other words, physical strength and an enthusiastic business sense represented the promoted community identity of the region.

While strong and prosperous owners of bath houses and hotels represented an energetic and economically sound segment of the Colorado Springs population, many sufferers of various illnesses also occupied space in the city, thus creating a unique blend of sick and healthy inhabitants. This mixture led one author to write that "the pleasure seeker and health hunter meet here because it is both a playground and a sanitarium."<sup>93</sup> Although the Colorado Springs environment was believed to aid consumptives who arrived in the State during the early stages of lung disease, those who came after the disease had advanced to later stages could not be assured their relief. "Consumptive patients may look forward to being rapidly benefitted unless the disease has been suffered to get too firm a hold before the health-renewing air is resorted to," an *Out West* weekly journal article reported.<sup>94</sup> This statement points out another group of Colorado

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<sup>91</sup> "Pleasure Resorts: Colorado Springs and Manitou, Colorado," *Chicago Daily Tribune*, June 7, 1880, 6.

<sup>92</sup> "Pleasure Resorts," *Chicago Daily Tribune*, June 7, 1880, 6.

<sup>93</sup> Haskin, "Oddities and Splendid Attractions of Colorado," d5.

<sup>94</sup> "Climate of Colorado, #2" in *Out West: A Weekly Journal Devoted to Western Interests and Information*, ed. J. E. Liller, May 16, 1872, Accessed February 16, 2019, <https://www.coloradohistoricnewspapers.org/?a=d&d=OWT18720516.2.40&srpos=1&e=01-01-1871-01-01-1873--en-20--1--txt-txIN->

Springs inhabitants, those struggling to charge ailing and aging bodies to preserve and extend life. The combination of rambunctious and energetic individuals and their meek and dying counterparts created the communal identity of the region. This identity directly developed around the “Colorado for health” belief and its appeal to sensual experiences of physical contact between humans and touchable and healing nonhuman nature.

An equally significant element of the economic identity of Colorado Springs during the late nineteenth century was its transient population. The health resort and tourism industry based on the Colorado Springs landscape led to the migration to, and immigration from the town. A particularly large number of *Chicago Tribune* articles discuss this migratory group of mainly upper-class citizens. An article in the June 3, 1894 newspaper mentioned the beginning of the tourist season in Colorado Springs and named several travelers who worked their way to the healthful city. "The season of 1894 opens with hotels and private boarding-houses full and with but few private cottages empty," the article noted, and "indications point to a prosperous season."<sup>95</sup> These statements indicate the connection between the “Colorado for health” commodity and far away consumers willing to travel for physical recovery. The article reported that "the Rev. Dr. Denney of Scotland, recently elected to the chair of systemic theology in the Chicago Seminary, is visiting here," that "Mr. and Mrs. John B. Neal, prominent in Boston society, are recent arrivals," that "Charles N. Thompson of Lacon, Ill. has bought valuable residence property here," and that "Mr. Alvin Hulbert and family of the Great Northern Hotel, Chicago, were recent guests of the Antlers" hotel in Colorado Springs.<sup>96</sup> This list of Colorado

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Consumptive+patients+may+look+forward+to+being+rapidly+benefitted+unless+the+disease+has+been+suffered+to+get+too+firm+a+hold+before+the+health%252Drenewing+air+is+resorted+to+-----0-

<sup>95</sup> "Chicago People in Colorado: Hotels Open at Colorado Springs and Manitou-Prosper," *Chicago Daily Tribune*, June 3, 1894, 13.

<sup>96</sup> "Chicago People in Colorado," *Chicago Daily Tribune*, June 3, 1894, 13.

Springs visitors supports the idea that the life renewing qualities of Colorado Springs and their direct correlation with human corporeal experiences led to the creation of not only a communal identity based on health restoration, but also based on a constant flow of people in and out of the town.

Correspondents of the *Chicago Daily Tribune* kept records of guests arriving in Colorado Springs and Manitou resorts, and the newspaper printed their results. Thanks to these records, Easterners had access not only to information about the climate of Colorado, but also the names of people who traveled to the region and what hotels or resorts they visited. As noted above, the majority of visitors to Colorado Springs had the financial resources necessary to make the trip and pay hotel and resort fees that were not cheap. For example, a correspondent in 1899 noted that "Thomas M. Blackstock of Sheboygan, Republican candidate for Governor of Wisconsin, is a recent arrival," that "Mr. John T. Kelly of Milwaukee, President of the Republican League clubs of Wisconsin, was here this week," and that "Miss Marge Fursman of this city sailed this week on the Etruria for Brussels, where she will enter the Royal Conservatory of Music."<sup>97</sup> This list is a small sample of the wealthy, or certainly upper-class civilians who migrated to the city at the foot of Pike's Peak. This sample indicates that physical experiences of health rejuvenation and restoration were often reserved for those with the financial means to purchase and consume them. Therefore, the tactilely experienced "Colorado for health" belief created a population of strong and healthy business owners, weak and dying consumptives, energy seeking travelers and primarily wealthy citizens in Colorado Springs. It was this mix of health, energy, and life, with sickness, fatigue, and death that defined the wealthy sense of communal identity and economic development in the Rocky Mountains.

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<sup>97</sup> "Arrivals at Colorado Springs: Fashionable Society Flocking to the Mountain Summer Resort for the Season," *Chicago Daily Tribune*, July 8, 1894, 27.

As the town of Colorado Springs rapidly expanded during the last three decades of the nineteenth century, it lost some of the qualities most readily recognized as healing elements of the natural environment. Dr. Charles Fox Gardiner, for example, wrote a paper in 1908 about the increased population and its damaging impact on the treatment of respiratory illnesses. As Gardiner wrote, "Colorado is no longer a frontier country, as it was a short time ago, whose inhabitants all having an outdoor life of activity and being scattered through a wilderness, their opportunity for being infected by Tuberculosis were almost nil."<sup>98</sup> In this sense, appeals to physical strength and recovery attracted thousands to Colorado Springs, and this increase in population directly caused by a desire to feel healthy and energetic eventually posed a threat to the healthfulness of the region. Although it may have been more widely challenged as the population increased, the "Colorado for health" belief was continually promoted and sold to patients looking for hope.

One may never know whether the environment and natural make up of Colorado Springs did in fact provide the healing elements necessary for curing consumptive sufferers; however, it seems as though physicians acted in good faith while contributing to the promotional literature supporting the ideology they helped create and sell. For example, "Physicians in Colorado For Tuberculosis," a paper written by A. C. Magruder, provides a look at the success rate of consumptives who were supposedly cured in Colorado. As Magruder stated, "the writer set out for himself the task of determining how many physicians now practicing in Colorado came to this state for Tuberculosis."<sup>99</sup> Magruder sent letters to 1,653 physicians with an enclosed list of questions to be answered and sent back to him. He received replies from about 33 percent of the

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<sup>98</sup> Charles Fox Gardiner, "Colorado Born tuberculosis," in *Colorado Souvenir Book For The International Congress on Tuberculosis*, ed. W. Beggs (Denver: Press of Denver Engraving Company, 1908), 17.

<sup>99</sup> A. C. Magruder, "Physicians in Colorado For Consumptives," in *Colorado Souvenir Book For The International Congress on Tuberculosis*, ed. W. Beggs (Denver: Press of Denver Engraving Company, 1908), 19.

physicians he contacted and compiled statistics based on this information. Magruder first asked if they came to Colorado because they were suffering from Tuberculosis or if a member of their family was infected. Of the 504 replies, 86 physicians said that they did in fact suffer from the disease when moving to Colorado and 68 others said they went to Colorado due to a suffering family member. According to Magruder, 67.4 percent of the ill doctors were cured, 15 percent claimed that the disease was arrested after moving to the Centennial state, 14 percent were improved, and 2.4 percent experienced no improvement.<sup>100</sup>

As for those who made the journey because of an ill family member, Magruder compiled similar statistics. As his study showed, 48.5 percent of ill family members were apparently cured, 10.7 percent claimed that the disease was arrested, 10.2 percent experienced improvement, and 23.5 percent did not improve.<sup>101</sup> As this data suggests, moving to Colorado was beneficial for some and not so beneficial for others. The fact that the doctors in Magruder's sample were consumptives or relocated due to an ill family member makes their testimony credible as firsthand accounts; however, one could also interpret these sources as less convincing. For example, the group of physicians Magruder questioned could have simply claimed that they were cured in Colorado in order to further promote the "Colorado for health" construct. These doctors may have supported this belief in order to increase the number of patients they would see, which would in turn improve their financial interests. They also could have truly been cured by the environmental package available in Colorado Springs.

In order to further address these issues, one would hope to uncover many more personal accounts of travelers who claimed to be cured in Colorado. Comparing these accounts with Magruder's data would add the valuable testimony of those who were not wealthy entrepreneurs,

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<sup>100</sup> Magruder, "Physicians in Colorado For Tuberculosis," 19.

<sup>101</sup> Magruder, "Physicians in Colorado for Tuberculosis," 19.

town boosters, railroad officials or physicians. If they had no financial interest in the “Colorado for health” belief, for example, they would be less inclined to fabricate stories about their personal recovery. One could also apply a more environmental approach and investigate the ecological make up of Colorado Springs during the last three decades of the nineteenth century to determine the validity of the “Colorado for health” belief. Perhaps a somewhat small population combined with the elevation, geographical location, amount of sunny days and ecological system of trees and plants in Colorado Springs did provide a unique form of air that did in fact aid sufferers of respiratory ailments. Whether the Colorado Springs environment actually cured consumptives is debatable, but the idea that it provided a cure for physically suffering bodies or those in search of rejuvenation was developed and sold to suffering consumers during the late nineteenth century.

As Colorado developed to fit the desires of its early entrepreneurs, government agencies, and railroad companies, medical practitioners nationwide prescribed the climate and geological foundation of Colorado's environment to patients suffering from respiratory illnesses. In doing so, they identified a sensual market within the human realm of corporeal experiences and linked these experiences with health in environmentally specific regions. This corporeally sensed mixture of human bodies and nonhuman nature in Colorado Springs created a financial avenue in the region, thus sparking its economic development. Mining, industrial, and agricultural settlements developed throughout Colorado in the last three decades of the nineteenth century, but the commodification of nature was not only achieved through the physical extraction of raw materials. Colorado Springs' air, water, mountains, elevation, and altitudinal location deemed it a health seekers paradise, and they were sold to willing consumers on national and international markets. Scholars do not know precisely how successful the physical environment of Colorado

Springs actually was in curing patients, but they do know that the idea that it was successful was sold to many consumers through sensory experiences of touching and feeling.

### Chapter 3: Hearing Cripple Creek: Labor Conflict and Contestation in a Colorado Mining Town

Booming dynamite blasts, whistling and rumbling trains, pounding drills, popping gunshots, cracking bones, jingling spur bells, shouting voices and bell chimes represent the contentious and sometimes cooperative Cripple Creek soundscape during the late 1800s and the early 1900s. Despite disputes between miners and mine owners, the success of the Cripple Creek gold district could be heard by the turn of the twentieth century. When describing this success, a *Morning Times* article encouraged mine owners to push the production of each mine, so that “the dawn of the new century will be marked by the screeching of whistles and the booming of dynamite.”<sup>1</sup> When a group of students from Colorado College took a trip to Cripple Creek in 1901, they were taken down into the longest drift in the camp, where they “saw the big air drills at work, and heard them, too, for they sounded like Gatling guns.”<sup>2</sup> Disputes between miners and mine owners were often violent, but gold mining was also dangerous and audibly detected. For example, Hiram Harris, a young miner working in Cripple Creek in 1893, fell to his death in a mine shaft, and “the men who were at work in the lower level heard the sound of the fall, and rushed up to the unfortunate man at once.”<sup>3</sup> Another group of students visited Cripple Creek in 1899, and they found the hoisting engine the most interesting. “The engineer knows at all times just where the elevator is,” a *Tiger* article noted, “and at what speed it is traveling.”<sup>4</sup> The engineer knew this information because “the brake lever, reversing lever, and

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<sup>1</sup> *Morning Times*, November 12, 1899.

<sup>2</sup> “The Cripple Creek Trip,” *Tiger* 4, no. 11, December 4, 1901.

<sup>3</sup> “Casualties,” *Colorado Daily Chieftain*, April 19, 1893.

<sup>4</sup> “The Cripple Creek Excursion,” *Tiger*, December 6, 1899.

throttle” were “within easy reach” and there was a “bell over his head constantly jangling signals to him.”<sup>5</sup> The discovery of gold in Cripple Creek drove the economic development in the region, and the sounds of this growth warned people of potential threats, dictated when miners and machinery were raised or lowered into mine shafts, and often indicated when mines were fully functioning or stagnant due to labor conflict or cooperation.

While the Rocky Ford cantaloupe industry developed and expanded during the late nineteenth century and Colorado Springs gained its fame as a sanctuary for physically suffering consumptives, Cripple Creek prospectors, mine owners, and laborers fought for control of a booming mining industry that led to the economic development of the region. Cripple Creek, a town located about 20 miles southwest of Colorado Springs, gained its claim to fame thanks to the golden mineral deposits buried within its hills. In the last several decades of the nineteenth century, early prospectors discovered gold in the previously overlooked region and within twenty years of this finding, Cripple Creek became known as the world's greatest gold camp, producing millions of dollars of gold for the national economy. Between 1890 and 1904, the Cripple Creek landscape transformed from a place where cattle grazed on the surface to a bustling mining community of subterranean shafts and tunnels. At the same time, the soundscape shifted from the quiet, largely uninhabited mountainous region to a loud space where dynamite blasts were frequent, train whistles and bells linked the town to the rest of the country, and the sound of gunshots represented competing versions of audible economic success and struggle. Although labor disputes in the region have been addressed in several works thus far, historians have focused less on the sonic experiences of miners, mine owners, government officials, and ordinary citizens who heard the sounds of conflict and triumph associated with gold production in Cripple

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<sup>5</sup> “The Cripple Creek Excursion,” *Tiger*, December 6, 1899.

Creek. Despite debates over working conditions and political representation, the roaring sounds of industrial production often meant that relationships between owners and workers were fully functional, while deserted mines and silently slumbering machinery represented periods of economic stagnation and labor discord.

Several histories of mining in late nineteenth and early twentieth century America focus on environmental disturbance and exploitation, as well as the relationship between human labor and the goods produced from this labor. In his study of open pit mining in Montana, Timothy LeCain argues that "the modernist promise of infinite progress through science and technology has repeatedly underestimated the complexity of technological and environmental systems, thus creating a host of new problems with every supposed solution."<sup>6</sup> As new methods and technologies were implemented in mining operations, greater quantities of the desired minerals were produced at the expense of often unintended or unpredictable environmental consequences. Since humans cannot fully separate themselves from nonhuman nature, these consequences should not be overlooked or ignored. In addition to the environmental costs associated with large scale mining, the relationship between mine workers, the labor necessary to extract precious metals, and the value of the products themselves serve as the focus of other mining scholars. In a study of gold mining in the late nineteenth century Klondike, environmental historian Kathryn Morse outlines these relationships and how they ultimately linked to political debates and the value of labor as it relates to the nation. Politicians argued over which metals should back the American dollar, and "as goldbugs naturalized gold as a divinely ordained source of wealth," Morse writes, "Populists naturalized productive manual labor as the national

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<sup>6</sup> Timothy LeCain, *Mass Destruction: The Men and Giant Mines That Wired America and Scarred the Planet* (New Brunswick: Rutgers University Press, 2009), 226.

source of true value, human virtue, and real wealth."<sup>7</sup> In addition, Morse continues, gold mining “forged connections, often through other human beings, to other, far distant natures.”<sup>8</sup> This chapter focusses less on environmental destruction than LeCain’s work. It also pays less attention to the value of gold. It does, however, discuss the labor necessary to produce gold, the finances and machinery needed to mine it, and ultimately the contentious relationship between miners and mine owners. Most significantly, this chapter places the sounds of conflict associated with mining the physically superior metal at the center of its analysis, thus adding an audible element to the story of economic development and community formation.

*All That Glitters: Class, Conflict, and Community in Cripple Creek*, a work written by Elizabeth Jameson published in 1998, serves as a foundational contribution to the history of the region. In her analysis of the historiography of Cripple Creek, Jameson contends that “most of the histories of the district have been written from the perspectives of the mine owners who won control in 1904.”<sup>9</sup> Focusing on class, conflict, gender, and community, Jameson tells a different story. She writes that in order “to restore the actors to the historical landscape, we must leave Mount Pisgah for the dusty streets, the saloons and boarding houses, and the homes, mines, lodges, and union halls that lay below.”<sup>10</sup> This chapter builds on Jameson's account by including laborers, owners, and the sounds of cooperation and conflict between them.

Pike's Peak and tales of golden abundance in the region first drew settlers in 1859. According to Wilbur Fisk Stone, “the rush to Pike's Peak in 1859-60 was the first determined attack of gold seekers upon the wilderness about this historic mountain period.”<sup>11</sup> However, this

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<sup>7</sup> Kathryn Morse, *The Nature of Gold: An Environmental History of the Klondike Gold Rush* (Seattle: University of Washington Press, 2003), 116.

<sup>8</sup> Morse, *The Nature of Gold*, 8-9.

<sup>9</sup> Elizabeth Jameson, *All That Glitters: Class, Conflict, and Community in Cripple Creek* (Urbana: University of Illinois Press, 1998), 16.

<sup>10</sup> Jameson, *All That Glitters*, 16.

<sup>11</sup> Wilbur Fisk Stone, *History of Colorado*, Vol. 1, (Chicago: S. J. Clark, 1918-19), 275.

first group of people in search of gold did not find the quantities or qualities they desired.

Initially, Stone wrote, "some of the Pilgrims of that far-off time tramped over the grassy hills of what is now Cripple Creek, without suspecting the existence of an El Dorado beneath their feet."<sup>12</sup> Likewise, there was no gold discovered in the nearby area. This lack of golden findings angered prospectors and caused them to abort their mission of striking it rich. For the next two decades, not much golden treasure was found, and Cripple Creek remained a more agriculturally sounding, cow grazing region.

In the late 1870s, Robert Womack, the discoverer of gold in Cripple Creek, moved to the region and upon arrival, he established a cattle ranch and quickly stumbled on evidence of gold in the region. Womack bought a white colt to help him survey the area. One morning, according to historian Marshall Sprague, the colt was stung by a bee on the nose and "the swelling made the colt whistle as he breathed, so Bob called him whistler."<sup>13</sup> In 1870s and 1880s Cripple Creek, horses and cowboys created the soundscape of the district. But the whistle of the colt's nose would soon shift to the whistle of trains and mining machinery. W. C. Calhoun, a nineteenth-century writer, noted that "in 1881" Womack "found free gold that assayed \$200 to the ton, but was scoffed out of it, and finally abandoned his claim."<sup>14</sup> Womack was told that the formation was not correct, and that the gold that he would find in the region would not be desirable on outside markets. However, Calhoun wrote, "he still foolishly persisted in his own unprofessional opinions."<sup>15</sup> His perseverance paid off to a certain extent in 1890, according to Calhoun, as he "located a vein which he called El Paso, built the first house in Poverty Gulch,

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<sup>12</sup> Stone, *History of Colorado*, 275.

<sup>13</sup> Marshall Sprague, *Money Mountain: The Story of Cripple Creek Gold* (Boston: Little, Brown and Company, 1953), 17.

<sup>14</sup> W. C. Calhoun, *History of Cripple Creek: America's Most Famous Gold Camp* (Denver: W. C. Calhoun, 1896), 9.

<sup>15</sup> Calhoun, *History of Cripple Creek*, 9.

sold out for a song, and now sells real estate among the 30,000 people whom his perseverance brought to the mines behind Pikes Peak."<sup>16</sup> Womack got out of the mining business almost as soon as he got in it; however, he sparked waves of interest in the region and paved the way for further discovery and extraction.

Although gold was discovered in Cripple Creek during the early 1880s, it was not until the 1890s when the industry boomed and prospectors and mine owners realized the large amount of gold located in the region. In the years immediately following Womack's discovery, others probed the region in search of golden riches. "In 1881," Calhoun continued, "following on the heels of Mr. Womack's first discovery, a considerable breeze sprang up on account of some pretended finds by other parties, and a rush was made to Cripple Creek."<sup>17</sup> Temporarily confirming the opinions of those who believed that Cripple Creek did not contain gold in amounts or qualities worth exploration, early prospectors left disappointed as "the principal prospect turned out to be a salted spot, however, and they all rushed again back home."<sup>18</sup> This symbolized the soundscape of the 1880s, the decade before Cripple Creek earned national attention. As another contemporary scholar wrote, after the initial retreat of miners back home, "the hillsides resumed the quiet aspect of the cattle range for which they seemed best fitted."<sup>19</sup> T. A. Rickard, the author of the previous quote, wrote retrospectively and from a mining industry perspective, so the quiet he wrote about is an imagined quiet, more so than an experienced one. Returning to Womack, although he found gold in 1881, a decade advanced before Cripple Creek

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<sup>16</sup> Calhoun, *History of Cripple Creek*, 9.

<sup>17</sup> Calhoun, *History of Cripple Creek*, 9.

<sup>18</sup> Calhoun, *History of Cripple Creek*, 9.

<sup>19</sup> T. A. Rickard, "The Cripple Creek District: Its Past and Future," in *The Official Manual of the Cripple Creek District*, ed. Fred Hills (Colorado Springs: Fred Hills, 1900), 15.

became the economic center of a booming and often contentious community based on mine labor and employer/employee relationships.

The transformation from a sleepy cattle range to a booming gold mining district occurred relatively quickly and with great changes to the soundscape of the region. Cripple Creek's valuable geological structure, more so than the soil or climate in the Rocky Ford and Colorado Springs cases, was what brought settlers to the district and aided the process of making it an industrial community. As one author notes, "here, almost within sound of the mighty wheels of commerce, hemmed in on all sides by civilized life but still remote because of its mountain way, here for years within the heart of civilization have treasures lain concealed."<sup>20</sup> This treasure drove the process of altering solitude, peace, and largely undisturbed land to a communal and contested region of dynamite blasts, picket lines, and punctured mountains that revived the national treasury. "Here in solitude the cowboy tended his herd in quiet peace and happiness," the author continued, "until Robert (Bob) Womack, while herding on the hills, discovered the precious yellow stuff."<sup>21</sup> After Womack's most successful discovery, several prominent figures in the economic growth and development of the region sought to make a fortune in the hills. These fortune-seekers sparked the transformation of the landscape, and the discovery of gold led to the changing of the Cripple Creek soundscape. "Over the quiet hills and vales," the author wrote, "there came a change" and "where once no sound was heard, save the sound of halloo of the herdsmen, clatter of hoofs, and horns and jingle of spur bells, there came the crushing, rendering roar of dynamite tearing the rocks asunder, the crunching and grinding and rattling of wheels, the shouting of mule drivers and freighters."<sup>22</sup> This drastic sonic shift represents the

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<sup>20</sup> George Bowman, *The Fabulous Cripple Creek District* (Cripple Creek: Fred Johnson and George Bowman, 1958), 5.

<sup>21</sup> Bowman, *The Fabulous Cripple Creek District*, 5.

<sup>22</sup> Bowman, *The Fabulous Cripple Creek District*, 6.

birth of the mining town of Cripple Creek. Within a few years of Womack's most significant discovery, the author concluded, "a town grew up like magic, prospectors thronged the hills, and there was solitude no more."<sup>23</sup> It is the sounds of this town's economic development that will now be addressed.

Mine owners, mine workers, boosters, and several Colorado Governors serve as the key figures in the story of Cripple Creek and its economic development. After Robert Womack's discovery, several other men staked claims in the region and became owners of mines that produced some of the world's largest quantities of gold. As Jameson writes, "there were, then, four discernible types of owners: those from working-class origins, linked through their joint ownership of the Portland, who were generally accommodating in their dealings with labor; the benevolent paternalists, represented by the Woods family; the older, largely anti-union magnates; and the young opportunists, or socialites, who were also resistant in their relations with employees."<sup>24</sup> As this statement indicates, conflicts between owners and laborers were not the only source of tension in the district. Owners handled labor disputes differently and did not initially have a unified set of standards with regard to the treatment of their workers. In addition to mine owners staking claims, laborers and their families also moved to Cripple Creek during the late nineteenth century. Between 1891 and 1900, the population of Cripple Creek increased from fifteen people to 50,000, the monthly payroll rose from \$50 to \$1,000,000, and the annual production improved from \$2000 worth of calves to \$20,000,000 worth of gold.<sup>25</sup> This expansion was made possible thanks to the abundance of gold found in the region, the capital

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<sup>23</sup> Bowman, *The Fabulous Cripple Creek District*, 6.

<sup>24</sup> Jameson, *All That Glitters*, 47.

<sup>25</sup> Sprague, *Money Mountain*, xi.

needed to penetrate and extract it, and the labor necessary to physically remove the precious metal from the west side of Pike's Peak to the national treasury.

Horace Bennett and Julius Myers laid out the original town site in 1891. Bennett, a Michigan man who moved to Colorado at the age of 21 and "started on his path to fame and fortune by hawking second-hand brass beds, porcelain cats and chamber pots on Denver's Larimer Street," sold enough junk by 1884 to "set up as a real estate agent on Seventeenth Street."<sup>26</sup> In need of a partner in 1885, Bennett asked Julius Myers, who according to Marshall Sprague, was "the older, smaller, quieter man," to join him, and the firm of Bennett and Myers was formed.<sup>27</sup> The first town site this firm platted was an 80-acre section they called Freemont. In 1892, an additional 120 acres were platted and called Cripple Creek. In early 1893, Freemont and Cripple Creek merged into modern-day Cripple Creek.<sup>28</sup> Electricity, a sewer system, and waterworks soon followed this merger and by the end of 1893, Cripple Creek was connected with the outside world through the telephone.<sup>29</sup> The district was well on its way to becoming one of the greatest mining towns in the world; however, wagon roads and eventually railroads needed to be constructed in order to ship the precious metal to the federal mint and to bring outside goods into the camp.

In order to begin the process of importing goods to support miners' livelihoods in the region and exporting gold that Cripple Creek produced to the national treasury, wagon and railroads quickly sprung up in the early 1890s. One of the earliest routes into the region included a wagon road from the Colorado Midland stations at Divide and Florissant. In addition, an El

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<sup>26</sup> Sprague, *Money Mountain*, 36.

<sup>27</sup> Sprague, *Money Mountain*, 36.

<sup>28</sup> Frederic Athearn, *Land of Contrast: A History of Southeast Colorado* (Denver: Bureau of Land Management, 1985), 122.

<sup>29</sup> Athearn, *Land of Contrast*, 122.

Paso County road called the Bear Creek road ran south of Pike's Peak into the area.<sup>30</sup> In 1892, several Florence businessmen developed the Florence and Cripple Creek Free Road Company and opened a road up Eight Mile (Phantom) Canyon, while rivals quickly "built a toll road up Four Mile (Oil) Creek from Canon City to Cripple Creek."<sup>31</sup> Immediately following the construction of these wagon roads, railroad companies worked to reach Cripple Creek.

As early as 1891, the Colorado Midland Terminal set out to include a line from the Colorado Midland at Divide; however, financial problems and the necessity of removing narrow gage tracks and reinstalling standard gage tracks prolonged the completion of this line, leaving the golden riches of Cripple Creek up for grabs. According to historian Robert Athearn, in 1893, David Moffat, a successful businessman from Caribou Colorado who wished to win the race to Cripple Creek, "threw 1750 men into the fray and proceeded up Phantom Canyon, reaching the district on July 1, 1894."<sup>32</sup> Thus, as Henry Lee Jacques Warren wrote in an 1896 book on the development of Cripple Creek, "it was in '94, too, that Cripple Creek first heard the screech of the locomotive, and found itself upon the great commercial highway of the Country."<sup>33</sup> Being the first railroad to reach the district, Moffat's line initially controlled a monopoly in the region until the Colorado Midland Terminal reached Cripple Creek in December of 1895, "hence ending the F and CC's monopoly."<sup>34</sup> It is important to note the rapid growth of the industry in these early years.

Before railroads reached the district, the value of gold produced each year increased.

"When the books of '91 were closed," for example, "the pioneers of the district had dug from the

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<sup>30</sup> Athearn, *Land of Contrast*, 123.

<sup>31</sup> Athearn, *Land of Contrast*, 123.

<sup>32</sup> Athearn, *Land of Contrast*, 123.

<sup>33</sup> Henry Lee Jacques Warren, *Cripple Creek and Colorado Springs; A Review and Panaroma of a Unique Gold Field, With Geological Features and Achievements of Five Eventful Years, Including Outlines of Numerous Companies* (Colorado Springs: Warren and Stride, 1896), 20.

<sup>34</sup> Athearn, *Land of Contrast*, 123.

surface something like \$200,000."<sup>35</sup> A year later, the region produced about \$600,000 of gold and in 1893, "instead of digging \$600,000 of gold values from the earth, something over \$2,000,000 stood to the credit of the camp upon the ushering in of the new year."<sup>36</sup> These amounts continually increased over the next ten years, but not without conflict and cooperation between owners and laborers. Despite this conflict, by 1893, newspapers often printed articles indicating the success of the district. The *Rocky Mountain Sun*, for example, stated in April of 1893 that "the success of Cripple Creek as a great gold mining district is now assured beyond question."<sup>37</sup>

Two major strikes in a ten-year period represent the levels of discontent between mine owners and workers in the Cripple Creek district, and toward the end of 1893, the sound of labor conflict could clearly be heard. In 1893, President Grover Cleveland and the United States government repealed the Sherman Silver Purchase Act, which required the government to purchase a certain amount of silver each month. This legislative decision led to the closing of many silver mining operations; however, many displaced silver miners quickly found their way to Cripple Creek where they could produce the gold necessary to back every American dollar. In this year of 1893 had come "the practical demonetization of silver by the congress of the United States, with the resultant depression in silver mining and the demoralization of capital invested in that industry."<sup>38</sup> As displaced silver miners worked their way to Cripple Creek, they socialized with other miners in the district and began to develop a set of standards that laborers wanted mine owners to accept. These standards ultimately led to the first major strike, the strike of 1893-1894. "Its first rumblings were heard about Thanksgiving day," Warren wrote, and "a

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<sup>35</sup> Warren, *Cripple Creek and Colorado Springs; A Review and Panaroma*, 13.

<sup>36</sup> Warren, *Cripple Creek and Colorado Springs; A Review and Panaroma*, 13-16.

<sup>37</sup> "Cripple Creek a Great Success," *Rocky Mountain Sun*, April 22, 1893.

<sup>38</sup> Warren, *Cripple Creek and Colorado Springs; A Review and Panaroma*, 16.

discontent at the absence in the camp of uniform hours of labor, fanned by so-called leaders among the miners, finally led to most extraordinary results."<sup>39</sup> On December 1, 1893, a demand from the miners for an eight hour work day without a reduction in wages was sent to mine owners. Ignoring this demand, a general strike was declared on January 1, 1894.<sup>40</sup> The whistles, bells, gunshots, and explosions that soon boomed in Cripple Creek due to this strike serve as one of the primary concerns of this chapter. Before the flood of miners and mine owners poured into Cripple Creek, the cattle range soundscape of the region prevailed. In the years after the population boom, the soundscape became much louder and deadlier.

Several months prior to the meeting on Thanksgiving, other issues threatened labor relations in the district. As Benjamin McKie Rastall wrote in his work on labor disputes in Cripple Creek in 1908, "In August, 1893, H. E. Locke became superintendent of the Isabella mine," which at that time was "working an eight-hour shift—seven and a half hours labor, one-half hour for lunch."<sup>41</sup> Rather than moving toward an expansion of this work schedule, Rastall stated, "on the 17th of the month a notice was posted to the effect that, beginning with the following Monday, a mine shift would be ten hours, with one hour off for lunch," thus agitating workers accustomed to a shorter workday.<sup>42</sup> A meeting of miners was held that Sunday in which they decided to not go to work the following day. "When Superintendent Locke arrived at the mine the men met him, and a heated controversy ensued, Locke trying to bully the men into going to work, and the men trying to force him to rescind the order," noted Rastall.<sup>43</sup> This conflict led to the creation of several unions in the region. "A committee of miners was

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<sup>39</sup> Warren, *Cripple Creek and Colorado Springs; A Review and Panaroma*, 17.

<sup>40</sup> Warren, *Cripple Creek and Colorado Springs; A Review and Panaroma*, 17.

<sup>41</sup> Benjamin McKie Rastall, "The Labor History of the Cripple Creek District: A Study in Industrial Evolution," A Thesis Submitted for the Degree of Philosophy, Bulletin of the University of Wisconsin, no. 198, *Economics and Political Science Series* 3, no. 1 (February 1908), 20.

<sup>42</sup> Rastall, *The Labor History of the Cripple Creek District*, 20.

<sup>43</sup> Rastall, *The Labor History of the Cripple Creek District*, 20.

appointed to draw up resolutions, and soon after steps were taken to form unions," of which "the Altman Union was the first to organize, and" it was ultimately "admitted to the Western Federation of Miners as Free Coinage Union No. 19 on the 12th of December."<sup>44</sup> Audible communication through the telephone connected Superintendent Locke with companions in Colorado Springs, but the order was removed and the men went back to work. However, obvious tensions between workers and owners brewed, crackled, and eventually popped in the strike of early 1894.

In early 1894, similar demands for an eight-hour work day spread throughout the Cripple Creek district. According to Carroll Davidson Wright, U.S. Commissioner of Labor in 1905, this discontent gained further support because "the Western Federation of Miners, organized in 1893, had a large number of members in the Cripple Creek district when the strike of 1894 began."<sup>45</sup> In January, 1894, there were 40 mines and prospects operating under the eight-hour day, and nine mines working nine-hour days. Union workers pushed for at least \$3 per each eight-hour day and in some cases allowed laborers to accept this wage for nine hours of work. The vast majority of major mines paid these wages; however, "on January 17, 1894, a notice was posted at the Pharmacist mine to the effect that all miners who desired to continue working on that property would be required to work ten hours a day and lunch on their own time, or work eight hours for \$2.50 per day," and "a few days later similar notices were posted at the mines of the Isabella property, owned by J. J. Hagerman, and at the Victor and Anaconda mines, owned chiefly by D. H. Moffat and Eben Smith."<sup>46</sup> Mine owners gave no reasonable explanation for the

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<sup>44</sup> Rastall, *The Labor History of the Cripple Creek District*, 20.

<sup>45</sup> Carroll Davidson Wright, *A Report on Labor Disturbances in the State of Colorado, from 1880 to 1904, Inclusive, with Correspondence Relating Thereto* (Washington: United States Bureau of Labor Government Printing Office, 1905), 75.

<sup>46</sup> Wright, *A Report on Labor Disturbances in the State of Colorado*, 75.

reduction in wages, stating that the production of the mines did not justify the payments. Laborers refuted this notion and referred to "the fact that the latest quarterly statements of the respective properties showed that large dividends had been paid," and therefore "took the position that there was no cause for a reduction of wages."<sup>47</sup> This division between organized labor and owners of Cripple Creek mines eventually resulted in a victory for workers, but not before months of violence and government intervention. In fact, as noted in the January 23 issue of the *Aspen Daily Times*, H. E. Locke "was captured by a hundred armed [sic] miners at Cripple Creek Saturday and came very near being lynched."<sup>48</sup> The quiet and calming cow pasture was quickly becoming a noisy and violent gold camp representative of audibly detected industrial growth and economic development.

Governor Davis Waite, unlike James Peabody ten years later, supported organized labor in Cripple Creek during the strike of 1893-1894. Before the Governor addressed the conflict in the region, however, union leaders like John Calderwood further pushed forth their agenda. On February 2, many miners met at Anaconda. At this meeting, John Calderwood, a prominent union miner, called for all mine managers to stop working their men nine hours a day, for them to accept union terms with regard to working eight hours a day, and for owners to pay a minimum of \$3 a day. If they did not enforce these rules within ten days, "the union should call out all men working nine hours."<sup>49</sup> An article in the *Salida Mail* on February 16, 1894 noted that although mine owners were content keeping mining operations closed until the arrival of the railroads, they were happy to continue operating if miners would accept three dollars per nine-hour day. "On the other hand," the newspaper reported, "the strikers, or rather their leaders, are

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<sup>47</sup> Wright, *A Report on Labor Disturbances in the State of Colorado*, 75.

<sup>48</sup> *Aspen Daily Times*, January 23, 1894.

<sup>49</sup> Wright, *A Report on Labor Disturbances in the State of Colorado*, 75-76.

determined not to accede, while the miners who have been forced from their work are anxious to return at 3 a day for nine hours."<sup>50</sup> Union supporters obviously painted anti-union proponents in a negative light, much like anti-union men often criticized union workers and demonized them in their respective accounts of the Cripple Creek strike.

As laborers picketed mines owned by those who did not cooperate with union requests, angry supporters of corporate interests took matters into their own hands. In support of mine ownership, "on the evening of March 16, six deputy sheriffs, while on their way to the Victor mine to protect that property from threatened injury, were surrounded near Altman by a force of miners and arrested."<sup>51</sup> The violence that ensued was more than simply a visual affair, but rather an encounter that included gunshots and the sounds of clubs smashing into human bones. For example, "one of the deputies was wounded by a pistol shot; another was struck on the back with a club."<sup>52</sup> The sound of gunshots, hand-to-hand combat, and explosions were just some of the noises that represent the Cripple Creek soundscape. Much different than the sounds of the cattle range that prevailed in the region before the massive expansion of industry in the 1890s, the sonic experiences of those who lived in Cripple Creek shifted in ways often unexpectedly. According to Henry Lee Jacques Warren, "it is not to the people of isolated or frontier communities, whose ears are harkening for the sound of the iron horse; whose prayers are for its speedy coming, that grinding monopoly and extortionate rates are familiar expressions," because such only becomes "current when the sound has been heard and the prayer answered."<sup>53</sup> To those who worked in other mining operations or traveled through previous mining camps, the sounds of mining, mine labor and conflict may not have been unfamiliar; however, to those

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<sup>50</sup> "Cripple Creek Labor Troubles," *Salida Mail* 14, no. 74, February 16, 1894.

<sup>51</sup> Wright, *A Report on Labor Disturbances in the State of Colorado*, 76.

<sup>52</sup> Wright, *A Report on Labor Disturbances in the State of Colorado*, 76.

<sup>53</sup> Warren, *Cripple Creek and Colorado Springs; A Review and Panaroma*, 98-99.

coming from other rural or isolated communities, the industrial soundscape included more than just the sounds of dynamite blasts and railroad engines. It also included more human sounds such as verbal and physical conflict, audible success and celebration, and economic contention and uncertainty.

Returning to the events on March 16, the deputies who attempted to protect the interests of mine owners were taken to the police magistrate who happened to be a union miner, but they were ultimately released. They returned to Cripple Creek and the fighting continued. At this point, Governor Davis H. Waite addressed the problem. "On the same night," Wright noted, "the sheriff of El Paso County, M. P. Bowers, appealed to Governor Davis H. Waite for troops to preserve order."<sup>54</sup> Governor Waite sent out three companies comprised of the signal corps as well as a battery of artillery from Denver and a company from Colorado Springs. On March 18, General E. J. Brooks and the troops arrived in Cripple Creek. That morning Brooks and adjutant general T. J. Tarsney met with county officials and businessmen from the district. As Tarsney described the incident, "early in the day, General Brooks and myself were asked to a conference with the officials of the county and the businessmen of Cripple Creek, whom we met to the number of perhaps 30 at the Palace Hotel."<sup>55</sup> He continued by reporting that "they represented to us the terrible conditions in the city and adjacent mining camps, representing that there was no safety for life or property in either, and declaring that the civil authorities were unable to preserve the peace; that the roads and trails were guarded by armed men, openly defying the officers of the law."<sup>56</sup> This description indicates the civil unrest in the district and the parties

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<sup>54</sup> Wright, *A Report on Labor Disturbances in the State of Colorado*, 76.

<sup>55</sup> T. J. Tarsney in Carroll Davidson Wright, *A Report on Labor Disturbances in the State of Colorado from 1880 to 1904, Inclusive, with Correspondence Relating Thereto* (Washington: United States Bureau of Labor Government Printing Office, 1905), 76.

<sup>56</sup> Tarsney in Carroll Davidson Wright, *A Report on Labor Disturbances in the State of Colorado*, 76-77.

involved. What started out as a local conflict between miners and mine owners quickly escalated to a concern of the State government of Colorado, as well as the federal government.

Whereas local authorities were primarily in defense of mine owners and mine workers were largely in support of organized labor, the State government stance shifted drastically in the ten-year period between the first major strike of 1894 and the second in 1904. Upon careful investigation of reported trouble in the district, adjutant general Tarsney claimed that "no person in the county had been charged with the commission of any offense in regard to the existing labor troubles, and that no warrant or other process of court had ever issued, and that neither the sheriff nor any of his deputies had ever been resisted in any way, nor had Sheriff Bowers ever been or had he ever sought to go to Bull Hill, where it was alleged that the trouble existed."<sup>57</sup> Once Sheriff Bowers heard the adjutant general's decision, he quickly obtained warrants for 18 union members. Bowers demanded the aid of the general in arresting the men, but Tarsney refused. Despite this refusal, the men voluntarily surrendered and were taken to Colorado Springs where their cases were ultimately dismissed or acquitted. After these dismissals and acquittals, a supposed calm or quiet overcame the region as noted in a statement from Governor Waite. "During the month of April and to the 20th of May quiet existed in the Cripple Creek district," he wrote, and "the largest producing mines were, however, closed, and many miners idle, although three-fourths of all the mines had continued in operation with eight hours for a day's work and \$3 a day's pay."<sup>58</sup> In this case, quiet meant not only less machinery in use, but also less labor conflict and the sounds associated with it. This calm or peaceful period as Governor Waite defined it did not remain quiet for long. After several further meetings and

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<sup>57</sup> Tarsney in Carroll Davidson Wright, *A Report on Labor Disturbances in the State of Colorado*, 77.

<sup>58</sup> Davis H. Waite in Carroll Davidson Wright, *A Report on Labor Disturbances in the State of Colorado from 1880 to 1904, Inclusive, with Correspondence Relating Thereto* (Washington: United States Bureau of Labor Government Printing Office, 1905), 77.

attempts to settle the dispute without violence, it was clear that no such agreement was to be made in the district.

Sheriff Bowers, unwilling to accept the lack of what he believed to be rightful military intervention with regard to the protection of property and safety in Cripple Creek, once more decided to address the problem through other means. "Meanwhile the sheriff of El Paso County," Governor Waite continued, "with the knowledge and authority of the county commissioners of El Paso County, was engaged in enlisting men and swearing them in as deputy sheriffs until he had enlisted about 1,200 men, divided into infantry, cavalry, and artillery."<sup>59</sup> After meetings in early May failed to resolve the conflict, the quiet and nonviolent disputes exploded. John Calderwood expressed the lack of compromise when he wrote that "many conferences were held between the mine owners and the unions, but no settlement could be arrived at, the mine owners giving their ultimatum at one of these consultations that they were willing to pay \$3.00 for nine hours work, or \$2.75 for eight hours."<sup>60</sup> This offer was immediately rejected by union miners. If the sounds of this rejection were similar to those in a previous meeting of union men, "the miners rejected with cheers the mine owners' proposition."<sup>61</sup> This means that even when miners and mine owners were not physically fighting, sounds of cheers could be heard. These audibly detected cheers often represented unity in times of division.

If miners were united against the terms of the mine owners, mine owners were likewise united against union men, thus furthering the division in the community. For example, upon hearing that the union men rejected the mine owners' offer, an anti-union man and his

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<sup>59</sup> Waite in Carroll Davidson Wright, *A Report of Labor Disturbances in the State of Colorado*, 77-78.

<sup>60</sup> John Calderwood in Emma Langdon, *The Cripple Creek Strike, 1903-1904* (Victor: Emma Langdon, 1904), 35.

<sup>61</sup> *Mining and Scientific Press* 68, (San Francisco: Dewey Publishing Company, Jan-July 1894): 227.

accomplice worked to assemble other anti-union advocates in order to push back against the union's decision. According to Calderwood, when several union men attended a funeral of a lost union member around May 20, "a man by the name of Rabideau who had made himself particularly obnoxious to the miners, and one Ferguson, undertook to call a meeting at Anaconda with a view to get a number of the deputies there and pass a resolution and have it published in the press of the state, to the effect that a majority of the men were in favor of accepting the proposition of the mine owners and returning to work but were prevented from so doing by intimidation from the union men."<sup>62</sup> The union men heard about the meeting and showed up in large numbers. When Rabideau spoke to the crowd, he was immediately taken into custody by the union men and both he and Ferguson "were taken to Bull hill, and upon their promising to leave the district for all time, they were released."<sup>63</sup> Their capture and release is another example of anti-union supporters attempting to crush union organization and activism, and union workers fighting back. Through the power of his voice and audibly sensed speech, Rabideau hoped to persuade union men to join the anti-union cause. Although he was unsuccessful, the sounds of cheers and verbal protests echoed in Cripple Creek during the strike of 1894.

Tensions increased toward the end of May when deputy sheriffs aboard the Florence and Cripple Creek railroad rode to the district. Union men were aware of the on comers and they "were assembled by the blowing of whistles, this being a signal arranged to assemble the union men in case of danger," Calderwood stated.<sup>64</sup> This audible warning indicates the importance of sonic perception in the story of Cripple Creek development. The story of Cripple Creek cannot be told without highlighting conflicts between the various constituents of labor. The narrative

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<sup>62</sup> Calderwood in Emma Langdon, *The Cripple Creek Strike, 1903-1904*, 35.

<sup>63</sup> Calderwood in Emma Langdon, *The Cripple Creek Strike, 1903-1904*, 35.

<sup>64</sup> Calderwood in Emma Langdon, *The Cripple Creek Strike, 1903-1904*, 35.

also lacks a more inclusive and significant multisensory perspective of economic development of the region if it does not incorporate the sounds of labor, in this case labor organization and preparation for attack. On May 24 and 25 miners and deputies clashed in Wilbur, and this conflict resulted in Rabideau, the man who previously agreed to leave the district for good, being killed along with a Herman Crowley miner. Rabideau was shot in the heart and "this encounter is known as the Battle of Wilbur."<sup>65</sup> With more fuel being added to the sonic fire, the flames would soon ignite an explosion in one of the mines.

Sam Strong, an owner of the Strong mine, was surely angered with union men the day after the Battle of Wilbur as the conflict found its way into his mining operation. It was here where the fight continued and where the first major explosion of property in the district occurred. On the morning of May 26, Calderwood remembered that " a number of men quietly entered the building of the Strong mine and ordered Sam McDonald, Charles Robinson, and Jack Vaughn to come out."<sup>66</sup> They refused to comply and their quiet entry soon became a loud, death-threatening explosion. As Calderwood stated, "dynamite was then deliberately placed in the bailer inside the shaft house, and with an electric battery, the same was exploded, demolishing the building together with its valuable machinery."<sup>67</sup> Those present during the explosion, or those who heard of the blast wondered if the men in the shaft were killed or injured in the explosion, and a little more than a day went by before they found out. It was yet again when the sense of sound echoed its significance. "Twenty-Six hours after the calamity," Calderwood continued, "voices were heard in an old shaft connected with the main shaft of the mine by a drift, and the imprisoned miners were taken out."<sup>68</sup> In this instance, the sound of dynamite

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<sup>65</sup> Calderwood in Emma Langdon, *The Cripple Creek Strike, 1903-1904*, 37.

<sup>66</sup> Calderwood in Emma Langdon, *The Cripple Creek Strike, 1903-1904*, 37.

<sup>67</sup> Calderwood in Emma Langdon, *The Cripple Creek Strike, 1903-1904*, 35.

<sup>68</sup> Calderwood in Emma Langdon, *The Cripple Creek Strike, 1903-1904*, 37.

exploding, building materials and machinery bursting apart and falling to the ground, and the audible recognition of human voices are all indicative of the contentious Cripple Creek soundscape. The men were taken to Bull Hill stronghold after they were fed, and they were given the opportunity to clean up. The question arose, however, as to who was responsible for the explosion. Officials arrested and convicted two men named R. J. Lyons and Nichols Tully for the crime, but these men were ultimately released before serving their full term. In addition, other mine owners charged Sam Strong with instigating the attack. "The war spirit had been aroused," Calderwood concluded, "but still there were some left who believed and hoped that a meeting could be arranged and moral suasion prevail for peace."<sup>69</sup>

After the Battle of Wilbur and the explosion of the Strong mine, Governor Waite again addressed concerns in the district. Rabideau was killed during the Battle of Wilbur, most likely by a union miner, but six union men were captured and kept as prisoners by anti-union supporters. The men who were helped out of the Strong mine after the explosion were also imprisoned, and according to Wilbur Fisk Stone, "later an exchange of prisoners was made."<sup>70</sup> On May 26, Governor Waite issued a proclamation stating that the strikers must put down their arms and stop resisting the law. "He also declared," Stone continued, "that the assembly of a great number of deputy sheriffs, many of them recruited from other counties, was illegal, and he demanded that they immediately disperse."<sup>71</sup> The *Rocky Mountain Sun* suggested that a visit from Waite was necessary because "the businessmen at Cripple Creek are entirely at the mercy of the strikers," and because even though "the sheriff has four or five hundred deputies under his

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<sup>69</sup> Calderwood in Emma Langdon, *The Cripple Creek Strike, 1903-1904*, 37.

<sup>70</sup> Stone, *History of Colorado*, 842.

<sup>71</sup> Stone, *History of Colorado*, 842.

command camped near the city," he "seems to be powerless to restore order."<sup>72</sup> Waite then left Denver on a train for Cripple Creek on May 27.

Over the next few days Waite met with miners at Bull Hill and Altman, and in Colorado Springs on June 2, he met J. J. Hagerman. According to Stone, he met with Hagerman, "one of the largest mine operators, to consider upon what terms existing differences might be settled, so as to avert a conflict at arms."<sup>73</sup> Nothing was officially worked out on June 2, so another meeting took place two days later in Denver. It was here where an agreement was reached between Governor Waite, Hagerman, and another mine owner. Present at the meeting were J. J. Hagerman and D. H. Moffat representing the mine owners, Governor Waite appearing for the miners, E. T. Jeffery and J. F. Vaile as neutral parties, and Eben Smith and J. B. Grant as witnesses. At this meeting, Governor Waite, Hagerman, and Moffat agreed that eight hours of work will constitute a day, that there should be no discrimination in the employment of union or non-union men, and that Hagerman and Moffat would strongly encourage all owners in the district to follow these agreements. "On the same day the people of Cripple Creek, rejoicing in the belief that the agreement made in Denver meant permanent peace in the camp," Stone wrote, "decorated the city and paraded the streets with bands."<sup>74</sup> In this case, perceived compromise expressed itself through the sounds of gathering crowds and celebratory musical instruments; however, the soundscape quickly reverted to gunshots and marching deputies. While inhabitants of the district celebrated the agreement, "the citizens of El Paso County were enlisting as deputies and being forwarded to Divide station where the sheriffs forces were being organized."<sup>75</sup>

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<sup>72</sup> "Highest of All in Leavening Power, Latest U. S. Govt Report," *Rocky Mountain Sun*, June 2, 1894.

<sup>73</sup> Stone, *History of Colorado*, 842-843.

<sup>74</sup> Stone, *History of Colorado*, 843.

<sup>75</sup> "General Intelligence Article," *Salida Mail* 15, no. 1, June 5, 1894.

Bull Hill was the stronghold of the union men and after the agreements made on June 4, disappointed anti-union supporters this time collected and marched directly toward the miners fortress. The union men were again prepared. An article published in the *Colorado Weekly Chieftain* supported anti-union sentiments when it described the strikers and their stronghold. Several days before the June 4 agreements, the article stated that "the deputies and strikers are still keeping at safe distances from each other," that "both sides are exerting every effort to increase their numbers," and that the strikers used "in some instances loaded Winchesters as arguments."<sup>76</sup> This description indicates that the sound of gunshots became equivalent to union beliefs and demands for those opposed to union philosophies. It also supports the claim that the Cripple Creek identity was largely based on contestation and conflict. "The general impression here," the article noted, "is that this question can be settled only by a terrible conflict, and the people anxiously await the end, whatever it may be."<sup>77</sup> A combination of natural occurrence and human ingenuity made Bull Hill a well-fortified spot to protect their interests. "These mountains," the article proclaimed, "are connected by a narrow saddle, and taken together they form a field of resistance that is nearly perfection."<sup>78</sup> Surrounded by mountain protection, the miners were in a prime position to hold off attacking deputies. According to the article, "it required but little work from the miners to prepare this natural fortress for their protection, and now one man with a Winchester could keep off a whole army of men, as it is accessible only from one point."<sup>79</sup> In addition to over 1,000 men, 700 magazine rifles, several shot guns, and old pattern rifles with hundreds of various pistols, they also possessed enough dynamite to destroy a large opposing force. "This dynamite is connected with a battery set up in the fort," noted the

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<sup>76</sup> "Miners Martial Law," *Colorado Weekly Chieftain*, May 31, 1894.

<sup>77</sup> "Miners Martial Law," *Colorado Weekly Chieftain*, May 31, 1894.

<sup>78</sup> "Miners Martial Law," *Colorado Weekly Chieftain*, May 31, 1894.

<sup>79</sup> "Miners Martial Law," *Colorado Weekly Chieftain*, May 31, 1894.

article, "and one or all the plants of giant can be set off by simply pressing the button;" therefore, "should the enemy attempt to pass the sentry line and overpower the guard, it would require only an instant to set off the explosives and destroy the entire advancing force."<sup>80</sup> Nonetheless, deputies refusing to accept the terms established on June 4 quickly assembled and marched toward Bull Hill.

After the agreement between Waite and mine owners on June 4, deputies immediately began marching to Bull Hill and Governor Waite sent out the entire National Guard to prevent miners and deputies from further violence and audible conflict. Even though Sheriff Bowers was ordered by the Governor to observe a truce until the militia arrived, as Colorado historian Stone later wrote, "the force of deputies went into camp at Grassy," and "on June 7, there were several skirmishes incident to the reconnaissance's of the pickets on both sides."<sup>81</sup> The militia arrived on the evening of June 7, and again General Brooks took position between the deputies and the union men. On June 8, General Brooks overtook one column of deputies and the other two columns were also informed that if they did not stop the march, the National Guard would open fire on them, thus returning the deadly sound of gunshots that were audible representations of labor conflict. Upon hearing this, "the deputies heeded the warning, turned about face, and marched back to their camp in Beaver Park."<sup>82</sup> However, the conflict was not yet over. The next day the deputies marched into Cripple Creek, "made several arrests of citizens and indulged in outrageous acts toward other citizens, many of whom, for no offense at all," Stone noted, "were clubbed and kicked, dragged from the sidewalk, and forced to march between the lines of

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<sup>80</sup> "Miners Martial Law," *Colorado Weekly Chieftain*, May 31, 1894.

<sup>81</sup> Stone, *History of Colorado*, 843.

<sup>82</sup> Stone, *History of Colorado*, 844.

deputies."<sup>83</sup> In this instance, the sound of clubs cracking human bones, painful cries, and boots marching in unison yet again boomed throughout the region.

After this auditory expression of conflict, contestation, and violence, another meeting between Adjutant General Tarsney, military officers, and prominent mine owners was held on June 10. It was here where an agreement was made to remove the deputies from the district. It was also agreed that portions of the National Guard were to be stationed in the district for 30 days. Finally, Stone noted, "peace was established in the district, all of the properties were restored to the control of their respective owners, and the mines resumed operations at wages and hours in accordance with the agreement signed by Governor Waite and Messrs. Hagerman and Moffat."<sup>84</sup> One more event, however, officially ended the first major strike in the Cripple Creek district, and this occurred on the night of June 23, 1894. On this night, "when General Tarsney, a lawyer by profession, was defending some of the miners in Colorado Springs, he was kidnapped from the Alamo Hotel, driven out of town, stripped, and tarred and feathered."<sup>85</sup> No one was ever tried for this crime. Nonetheless, the strike of 1894 came to a close and along with the support of Governor Waite, organized labor had won. For the time being, the soundscape of gunfire and human suffering was quieted. This would not last, however.

By July of 1894, more than 1,200 men worked in Cripple Creek and union success in this district gave them the power to spread to other districts. According to Jameson, "as mining resumed, all sides regrouped for their next steps."<sup>86</sup> After the final conference on June 10 but before General Tarsney was kidnapped, tarred and feathered on June 23, an article in the *Colorado Weekly Chieftain* expressed the sense of relief felt in the district. Those in favor of

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<sup>83</sup> Stone, *History of Colorado*, 844.

<sup>84</sup> Stone, *History of Colorado*, 844.

<sup>85</sup> Jameson, *All That Glitters*, 59.

<sup>86</sup> Jameson, *All That Glitters*, 61.

peaceful working conditions and a chance to strike it rich poured into the district to work the mines under the new conditions, and according to the *Chieftain*, "all who came in expressed satisfaction that the war is ended and predict a boom for the camp now that hostilities have ceased."<sup>87</sup> As locomotives continued to bring people back into the district, the sounds of peace and victory were heard. "The crowded stages that came in," the article continued, "were loudly cheered by almost the entire population, who had turned out to celebrate the peaceable settlement of the troubles."<sup>88</sup> As opposed to the sounds of gunshots, the cracking of human bones, and the explosions of dynamite blasts representing labor discord and halted mining operations, "now all is quiet, and if General Brooks keeps the miners under subjection, as he has promised to do, there is no fear of further trouble."<sup>89</sup> By mid-to-late June, mines such as the Summit, Raven, Eclipse No. 1, Pike's Peak Nos. 1 and 2, Moose, Buena Vista, Isabella, Gold Dollar, Prince Albert, Blue Bird, Xenobia, the Independence and the Anna Lee were expected to be up and running.<sup>90</sup> Now the sounds of dynamite blasts could return to representing mining progress and mineral extraction, rather than death and property destruction.

The period from the end of the strike of 1894 to the beginning of the strike of 1903-1904 served as a time of extensive gold production, union growth, and cooperation between mine owners. This increased production and cooperation, according to Jameson, meant that "labor and capital negotiated differences as they arose, with the strike agreement providing a minimal common ground."<sup>91</sup> Although mine owners in 1903-1904, much like union workers in the strike of 1894, were successful in achieving their desired goals and expectations, gold production

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<sup>87</sup> "Home After the War," *Colorado Weekly Chieftain*, June 14, 1894.

<sup>88</sup> "Home After the War," *Colorado Weekly Chieftain*, June 14, 1894.

<sup>89</sup> "Home After the War," *Colorado Weekly Chieftain*, June 14, 1894.

<sup>90</sup> "Home After the War," *Colorado Weekly Chieftain*, June 14, 1894.

<sup>91</sup> Jameson, *All That Glitters*, 64.

increased rapidly in the interim. During this time, the sounds of production increased, indicating that a loud soundscape does not always mean a threatening one. In 1895, for example, Cripple Creek miners produced approximately \$8,000,000 of gold. This amount was \$5,000,000 more than the \$3,000,000 produced in 1894. In addition, "at the present writing," a promotional pamphlet in 1896 noted, "there are 980 mining companies incorporated in the Cripple Creek district."<sup>92</sup> With greater incorporation came an increase in the population of the district, and a simultaneous increase in thunderous blasts that penetrated the mountains.

In 1896, just five years after the initial and worthwhile discovery of gold, the district was home to 35,000 people. At that time, the town of Cripple Creek was the metropolis of the district with Victor being the second largest. "The remaining towns and villages are scattered around groups of mines or reduction works," the promotional pamphlet from the Atchison, Topeka, and Santa Fe Railway noted, "and each is connected with the other by a chain of shafts and prospect holes, so that the entire place is a scene of life."<sup>93</sup> This "scene of life" was not simply a visually perceived locality, but also an audible one. According to the same pamphlet, "there is no spot in the district out of earshot of the blasts that thunder all day and all night on every hillside."<sup>94</sup> The sound-inclusive description of the railroad pamphlet promoted mining success by describing explosions as sounds of production and economic growth. Whereas two years prior occasional dynamite blasts represented a threat to mine owners and their property and indicated a determination on behalf of union workers to fight for their version of labor equality, the same but more frequent explosions now meant fully functioning mines and economic

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<sup>92</sup> Passenger Department, Santa Fe Route, Atchison, Topeka, and Santa Fe Railway Company, *Cripple Creek* (Chicago: Poole Bros., 1896), 6-11.

<sup>93</sup> Passenger Department, Santa Fe Route, Atchison, Topeka, and Santa Fe Railway Company, *Cripple Creek*, 33.

<sup>94</sup> Passenger Department, Santa Fe Route, Atchison, Topeka, and Santa Fe Railway Company, *Cripple Creek*, 33.

success. This shift is also indicative of the changing soundscape of the region. The sounds of the mining community often had different meanings depending on who was listening.

The gold output of the region expanded each year from 1894 to 1901, and gold-seekers flocked into the district by the hundreds, again increasing the frequency of sonic blasts, pickaxes breaking rocks apart, and trains hauling the mineral wealth to distant markets. In 1896, for example, the promotional pamphlet estimated that "there will be twice as many people in Cripple Creek next June as there are now."<sup>95</sup> With this influx of people came the need for housing, clothing, medical services and entertainment. Therefore, as the gold production increased, so did the amount of available services in the district. According to the pamphlet, "the business of making homes for the great influx of people puts a price on real estate, and values are going up daily."<sup>96</sup> It was not just real estate values that increased, but also the sounds associated with home building. The sounds of hammers pounding nails into wood and saws cutting through building materials intensified in the region. In 1896, approximately 7.5 million dollars of gold was produced, about 10 million in 1897, 13.5 million in 1898, 16 million in 1899, and in 1900, the district exported 18 million dollars' worth.<sup>97</sup> Some estimates recorded even higher numbers. The *Cripple Creek Times* reported that in 1900, 22.5 million dollars was produced, almost 25 million in 1901, the year in which the most gold was produced, approximately 24.5 million in 1902, 17.6 million in 1903, and in the first half of 1904, 10.5 million dollars of gold was produced.<sup>98</sup> In this period, cooperation between miners and mine owners led to an increased population in Cripple Creek, a rise in construction to house this growth, an explosion of gold

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<sup>95</sup> Passenger Department, Santa Fe Route, Atchison, Topeka, and Santa Fe Railway Company, *Cripple Creek*, 39.

<sup>96</sup> Passenger Department, Santa Fe Route, Atchison, Topeka, and Santa Fe Railway Company, *Cripple Creek*, 39.

<sup>97</sup> Sprague, *Money Mountain*, 297.

<sup>98</sup> W. H. Griffith, "The Story of the World's Greatest Gold Camp Told by the Cripple Creek Times, The Labor Troubles of 1903-4," *Cripple Creek Times*, August 1, 1904.

production, and a soundscape full of blasts, transportation machinery, and construction projects that represented progress, not conflict.

As disputes between workers and owners lessened between the strikes of 1894 and 1904 and production increased, the sounds of gold mining were more frequently heard by miners, mine owners, and other residents of the Cripple Creek district. When describing a set of uniform codes to be used in all mines in the state of Colorado, it is the regulation of sound that takes center stage. As a section in the *Mining American* outlined in 1899, "Harry A. Lee, commissioner of mines of Colorado, has completed a code of signals to be used in the mines of the state."<sup>99</sup> These codes were based on auditory recognition, and were required in all Colorado mines with hoisting machinery. As miners, tools, or gold moved up and down the shafts, the sounds of bells determined the movements. For example, when one bell is heard, stop the hoisting if in motion, if two bells are heard, lower the platform, if three bells ring, move slow because there are men on the platform. In addition, if seven bell tones are heard, there has been an accident and the hoisting or lowering of the platform should continue only by verbal command.<sup>100</sup> Miners and mining engineers followed these rules to minimize accidents. In this sense, the sounds of whistles and bells were not only important when notifying striking miners of oncoming enemies, but also necessary when lowering and hoisting goods out of deep mine shafts. Therefore, worker safety also depended on audible, not visual, recognition.

The sounds of safety could also be heard in the district toward the end of the nineteenth century when soldiers returned from war. During the late 1890s, the United States was involved in several armed conflicts with foreign powers. These conflicts also impacted the soundscape of Cripple Creek. As soldiers returned from fighting in the Spanish American War or battles in the

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<sup>99</sup> "Signals for the Miners," *The Mining American* 40, (July-Dec 1899), 53.

<sup>100</sup> "Signals for the Miners," *The Mining American* 40, 53.

Philippines, mine workers and other Cripple Creek residents joined in a sonically memorable welcome home celebration. An article in the *Cripple Creek Morning Times* notified locals to "be at the depot this morning to welcome Cripple Creek's valiant sons, heroes, every one of them."<sup>101</sup> In showing support for American troops from the district, miners were also encouraged to welcome home soldiers. "You fellows in the hills," the article exclaimed, "touch off your powder this morning" and "blow every mine whistle in camp."<sup>102</sup> Amidst the boom of gold production in Cripple Creek, celebratory explosions and the shrieking of whistles also represented excitement for safely returning inhabitants.

Bells dictated hoisting machinery movements and whistles and dynamite blasts sometimes meant excitement and celebration, all of which represented the safety of workers in mines or the return of miners to the district; however, the same types of explosions threatened the lives of many during the Cripple Creek boom. Whereas bell codes prevented injury, careless practices with regard to explosive material endangered lives. John Cristie was a man known for his carelessness. As a *Salida Record* article noted in 1899, "an explosion occurred in the old Gold tunnel, on Beacon Hill, by which John Cristie was terribly mangled and the house wrecked."<sup>103</sup> This was not the first instance of Cristie acting recklessly with explosives. "Several months ago," the article continued, "he put some giant powder in the oven, left it there and then went into the tunnel to work" when another man "not knowing of the powder in the oven made a hot fire, but he soon smelled powder and left the house just in time to save his life."<sup>104</sup> When another explosion blew up the tunnel house of H. B. Denny, the sound of the explosion is what drew Denny to the scene of the accident. According to the article, "Denny,

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<sup>101</sup> "Everybody Decorate," *Morning Times*, September 13, 1899.

<sup>102</sup> "Everybody Decorate," *Morning Times*, September 13, 1899.

<sup>103</sup> "Cripple Creek Letter," *Salida Record* 16, no. 38, February 3, 1899.

<sup>104</sup> "Cripple Creek Letter," *Salida Record* 16, no. 38, February 3, 1899.

who is principal owner and manager of the tunnel site, had just taken some powder off the stove which Cristie had placed there to thaw, and" Denny "scolded" Cristie "for his carelessness."<sup>105</sup> After this scolding, Denny "left the house in disgust and went to the blacksmith shop, some sixty yards away, when his house was again blown to atoms."<sup>106</sup> Returning to the site after the blast, Denny found Cristie in bad shape. In fact, "if he lives, which is very doubtful, he will be a helpless cripple," Denny noted.<sup>107</sup> Yet another meaning or outcome can be assigned to the sound of explosions in the Cripple Creek district. Explosions, therefore, not only represent gold production, celebration or intentional death, but also careless injury and in many cases accidental death.

Not only did careless work practices threaten the Cripple Creek mining industry during the years of its largest production, but the growth and expansion of the district was also threatened by two fires in 1896. The sounds associated with these fires caught the attention of several newspaper articles, and the safety of the district and its inhabitants could yet again be heard. Around 1:15 in the afternoon on April 25, 1896, flames swept through the town. A small fire started in a theatre and quickly spread throughout Cripple Creek. The *Boulder Daily Camera* reported that "the department was early on the ground but could not prevent the destruction of the entire block in which the theatre was located."<sup>108</sup> Within two hours, the flames engulfed the business district of the town. To prevent further expansion, local authorities used dynamite to blow up wooden buildings that would potentially serve as fuel for the fire. "The

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<sup>105</sup> "Cripple Creek Letter," *Salida Record* 16, no. 38, February 3, 1899.

<sup>106</sup> "Cripple Creek Letter," *Salida Record* 16, no. 38, February 3, 1899.

<sup>107</sup> "Cripple Creek Letter," *Salida Record* 16, no. 38, February 3, 1899.

<sup>108</sup> "Cripple Creek Burned," *Boulder Daily Camera*, April 25, 1896.

Weinberg building, office of the *Times* and smaller buildings," *The Boulder Daily Camera* exclaimed, "were blown up by dynamite at 3 o'clock to prevent further spread of the flames."<sup>109</sup>

When a second fire swept through Cripple Creek less than a week later, firemen used similar tactics. As the *Aspen Weekly Times* reported on April 29, "a fire broke out shortly after 2 o'clock today at the Portland hotel, which was much larger than that of last Saturday, destroying all there was remaining of Cripple Creek, with the exception of some of the outlying residence districts."<sup>110</sup> It was a windy day and the fire again spread, causing the firemen to "blow up buildings in the path of the flames."<sup>111</sup> Despite efforts to extinguish the fire, it raged on and eventually reached the Palace Hotel. "Shortly after," the article continued, "an explosion occurred which shook all that section of the town."<sup>112</sup> In this instance, the fires destroyed much of the town and the sound of exploding dynamite took on another sonic meaning. Whereas the blowing up of buildings during the strike of 1894 usually meant a loss of property and destruction of equipment for mine owners and a successful retaliation for unfair working conditions for miners, the organized blowing up of buildings during the fires represented efforts to preserve property, human life, and the economic prosperity and identity of the district. Without houses, stores, business buildings, and workers, gold production and the identity of Cripple Creek could not continue. The sounds of intentional dynamite blasts as well as the unpreventable explosion of hotels and other buildings, therefore, were also a part of the industrial soundscape.

When a fire burned in Victor three years later, the sounds of mine whistles and roaring flames were again memorable to onlookers. As people watched as the flames engulfed the Gold

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<sup>109</sup> "Cripple Creek Burned," *Boulder Daily Camera*, April 25, 1896.

<sup>110</sup> "A Second Conflagration," *Aspen Weekly Times*, May 2, 1896.

<sup>111</sup> "A Second Conflagration," *Aspen Weekly Times*, May 2, 1896.

<sup>112</sup> "A Second Conflagration," *Aspen Weekly Times*, May 2, 1896.

Coin mine building, it was their ears that registered the experience and catalogued it in their minds. The whistle of the building is what made the audible impression. As the *Morning Times* reported, "It was like the wail of a lost soul about to be cast into the fiery furnace, the appeal of a tortured human, but the flames soon enveloped the great building and the almost hum and appeal of the whistle was drowned in the roar of flames and the noise and bustle of the multitude."<sup>113</sup>

This description of the soundscape indicates that desired and undesirable destruction of property rung in the ears of Cripple Creek inhabitants who depended on gold mining to make a living.

As the nineteenth century came to a close, Cripple Creek mines gained international fame for their output of gold in the first ten years of operation. Around the turn of the century, however, another conflict arose that yet again threatened the production of the mines, as well as the lives of workers and owners alike. As union workers were successful in achieving their demands in the strike of 1894 and their membership grew in the next decade, mine owners also joined forces in an attempt to protect their interests. As labor historian Jameson writes, "owners bought more mines and developed them, consolidated their holdings, and integrated mines, railroads, mills, and smelters."<sup>114</sup> On the other hand, in the four years leading up to the strike of 1903-1904, workers experienced the height of their power in the district. The majority of workers in all trades organized in unions, "extended their influence through the mining industry and the regional labor movement and increased their political power as well."<sup>115</sup> Ten years after the first major strike in the district, union and mine owner power again collided, with the mine owners coming out on top.

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<sup>113</sup> "The Entire Business Portion of Victor is Destroyed by Fire," *Morning Times*, August 22, 1899.

<sup>114</sup> Jameson, *All That Glitters*, 64.

<sup>115</sup> Jameson, *All That Glitters*, 68.

At the beginning of 1903, the first signs of a second major conflict were evident. As the Western Federation of Miners exuded power in the years leading up to 1903, they attempted to push union membership beyond miners to include mill and smeltermen. The WFM faced obvious opposition from those against union organization. As labor organizer and socialist Ben Hanford noted in 1904, "of course, the managers were in favor of free labor" and "insisted that their men did not want to join a union, and in order to save them from the tyranny of labor organizations, they employed corps of spies to report to them every man who became a member, and such men were immediately tired."<sup>116</sup> Regardless of employers attempts to prevent union cooperation, "on Feb. 14, 1903, Mill and Smeltermen's Union, No. 125, at Colorado City, went on strike to redress a number of grievances, not the least of which was the discrimination against union men, and to secure an eight-hour day."<sup>117</sup> Despite these claims, anti-union men argued that the eight-hour day was never an issue after the strike of 1894 ended. As one anti-union report stated, "the contention that the strike was declared to force an eight-hour law is the flimsiest argument that the Federation could possibly have used, since it is well known in Colorado that Cripple Creek has enforced the eight-hour day and a minimum wage of 3 dollars per day for the past ten years."<sup>118</sup> Nonetheless, the strike continued and further conflict was inevitable.

On March 3, 1903, troops marched into Colorado City to prevent violence between union men and mine owners. According to Hanford, a union sympathizer, "manager MacNeill of the Mine Owners' Association went to the sheriff of El Paso County (in which Colorado City is

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<sup>116</sup> Ben Hanford, *The Labor War in Colorado* (New York: Socialistic Cooperative Publishing Association, 1904), 4.

<sup>117</sup> Hanford, *The Labor War in Colorado*, 4.

<sup>118</sup> Griffith, "The Story of the World's Greatest Gold Camp Told by the Cripple Creek Times," *Cripple Creek Times*, August 1, 1904.

situated) with letters from himself and other mill managers asking the sheriff to call upon the Governor for troops."<sup>119</sup> Governor James H. Peabody, a friend of business and conservative politics, granted the request and violence soon ensued. "Pickets of the strikers, peaceable and un-armed men," Hanford wrote, were arrested, property of the union was confiscated, men were denied the use of the public highway, and "vile, profane, insulting language was used to the officers of the union in their own headquarters by the military."<sup>120</sup> This strike was ended briefly in April of 1903 and the troops left Colorado City, but "on July 3, 1903, the employees of the American Smelting and Refining Co. in its Denver mills went on strike for an eight-hour day, and on August 10 the miners of the Cripple Creek district employed in mines shipping ore to MacNeill's mills went on strike."<sup>121</sup> The Mine Owners' Association of the Cripple Creek district issued a statement two days after the strike condescendingly stating that the strike was a peaceful one and that no military action was needed. However, they requested that Governor Peabody send the militia to the district. Peabody sent Brigadier-General John Chase and Lieutenant T. E. McClelland. After meeting with mine owners and Sheriff Robertson, they quickly left the district with a report for the Governor. "In other words," Hanford continued, "they ordered themselves to the scene, and on the 5th of September the troops went to Cripple Creek."<sup>122</sup> Despite obvious tensions between workers and owners, a soldier reported in the *Weekly Courier* on September 5 that "everything is quiet, no trouble, only we had to send a forage wagon over to a bakery and force them to sell us supplies with a detachment of infantry."<sup>123</sup> In this account,

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<sup>119</sup> Hanford, *The Labor War in Colorado*, 5.

<sup>120</sup> Hanford, *The Labor War in Colorado*, 5.

<sup>121</sup> Hanford, *The Labor War in Colorado*, 6.

<sup>122</sup> Hanford, *The Labor War in Colorado*, 7.

<sup>123</sup> Clifford Athekly, "Letters from Soldiers," *Weekly Courier*, September 16, 1903.

Clifford Athekly associates quiet with order and peace; however, the forceful raid on the bakery was more representative of the conflicts to come.

Quickly after the militia entered the district, they strictly implemented and enforced anti-union rules and regulations, and the sounds of violence roared again. Anyone who supported unions, including city and county officials, were taken to military headquarters and forced to explain themselves. In addition, anyone who disagreed with the Mine Owners' Association "was immediately arrested and placed in the bull pen, some of them not being allowed to see a friend or an attorney."<sup>124</sup> On September 18, 1903, the men who captured and imprisoned those accused of union activity or behavior were ordered by Judge W. P. Seeds to bring them to court. Also on this day, a group of around 51 men, mainly Finns and Norwegians, were brought into the Cripple Creek district to replace striking miners. False advertisement on behalf of mine owners persuaded these men to enter the district. According to Emma Langdon, a worker at the pro-union *Victor Daily Record*, "The ones who could speak English stated that conditions had been misrepresented to them."<sup>125</sup> Conflicts and disagreements quickly arose and yet again gunshots boomed. As anti-union supporters transported the imported men to mines for work on the morning of September 19, a single gunshot was heard. Emil Peterson, a 24-year-old man originally from Denmark who was fed up with a lack of honesty with regard to working conditions in the district, decided to rebel. As he stated in an affidavit on September 19, "the men were lined up *and* an officer said: 'come on, boys, go to work,'" to which Peterson replied "out loud in Spanish, 'don't go to work.'"<sup>126</sup> Peterson continued his account by stating "I started

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<sup>124</sup> Hanford, *The Labor War in Colorado*, 8.

<sup>125</sup> Emma Langdon, *The Cripple Creek Strike, 1903-1904* (Victor: Emma Langdon, 1904), 124.

<sup>126</sup> Emil Peterson in Emma Langdon, *The Cripple Creek Strike, 1903-1904* (Victor: Emma Langdon, 1904), 125.

to run and he fired at me with a pistol," so "I ran zigzag to avoid the bullet."<sup>127</sup> The sound of the gunshot represented the drastic measures mine owners were willing to take in order to push forth their agenda in the district. This strike, although similarly fought, ended differently than the strike of 1894.

Returning to the prisoners of the anti-union militia, Judge Seeds ordered Brigadier-General Chase and Lieutenant McClelland to bring them to court on September 18; however, they did not obey the order. Lieutenant Tom McClelland appeared in court on that date, but General Chase and General Bell did not. McClelland urged Judge Seeds to allow a continuance of the habeas corpus cases. Seeds was initially hesitant to agree with the request, but after much debate between McClelland, general attorney for the Western Federation of Miners John Murphy, and general Eugene Engley, who was counsel for the prisoners, the continuance was granted and the case was suspended until Monday, September 21. The conflict between miners and mine owners grabbed the attention of many in the region, and as Langdon noted, "the largest crowd ever assembled at a hearing in the Teller County district court room had assembled on this date to see what the outcome would be."<sup>128</sup> Conflict between labor and ownership, which signified the Cripple Creek community, again took center stage in the district. In addition, the sounds of this conflict were heard. Around 1:00 in the afternoon on September 21, General Chase and his prisoners made an audibly memorable arrival at the court room. Langdon remembered this auditory entrance. As she wrote, the onlookers heard a "blare of trumpets, the thunderous sound of dashing troops, the rumbling roar of wheels, quick fierce and stern commands of "halt!" "Clear the street!" "Guard that alley!" "Guard that street!" "Ready! Load!" "Sharp shooters seize the vantage of yon roof!" "Seize this!" "Seize that!" "Seize any

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<sup>127</sup> Peterson in Emma Langdon, *The Cripple Creek Strike, 1903-1904*, 125.

<sup>128</sup> Langdon, *The Cripple Creek Strike, 1903-1904*, 126-127.

old thing!"<sup>129</sup> Likewise, "two troops of cavalry came dashing down Bennett avenue in full field equipment, jangling, glittering sabers, loaded sidearm's, belted and arrayed for bloody conflict."<sup>130</sup> In this instance, the sounds of the troops and their equipment instilled fear in labor-friendly Cripple Creek inhabitants and signified order in the ears of anti-union supporters. A quiet soundscape could also represent order for owners, however, as evidenced by a *Herald Democrat* article on September 24 when mines re-opened. The article noted that "everything has been quiet at camp goldfield today" as "the Abe Lincoln property in Poverty Gulch resumed work this morning with forty-three men."<sup>131</sup> Therefore, the sounds of military presence in the district, as well as quietly operating mines, represented order for those in favor of anti-union policies. Ultimately, the prisoners were released in accordance with Judge Seeds decision, but conflict was far from over.

A week after the prisoners were released, the militia arrested other union supporters. On the night of September 29, Lieutenant McClelland and several guards broke into the office of the *Victor Daily Record* and captured those in charge of the newspapers' production. At this time, according to an account by a pro-union man named A. Q. Miller in 1904, "the linotypes were humming, catching the elevator on every line, the foreman was fuming and rushing proofs, for first side down and first forms must go to press at 11:30."<sup>132</sup> Despite the arrests, Langdon published the *Victor Daily Record* the next morning. As Langdon wrote, "I took the papers and stuffed them into my waist, my sleeves, under my belt and in the lining of my jacket, and started for Camp Goldfield, where the force, including my husband, was imprisoned."<sup>133</sup> As she worked

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<sup>129</sup> Langdon, *The Cripple Creek Strike, 1903-1904*, 129.

<sup>130</sup> Langdon, *The Cripple Creek Strike, 1903-1904*, 130.

<sup>131</sup> "Does Governor's Power Supersede the Court?" *Herald Democrat*, September 24, 1903.

<sup>132</sup> A. Q. Miller in Emma Langdon, *The Cripple Creek Strike, 1903-1904* (Victor: Emma Langdon, 1904), 149.

<sup>133</sup> Langdon, *The Cripple Creek Strike, 1903-1904*, 152.

her way to Camp Goldfield, a sonic impression registered in her mind. As she noted, "I arrived at the guard line just as the Gold Coin whistle blew 6 o'clock."<sup>134</sup> The sound of the whistle often regulated time in gold camps and on this morning, the whistle blew at 6 o'clock as it always did. After overhearing several guards talk about how excited they were to prevent the paper from being released, Langdon presented the paper to the men. "The officer took the paper," Langdon wrote, "and, looking it over, finally broke out with another volley of oaths, beginning with "who the h" but before he had time to finish the sentence I answered: I did, and I expect I shall be your next victim."<sup>135</sup> Despite the military display of force at the court room a week earlier and the capture of men in the office of the *Victor Daily Record*, Langdon produced and distributed the paper in the district.

Labor disputes continued for months, and they eventually worsened as spikes were removed from the track of a Florence and Cripple Creek line and an explosion occurred in the Vindicator mine. Both events were ultimately pinned on the Western Federation of Miners, but no evidence existed to convict anyone. On the night of November 14, 1903, spikes and bolts were removed from the rails, but the track did not fully separate so the attempt was unsuccessful. Two days later a second attempt occurred near Victor. This attempt also failed, as "the train was warned and passed in safety."<sup>136</sup> Three union men named Sherman Parker, W. F. Davis, and Thomas Foster were arrested by the authorities and charged with the crime. The trial began on February 19, 1904, but the men were all acquitted. During the trial it was discovered that a man named Charles McKinney, aided by his accomplice Charles Beckman, pulled the spikes. On the stand, Beckman testified that "he was working for a detective agency" and "that he was a paid

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<sup>134</sup> Langdon, *The Cripple Creek Strike, 1903-1904*, 152.

<sup>135</sup> Langdon, *The Cripple Creek Strike, 1903-1904*, 152.

<sup>136</sup> Rastall, *The Labor History of the Cripple Creek District*, 104.

spy and had joined the union for the purpose of spying upon these men."<sup>137</sup> He also stated that "he had pre-arranged with other detectives in the employ of the corporations that they might watch the work done, and after all this the mine owners and the military authorities arrested men for the crime, tried their best to fasten the infamous act upon the Western Federation of Miners and failed."<sup>138</sup> Some believed that McKinney was working with two detectives employed by the Mine Owners' Association. The defense in the trial believed that detectives Scott and Sterling were responsible for the pulling of the track spikes. McKinney was ultimately found not guilty and his case was nulled "on the ground of his having turned state's evidence and his companions in the crime having been set free."<sup>139</sup> He was then arrested and charged with perjury, "but released on bond furnished by S. D. Crump, the attorney for the Mine Owners' Association, and W. M. Bainbridge, superintendent of the El Paso Mine."<sup>140</sup> Again laborers blamed the mine owners and the mine owners blamed laborers, but no one was convicted of the crime.

Only a few days after the two failed attempts to derail a Florence and Cripple Creek train, another act of violence rang in the ears of Cripple Creek inhabitants. Although union men had not been convicted of the railroad crimes, the military force in the district and the anti-union governor presented a great challenge to the Western Federation of Miners, unlike the militia and pro-union governor in 1894. According to W. H. Griffith, a reporter for the *Cripple Creek Times*, "They faced a crisis that was bound to be fatal to their interests, and they knew it as well as anyone."<sup>141</sup> In order to fight back against weakening union strength, on November 21, an explosion occurred in the Vindicator mine. Although the assailant intended to take the lives of

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<sup>137</sup> Hanford, *The Labor War in Colorado*, 9.

<sup>138</sup> Hanford, *The Labor War in Colorado*, 9.

<sup>139</sup> Rastall, *The Labor History of the Cripple Creek District*, 107.

<sup>140</sup> Rastall, *The Labor History of the Cripple Creek District*, 108.

<sup>141</sup> Griffith, "The Story of the World's Greatest Gold Camp Told by the Cripple Creek Times," *Cripple Creek Times*, August 1, 1904.

sixteen non-union men, Griffith continued, "it happened that the superintendent and foreman of the mine, Charles McCormick and Melvin Beck, respectively, had occasion to visit the level of the mine in which the infernal machine had been placed, just a few moments before the shift of sixteen miners were to go down, and they were mercilessly and cruelly torn into fragments by the explosion of the machine."<sup>142</sup> Again no one was convicted of the crime. After this explosion, several months of military rule overcame the district, as Governor Peabody declared Martial Law. In addition, an opponent of the Western Federation of Miners wrote an article in the *Daily Journal Telluride* that argued that "in both Cripple Creek and Telluride, mine owners and managers walk in fear of their lives, while the property depreciates in value, their families tremble with apprehension at every sound, and armed soldiers patrol the streets and guard the mines."<sup>143</sup> The author of this article associated the sense of hearing with fear of death, property destruction, and conflict between union supporters and the militia who heavily guarded the district. This period of military control would change, however, when troops were recalled from the region in April of 1904 and another explosion on June 6 rocked the district.

As anti-union military rule controlled the district from the end of November into the first quarter of 1904, the Western Federation of Miners weakened even more and virtually anyone who openly supported it could be arrested and jailed. "If one man had a grudge against another," according to Benjamin McKie Rastall, "he had only to report him to the military authorities as an agitator to secure his arrest."<sup>144</sup> The troops were finally pulled out of the district on April 11 and less than two months later, dynamite exploded in the Independence Mine, thus triggering more bloodshed and sonic conflict. On the morning of June 6, 1904, there was an "attempt made at 2

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<sup>142</sup> Griffith, "The Story of the World's Greatest Gold Camp Told by the Cripple Creek Times," *Cripple Creek Times*, August 1, 1904.

<sup>143</sup> *Daily Journal Telluride*, December 10, 1903.

<sup>144</sup> Rastall, *The Labor History of the Cripple Creek District*, 115.

A.M. with an infernal machine to kill 50 or 60 non-union men at Independence depot."<sup>145</sup> The Florence and Cripple Creek train arrived at 2:15 in the morning each day. As usual, on the morning of June 6 "it whistled for the station; the platform crowded with men from the Findley Mine; then there came a fearful explosion, and the air was filled with flying earth, and timbers, and the dismembered bodies of men," Rastall noted.<sup>146</sup> Thirteen people were killed in the explosion, several others were badly injured, and it was the sound of the train whistle that notified the attacker to pull the string that squeezed the trigger of the gun that shot the bullet into the dynamite. As the *Routt County Sentinel* reported, "the end of the wire was wound around a piece of a chair leg, which the man who exploded the charge pulled when he heard the whistle of the train sound."<sup>147</sup> Again the sound of the train whistle shrieked like clockwork, the explosion caused death, and the sounds of whistles, gunshots, and explosions represented the conflicted Cripple Creek soundscape. The *Aspen Daily Times* stated that "before the echo of the explosion came rumbling back, the screams and agonized yells of the injured filled the air."<sup>148</sup> The "explosion was attributed to the Western Federation," Rastall wrote, "and the most ugly rumors were in the air."<sup>149</sup>

After the explosion, the Mine Owners' Association and the military forced the sheriff, coroner, and City marshals of Cripple Creek and Victor, and other officials, to resign. Later on June 6, another gun fight broke out in the district. What seemed like a fight for the right to organize labor for union men, was viewed as an act of riot and murder by supporters of anti-union beliefs. The Mine Owners' Association argued that "a large force of Federation men

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<sup>145</sup> Mine Owners' Association, *Criminal Record of the Western Federation of Miners, Coeur D'Alene to Cripple Creek, 1894-1904* (Colorado Springs: The Association, 1904), 29.

<sup>146</sup> Rastall, *The Labor History of the Cripple Creek District*, 119.

<sup>147</sup> "An Assassin Find's Work," *Routt County Sentinel*, June 10, 1904.

<sup>148</sup> "Diabolical Assassin," *Aspen Daily Times*, June 7, 1904.

<sup>149</sup> Rastall, *The Labor History of the Cripple Creek District*, 120.

stationed in their headquarters building in Victor fired upon a crowd of people who were listening to a speech on the opposite side of the street, killing two non-union men" while wounding many more.<sup>150</sup> In this instance, gunshots yet again rang in the ears of local inhabitants. In addition, the crowd that was fired upon was listening to a speech that was intended to audibly convey the obvious tensions between union men and anti-union supporters.

The union men eventually surrendered and had many of their guns and ammunition confiscated by anti-union supporters. Supporters of ownership interests continued to break union strength and ultimately rid the Federation and all of its supporters from the Cripple Creek district. "The first impulse was to gather the worst of the dangerous characters and hang all of them," the Mine Owners' Association continued, but they "adopted, however, the more humane policy of dispersing the bad characters who had encouraged and committed lawless acts and gloried and gloated over the crimes committed against non-union men."<sup>151</sup> After deporting many union men, the military, in support of the Mine Owners' Association, continued to eliminate any trace of union support from the district. "Members of the Mine Owners' Association and of the Citizens' Alliance," union sympathetic Hanford argued, "sent committees to the owners of all stores, shops and works and demanded that they sign an agreement to refuse employment to all members of the Western Federation of Miners and the American Labor Union."<sup>152</sup> In less than 15 years, gold was discovered in the Cripple Creek district, the Western Federation of Miners and Governor Davis Waite secured labor strength, and then mine owners and Governor James Peabody destroyed this strength. Mine and mill owners solidified their power in the district as

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<sup>150</sup> Mine Owners' Association, *Criminal Record of the Western Federation of Miners*, 29.

<sup>151</sup> Mine Owners' Association, *Criminal Record of the Western Federation of Miners*, 30.

<sup>152</sup> Hanford, *The Labor War in Colorado*, 20.

"for the first time in the history of the county the Republican party triumphed at the polls, electing its entire ticket."<sup>153</sup>

When Bob Womack entered the Cripple Creek district in the 1870s, the soundscape he experienced was much different than it became in the three decades after. The largely uninhabited cattle grazing region became the site of gold production, labor organization, and conflict between mine owners and the Western Federation of Miners. In the transition from cow pasture to gold field, the conflicted, contested, and audibly detected identity of the district was established. Cripple Creek became one of the most successful gold producing regions in the nation, but it was this production, coupled with consistent disputes between workers and owners, that solidified the contentious identity of the region. The sounds of this identity were heard and interpreted in many ways. In addition, identical sounds did not always represent the same intentions or results. For example, during periods of the most intense labor discord, the sounds of explosions often meant property destruction and death. When hearing the explosions, supporters of organized labor interpreted them as necessary to improve working conditions. On the other hand, mine owners and supporters of anti-union policies interpreted these sounds as a threat to free labor and the protection of property. During times of functional relationships between labor and ownership when mines produced large quantities of golden riches, these same explosions represented the safety of workers and the prevention of further destruction of property by fire.

The sounds of whistles and bells, although producing similar sounds, also represented impending harm, safety, the regulation of time, and celebration. When fire swept through the Cripple Creek district and ultimately resulted in the blowing up of the Gold Coin mine building,

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<sup>153</sup> Rastall, *The Labor History of the Cripple Creek District*, 137.

the wail of the whistle notified onlookers of the inevitable explosion. In a similar fashion, when anti-union deputies marched on union strongholds, the shriek of whistles indicated the necessary assembly of men to halt the attacks and preserve the safety of the laborers. When Emma Langdon went to Camp Goldfield to deliver the *Victor Daily Record* after anti-union men imprisoned those who produced the paper each morning, she knew that it was six o'clock due to the regular sounding of the whistle at that precise hour. In another instance, the whistle of a train during its regularly scheduled time informed the attacker of the Vindicator mine when to pull the string that ignited the dynamite that blew up the station platform. When gold production boomed in the years between the two major labor strikes and soldiers returned from conflicts overseas, whistles blew as a sign of sonic excitement and celebration. In these ways, whistles were important in the district.

Bells also took on several meanings in Cripple Creek. Before the industrial transformation of the region, the jingle of spur bells was occasionally heard as solitary cowboys and horseman roamed the area. These same spur bells often instilled fear in labor-friendly Cripple Creek inhabitants when the militia dominated the district in the first five years of the twentieth century. As workers sunk themselves and their equipment into deep mine shafts, the chime of bells dictated the movements of hoists. Each set of chimes represented specific movements. These chime codes indicated when it was safe to lower or raise the hoist, when someone or something was injured or broken, and when the platform should be stopped. In deep and dark mine shafts, audible tones were much more useful than attempts at visual safety precautions. Much like the sound of whistles, bell tones were also used in audibly recognizable celebratory demonstrations.

As the golden treasures buried within the hills of Cripple Creek were discovered in amounts that attracted prospectors and investors, the district quickly became a nationally recognizable gold camp. The region may not have been known for its soil and climate combination that produced crops in large and superior quantities, and people from other regions of the country did not necessarily move to the district to rid themselves of tuberculosis or asthmatic conditions. Whereas Rocky Ford irrigators, growers, and distributors often agreed that the taste of the Netted Gem cantaloupe was superior to all other melons on the market, mine laborers and owners had conflicting perspectives of the sounds of gold production and the labor used to produce it. Although boosters, railroad entrepreneurs, and medical practitioners generally agreed that the climate, altitudinal position, and exceptional air quality of Colorado Springs made sufferers of consumptive conditions feel better physically, Cripple Creek mining interests argued over free labor ideals and the right to organize and form unions. In Cripple Creek, gold practically sold itself, so the labor needed to produce it, more so than the product, played a larger role in the creation of the contested soundscape of the district. In other words, the contentious soundscape of the district was created more so by labor conflict than cooperation, and the sounds of this contestation clearly rung in the ears of those involved in gold mining. Like the taste of the Netted Gem cantaloupe of Rocky Ford and the feel of the environmental and climatic make up of Colorado Springs, the sound of gold mining and the inherent issues involved in its production represented the conflicted and contested identity of Cripple Creek during the late nineteenth and early twentieth centuries.

## Chapter 4: Smelling Pueblo: Steel City Manufacturing and Olfactory Nuisance

Offensive, noxious, odorous, stinky, and nuisance were terms used to identify disease-riddled zones in Pueblo during the late 1800s and early 1900s. The nose detected these threats, and descriptions of foul smells increasingly found their way into newspaper articles as the steel city of the West grew and became the manufacturing center of Colorado. Pleasant smells were present in urban spaces, but so too were foul smells that physicians and health officials linked with disease and illness during the late 1800s. “Any person who shall permit any cellar, vault, private drain, pool, privy sewer, or grounds, upon any premises belonging to or occupied by him, to become nauseous, foul, or injurious to the public health,” an 1884 Pueblo newspaper article noted, “shall be subject to a fine of not less than five dollars for each day the same is suffered so to remain, after notice by the committee of health to abate such nuisance.”<sup>1</sup> When an “overflow of water from somewhere” filled residents cellars, undermined their houses and turned “their streets into the worst class of mud-holes” in 1886, the Pueblo-based *Colorado Daily Chieftain* reported that “the water continues to spread, and the mud is worse now than it has ever been, and the odor arising from it where it has oozed to the surface is anything but pleasant.”<sup>2</sup> Pueblo inhabitants worked to rid the city of foul smells, and prisoners in 1891 cleaned “out the opening of the C. C. & I. company’s sewer on Elm Street.”<sup>3</sup> “They did well,” the *Chieftain* stated, “and the stench which has come up from the opening of the sewer will cease.”<sup>4</sup> Nonetheless, an 1892 article noted that “another miniature lake has located itself on the vacant premises at the corner

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<sup>1</sup> “The Baseball Game,” *Colorado Daily Chieftain*, July 22, 1884.

<sup>2</sup> *Colorado Daily Chieftain*, February 7, 1886.

<sup>3</sup> “Bessemer News,” *Colorado Daily Chieftain*, May 10, 1891.

<sup>4</sup> “Bessemer News,” *Colorado Daily Chieftain*, May 10, 1891.

of Fourth and Main streets adjoining the office of the Light, Heat and Power company, but the kind of water it contains is not particularly attractive either in appearance or odor.”<sup>5</sup> Steel manufacturing drove the economic development of Pueblo, and as the town grew, olfactory detection increasingly informed citizens of potential threats to human health.

Pueblo, the fourth and final community in this work, also developed around an industry that blossomed in the late nineteenth and early twentieth centuries. This industry was not agricultural and tasted, naturally healing and felt, or mined and heard, as much as it was manufactured and smelled. The manufacturing industry of Pueblo pumped out materials necessary for the continued growth and economic expansion of Colorado. This output of manufactured products such as steel, however, simultaneously amplified concerns of sanitation and human health in the region. As the population of Pueblo exploded in the late nineteenth century, so too did the level of olfactory nuisance associated with increased settlement, poor drainage, and irresponsible waste disposal. This increase in population, largely due to employment in the steel industry in what became known as the Pittsburgh of the West, led to Pueblo residents increasingly using more than just their vision to navigate the city. They relied on their sense of smell, coupled with contemporary understanding of the relationship between disease and foul smells, to determine areas of medical concern within the town. While investigating the early economic development of Pueblo, this chapter addresses the sense of smell that so frequently found its way into newspaper articles and the reports of town officials. The smell of rotting carcasses, garbage heaps, and stagnant pools of water are essential to the history of Pueblo, because the nose determined which areas were to be avoided, which needed

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<sup>5</sup> “Town Topics,” *Colorado Daily Chieftain*, July 16, 1892.

the attention of health officials and town leaders, and therefore protected citizens in ways their senses of taste, touch, hearing, and sight could not.

This chapter focuses primarily on the smell of sewage, decaying animal matter, and other types of waste because the odors associated with steel production and manufacturing rarely appear in the historical record. Since the bulk of the primary source evidence in this chapter comes from the *Colorado Daily Chieftain*, it is plausible that the growth of Pueblo in the years following the manufacturing boom prevented *Chieftain* writers from mentioning the potentially foul smells of steel production so that peoples would continue moving to Pueblo. It is also possible that workers and interviewers simply did not write or talk about the smells associated with steel production. As noted in the introduction of this work, histories of smell are few in number. Perhaps this is because people are not interested in what the past smelled like, but it is more likely due to the fact that the smellscape of any given historical event or subject is less discussed in primary source materials than visual descriptions. An exhaustive search through nearly a half a century of Colorado newspapers, for example, reveals an extensive inclusion of the smells of population growth and urban expansion, but almost never provides accounts of what the Pueblo steel industry smelled like.

Although histories of smell are few, when one looks to a later time period than this work covers, they can find clues as to how earlier industrial efforts must have smelled. However, even when the smells of steel factories are mentioned, the odors described are often those not directly from the steel-making process. For example, environmental historian Andrew Hurley writes about Gary, Indiana, another American steel town. His study focuses on the period from 1945 to 1980 and explains how “U.S. Steel provided city water for drinking,” but “it drew its wash water

directly from Lake Michigan.”<sup>6</sup> Hurley states that “workers began to complain about wash water quality,” and they particularly objected “to the putrid smell, the oily sheen that covered their bodies after bathing, and the dead fish that sometimes passed through the showerheads.”<sup>7</sup> These smells are technically the odors of a steel plant since workers often bathed in company showers, but these descriptions do not teach us what steel production actually smelled like. However, even though few, descriptions of the smells of steel production can be found sparingly. For example, when Hurley writes about Gary steel plants, he notes that “when winds blew in from the mills, the thick stench of steel and coke permeated the air of north side neighborhoods.”<sup>8</sup> This stench forced Gary residents to frequently apply “coat after coat of fresh paint to combat the smoke residue and coke fumes that tarnished exterior house finishes.”<sup>9</sup> If Gary smelled this way in the late 1900s, it is logical to assume that Pueblo smelled similarly nearly one hundred years prior. Therefore, even if descriptions of the odors of steel and coke did not find their way into newspaper articles during the late 1800s and early 1900s, it is safe to assume that Pueblo residents did in fact smell similar scents.

If one moves from Gary to Pittsburgh, the original steel city, they can further infer what steel production smelled like in Pueblo. In an edited volume of environmental histories called *Devastation and Renewal: An Environmental History of Pittsburgh and Its Region*, Edward K. Muller and Joel A. Tarr write about the odors associated with steel manufacturing. When talking about heating coal to make coke for fuel, they write that the “location of the J & L plant within the city made it both highly visible and a producer of extensive air pollution and odor that

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<sup>6</sup> Andrew Hurley, *Environmental Inequalities: Class, Race, and Industrial Pollution in Gary, Indiana, 1945-1980* (Chapel Hill: University of North Carolina Press, 1995), 86.

<sup>7</sup> Hurley, *Environmental Inequalities*, 86.

<sup>8</sup> Hurley, *Environmental Inequalities*, 26.

<sup>9</sup> Hurley, *Environmental Inequalities*, 26.

plagued the nearby community.”<sup>10</sup> “On a windy day,” Muller and Tarr write, “the odor of sulfur would carry far beyond the mill communities into middle-class neighborhoods.”<sup>11</sup> In this case, the smell of coke production filled the Pittsburgh sky, which means that it must have also assaulted the noses of Pueblo residents. In some instances, the smells of steel production are left out of primary source accounts in favor of more visual descriptions. In other cases, the odors are not directly the result of manufacturing steel. Lastly, although smells of specific times and places cannot always be detected or uncovered, historians can turn to other moments or regions to make educated guesses as to how a particular period and place smelled. Most important for this chapter, however, is the relationship between industrial expansion, population growth, and the foul smells that increased during the late 1800s, since the odors of decay, waste, and stagnant pools frequently found their way into contemporary sources.

Urban historians have used a variety of analytical frameworks to understand the rise and impact of American cities during the late nineteenth and early twentieth centuries. Some of these accounts indicate the link between urban and industrial history during this time period. “Because of the profound connection between urbanization and industrialization,” Martin Melosi writes, “urban historians have labeled the years between approximately 1840 and 1920 in the United States as the era of the industrial city.”<sup>12</sup> Other descriptions focus on space and view these urban areas as the centers of regions that supply the material needs of economic growth and population increase. As Joel Tarr states, “urbanites require clean air, water, food, fuel, and construction

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<sup>10</sup> Edward Muller and Joel Tarr, “The Interaction of Natural and Built Environments in the Pittsburgh Landscape,” in *Devastation and Renewal: An Environmental History of Pittsburgh and Its Region*, ed. Joel Tarr (Pittsburgh: University of Pittsburgh Press, 2003), 22.

<sup>11</sup> Muller and Tarr, “The Interaction of Natural and Built Environments in the Pittsburgh Landscape,” 22.

<sup>12</sup> Martin Melosi, “Cities, Technical Systems and the Environment,” *Environmental History Review* 14, No. 1-2 (1990): 45.

goods to subsist while urban industries need materials for production purposes.”<sup>13</sup> In addition, as the city grows, so too does its ecological reach. According to Tarr, the materials necessary for growth “may initially come from the area of the urban site itself, but increasingly over time they are derived from the urban hinterland or even farther.”<sup>14</sup> The economic expansion of Pueblo relied on the increased ecological outreach that Tarr describes. As Pueblo grew, leaders quickly realized that unlike the cases of Rocky Ford, Colorado Springs, and Cripple Creek, the raw materials required in the production of the goods that Pueblo manufactured and centered its economic community around were brought in from the surrounding region. If histories of specific places or communities, as environmental historian of Seattle Matthew Klinge suggests, are “the stuff of memories, or all the sensory delights and fears connected to particular locations in time,” then the history of Pueblo’s economic development and steel city communal identity cannot completely be told without the olfactory perception included in this account.<sup>15</sup>

In addition to historical accounts focused on urban growth and expansion, urban historians have also written about the impact of this growth on the nonvisual human senses. Melanie Kiechle, for example, states that odors helped inhabitants “understand and evaluate their environments.”<sup>16</sup> To be more specific, “as rapid industrialization and urban growth changed the way the air smelled, concentrating familiar odors and introducing new stench,” urban residents became increasingly afraid of falling ill.<sup>17</sup> In another journal article, Kiechle explains the difficulties involved with re-creating the smellscapes of specific times and places, and in this

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<sup>13</sup> Joel A. Tarr, “The Metabolism of the Industrial City: The Case of Pittsburgh,” *Journal of Urban History* 28, (2002): 511.

<sup>14</sup> Tarr, “The Metabolism of the Industrial City,” 511.

<sup>15</sup> Matthew Klinge, *Emerald City: An Environmental History of Seattle*, (New Haven: Yale University Press, 2007), Prologue.

<sup>16</sup> Melanie Kiechle, “Navigating by Nose: Fresh Air, Stench Nuisance, and the Urban Environment, 1840-1880,” *Journal of Urban History* 42, No. 4 (2016): 754.

<sup>17</sup> Kiechle, *Navigating by Nose*, 754.

case, writing smell-based historical accounts of economic development in the late nineteenth and early twentieth centuries. As she notes, “people rarely discuss smells” and “the vocabulary for describing odors is relatively small when compared to rich descriptors of sights, sounds, tastes, and textures.”<sup>18</sup> Not only are smells less discussed than other sensory perceptions or experiences, but they are also more difficult to record or preserve. “Because we lack a reliable, widely known instrument or system for the measurement and documentation of smell, whereas sight and hearing can be recorded with cameras and digital recorders,” Connie Chiang states, “it is also fleeting and incredibly elusive.”<sup>19</sup> Despite the challenges associated with writing olfactory inclusive histories, this chapter builds on the work of urban and sensory historians by linking the two through a focus on the sense of smell, and by demonstrating that the early economic development of Pueblo was experienced by locals through multiple senses. By placing the sense of smell at the center of this analysis, we further understand the depth of sensorial perception, push past visual depictions of landscape alteration in the formation of industrial centers, and therefore highlight the importance of multisensory perspectives.

The Colorado Fuel and Iron Company is one of the most significant historical actors in the story of Pueblo’s development. An essential work on the Colorado Fuel and Iron Company (CF&I), and the earlier companies that ultimately became the CF&I, is H. Lee Scamehorn’s *Pioneer Steelmaker in the West: The Colorado Fuel and Iron Company, 1872-1903*. In this account, Scamehorn takes the reader through the history of the various smaller companies and interests that eventually became the Colorado Fuel and Iron Company. Scamehorn admittedly

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<sup>18</sup> Melanie Kiechle, “Preserving the Unpleasant: Sources, Methods, and Conjectures for Odors at Historic Sites,” *Future Anterior: Journal of Historic Preservation, History, Theory, and Criticism* 13, No. 2 (Winter 2016), 22-32.

<sup>19</sup> Connie Chiang, “The Nose Knows: The Sense of Smell in American History,” *Journal of American History* 95, No. 2 (September 2008): 405.

focuses less on labor disputes between company owners and those who work in all elements of metallurgical production. Instead, he “endeavors to place in historical perspective the origin and development of the Colorado Fuel and Iron Company and its predecessors during the years from 1872 to 1903.”<sup>20</sup> Scamehorn also wrote an article that emphasizes the role of John C. Osgood in the consolidation and eventual sale of the company in 1903. As Scamehorn writes, after just ten years, Osgood “was one of the Centennial State’s principal operators of coal mines and coke ovens, he took over control of a struggling iron and steel plant with a doubtful future, consolidated it with his other assets as the Colorado Fuel and Iron Company, and built the enterprise into the region’s leading heavy industry.”<sup>21</sup> These works by Scamehorn, although informative general histories of the company and its impact on the expansion of Pueblo, are not as argument-driven as more recent urban and sensory histories of the late nineteenth and early twentieth centuries. This chapter incorporates the business history of Pueblo, which inevitably includes the nut and bolt details of the CF&I, but it focuses more on how the company, and subsequent growth of the city, directly increased the importance of the sense of smell. Odors are often undetected visually, audibly, tactilely, and by taste, so Pueblo residents depended on their noses to keep them safe from sensually perceived threats associated with urban industry and population growth.

Before the Pike’s Peak gold rush in 1859, settlers established numerous trading posts in and around the region that became Pueblo. Although these inhabitants settled various sites, one was ultimately chosen as the premier location for permanent settlement. There were many attempts to establish a trading post in the upper Arkansas, but as historian Milo Whittaker noted

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<sup>20</sup> H. Lee Scamehorn, *Pioneer Steelmaker in the West: The Colorado Fuel and Iron Company, 1872-1903*, (Boulder: Pruett, 1976), v.

<sup>21</sup> H. Lee Scamehorn, “John C. Osgood and the Western Steel Industry,” *Arizona and the West* 15, no. 2 (1973): 133.

in 1917, “those that were not at the confluence of the Fountain and the Arkansas, merely indicate an unconscious groping for the strategic spot.”<sup>22</sup> Once the site was chosen, the town of Pueblo began its rise to industrial dominance in Colorado. The origin of Pueblo’s settlement and development of dwellings and other municipal services set the stage for this later development. “In the winter of 1859 and the early spring of 1860, two or three cabins had been erected in the vicinity of First Street and Santa Fe Avenue,” Whittaker stated, “but it was not until late spring of 1860 that any definite action was taken toward laying out a new town.”<sup>23</sup> The early economic development of Pueblo began immediately following the Pike's Peak gold rush, and “the Pueblo site, bounded on the east by the Fontaine Qui Bouille and on the south by the Arkansas, was surveyed and laid out into streets, blocks, and lots in the summer of 1860.”<sup>24</sup>

The growth of Pueblo was slow, particularly in the first decade. Early town leaders called a meeting on May 22, 1860, to discuss plans for organizing a city, and it was officially laid out on July 1 of that year. Discovery of gold in California Gulch (now Leadville), initially gave Pueblo boosters hope that travelers would populate the infant city. However, “she was doomed to an early death, for in a short time the hopes of the prospectors went glimmering, and an exodus of people took place which seriously affected Pueblo.”<sup>25</sup> In addition to the early unrealized potential of California Gulch, traffic along the Santa Fe Trail also slowed. From roughly 1861 to 1865, the trail was nearly impassible and it was virtually abandoned in 1864, due to “Indian outbreaks and to bands of Confederate guerillas operating in the Kansas region.”<sup>26</sup> In the pre-railroad era of Colorado’s history, the southern part of the state relied on popular trails

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<sup>22</sup> Milo Whittaker, *Pathbreakers and Pioneers of the Pueblo Region, Comprising a History of Pueblo From the Earliest Times*, (Philadelphia: The Franklin Press Company, 1917), 22.

<sup>23</sup> Whittaker, *Pathbreakers and Pioneers of the Pueblo Region*, 52.

<sup>24</sup> Stone, *History of Colorado*, 3 Volume Edition, (Chicago: Clarke, 1918), 152.

<sup>25</sup> Whittaker, *Pathbreakers and Pioneers of the Pueblo Region*, 51-54.

<sup>26</sup> Whittaker, *Pathbreakers and Pioneers of the Pueblo Region*, 54.

like the Santa Fe to get people, goods, and services back and forth between the East Coast and the Rocky Mountain West. Therefore, sluggish economic progress in the first decade of Pueblo's existence was to be expected. In 1867, Pueblo roughly contained twenty or thirty houses. In 1870, the town, according to the United States census, had a population of 666 residents.<sup>27</sup>

At the end of the 1860s, 1868 to be precise, three events occurred that demonstrated early economic progress and indicated the potential of Pueblo's industrial permanence. The three events were the "building of the telegraph line to Pueblo, the establishing of a weekly Newspaper, *The Colorado Chieftain*, and the building of the first church."<sup>28</sup> Incorporated as the town of Pueblo on May 22, 1870, by 1873 it held over 3,000 inhabitants, enough to become incorporated as a city. In order for late nineteenth century towns and eventual cities to attract potential settlers, they needed to contain modern amenities and municipal services. In the first few decades of Pueblo's development, town boosters and local organizations/agencies established many of these services and amenities. For example, between roughly 1870 and 1875, a daily mail service from Denver was provided, the Arkansas Valley Land District was created, and the land office opened, a county bridge was built across the Arkansas River to replace the existing toll bridge, and a new court house was also constructed. The first yearly fair was held in 1872 by the Agricultural Society of Southern Colorado. The Pueblo Public Library Association was established in 1873, and the Pueblo Library and Reading Room was opened. In that same year, a system of waterworks was installed and put to use.<sup>29</sup> Thus, "with the completion of the

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<sup>27</sup> Whittaker, *Pathbreakers and Pioneers of the Pueblo Region*, 56-57.

<sup>28</sup> Whittaker, *Pathbreakers and Pioneers of the Pueblo Region*, 65.

<sup>29</sup> Whittaker, *Pathbreakers and Pioneers of the Pueblo Region*, 74-77.

court house and the coming of the Rio Grande Railroad, Pueblo took her place as the recognized metropolis of southern Colorado.”<sup>30</sup>

As Pueblo’s population grew and its services increased, the amount of stench nuisance also rose. Before the 1870s, references to foul smells rarely found their way into newspaper articles or accounts of travels through the Pueblo region. During the 1870s and onward, however, people often recorded smells in their descriptions of certain areas within the city. For example, a heavy rain in 1875 caused water in the Arkansas River and Fountain Creek to rise. As the water rose up to eight feet in the Fountain, it produced a noticeable and disagreeable odor. As reported in the *Las Animas Leader*, “the water was about as thick as cream and gave forth an abominable stench.”<sup>31</sup> The more people in a given area, the greater the potential of sensory perception being recorded, particularly when involving olfactory experience. Since Pueblo’s growth largely occurred in the decades following 1870, it is expected that the smells of the city would be reported with much more frequency during this time period.

As residents more frequently recorded accounts of Pueblo odors, the link between foul smells and threats to personal health increasingly found its way into many descriptions of concerned citizens and town officials. In “a Report of the Grand Jury on Our County Jail” included in the *Colorado Daily Chieftain* in 1878, the Hon. John W. Henry wrote that in examination of the jail, “we find and regard the said building insecure and insufficient for the safety of the prisoners therein in every particular.”<sup>32</sup> Along with mention of sawed off window bars and weak framework, Henry also reported that “the cells are kept as clean as is possible, but the stench in them at this time is hardly tolerable for a person to endure for any length of time,”

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<sup>30</sup> Whittaker, *Pathbreakers and Pioneers of the Pueblo Region*, 77.

<sup>31</sup> “High Water in the South,” *Las Animas Leader*, July 16, 1875.

<sup>32</sup> John W. Henry, “City and Vicinity,” *Colorado Daily Chieftain* 8, no. 1847, April 30, 1878.

and that prisoners “complain of there being tail of bugs and vermin.”<sup>33</sup> It was not just the odors in the jail that frightened Pueblo residents. It was also portions of the city that contained pooling and stagnant water that were to be avoided. Another *Chieftain* article a few months later pointed out that an alley in Block 37 between Court and High street deserved the attention of city officials. According to the report, “water accumulates there to the depth of over a foot every ordinary shower, bringing with it the filth from three occupied stables, and, for want of proper drainage, this water remains until absorbed by the slow evaporation, thus forming a perpetual cesspool.”<sup>34</sup> For concerned residents, the look of the pooling water was not the most disagreeable thing. It was the smell. The article continues by noting that “the stench arising from this pool is unendurable, and residents in that vicinity are obliged to close their doors and windows to exclude the miasma with which the atmosphere is poisoned.”<sup>35</sup> Whether it was rising rivers and creeks, jail house conditions, or pooling water in city streets and alleys, by the 1870s, the transformation of small town Pueblo to an industrial center was frequently detected by the nose, and its new urban smellscape recorded by inhabitants and visitors alike.

In order for goods and services to reach late nineteenth and early twentieth century consumers, railroads were crucial for transporting them. As William Jackson Palmer worked to get his Denver and Rio Grande Railroad to Colorado Springs in 1871, the tracks eventually reached Pueblo the following year. While the Denver and Rio Grande worked its way southward into Pueblo, other rail lines from the east also moved toward the city. The Atchison, Topeka and Santa Fe Railroad reached Pueblo in the spring of 1876. Both the Denver and Rio Grande and the Atchison, Topeka and Santa Fe lines had their sights set on reaching Trinidad, a town to the

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<sup>33</sup> Henry, “City and Vicinity,” *Colorado Daily Chieftain* 8, no. 1847, April 30, 1878.

<sup>34</sup> “City and Vicinity,” *Colorado Daily Chieftain* 8, no. 1921, July 28, 1878.

<sup>35</sup> “City and Vicinity,” *Colorado Daily Chieftain* 8, no. 1921, July 28, 1878.

south of Pueblo. In 1876, the Denver and Rio Grande reached El Moro, five miles from Trinidad, and the Atchison, Topeka, and Santa Fe arrived in Trinidad the next year.<sup>36</sup> Since Denver connected to the transcontinental railroad in 1870, the Denver and Rio Grande stretched to Pueblo and further southward shortly after, and the Atchison, Topeka and Santa Fe line linked Pueblo with the more populated eastern United States in 1876, “by the year 1880, with eastern Colorado served by a relatively extensive network of railroads, the transportation problems of the territory’s first decade had ended.”<sup>37</sup> But what types of products would the city export, and what companies and business leaders were most responsible for the creation and distribution of these goods? Most significantly, what were Pueblo residents smelling, and how did it impact their day-to-day lives?

In addition to stagnant pools of water and decaying jail cells, other unpleasant smells were reported by Pueblo settlers during the late 1870s. For instance, the *Colorado Daily Chieftain* reported in 1879 that “over sixty head of dead cattle have already been removed from the city limits, and there are about half as many more dead in the town that must soon be removed, or the warm weather will make them a stench in the nostrils of our people.”<sup>38</sup> This account was one of many reports that noted similar complaints. Another frustrated and fearful citizen expressed their concern with the health and safety of Pueblo, health threatened by olfactory nuisance. The citizen wrote that it was essential to “attract the attention of the public, or the proper authorities, that action may be taken in a matter of vital importance to the public health.”<sup>39</sup> Also talking about dead animals lying around the outskirts of town, the resident urgently called for legislation to rid Pueblo of the dangerous stench. “I hope, Mr. editor,” the

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<sup>36</sup> Carl Ubbelohde, *A Colorado History*, (Boulder: Pruett Press, 1965), 120-122.

<sup>37</sup> Ubbelohde, *A Colorado History*, 123.

<sup>38</sup> “City and Vicinity,” *Colorado Daily Chieftain* 8, no. 2074, January 28, 1879.

<sup>39</sup> “Pestilence at Our Doors,” *Colorado Daily Chieftain* 8, no. 2139, April 15, 1879.

author wrote, “you will endorse what I have said; that our people will go for our authorities until they go for the offenders against our nostrils and health, that the nuisance complained of may be effectually abated.”<sup>40</sup> Although wind often carried the smell of rotting flesh from the outskirts of town to the noses of city dwellers, those in town continually experienced nearby olfactory assaults. Alleys were often designated danger zones. “The stench arising from the alley in the rear of this office,” another *Chieftain* article proclaimed, “is very muscular, and is growing in strength.”<sup>41</sup> While the “strength” of the stench increased, late nineteenth century medical knowledge informed inhabitants that the inhalation of unpleasant odors led to disease that weakened the human body.<sup>42</sup>

Returning to railroad expansion and economic growth in Pueblo, soon after the Denver and Rio Grande reached the town, officials like Palmer intended to make a profit from the region’s resources. In fact, before the line arrived in Pueblo, railroad officials established a land company that purchased property along the river between Pueblo and Canon City. Organized on November 11, 1871, the Central Colorado Improvement Company “purchased a large amount of land in the Arkansas Valley in the hope of buying cheaply and later selling at a handsome profit.”<sup>43</sup> Formally chartered under territorial statutes on January 11, 1872, the company could “purchase, develop, and sell agricultural lands, mineral springs, coal and iron deposits, quarries, and water rights,” all while “establishing towns, colonies, manufacturing works, mines, wagon roads, canals, and ditches to irrigate lands in the valley.”<sup>44</sup> Thus, the Central Colorado

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<sup>40</sup> “Pestilence at Our Doors,” *Colorado Daily Chieftain* 8, no. 2139, April 15, 1879.

<sup>41</sup> “City and Vicinity,” *Colorado Daily Chieftain* 8, no. 2086, February 11, 1879.

<sup>42</sup> Greg Mitman, *Breathing Space: How Allergies Shape Our Lives and Landscapes* (New Haven: Yale University Press, 2007); Linda Nash, *Inescapable Ecologies: A History of Environment, Disease, and Knowledge* (Berkeley: University of California Press, 2006); Conevery Bolton Valencius, *The Health of the Country: How American Settlers Understood Themselves and Their Land* (New York: Basic Books, 2002).

<sup>43</sup> Scamehorn, *Pioneer Steelmaker in the West*, 10.

<sup>44</sup> Scamehorn, *Pioneer Steelmaker in the West*, 10.

Improvement Company set the stage for further growth and economic expansion in Pueblo. The company purchased nearly 87,000 acres that could be used to attract potential settlers. Of this 87,000 acres, 1,800 acres south of what would become the town of Florence contained profitable coal deposits. An additional 320 acres at the head of the valley held mineral springs and town lots in Canon City, while “along Grape Creek, a mass of magnetic iron ore called Iron Mountain covered more than a thousand acres.”<sup>45</sup> This combination of coal, iron ore, agricultural lands, mineral springs, and the transportation network in place to move people and materials in and out of these various regions, meant that Pueblo’s rise to the top of Colorado’s industrial ladder was soon to be attained.

Some of the land purchased by the Central Colorado Improvement Company was located south of the Arkansas River and initially became South Pueblo, before this area eventually joined Pueblo on the north side of the river to become one town. Before South and North Pueblo joined, South Pueblo boosters sold agricultural plots, designated land along the river bottom as the business center, created parks, planted trees, and set aside approximately 40 acres for the Denver and Rio Grande Railway’s depots, roundhouse, and yards. In addition, town developers constructed a reservoir above future settlement areas to store water that supplied incoming residents. As Scamehorn wrote, “linked to the St. Charles by a ditch, Lake Minnequa occupied a natural basin of one hundred and sixty acres, capable of holding about 6,000,000 gallons of water.”<sup>46</sup> In early 1874, the Central Colorado Improvement Company opened up the land south of the Arkansas River for settlement. Land certificates started at \$50 and increased to \$200. In the eight years following 1874, “the company derived only \$84,380.83 from the sale of all lots

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<sup>45</sup> Scamehorn, *Pioneer Steelmaker in the West*, 11.

<sup>46</sup> Scamehorn, *Pioneer Steelmaker in the West*, 13.

and agricultural lands.”<sup>47</sup> Before land in South Pueblo was sold by the Central Colorado Improvement Company, negotiations began between A. C. Hunt of the company and a Denver businessman named Colonel James Archer in February of 1872. The talks were over the location of an iron works facility that was initially supposed to be erected in or around Canon City. Archer ultimately declined business propositions and the company moved forward in the planning. The chief engineer for the Coal Creek Mine, R. Neilson Clark, contended that the metallurgical industry should be centered in Pueblo in 1874. According to Scamehorn, “that theme was elaborated in the corporation’s annual report of 1876, which assured stockholders that a rolling mill would be erected at South Pueblo, a point midway between the coking coal and carbonaceous iron ores of Trinidad and the magnetite of Grape Creek.”<sup>48</sup> It became more apparent that Pueblo would be the chosen location for industrial production in Colorado.

The Denver and Rio Grande and the Colorado Central Improvement Company extended their transportation and fuel contract in the summer of 1878, which benefitted both companies and further advanced the economic development of the region. This agreement determined that the Central Colorado Improvement Company was “guaranteed for 30 years a rate 15 percent less than that charged other shippers of coal on the Arkansas Valley Branch,” and the carrier gained the right to purchase the fuel for its own use at a price not to exceed \$2.00 a ton.”<sup>49</sup> In order for the steel industry to take off in Pueblo, however, several companies reached an agreement that would bring their individual resources together to form a collaborative company inclusive of all necessary raw materials for mass steel production. Thus, “at Colorado Springs, on December 13, 1879, stockholders of three enterprises ratified a plan of consolidation that created the Colorado

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<sup>47</sup> Scamehorn, *Pioneer Steelmaker in the West*, 13-14.

<sup>48</sup> Scamehorn, *Pioneer Steelmaker in the West*, 17.

<sup>49</sup> Scamehorn, *Pioneer Steelmaker in the West*, 18.

Coal and Iron Company with an authorized capital of \$10,000,000.”<sup>50</sup> As the Central Colorado Improvement Company, the Southern Colorado Coal and Town Company, and the Colorado Coal and Steel Works Company merged, each firm elected one member of the new board of directors. Once the three members were chosen, they could then elect two other members, and that five-person board was to organize the consolidated company. Lyman K. Bass, C. B. Lamborn, and Robert F. Weitbrec were the elected members of the three consolidating companies, and they selected William Jackson Palmer and Charles F. Woerishoffer to solidify the board. The board then elected William Jackson Palmer as president, Lamborn as vice-president, and Walter B Gaskill as secretary and treasurer. According to Scamehorn, “the certificate of consolidation and articles of incorporation were filed with the Colorado Secretary of State on January 23, 1880,” and “the Colorado Coal and Iron Company assumed all functions of the predecessor firms.”<sup>51</sup> At this point, the newly incorporated company acquired not only the materials necessary for steel production, but they also had a railroad network nearby ready and willing to transport raw materials to steel producing factories, and finished products to consumers nationwide.

Pueblo grew rapidly between 1870 and 1885 and continued growing into the first few decades of the twentieth century. From 1870 to 1885, the population increased by 1,700 percent, from 1885 to 1900, it grew by 243 percent, and from 1900 to 1910, the population increased 57.7 percent.<sup>52</sup> The making of Pueblo as a steel town was in full swing, and the noses of the city’s inhabitants increasingly detected foul smells associated with industrialization and urban expansion. In 1882, for example, a pool of water just south of the Union Avenue bridge

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<sup>50</sup> Scamehorn, *Pioneer Steelmaker in the West*, 45.

<sup>51</sup> Scamehorn, *Pioneer Steelmaker in the West*, 45.

<sup>52</sup> Whittaker, *Pathbreakers and Pioneers of the Pueblo Region*, 117-118.

deserved the attention of town officials because “the odor which arises from it is worse than that which usually can be found in the vicinity of a slaughter house, and will surely spread the germ of disease and pestilence unless the water is at once pumped out and the hole filled up.”<sup>53</sup> A little more than a month later, another article in the local newspaper expressed similar dissatisfaction with the smellscape of a particular area in the city. Rainfall can be refreshing and cleanse sidewalks and streets of impurities, but in late nineteenth century cities, it could also flood regions and contribute to the spread of foul odors and the disease citizens associated with these smells. “The recent rainstorm flooded a good many outhouses on West Seventh and Eighth streets,” the article reported, “and the vile stench which arises from these overloaded privy vaults is sickening to say the least.”<sup>54</sup> The blame for an increase in odorous sections of Pueblo cannot fully be placed on steel manufacturing, but the newly formed Colorado Coal and Iron Company brought more people to Pueblo, thus increasing the amount of human and other waste products in the area. At the same time, an increase in population meant an increase in olfactory detection and description on behalf of the noses of incoming settlers.

As the Colorado Coal and Iron Company expanded its influence in Pueblo, it too had to deal with potentially injurious olfactory nuisances on its property. In July of 1882, city officials required the company to rid one of its properties of a stagnant pool of water that again gave off a bad stench. “The water was declared a nuisance,” the *Colorado Daily Chieftain* reported, “and the owners ordered to abate the same at once.”<sup>55</sup> Therefore, even influential companies were expected to remove potential threats to health, and it was the sense of smell that detected these threats. City officials again took the advice of medical experts who linked foul smells with

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<sup>53</sup> *Colorado Daily Chieftain*, April 11, 1882.

<sup>54</sup> “Furious Flames,” *Colorado Daily Chieftain*, May 20, 1882.

<sup>55</sup> “Cassidy’s Crime,” *Colorado Daily Chieftain*, July 4, 1882.

disease. “Physicians and druggist say that illness is on the increase in the Pueblos,” and that people should “let no deaths occur because of a lack of sanitary precautions.”<sup>56</sup> Pueblo officials, fearing the spread of disease in the city, indicated that “there are numerous pools of water lying in every depression in the ground, which tend to breed malaria, and are not attractive to the sight or smell.”<sup>57</sup> Coupled with the continual problem of careless waste disposal of animal remains, the smellscape of Pueblo earned the attention of city officials. Officials pushed for municipal legislation that would require the filling of the disease-riddled holes, the burial of animal carcasses, and punishment for those who continued leaving dead animals on the outskirts of town. The mayor of Pueblo in 1879 issued a warning to potential offenders: “Whoever shall hereafter be found to carry and unload carcasses or other putrid matter near the limits or said city without suitably burying the same, will be prosecuted.”<sup>58</sup> These zones of illness were again recognized through the nostrils of local inhabitants, and the offensive smells were to be mitigated immediately.

Descriptions of foul smells continued to flood the *Colorado Chieftain* during the 1870s and 1880s, and so too did calls for the elimination of these nuisances. “A strong stench arises from a hole of putrid water and mud in the alley between High and Elizabeth streets,” an article noted, and it “should be cleaned up by the parties causing the same, as it is becoming very offensive, both to residents in the vicinity and those who pass that way.”<sup>59</sup> Questioning the use of several sewers around the city, as well as the use of private backyards in residential areas, another article said “that was a terrible stench arising from some of the back yards in this vicinity

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<sup>56</sup> *Colorado Daily Chieftain*, July 21, 1882.

<sup>57</sup> *Colorado Daily Chieftain*, July 21, 1882.

<sup>58</sup> “Mayor’s Proclamation,” *Colorado Daily Chieftain* 8, no. 2122, March 26, 1879.

<sup>59</sup> “City and Vicinity,” *Colorado Daily Chieftain* 9, no. 2224, July 25, 1879.

last night,” and “such filth would breed pestilence among the healthiest people on earth.”<sup>60</sup> The author also asked “what is that Fourth street alley sewer to be used for?”<sup>61</sup> Although the Colorado State Board of Health reports do not often point out offensive odors, concerned citizens and public officials believed that it was the responsibility of all inhabitants to rid Pueblo of the stench nuisance that assaulted the noses of these residents and potentially threatened their health. Rather than pointing the finger at neighbors or other people in Pueblo, for example, one article expressed the need for individuals to do their part in fighting the war against disease. “Let the gutter nuisance be abated at once,” the article stated.<sup>62</sup> It continued by indicating that “saloons and stores sweep all scrubbing water into the gutter and then complain that someone else is the cause of the stench.”<sup>63</sup> These statements are indicative of two points. First, by 1880, the number of saloons, stores, and other establishments increased in Pueblo. Second, physicians agreed that business owners and their employees should properly dispose of garbage and dirty water to prevent the spread of disease. If individuals in the city kept their homes, backyards, and businesses clean, Pueblo would collectively eliminate some of the issues associated with the growth of industrial cities. If individuals did not hold themselves accountable, the government should make them. For example, the *Chieftain* noted that “alleys should be kept in as cleanly condition as possible, just the same as streets, and if the people won’t do this then the authorities should compel them.”<sup>64</sup> With the help of city dwellers and government officials, olfactory concerns could be mitigated and minimized, if not completely abolished.

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<sup>60</sup> “City and Vicinity,” *Colorado Daily Chieftain* 9, no. 2251, August 27, 1879.

<sup>61</sup> “City and Vicinity,” *Colorado Daily Chieftain* 9, no. 2251, August 27, 1879.

<sup>62</sup> *Colorado Daily Chieftain* 10, no. 2585, October 5, 1880.

<sup>63</sup> *Colorado Daily Chieftain* 10, no. 2585, October 5, 1880.

<sup>64</sup> *Colorado Daily Chieftain* 10, no. 2753, April 23, 1881.

It was steel and iron production that often drew settlers to Pueblo's borders, and now that the Colorado Coal and Iron Company was officially established, the production could begin. In February of 1880, construction of the iron-producing plant began, and A. H. Danforth supervised the creation of the first iron produced in Pueblo. The production of the first iron or steel created in Pueblo occurred in 1881, and the first furnace was blown on September 9, 1881. At the time, the foundry and machine, carpenter and pattern shops "were the only other structures then standing on the site of the now Minnequa Works, which was at that time far out on a desolate cactus-strewn waste, over two miles from any well settled part of Pueblo."<sup>65</sup> Initially, the foundry and machine shops were the center of attention so that they could produce goods necessary to get the steel works up and running, and they were ready for production in February of 1881. "Under the direction of master mechanic L. J. Taylor," Scamehorn wrote, "a force of 20 mechanics and molders turned out roof beams, fire fronts for boilers, floor plates, charging laries for the furnace, ingot molds for the converter, and a variety of castings for the coal and iron mines."<sup>66</sup> Ultimately, production of the first steel in Pueblo occurred on April 7, 1882, and the Colorado Coal and Iron Company also began construction of the puddling and nail mills around that time.<sup>67</sup> On April 12, 1882, the production of steel commenced, and "from the treatment of pig iron in the converter to the final pass in the rolling mill, the manufacture of the first rail had consumed 11 hours."<sup>68</sup> Although this rail was made on an order from the Denver and Rio Grande Railway, it was not given to them. In an event that represented the beginning of the promoted steel city communal identity, the original rail was actually "cut into small pieces and distributed as souvenirs to employees and local citizens" before "shipments to the railway

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<sup>65</sup> Whittaker, *Pathbreakers and Pioneers of the Pueblo Region*, 124.

<sup>66</sup> Scamehorn, *Pioneer Steelmaker in the West*, 47.

<sup>67</sup> Whittaker, *Pathbreakers and Pioneers of the Pueblo Region*, 124-125.

<sup>68</sup> Scamehorn, *Pioneer Steelmaker in the West*, 48.

commenced at the end of April.”<sup>69</sup> Pueblo citizens produced the first steel in the city, some were able to take a piece of it home with them, and the sense of economic communal pride based on steel manufacturing would only grow stronger in the decades to follow.

The company did not experience immediate and continual success, however. In the first few years, the company could not produce goods at prices that competed with eastern manufacturers, it encountered a sluggish iron and steel product market due to the 1882-1885 recession, and it lost valuable mineral lands in a lawsuit against the federal government. The company had access to an abundance of raw materials, however, “with only a single blast furnace, the plant could not be worked at full capacity, with the result that operating costs were unusually high.”<sup>70</sup> In the *United States v. the Colorado Coal and Iron Company* court case in the early 1880s, the company was ultimately forced to return land to the federal government because it was determined that the District Land Office in Pueblo and several other prominent businessmen were guilty of obtaining the land fraudulently. “Judge McCrary at the United States Circuit Court at Denver rendered a decision for the plaintiff in the case,” the *Aspen Times* reported on November 10, 1883, “to recover property worth several millions and over which a war of litigation has been waged for a long time.”<sup>71</sup> Despite these setbacks, the Colorado Coal and Iron Company pushed forward and produced iron and steel products for local and national markets.

Although the Bessemer iron and steel plant in Pueblo did not always function at full capacity, when demand warranted supply, it quickly rose to the occasion. In 1885, for example, a large order of steel rails boosted the production of the plant. As the *Colorado Daily Chieftain*

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<sup>69</sup> Scamehorn, *Pioneer Steelmaker in the West*, 48.

<sup>70</sup> Scamehorn, *Pioneer Steelmaker in the West*, 51.

<sup>71</sup> “An Important Case Settled,” *Aspen Times*, November 10, 1883.

wrote, “the fact that the Colorado Coal and Iron Company, of Bessemer, near Pueblo, will start up this week upon a large order of steel rails, will be very agreeable and cheering news to the people of Colorado.”<sup>72</sup> The Pueblo industry also embraced moments in which other manufacturers faced internal or external concerns that prevented them from producing goods. In 1882, Denver suffered from “a nail famine, owing to the strikes in the eastern nail works.”<sup>73</sup> The *Chieftain* was quick to assure Denver that the suffering would soon end. “We can assure the people of that burg of one thing, however,” the *Chieftain* declared, “and that is that Pueblo can supply the state with all the nails and spikes, of all kinds and sizes that may be needed.”<sup>74</sup> The article continued by expressing the confidence in the manufacturing industry in Pueblo, just six years after Colorado earned statehood. Speaking to those in Denver, it encouraged them to “come down and see us gentlemen, Pueblo is capable and able to” provide “you with almost anything you may need, and at prices that defy competition.”<sup>75</sup> Despite early challenges, within two years of the formation of the Colorado Coal and Iron Company, the potential for Pueblo’s manufacturing success was realized at least in part by company officials and Pueblo citizens alike.

When increased production was needed, more employees were likewise necessary to create the goods to meet the demand. “The steel converting works will commence to run double turn in a few days,” the *Chieftain* announced, and “this will necessitate the employment of quite a number of new men.”<sup>76</sup> People brought in to work in the steel producing plant needed places to live, and advertisements for homes began flooding the *Chieftain* during the 1880s. This is an

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<sup>72</sup> *Colorado Daily Chieftain*, October 1, 1885.

<sup>73</sup> “Plenty of Nails,” *Colorado Daily Chieftain*, September 30, 1882.

<sup>74</sup> “Plenty of Nails,” *Colorado Daily Chieftain*, September 30, 1882.

<sup>75</sup> “Plenty of Nails,” *Colorado Daily Chieftain*, September 30, 1882.

<sup>76</sup> “Badgered,” *Colorado Daily Chieftain*, May 28, 1882.

obvious sign of the growth of Pueblo during these years. This growth was again largely due to the decision of boosters to develop Pueblo around its manufacturing potential. It was common for citizens to turn to the page seven advertisements in the *Chieftain* during the 1880s and read descriptions like the following: “a rare opportunity for any seeking homes, for 60 days only!”<sup>77</sup> The advertisements continued by stating that “the South Pueblo Homestead Building Association offers at 35 percent discount from regular prices the following property on the mesa,” and the advertisement was a “description of” a “house at Bessemer (near steel works), a 3 room cottage.”<sup>78</sup> The fact that the advertisement was sure to include the location near the steel works indicates that people often moved to work in Pueblo’s manufacturing industry, and the frequency in which these advertisements found their way into the local newspaper demonstrates that it was not just a few families moving into the region during this time period. Pueblo had become the steel city of the West, and people moved there to make a living and adopt the manufacturing identity that represented the region.

When the population of a given area increases, it is almost certain that the number of personal accounts or descriptions of the region also increase. Since humans are multisensual beings, these accounts are not just visually, audibly, tactilely, or tastefully detected, remembered, or expressed. As the case of Pueblo indicates, olfactory perception is equally significant when examining how residents understood the city around them. When water holes in the southern part of the city had been declared a nuisance in 1885, Alderman Arthur believed that it was a necessity to abate the nuisance at once. “It was a disgrace to the city to allow these stagnant water holes to remain,” he stated, because “the stench from them could be smelled so far as the

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<sup>77</sup> “Page 7 Advertisements,” *Colorado Daily Chieftain*, August 26, 1884.

<sup>78</sup> “Page 7 Advertisements,” *Colorado Daily Chieftain*, August 26, 1884.

city hall.”<sup>79</sup> Even when water works projects were underway to bring water to homes, remove sewage from homes, or simply drain regions in the city, a lack of quick completion frightened and angered local inhabitants. A concerned resident asked, “will you kindly inform the people of this wicked world how much longer this water pipe nuisance is to last?”<sup>80</sup> The frustration in this citizen’s article was clear as they continued. “It is a shame to have our streets torn up in such a condition,” they wrote, “and a real disgrace to make the trench thus exposed a cesspool to offend passersby with, and a place to breed fevers and sickness these hot days.”<sup>81</sup> An increase in population led to a greater need for public services, and the smells of unfinished public projects often assaulted the noses of Pueblo residents. It was inconvenient to have streets torn up and impassible in late nineteenth-century Pueblo, and also, as detected by the sense of smell, injurious to human health when such construction created foul smells.

Another water works construction project that attacked the noses of residents in the late 1880s was the building of the mill ditch. It is debated as to when construction initially began, but according to historian Christopher Schreck, “the Bessemer Ditch Company was first incorporated in May of 1888 as a joint venture between several local businessmen and the Colorado Coal and Iron Company.”<sup>82</sup> In June of 1889, construction continued on the ditch. It was initially under the supervision of a New York Engineer Joseph Simons. In less than a month, the president of the Bessemer Ditch Company inspected the work completed up to that point, was very disappointed in the quality of the work and the materials used, and Simons was fired. Since many of the corporations’ records were lost in a flood in Pueblo in 1926, it is not

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<sup>79</sup> “Health Statistics,” *Colorado Daily Chieftain*, October 6, 1885.

<sup>80</sup> “A Protest,” *Colorado Daily Chieftain*, June 18, 1887.

<sup>81</sup> “A Protest,” *Colorado Daily Chieftain*, June 18, 1887.

<sup>82</sup> Christopher Schreck, “Colorado Fuel and Iron,” Pueblo Steelworks Center of the West, Accessed December 18, 2018, <http://scalar.usc.edu/works/the-colorado-fuel-and-iron-company/bessemer-ditch>.

exactly known what happened after Simons was fired. However, the ditch was completed sometime before 1892, it was approximately 43 miles in length at that time, and five miles of the ditch ran through Pueblo. When the Colorado Coal and Iron Company ultimately became the Colorado Fuel and Iron Company in 1892, the CF&I “divested itself of the ditch and took their 1884 water right of 118 cubic feet per second with them,” and they subsequently built a new ditch for the company’s own use.<sup>83</sup> Although the ditch was used for agricultural and manufacturing purposes, it was not popular with all Pueblo residents.

Pueblo inhabitants complained about the mill ditch being a nuisance in the city, and a threat to human health. This threat was detected by the nose. Propositions were brought to voters in elections for the city to take control of the mill ditch and therefore abate the nuisance. “A proposition is to be submitted to the voters of this city at the spring election regarding the purchase of the mill ditch by the city,” the *Chieftain* reported, “and if the voters are as wise as we believe they are, they will vote” to abate the nuisance immediately.<sup>84</sup> “It is a greater nuisance now than it ever was,” the article continued, “and if anyone wants proof of this statement, all they have to do is step down to the banks of the ditch and take a whiff of the odor that arises therefrom.”<sup>85</sup> Yet again the olfactory sense identified a problem in the city. With regard to this smell, the *Chieftain* was sure to announce that “it will be found to be anything but pleasing to the olfactory organs.”<sup>86</sup> The sense of smell was so powerful that it pushed concerned residents to attempt to seize control of projects that ultimately increased the agricultural and manufacturing capacity in the city.

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<sup>83</sup> Schreck, “Colorado Fuel and Iron.”

<sup>84</sup> *Colorado Daily Chieftain*, March 8, 1889.

<sup>85</sup> *Colorado Daily Chieftain*, March 8, 1889.

<sup>86</sup> *Colorado Daily Chieftain*, March 8, 1889.

As mentioned earlier, Pueblo was home to an annual fair that began in 1872. Within the first few decades of the fair, citizens and companies set up exhibits that symbolized their contributions to Colorado and the rest of the United States. If Rocky Ford, for example, decided to publically celebrate the success of the cantaloupe, they were sure to bring their prized melons to the state fair each year. Likewise, the Colorado Coal and Iron Company also brought items to the fair and set up exhibits that displayed the sense of pride associated with the metal goods produced in their factories and mills. An 1888 newspaper article indicates the significance of the Colorado Coal and Iron Company and its display at the fair that year. “The grand display,” the author wrote, “which had been so artistically arranged by the C. C. & I. company, was considerably disarranged by the wind but has been placed in perfect order again and is one of the most important exhibits at the fair.”<sup>87</sup> Phrases like “grand display” and “one of the most important exhibits at the fair” indicate the significance of the CC&I in Pueblo, and most importantly, the products it created. Fair attendees saw the natural resources and finished products that helped make Pueblo the Pittsburg of the West. At the exhibit “we find iron and steel in their different stages, ranging from ore just from the mines to the manufactured articles in the form of steel rails, etc.”<sup>88</sup> Pueblo boosters believed that it was fit for manufacturing, and by the late 1880s, they showed off the products that symbolized the steel city. Steel and iron production picked up in the late 1880s, but the company would go through another change in management and name in the early 1890s.

Before we address the consolidation of the Colorado Coal and Iron Company and the Colorado Fuel Company into the Colorado Fuel and Iron Company in 1892, let us discuss the infrequent operation of the Bessemer plant during its first decade. Throughout the first few years

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<sup>87</sup> “The Second Day,” *Colorado Daily Chieftain*, October 4, 1888.

<sup>88</sup> “The Second Day,” *Colorado Daily Chieftain*, October 4, 1888.

of existence, the Bessemer Works experienced several instances in which the plant was shut down, again largely due to the recession of 1882-1885. In many other occasions, even if the plant was functioning, it did not operate at full capacity. In 1886, there was a resurgence of the Bessemer Works that led to a peak in production the following year. After the Colorado Coal and Iron Company and the Denver and Rio Grande Railroad settled business disputes, the Bessemer Works reopened in the summer of 1886. Once reopened, workers poured into Pueblo. A resurgence in railroad building in Colorado sparked this reopening and production increase. “The demand for rails was large,” Scamehorn noted, “and prices were higher than in recent years.”<sup>89</sup> The Bessemer Works reached its peak production in 1887. According to Scamehorn, “the blast furnace, puddling, merchant, and nail mills were active throughout the year, while the pipe foundry, converter, and rolling mills were only closed for short periods.”<sup>90</sup> In this year, the plant produced rails for the Denver and Rio Grande, the Colorado Midland, and the Denver Terminal Railway. Even then, however, “the plant did not run at capacity.”<sup>91</sup>

If the steel and iron production capabilities of Pueblo were to be realized, perhaps consolidating competing companies and linking their assets was the way to go. It is important to note that the Colorado Coal and Iron Company initially set out “to market coal and coke to build and operate an integrated iron and steel plant at Pueblo.”<sup>92</sup> Since metallurgical operations did not consistently yield profits, the company relied on fuel sales to keep them afloat. “Prior to 1893,” Scamehorn stated, “the steel works reported losses in six of eleven years,” and “from all operations deficits occurred in five of thirteen years.”<sup>93</sup> The Colorado Coal and Iron Company

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<sup>89</sup> Scamehorn, *Pioneer Steelmaker in the West*, 65.

<sup>90</sup> Scamehorn, *Pioneer Steelmaker in the West*, 65.

<sup>91</sup> Scamehorn, *Pioneer Steelmaker in the West*, 65.

<sup>92</sup> Scamehorn, “John C. Osgood and the Western Steel Industry,” 136.

<sup>93</sup> Scamehorn, “John C. Osgood and the Western Steel Industry,” 136.

and the John C. Osgood managed Colorado Fuel Company controlled the coal and coke trade in the early 1890s. Almost three-quarters of Colorado's "production in 1892 was recorded by the Colorado Coal and Iron Company and the Colorado Fuel Company, each of which owned and worked large tracts of coal land in the southern field and the mountain district."<sup>94</sup> John C. Osgood moved to Denver in 1882 and by 1884, he had organized the Colorado Fuel Company. In 1888, Osgood's company absorbed several other companies and enlarged "its authorized capital from five hundred thousand to five million dollars."<sup>95</sup> This consolidation and expansion set the stage for a giant merger of competing fuel companies. This giant merger also increased Pueblo's manufacturing abilities, and by employing more workers, it also increased the population. This rise in population was ultimately detected by the noses of Pueblo residents. More people meant more waste, and therefore more foul smells.

The success of Osgood and his Colorado Fuel Company, coupled with the inconsistency of the Colorado Coal and Iron Company, led to the merging of these competing factions in 1892. Under this merger, Osgood and his associates seized control of a company that now had the resources and facilities to ramp up fuel sales and metallurgical products. For example, the Colorado Fuel and Iron Company now had access to 69,000 acres of land containing 400 million tons of coal, fourteen mines producing 12,000 tons daily, four plants with 800 ovens producing 1,000 tons of coke per day, over 2,000 acres of iron lands in Colorado, and "the fuel and iron company also owned the only integrated iron and steel plant in the West."<sup>96</sup> The Bessemer plant at time of consolidation contained three blast furnaces, two five-ton converters, blooming and rail mills, a merchant iron mill, a cast iron pipe foundry, a spike mill, a casting foundry,

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<sup>94</sup> Scamehorn, "John C. Osgood and the Western Steel Industry," 135-136.

<sup>95</sup> Scamehorn, "John C. Osgood and the Western Steel Industry," 137.

<sup>96</sup> Scamehorn, "John C. Osgood and the Western Steel Industry," 138.

carpenter and machine shops, a pattern shop, laboratory, power plant, and water system. According to Scamehorn, “the production units were capable of turning out 400 tons of iron, 300 tons of steel rails, and forty tons of merchant iron and light rail sections daily.”<sup>97</sup> The machinery was in place, but machines do not make steel products alone. The workforce required to operate these machines thus increased accordingly. The increase in workers meant a higher population of people in Pueblo, more waste, more foul smells, and more accounts indicating the detection of these odors. Osgood initially saw the steel works as an obstacle to his plan of dominating the western fuel trade, but he changed his mind “because it was legally impossible to separate the Colorado Coal and Iron Company’s metallurgical and fuel assets.”<sup>98</sup> Since these assets were seemingly intertwined, Osgood decided to make improvements at the steel works. He brought in well-known supervisors with experience in the various processes involved in the fuel and manufacturing business. It was believed that a combination of outstanding management, able-bodied workers, and new and improved technology would increase Pueblo’s manufacturing output, and bring in greater profits. A greater manufacturing output and a rise in profits also meant an increase in olfactory detection.

Increased production and profits led to an elevated sense of pride in the superiority of steel produced in Pueblo. During the 1890s, more and more newspaper articles bragged about the goods produced in Pueblo’s plants. “Time has demonstrated that Bessemer steel rails made by the C. F. & I. company are the best in the country,” the *Chieftain* bragged, “not the equal of any, but the best.”<sup>99</sup> Pueblo boosters and businessmen were excited about the potential for growth, and pleased that Pueblo had made a name for itself by the end of the nineteenth century.

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<sup>97</sup> Scamehorn, “John C. Osgood and the Western Steel Industry,” 138.

<sup>98</sup> Scamehorn, “John C. Osgood and the Western Steel Industry,” 138-139.

<sup>99</sup> “Prosperous Pueblo,” *Colorado Daily Chieftain*, February 1, 1893.

In 1890, for example, the *Chieftain* reported that “the city is full of real estate buyers, many of whom have come from the far east.”<sup>100</sup> At last, “the fame of Pueblo has spread all over the land and peace and prosperity are with her.”<sup>101</sup> The formation of the Colorado Fuel and Iron Company boosted the steel city morale by bringing more stability to the steel works in Pueblo, and this stability was smelled with greater frequency.

Those who worked and lived in Pueblo shared more than just a sense of attachment to the steel plant and the manufacturing identity of the city. They also shared olfactory experiences that in some cases led to humorous and thorough investigations. An 1891 report demonstrates this point. A strange and offensive odor pervaded a building. Several individuals noticed the smell, but could not determine where the odor came from, or what created it. “A hunt was made for dead rats or cats all around the building without avail,” and it was also suspected that a fight between two men earlier that week resulted in one of the men being killed, and the body being hidden under the smelly building.<sup>102</sup> Officials determined that there were no dead or decaying carcass’s on the premises, but the odor grew stronger. So strong that “passersby took the other side of the street.”<sup>103</sup> The investigation continued, and locals formed a search committee. In a pile of matter in one corner of a room the search party found an iron bound box, and it was easy to determine that the contents of the box produced the terrible odor. The box was opened up with the help of the local blacksmith, and the stinky culprit was uncovered. The box did not “contain a corpse, but inside it was found about fifty pounds of the most malodorous limburger cheese ever seen or smelt in southern Colorado.”<sup>104</sup> The nose detected potential health threats in

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<sup>100</sup> *Colorado Daily Chieftain*, August 27, 1890.

<sup>101</sup> *Colorado Daily Chieftain*, August 27, 1890.

<sup>102</sup> “What Caused the Perfume at Third and Main Street,” *Colorado Daily Chieftain*, October 18, 1892.

<sup>103</sup> “What Caused the Perfume at Third and Main Street,” *Colorado Daily Chieftain*, October 18, 1892.

<sup>104</sup> “What Caused the Perfume at Third and Main Street,” *Colorado Daily Chieftain*, October 18, 1892.

late nineteenth century Pueblo, and it also inspired group action to rid buildings of offensive smells. The large numbers of people who moved to Pueblo to participate in the steel business detected the smellscape of Pueblo and reported their findings in local news outlets. Therefore, the story of the early economic development of Pueblo and the creation of the steel city communal identity cannot be completely told without including the shared sense of smell that warned people to take a different way to work or avoid certain areas altogether.

Since the Colorado Fuel and Iron Company was involved in fuel and metal sales, it was able to survive the ups and downs of the 1890s. For example, a dramatic decline in metallurgical sales “preceded by two months the Panic of 1893, and a prolonged general depression in the United States.”<sup>105</sup> This economic decline halted improvements to the steel plant, but fuel sales increased, and the company kept from going under. The company’s “share of Colorado’s coal output jumped from forty-five to seventy-three percent in the years from 1893 to 1902.”<sup>106</sup> The company continued to grow in the last decade of the 1890s, and it absorbed rival companies. An increased demand for iron and steel in 1895 helped save the company from financial ruin. According to Scamehorn, “sales of rails in the first half of that year were greater throughout the nation than in the previous twelve months.”<sup>107</sup> The company’s success was evident at the turn of the century. “In the four years from July 1, 1899 to June 30, 1903,” Scamehorn stated, “sales averaged 119,904 tons, and receipts were substantially higher than in the earlier period.”<sup>108</sup> By the end of the nineteenth century, there was no doubt that Pueblo was the steel city of the West, that the various combinations of companies that ultimately became the Colorado Fuel and Iron Company played a major role in the early development of the city, and that the smellscape

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<sup>105</sup> Scamehorn, “John C. Osgood and the Western Steel Industry,” 140.

<sup>106</sup> Scamehorn, “John C. Osgood and the Western Steel Industry,” 140.

<sup>107</sup> Scamehorn, “John C. Osgood and the Western Steel Industry,” 141.

<sup>108</sup> Scamehorn, “John C. Osgood and the Western Steel Industry,” 141.

changed, was recorded more frequently, and directly influenced where citizens traveled within the town.

The smellscape of Pueblo was rarely mentioned in sources from the 1860s, it was more frequently noted in the 1870s, increased even more in the 1880s, and continued appearing in reports through the end of the century. It was not uncommon at the end of the nineteenth century to read newspaper articles mentioning foul smells in multiple places around the city. An 1893 edition of the *Chieftain* reported several foul-smelling locations. “There is a good deal of complaint,” the article noted, “in the neighborhood of Fourteenth and West streets because the lots on the northwest corner thereof are used as a manure dump by anyone who wishes to dispose of surplus manure.”<sup>109</sup> The same issue reported that “about midnight on Friday the atmosphere in the northern part of the city was full of a pungent, sickening odor.”<sup>110</sup> One mention of a foul smell in the 1860s *Chieftain* was rare, but by the turn of the century, the smellscape of Pueblo frequently found itself in newspaper reports. The increase in frequency can be attributed to the success of the steel works, and the thousands of people it attracted to the region.

At the turn of the century, production in the steel plant was increasing, and yet another consolidation soon occurred. This consolidation ultimately limited the local influence on the steel works as it granted eastern financiers like John D. Rockefeller, Jr. power to make business decisions. The ultimate demise of local control over the steel works in Pueblo reveals how power shifted from John C. Osgood to large corporations back east in the first few years of the twentieth century. “Until the close of the nineteenth century,” Scamehorn noted, “iron and steel production had been carried on for the most part by numerous, independent, competitive

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<sup>109</sup> “The Eaves Dropper,” *Colorado Daily Chieftain*, June 18, 1893.

<sup>110</sup> “The Eaves Dropper,” *Colorado Daily Chieftain*, June 18, 1893.

firms.”<sup>111</sup> At the beginning of the twentieth century, competition lessened as companies consolidated, granting outside interests decision making power and control. John C. Osgood and a Chicago financier fought for several years over whether the Colorado Fuel and Iron Company would remain in local hands or become a part of the much larger United States Steel Company. Looking to make a profit from the creation of company combinations, John W. Gates purchased a large interest in the CF&I. Ultimately, “Gates wanted to sell the western corporation to United States Steel, and when Osgood rejected terms offered by J. P. Morgan in 1901, the Chicagoan decided to take over the Pueblo firm’s management.”<sup>112</sup> After a back and forth struggle for control of the company, Osgood allied himself with George J. Gould and John D. Rockefeller. When Gates found out about this powerful alliance, he abandoned “the fight prior to the delayed annual meeting in December 1902.”<sup>113</sup>

Although the decision by Gates to abandon the fight was a victory for Osgood, the company was not meeting their expansion deadlines, and therefore spiraled downward economically. For example, “when the new furnaces, mills, and mines did not commence operation as planned in 1902, the corporation’s obligations mounted far in excess of financial resources.”<sup>114</sup> Osgood and several of his closest associates ultimately resigned, in exchange for money, to save the company from insolvency. “The reorganization was completed in the summer of 1903,” wrote Scamehorn, “at which time John D. Rockefeller Jr., as the principal creditor, emerged as the leading figure in the enterprise.”<sup>115</sup> The company was now largely under the control of eastern businessmen.

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<sup>111</sup> Scamehorn, “John C. Osgood and the Western Steel Industry,” 145.

<sup>112</sup> Scamehorn, “John C. Osgood and the Western Steel Industry,” 145.

<sup>113</sup> Scamehorn, “John C. Osgood and the Western Steel Industry,” 145.

<sup>114</sup> Scamehorn, “John C. Osgood and the Western Steel Industry,” 145.

<sup>115</sup> Scamehorn, “John C. Osgood and the Western Steel Industry,” 146.

Despite the fact that Osgood lost control of the company in 1903, he had still helped reconstruct the Pueblo plant, increased its capacity, and largely contributed to the later success of the Colorado Fuel and Iron Company. He oversaw the spending of more than twenty-five million dollars toward the construction of blast furnaces, converters, open hearth furnaces, as well as mills for the fabrication of merchant steel, sheets, tinplates, rods, wire, and nails. In addition, the Colorado Fuel and Iron Company also augmented its water resources, created a subsidiary railroad system, open iron mines in Wyoming, Utah, and New Mexico, and enlarged fuel production in the southern field and mountain district.<sup>116</sup> According to Scamehorn, “the new facilities raised the capacity of the Bessemer Works from about 100,000 to more than 600,000 tons annually,” and Osgood estimated that this amount could “supply approximately one-half of the demand in the region west of the Missouri River.”<sup>117</sup> The increase in production meant that “in less than a dozen years new furnaces and mills had transformed the Pueblo enterprise into a stable heavy industry which served as the foundation for Colorado’s continued economic growth.”<sup>118</sup> By the first decade of the twentieth century, Pueblo’s place as the steel city, the Pittsburg of the West, and the manufacturing capital of Colorado had been solidified. A sharp increase in reported olfactory experiences in late nineteenth and early twentieth-century newspapers is representative of this success.

There are many historical accounts of urban growth, industrial production, and economic development in the late nineteenth and early twentieth centuries. However, these stories often focus on visual transformations of landscapes. As this chapter indicates, inhabitants of this time period also sensed the environmental alteration of Pueblo, Colorado, through more than just their

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<sup>116</sup> Scamehorn, “John C. Osgood and the Western Steel Industry,” 146-147.

<sup>117</sup> Scamehorn, “John C. Osgood and the Western Steel Industry,” 147.

<sup>118</sup> Scamehorn, “John C. Osgood and the Western Steel Industry,” 147.

eyes. Leaving out the olfactory descriptions that flooded local newspapers of the time means that historians omit valuable sensory information. As Pueblo became the manufacturing center of Colorado, the smellscape of the region changed as well, and this olfactory detection determined where citizens should live, how they should respond to various odors, and what places they should avoid altogether. Threats to human health are not always seen, heard, or even touched. As the case of Pueblo indicates, urban growth often increased the amount of rotting animal carcasses, decaying trash heaps, and human and animal waste in an area, and therefore the risk of becoming sick. At least that is what late nineteenth-century medical experts and health officials believed. Smelling Pueblo during its early stages of economic development helped residents properly navigate the city. It also helped them avoid illness, according to medical knowledge of the time.

## Conclusion

In the late 1800s and early 1900s, Rocky Ford, Colorado Springs, Cripple Creek, and Pueblo became agricultural, tourist, mining and manufacturing centers. Economic development in these regions subsequently sparked a population increase in southeastern Colorado. While each place established a unique economic identity, residents and visitors experienced economic development from more than strictly visual perspectives. Agricultural experiment station reports, newspaper articles, magazines, medical publications, guidebooks, and other promotional materials indicate that these inhabitants sensed this development with more than just their eyes. They not only saw the visual transformation of their respective locations, but they also tasted, touched, heard, and smelled this process.

Rocky Ford became the melon capital of Colorado in the years after George W. Swink planted Netted Gems in the region and established an irrigation system to water the tasty crop. The Colorado Agricultural Experiment Station then cultivated cantaloupes and analyzed this production in order to determine the appropriate time to plant, how much to water, how to prevent fungal infection, and when to harvest the crop so that the uniquely sweet and flavorful taste of their melons would be preserved, packaged, and sold. Farmers then ramped up agricultural production in the region, and formed cooperative organizations such as the Rocky Ford Melon Growers Association. These cooperatives only sold the best quality melons from each year, developed the standardized cantaloupe crate, and established relationships with eastern distributors who purchased their flavorful crop. In other words, climatic conditions, sandy soils, and human ingenuity created delectable melons in Rocky Ford, and the well-documented taste of Netted Gem cantaloupes ultimately drove the economic development of the

town in the late nineteenth and early twentieth centuries. Consumers purchased the flavor, not the sight of Rocky Ford.

In Colorado Springs, a growing health resort and tourism industry ultimately turned the city into the health capital of Colorado by the turn of the twentieth century. Town boosters like William Jackson Palmer celebrated the naturally beautiful scenery of Colorado Springs, but they also promoted the city as a premiere health-restoring region. Medical experts prescribed the climate, naturally occurring geological features, elevation and geographical location to consumptives and those suffering from asthmatic troubles. Travelers likewise reported improved health and relaxation in the city at the foot of Pike's Peak. Peoples then poured into Colorado Springs to feel better physically, which meant that the beauty of the surrounding landscape was less significant to them than bodily restoration and rejuvenation. Thus, tactile experiences and feelings drove the economic development of the region. Consumers purchased the feeling, not just the sight of Colorado Springs.

Cripple Creek earned national fame toward the end of the nineteenth century, and it quickly became the gold mining capital of Colorado. After Bob Womack's discovery of gold in the region, settlers moved to Cripple Creek for a chance to strike it rich, businessmen worked to stake claims in the district, and residents heard and remembered the sounds of the interaction between these factions. As the population increased, the soundscape shifted from the sounds of a largely uninhabited cattle range to the noises of an industrial mining operation. Sometimes this industrial soundscape was noisy and peaceful. Other times it was loud and violent. In some instances, the same exact sound represented completely different outcomes. Dynamite blasts, for example, indicated economic production when mountains were penetrated and probed for gold. The same blasts indicated property destruction and death when buildings were destroyed and

lives were lost. The sound of Cripple Creek did not drive economic development in the same way that taste and feeling did in Rocky Ford and Colorado Springs, but the soundscape became much more industrial and deadly. Miners, mine owners, and other Cripple Creek inhabitants not only saw labor conflict and contestation, but they also heard it and used sonic indicators to protect themselves, their property, and their livelihoods.

Pueblo, the steel city of the West, became Colorado's manufacturing capital toward the end of the nineteenth century, largely due to its geographic location between the minerals and resources necessary for iron and steel production. Again entrepreneurs like William Jackson Palmer worked to link Pueblo with the rest of the country by establishing railroads in the area. Companies like the Central Colorado Improvement Company and the Southern Colorado Coal and Town Company then merged to create the Colorado Coal and Iron Company, which increased operations and employed more workers. The rise in employment opportunities led to a population increase in the region, which meant more garbage, more human and animal waste, and more people coming in contact with stagnant pools of sewerage, filth, and disease. Health officials warned that foul smells were associated with sickness and death, and worked to rid the city of these noxious odors. In this case, economic development went hand-in-hand with an increase in foul-smelling, health-concerning zones in Pueblo. The sights of economic growth are certainly relevant to the story of Pueblo's development, but so too are the smells of this expansion, as residents needed their noses to determine what portions of the city were safe to walk through, and which should be avoided.

Using a multisensorial approach in historical research provides depth to narratives that otherwise lack descriptions of taste, feeling, sound, and smell. When historians of agriculture, tourism, mining, and manufacturing omit nonvisual information in their accounts, they tell less

engaging stories. Of course humans are interested in how certain places and peoples looked during any given time period, but to provide a more encompassing and sensually inclusive perspective is to move beyond visual limitation. Multisensory histories allow readers to fully immerse themselves in historical time periods and events in ways that strictly visual perspectives do not. This dissertation encourages readers to pay close attention to the nonvisual senses.

If one initially underestimates the power and significance of the four nonvisual senses, they must introspectively examine their own personal experiences. When deciding what to have for dinner, the sense of taste often dictates what one chooses to eat. The taste of certain foods also leave a lasting impression or memory in the minds of those who consume these products. Long-standing burger restaurants like In-N-Out and White Castle are not famous simply because of the look of their food. They are known for their taste. Certainly not everyone agrees that these restaurants have the best burgers in the world, but the amount of visitors each year and the continual success of the businesses indicates that taste is significant in the story of human experience. In addition to the taste-driven success of the Rocky Ford cantaloupe, the Travel Channel in 2010 settled a long time local rivalry between two restaurants in Pueblo. The contest included a battle between the Sunset Inn and Grays Coors Tavern, restaurants with two of the best sloppers in town. The sloppers, burgers covered in Pueblo green chili and other toppings, faced off in a contest in which the tasters were blindfolded and asked to determine which slopper is truly the best. By eliminating sight for those tasting the sloppers, the sense of taste indicated which burger deserved the title of best slopper in town. In this case, taste does more than dictate what food one chooses to eat, but it also introduces people to the flavor of local communities, since the slopper is a unique culinary creation in Pueblo.

The sense of feel and touch is also present and significant in the story of human experience, as bodies often detect sensations that cannot be seen, tasted, heard, or smelled. Ask anyone who steps off a plane from Colorado to Louisiana in July how much they feel the humidity. Likewise, ask professional athletes how much more winded they feel when training or playing in the elevated regions of Colorado than they do when performing the same exercises at sea level. In both of these examples, the sense of touch and feel, not just sight, helps one understand where they are located geographically. This sense also introduces them to unique climatic and environmental conditions in any given region. In addition, the sense of touch and feel alerts humans of danger. For example, looking at a burning fire does not physically harm individuals, but touching a fire is painful. The sensation of heat one feels when standing near a fire warns them to keep their distance. On the other hand, pleasant experiences are also felt. A cool breeze on a hot summer day feels great to those enjoying the outdoors, while a heating pad feels comforting on sore and aching muscles and joints. People feel the relaxing, painful, safe, dangerous, soothing, and tiring elements of their surroundings in nonvisual ways that help shape the overall human experience.

When attending a concert, surely people pay to see the visual performance of the artist or group, but they also go to hear the sounds of the music being played live. Take Red Rocks, for example, a famous concert venue in Morrison, Colorado. The venue is certainly beautiful and visually appealing, but some of the most popular musicians who have performed at Red Rocks praise the amphitheatre for the excellent acoustics that separate it from other concert venues. Each year thousands of people visit Red Rocks to hear the ways in which the sound waves bounce off the giant red rocks that surround the seats where visitors listen. If one moves from the mountains of Colorado to the beaches of California, the sound of waves crashing against the

shore is also memorable. In fact, sound machines and internet services like YouTube provide ocean sounds that people listen to in order to relax or fall asleep. Even when watching a movie, a largely visual activity, eerie sound effects and scary music indicate when a villain appears on screen or a frightening scene takes place. Humans hear their surroundings, recognize specific soundscapes, and interpret their experiences through this audible detection.

Anyone who has driven by a McDonald's has most likely experienced the smell of their burgers and fries. Burgers and fries are sold by many businesses in many different locations, but the smell of McDonald's is unique and recognizable through the olfactory sense. Similarly, when attending a movie theatre, one cannot help but detect the pleasant smell of freshly popped popcorn often times before they even enter the building. Although certain smells are deemed pleasant, other odors are not so inviting. For example, when passing by a meat-packing plant or feedlot, the overwhelming and wafting scent of animal manure invades the nostrils with the largely unenjoyable odor. Likewise, when entering a garbage dump, the disagreeable smells of rotting meat, decaying food, and other waste products penetrate the nose and leave an unsettling olfactory memory. Whether pleasant or disagreeable, enjoyable or distasteful, welcoming or repulsive, humans smell the scents of their given surroundings, and these odors shape their overall experiences in the region. As sensual beings, humans analyze and interpret their experiences through the senses of taste, touch, hearing, smell, and sight. Therefore, by omitting nonvisual descriptions and experiences in historical accounts, the people, places, and events studied lack sensual depth and remain on the visual surface.

This work argues that historians should pay much closer attention to the nonvisual senses when writing historical accounts. It also discusses the role the nonvisual senses played in the economic development of southeastern Colorado, and the subsequent creation of an economic

identity in each region mentioned. However, the work is not without flaws and potential shortcomings. The intention at the outset of this project was to not only show how the nonvisual senses influenced economic development in Rocky Ford, Colorado Springs, Cripple Creek, and Pueblo, but to indicate how tasting, touching, hearing, and smelling created a sense of communal identity in each location. It is one thing to state that the taste of the Rocky Ford cantaloupe, the feel of the Colorado Springs environment, the sound of Cripple Creek gold mining, and the smell of Pueblo steel manufacturing helped create the economic identity in each region, but a much bolder argument to suggest that these nonvisual senses created a communal identity in each place. In order to support the latter claim, much more research is necessary. In this account, the vast majority of the evidence provided comes from town boosters, promotional pamphlets, government reports, and newspaper articles, which gives us a sense of how one class of residents and visitors felt. However, the economic interests and agendas of wealthy entrepreneurs and railroad companies do not represent the entire population of each location.

If one wishes to determine whether or not the nonvisual senses did in fact help create a sense of communal belonging or identity, one must dig deeper into the archives. One must find personal accounts of growers, health seekers, miners, and steel workers in each region that describe the sensual richness of economic development. One must also uncover accounts of others who perhaps did not work in each respective industry. For example, one did not need to participate in the cantaloupe industry to describe the taste of the melons. In the case of Colorado Springs, one did not have to have financial interests in the “Colorado for health” belief in order to feel better physically. Likewise, Cripple Creek residents did not have to be gold miners to hear the sounds of production and conflict, and Pueblo inhabitants did not have to work at the steel plant to smell the results of manufacturing success and failure. Only by gathering accounts

of diverse segments of the population in each locality can historians determine if the nonvisual senses helped establish a sense of communal uniqueness and identity in each place.

When writing sensually inclusive accounts, historians also encounter problems of subjectivity with regard to human-sensed experiences. People do not see, taste, feel, hear, or smell the same, which makes sensory histories inherently subjective or ambiguous. Take hot or spicy food for example. Some people's taste buds allow them to choose the hot buffalo sauce when enjoying chicken wings, while others select the more mild or original flavor. Some people need glasses or contacts to read fine print or see traffic signs from a distance, while others do not need any outside aid. With regard to touch or feel, some people prefer very hot showers while others enjoy cool pools. As people age, their hearing may deteriorate, which means they will not hear the same sounds as others with better hearing. Lastly, people find different smells alluring. When walking down a candle aisle, for example, one has countless options to choose from, and they will choose the scent they find most enticing. Although people may agree that the candles all smell good, they most likely will not always agree on which fragrance is the best. Therefore, historians must be aware of the differences in people's sensual experiences when writing sensory histories.

In order to push this work to a deeper analytical level, one could further investigate what the nonvisual senses teach us about the past. What else does an analysis of the nonvisual senses offer historians of economic development? What does it teach us that more visual accounts do not? Is a sensually inclusive approach useful in other fields of historical research? Does the fact that sensual perception is individual and subjective negate the potential benefits of using this model? Could other disciplines benefit from paying closer attention to the nonvisual senses? These are all questions that could be further discussed in future research.

The geographic region that makes up southeastern Colorado today has a rich history. As the United States grew during the late 1800s, peoples moved into the region and developed towns and cities with clear economic foundations and identities. As town boosters, entrepreneurs, and workers established these communities, they altered the landscapes of Rocky Ford, Colorado Springs, Cripple Creek, and Pueblo. In the process of making Rocky Ford the cantaloupe capital, Colorado Springs the health resort sanctuary, Cripple Creek the world-famous gold camp, and Pueblo the steel city of the West, residents and visitors sensed this development in visual and nonvisual ways. Examining economic development in other regions of Colorado or the world in general through a multisensory analysis could potentially reveal the significance of the nonvisual senses in the story of human experience. As this dissertation indicates, Colorado inhabitants sensed development, they did not just watch it.

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