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CHARLATANS, SHARPERS, AND CLIMATOLOGY: THE
SYMBOLISM AND MYTHOLOGY OF LATE NINETEENTH
CENTURY EXPANSIONISM IN KANSAS.

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GRADUATE COLLEGE

CHARLATANS, SHARPERS, AND CLIMATOLOGY:
THE SYMBOLISM AND MYTHOLOGY
OF LATE NINETEENTH CENTURY EXPANSIONISM IN KANSAS

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PAUL DEE TRAVIS

Norman, Oklahoma

1975

CHARLATANS, SHARPERS, AND CLIMATOLOGY:
THE SYMBOLISM AND MYTHOLOGY
OF LATE NINETEENTH CENTURY EXPANSIONISM IN KANSAS

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DEDICATION

To May, Perle, Ruby, Bennie, Thelma, and Burt--and
Fay Edna, all of whom lived a sod-house frontier
existence . . .

And to Claude Walter Travis . . .

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Andrea Lyn, Jay Carroll, and Ann Upshaw Travis--all of whom
have suffered and yet somehow understood--my special "thanks."

INTRODUCTION

Farmers migrating to Kansas in the decades after the Civil War faced semiarid surroundings in which the lack of rainfall threatened their economic survival. West of the ninety-eighth meridian, where rainfall averaged less than twenty inches annually, settlers encountered a hostile environment dramatically different than the more humid areas in the East. Kansans homesteading in this region assumed that an agricultural garden lay in the future, despite scant and sporadic precipitation. They mythically believed that Nature's God would alter the dry climate and that it would moderate through increased rainfall. Accepting such a premise, farmers clung to romanticized conceptions of climate alteration spread by journalists, writers of fiction, poets, scientists, and spokesmen for various agricultural agencies. Indeed, these fictionalized beliefs led prospective farmers to migrate to the State and once there, the weather myths sustained their hopes amid privations.

The appearance of the rainmakers at Goodland, Kansas, and other communities during the nineties, represented the ultimate expression of the settlers' mythical faith in climate

modification. This study seeks to show that the rainmaker emerged from a backdrop of fantasized hopes, the extension of antiquarian weather myths. Moreover, to Bible oriented Kansas settlers, the rainmaker appeared as the servant of Nature's God--the capstone to the belief that Providence protected the farmer.

Recent studies of rainmaking in the semiarid region, including the perceptive work by Charles R. Kutzleb, "Rain Follows the Plow,"¹ fail to consider the symbolic and mythological implications which surrounded nineteenth century rainmaking efforts. Building upon the work of Kutzleb and others, this study attempts to show the degree to which fictionalized beliefs concerning weather patterns and climate alteration emanated from within the State. Furthermore, such beliefs helped entice eastern settlers to migrate there and encouraged them to remain upon their arrival.

The conceptions that "rain follows the plow," that increased forestation brings moisture, and that new farming methods would alter the climate, all were tested as rainfall panaceas in Kansas. The semiarid belt remained unchanged. Finally,

¹Charles R. Kutzleb, "Rain Follows the Plow: The History of an Idea," (Ph. D. dissertation, University of Colorado, 1968).

in desperation settlers looked to the rainmaker who offered the promise of total climate control. Indeed, such weather myths played a prominent role in the settlement of western Kansas in the late nineteenth century.

CHAPTER I

MYTHS AND PANACEAS: KANSAS AND AGRICULTURAL BONANZA

Fantasies of instant wealth and quests for fabled bonanzas have exerted both positive and negative influences on the economic development of the American West. The pulsating waves of immigrants who poured onto the Great Plains after 1865 attest to the pervasive hope of "striking it rich." The settlement of western Kansas during the latter portion of the nineteenth century tempted a few charlatans to an open arena in which to perpetrate their speculative schemes. One of the most colorful of many intrigues was the rainmaking phenomenon of the early 1890's. This effort to create rain artificially was neither new nor unique to the nineties. Rather, rainmaking involved an extension of a complex set of time-honored agricultural myths frequently based upon the concept that Providence held the yeoman in special esteem.¹

¹Beyond rainmaking, additional speculative ventures, for example, until recently overlooked, was the Kansas gold rush of the late nineteenth century. See William E. Unrau, "The Legend and Reality of Western Kansas Gold," The Trail Guide, XI (September, 1966), 1-15.

Man's relationship to Nature has been a prominent theme in the history of thought, dominating the intellectual constructs of such European intellectuals as Jean J. Rousseau and John Locke. The American expression is best exemplified by the writings of Thomas Jefferson. Jefferson's stature as philosopher-statesman, natural historian-politician, dominated much of the intellectual climate of the nineteenth century. Revered by contemporaries and succeeding generations as well, his shadow thrust itself across the American landscape. Much of Jefferson's contribution in romantic philosophy lay in the realm of his association with, and his passion for, the land and those most closely associated with it.² In his view, the "cultivators of the earth" sought their destinies in an harmonious environment, for their labors pleased God.³

²Scattered throughout Henry Nash Smith's Virgin Land: The American West as Symbol and Myth (New York: Vintage Press, 1950), are frequent references to Jefferson's conception of the worth of the farmer and his special relationship to the earth and Providence. See also the "Introduction" of Bernard W. Sheehan's Seeds of Extinction: Jeffersonian Philanthropy and the American Indian (New York: W.W. Norton and Co., Inc., 1974), 3-12. In addition see Adrienne Koch's important work, The Philosophy of Thomas Jefferson (Rev. ed. New York: Oxford Press, 1964), and Leo Marx, Machine in the Garden: Technology and the Pastoral Ideal in America (New York: Oxford University Press, 1964), particularly chapter three, "The Garden," 73-144.

³Paul L. Ford, ed., The Writings of Thomas Jefferson 10 vols. (New York: G.P. Putnam's Sons, 1893), IV, 143.

A mystical higher calling, according to Jefferson, beckoned the farmer to grasp the plow as one of "the chosen people of God."⁴ Indeed, farming to Jefferson comprised the most virtuous of all tasks in which man could engage,⁵ "the first and most precious of the arts."⁶

Because of the unique relationship of the farmer to Providence, it was believed by some that God had granted the yeoman control over the climate. Within the context of such mythology, therefore, the farmer possessed the God-given power to alter the climate to correspond with his specific agricultural needs regardless of the barriers or obstacles. In return, the farmer possessed an obligation to utilize the soil as the Deity had intended.⁷

In Virgin Land, Henry Nash Smith discusses the mythical conception of the farming frontier which prevailed in the mind of the easterner in the nineteenth century. According to Smith, the popular vision of the "western hero" is largely

⁴Ibid., III, 268.

⁵Ibid., III, 268; III, 279; and IV, 143.

⁶Ibid., VII, 445.

⁷Such a concept was widespread in the nineteenth century. For additional clarification see Albert K. Weinberg, Manifest Destiny: A Study of Nationalist Expansion in American History (Baltimore: Johns Hopkins Press, 1935), 72-3; 89-90.

attributable to writers of romantic fiction--James Fenimore Cooper in his Leatherstocking Tales, for example, stimulated fictionalized stereotypes of westerners. It was because of the vivid descriptions of Cooper and others that those in the East were encouraged to envision a vast continental interior, "the garden of the world," populated by free and independent landholders who formed the base of democratic institutions. Farmers, romanticized in fiction, were depicted by authors as virtuous men without peer who migrated to the West seeking an agricultural utopia. Smith suggests that in the popular mind the nineteenth century farmer possessed mystical or divine powers because of his association with Nature. Virtue, Divine Will and Nature mythically merged in the person of the simple agrarian who toiled in an agricultural utopia breaking the virgin sod.⁸ Of particular importance in Smith's view is the belief that the Deity blessed those who tilled the soil, and that man, through his efforts conformed providential will to his, insuring agricultural success.

According to James Fenimore Cooper, the western movement, concerned as it was with farming, was "good." "It is," he wrote, "an unceasing march of light, bringing in its train the social progress which results eventually in a settled

⁸Smith, Virgin Land, Part Two, 54-137.

society capable of producing priceless flowers of attainment."⁹ Echoing Cooper's concepts, Ralph Waldo Emerson insisted that the farmer "stands close to Nature."¹⁰ Perhaps reflecting upon the views of Jefferson, Cooper, Emerson and others, a Kentucky journalist, writing in the 1830's, described the farmer as occupying a "constant, intimate and sensible relationship with Heaven."¹¹ Lydia White, a Kansas poet writing in the 1870's, reflected the sentiment of her eastern literary counterparts in the poem "The Plowman:"¹²

. . . God speed the plowshare, and the hands
That till the fruitful earth,
For there is in this world so wide
No gem like honest worth;

⁹James Fenimore Cooper, The Prairie, 13th ed. (New York: Holt, Rinehart and Winston, 1965), xvi.

¹⁰Shirley D. Babbitt and Lowry C. Wimberley, eds., Essays on Agriculture (New York: Doubleday, Page and Co., 1921), 1-13.

¹¹The Franklin (Kentucky) Farmer, October 12, 1839, in Albert L. Demaree, American Agricultural Press, 1819-1860 (New York: Columbia University Press, 1941), 280-81.

¹²Lydia A. White, "The Plowman," Wichita (Kansas) Eagle, April 23, 1874. Lydia A. White's poem is typical of the late nineteenth century didactic poem that flourished in Kansas during the period. For additional examples of such poetry see Joel Moody, The Song of Kansas and Other Poems (Topeka, Kansas: George W. Crane Company, 1890), and particularly Moody's "Song of Kansas," 83. For additional clarification of the impact of poetry and literature on the popular mind, see Paul H. Johnstone, "In Praise of Husbandry," Agricultural History, XI (1937), 80-95, in Leo Marx, Machine in the Garden, 373.

And though his hands are dark with toil,
 And flush the manly brow,
 It matters not, and God will bless
 The Labors of the plow.

A Granger hymn, popular in the Great Plains following the Civil War, reflected a similar theme, the initial stanza of which began "'Tis toil that over nature gives man his proud control." Such glowing literary ideas, coupled with Jefferson's agricultural optimism, served as an impetus in romanticizing farming and farmers. During the late nineteenth century, Kansas farmers subsequently tested the agrarian credo.¹³

In the years immediately following the Louisiana Purchase, little was known of the newly acquired wilderness. Occasionally, a trapper or trader blazed a trail or ventured beyond the outer fringes of settlement to sell his wares or to trap along the Missouri River, but most farmers remained

¹³William B. Hesseltine, "Four American Traditions," Journal of Southern History, XXVII (February, 1961), 3-33. L.H. Bailey emphasized a similar theme in "The Holy Earth," Essays on Agriculture, 25, and in his The Outlook to Nature Song of Kansas and Other Poems (Topeka: George W. Crane and Company, 1890), 83, 85. John William Ward touches upon the theme of Nature in Andrew Jackson, Symbol for an Age (New York: Oxford University Press, 1962), ch. IV, "The Plowman and the Professor," 46-78. Also see Allan G. Bogue, From Prairie to Cornbelt (Chicago: Quadrangle Books, 1963), 1-8, whose introduction evokes a similar theme. Richard H. Abbott in "The Agricultural Press Views the Yeoman," Agricultural History, XLII (January, 1968), 40-2, surveys similar themes appearing in newspapers. Finally, Leo Marx, Machine in the Garden, alludes frequently in early chapters to similar concepts.

well within the more humid Ohio Valley. Farther west the great forests ended, exposing a vast unknown expanse of seemingly endless grassland.

A host of explorers ventured out onto the Great Plains, and each returned with stories of a barren landscape unfit for human habitation. By 1820, it was widely accepted that the region beyond the Missouri River was of little value for permanent settlement and agricultural development. The comments of explorer Zebulon M. Pike typified the pessimistic assessments of the plains environment. In 1810, Pike compared the sandy plains to the scorching deserts of Africa. The only benefit that might be derived from the desert, according to Pike, was its function as a barrier, limiting the people of the United States from wandering aimlessly westward and extending themselves to the outer fringes of the frontier.¹⁴

¹⁴In Elliott Coues, ed., The Expeditions of Zebulon Montgomery Pike, to Headwaters of the Mississippi River through Louisiana Territory and In New Spain, During the Years 1805-6-7, 3 vols. (New York: Francis P. Harper, 1895), II, 525; Pike described the region in the following manner: "But here a barren soil parched and dried up for eight months in the year, presents neither moisture nor nutrition sufficient to nourish timber. These vast plains may become in time as celebrated as the sandy deserts of Africa . . . But from these immense prairies may arise one great advantage to the United States, viz.: The restriction of our population to some certain limits . . . Our citizens being so prone to rambling and extending themselves on the frontiers will, through necessity, be constrained to limit their extent on the west of the borders of the Missouri and Mississippi, while they leave the prairies incapable of cultivation to the wandering and uncivilized aborigines of the country."

Seven years later, the traveler Henry Brackenridge journeyed north along the Missouri River and recorded his impressions of the plains which were subsequently published in Views of Louisiana:

. . . the prevailing idea, with which we have so much flattered ourselves, of these western regions being like the rest of the United States, susceptible of cultivation, and affording endless outlets to settlements is certainly erroneous. The Indian nations will continue to wander over those plains . . . for until our country becomes supercharged with population, there is scarcely any probability of settlers venturing far into these regions.¹⁵

The army explorer, Stephen H. Long journeyed up the Platte River in 1823, returning to Missouri by way of the Canadian River. Echoing Pike's pessimism, Long noted:

The traveler . . . has little to expect beyond, but sandy deserts and thirsty inhospitable steppes. The skirts of the hilly and wooded region extend to a distance of fifty or sixty miles . . . but even this district is indifferently supplied with water. Beyond commences the wide sandy desert, swelling westward to the base of the Rocky Mountains.¹⁶

Long continued to describe the region unfavorably. "The want of timber of navigable streams and of water for the necessities

¹⁵Reuben G. Thwaites, ed., Early Western Travels, 32 vols. (Cleveland: Arthur H. Clark Company, 1905), XVII, 191.

¹⁶Ibid., XVI, 174.

of life," Long observed, "render it an unfit residence for any but a nomad population." Anyone who traveled the area, he predicted, would agree that this portion of the United States might "forever remain the unmolested haunt of the native hunter, the bison and the jackall."¹⁷

In 1832, a frequent plains traveler, Nathaniel Wyeth, venturing along the Platte River, saw the plains as a dreary expanse "void of water . . . destitute of trees and covered with tall, coarse grass."¹⁸ In 1839, explorer Thomas Farnum reiterated the dreary accounts of those who had previously traversed the region. Farnum described the area as a "scene of desolation," unequalled upon the North American continent, "an arid desert, whose silence is seldom broken by the tread of any other animal than the wolf or the starved and weary horse which bears the traveler across the wastes."¹⁹ In his Commerce of the Prairies, Josiah Gregg, a Santa Fe trader, described the sufferings he had witnessed among travelers lacking a sufficient supply of water; [striking] across the dreaded desert the following morning the whole party

¹⁷Ibid.

¹⁸Ibid., XXI, 49.

¹⁹Ibid., XXVIII, 109.

was . . . preparing for a water scrap as these droughty drives are appropriately called by prairie travelers."²⁰

Despite such graphic descriptions of the plains area, which were widely read in the more humid East, settlers continued to advance westward ignoring previous reports of the inhospitable nature of the region. Historian Frederick Jackson Turner emphasized the lure of unoccupied land as a significant factor in the settlement of the American West.²¹ The central thesis in Turner's work was that "the existence of an area of free land, its continuous recession and the advance of American settlement explain American development."²² The quest for land, as Turner suggested, influenced migration patterns. Such a view, however, raises additional questions relative to the motivation and optimism of westward-moving agriculturists. Again, in the popular mind, fictionalized conceptions of the West and agriculture played dominant roles in luring settlers there. Supposedly, removed from the corrupting influences of an urban existence in the East, the yeoman could seek salvation through clearing primitive forests,

²⁰Ibid., XIX, 219.

²¹Everett E. Edwards, ed., The Early Writings of Frederick Jackson Turner (Madison: University of Wisconsin Press, 1938), 186.

²²Ibid.

toiling in an agrarian utopia, and breaking virgin land. This ideology played a major role in encouraging westward migration, particularly in light of the pessimistic observations of Pike, Long, and other plains-travelers. The spirit of nationalism, embodied in the policies of President James K. Polk and which coupled with existing concepts of Providential "will" and Divine intervention in human affairs, offered an additional stimulant. Even the Oregon dispute and the Mexican Cession conformed to a fictionalized belief in the popular mind that Providence was moving in history.²³

The existence of the Great American Desert, the Spanish occupation of the Southwest, and the British dominance of the Pacific Northwest, had originally convinced many that the limits of westward expansion lay near the great bend of the Missouri River. A rapid influx of travelers journeying to the Pacific coast, however, combined with the defeat of Mexico, renewed the optimism of those desiring to push farther

²³Henry Nash Smith, Virgin Land, Part Two, 54-137; for a detailed account of the importance of Manifest Destiny during the Polk administration, see J.W. Pratt, "The Origins of 'Manifest Destiny,'" American Historical Review, XXXI (July, 1927), 795-98; M.M. Quaife, ed., The Diary of James K. Polk (Chicago: University of Chicago Press, 1910); R.L. Schyler, "Polk and the Oregon Compromise of 1846," Political Science Quarterly, XXVI (1911), 443-61; and A.K. Weinberg, Manifest Destiny: A Study of Nationalist Expansionism in American History (Johns Hopkins Press, 1935).

west. Destiny, it was assumed, protected agrarians and with the blessings of Providence any obstacle blocking agricultural success could be conquered. Many subscribed to the belief that God orchestrated the westward advance of farmers. Bolstered by such a faith, migration increased during the 1840's and 1850's, as farmers eagerly took advantage of liberal legislation such as the Preemption Law of 1841, which granted "squatter rights" to settlers. As a consequence, the West soon became a political force with which to reckon, electing its favorite sons Andrew Jackson and William H. Harrison to the presidency and pushing Thomas Hart Benton and other western politicians into Congressional prominence and power.

For three-quarters of a century, from 1763 until 1840, the national government sought to create a system of land distribution beneficial to emigrants willing to forsake settled areas and undergo the hardships of pioneer life.²⁴ In turn, the gold rush to California in 1849, and the Compromise of 1850, helped create a settlement pattern in the shape of a horseshoe formed by the populated areas of Minnesota,

²⁴Paul W. Gates, Fifty Million Acres, Conflicts over Kansas Land Policy (Ithaca: Cornell University Press, 1954), 4. Also see Roy M. Robbins, Our Landed Heritage, The Public Domain, 1776-1936 (Princeton: Princeton University Press, 1942).

Iowa, Missouri, Arkansas, and Texas in the East; New Mexico, Oregon, and Utah Territories, along with the state of California, formed the western edge of the horseshoe. The trans-Mississippi West remained unsettled, the haunt of the Indian, granted the region for perpetuity during the administration of Andrew Jackson.

Slavery, which had momentarily been resolved by compromises in 1820 and again in 1850, blazed with a new intensity in the fifties. With the passage of the Kansas-Nebraska Act of 1854, opening Kansas Territory to white settlement, slavery immediately overshadowed all other political issues. In Free Soil, Free Labor and Free Men, historian Eric Foner stresses that Republicans in the tumultuous decade before the Civil War came to perceive the North and the South as two distinct societies. In Foner's opinion, they represented two antagonists vying for economic and political dominance. To the North, a conspiratorial slave power worked to deny Northerners their economic independence and security while simultaneously thwarting the burgeoning and Providential mission of Manifest Destiny. Foner suggests that both sections faced the problem of how to expand their respective social and economic systems into the western territories. Republicans

hoped to test the supremacy of the Northern system and the superiority of its institutions in the West.

In stressing the importance of slavery in the 1850's, Foner argues that in the northern mind a "West open to slavery would be marked by the same decadence which characterized the South." Thus according to Foner, in the fifties, Northern Republicans feared that the important aspect of the expansionist impulse would test free-soil aspirations. And if "slavery were allowed to expand into the territories, northern laborers would be effectively barred from settling there"25

Indeed, the slavery question fostered the formation of emigration societies in New England with eastern settlers subsequently founding the village of Lawrence in the north-eastern corner of the Territory. Early pioneers with free-labor aspirations had previously farmed in the Ohio Valley,²⁶ and in Kansas, they sought to better themselves. Moreover, town promoters and other entrepreneurs hoped for immediate monetary gains, ultimately creating the longest and most active period of speculation in the history of public land disposal.

²⁵Eric Foner, Free Soil, Free Labor, Free Men: The Ideology of the Republican Party Before the Civil War (New York: Oxford University Press, 1970), 55, 56.

²⁶Ibid., 14, 17; also Gates, Fifty Million Acres, 50.

Still other historians have pointed to more pragmatic reasons to explain the rush of immigrants into Kansas Territory. Such factors as the outpouring of California gold, the dislocations of populations during the Crimean War, demands for farm produce abroad and high commodity prices at home, as well as land hunger--all focused eastern eyes upon Kansas.²⁷ Some historians insist that railroads played an integral part in stimulating interest in western settlement. A transcontinental rail line had long been the goal of trans-Mississippi congressmen. It was western congressional pressures which produced the Pacific Railway Act in 1862,²⁸ creating an elaborate system of branch lines rather than a single transcontinental road. Under the provisions of the Act, the Leavenworth, Pawnee and Western was authorized to build from below the junction of the Kansas and Missouri Rivers in northeastern Kansas to the one hundredth meridian.²⁹ In 1863 the line became known as the Union Pacific, Eastern Division, and Congress made available nearly 4,000,000 acres of public land in Kansas to encourage the project. In October

²⁷Ibid.

²⁸Ibid., 52.

²⁹U.S., Statutes at Large, XII, 489-98.

1865, the national government issued a \$640,000 bond loan to the Eastern Division of the U.P., for completing forty miles of track. Significantly, railroads were granted the most suitable tracts from the public domain, leaving, as a result, the poorer, more distant areas of land for agricultural settlement. The free-labor aspirations of the Republican party along with western agitation led to the passage of the Homestead Act in 1862. Under its provisions, 160 acres of land from the public domain were available to all adult males or heads of families. Large portions of the public domain were thus opened in Kansas to eastern settlers seeking a secure agricultural livelihood.³⁰

As heavy immigration continued over the central portion of Kansas in the late 1860's and early 1870's, the line of settlement began to penetrate beyond the ninety-ninth and one-hundredth meridians. In their quest for suitable homesteads, many settlers were forced to settle in remote areas. Moreover, as they moved into the region beyond the one-hundredth meridian, they left the more humid climate of eastern Kansas and faced an environment which threatened their agricultural plans. They

³⁰William Frank Zornow, Kansas, A History of the Jayhawk State (Norman: University of Oklahoma Press, 1961), 137. In addition see Foner, Free Soil, 27-29.

pressed on, however, fully confident that faith in God would sustain them. Men could, they believed, conquer aridity with their plows therefore altering the nature of the climate. For the most part unaware of climatic laws which governed the plains' weather patterns, farmers and town-builders alike overlooked the evidence which might have restrained their enthusiasm for the region.³¹

Farmers were encouraged in their westward migration by newspaper editors, speculators, agriculturists, members of the scientific community, and railroad advertisements. Such individuals wished to see the plains settled for a variety of reasons. Many expressed extreme optimism in the climate of western Kansas and the future it held for rich agricultural development. The settler, fortified by exaggerated optimism and bolstered by the mythical, romantically fictionalized image of the simple yeoman, was ready to put the existing mythology to the test. The semiarid belt of western Kansas was being settled.

³¹As late as 1880 optimism was still present in spite of frequent unfortunate conflicts between nature and the farmers of the 100th meridian region. An example of such optimism is contained in Samuel Aughey and Charles Dana Wilber, Agriculture Beyond the 100th Meridian, A Review of the U.S. Public Land Commission, addressed to Hon. M.W. Dunham, President Nebraska State Agricultural Society, and Hon. R.W. Furnas, President, Nebraska State Horticultural Society (Lincoln, Nebraska: Journal Company, State Printers, 1880), 1-7.

Few settlers migrating from the eastern woodlands were adequately prepared for the exigencies of erratic weather which dominated the State and the semi-arid section. Editorially and in letters to family members in the East, several noted the extreme difficulty of adaptation and survival in "drouthy Kansas."

Variations in wind velocity in eastern and western Kansas were nearly as great as the precipitation differential. The most damaging gusts were the "hot winds."³² Such gales usually occurred during prolonged periods of high temperatures. In the western portion of the State, great damage often occurred from the combination of scant rainfall and the appearance of galeforce winds which lifted loose soil leaving the roots of the plant bare, or injuring it by the mechanical action of blowing dust particles, or burying it under the drifted soil.³³ An agricultural weather bulletin emanating from Washington stated:

The withering effect of these winds on vegetation is largely dependent upon the amount of moisture in the soil. Cases have occurred where vegetation has been burned while the

³²P.C. Day, "Summary of the Climatological Data for the United States by Section," United States Department of Agriculture, Weather Bureau Bulletin W, I (Washington: United States Government Printing Office, 1926), 1.

³³Ibid., 3.

ground is still moist, but in general serious damage is not done so long as the plant can draw the moisture from the ground.³⁴

Similarly, in 1882, an observer at Leavenworth, in extreme northeastern Kansas, gave a vivid description of the "hot winds" of September 12:

. . . [the winds] set in from the southwest, feeling as hot as a blast from a furnace. It caused the thermometer to rise rapidly, attaining a maximum of 101 [degrees] at 4 pm and the humidity dropped to seventeen per cent. It withered and almost burned vegetation and caused a total suspension of outdoor labor during the afternoon.³⁵

Although they faced environmental hazards in an age of prescientific agriculture, most farmers managed to retain their hopes for success. Obviously, some agriculturists gave up their struggle against wind and sparse rainfall after their initial baptism. Optimism apparently sustained the majority. If the year's experience within a hostile climate was unsuccessful, they could, perhaps, reassure themselves with the delusion that the "climate changed with settlement,"

³⁴Ibid.

³⁵ Alfred Judson Henry, "Climatology," United States Department of Agriculture, Weather Bulletin Q (Washington: Government Printing Office, 1906), 57.

or that rainfall "followed the plow."³⁶ Such an expression of optimistic enthusiasm for the State and agriculture appeared in 1880 in a book by Samuel Aughey and Charles Dana Wilbur:

Now grain is produced at least 100 miles beyond this point the one hundredth meridian without irrigation and another imaginary line is sought after, but even the experts are at a loss where to find it . . . it is clear that rainfall is and has been increasing from year to year. The tables published . . . of rainfall in the past and present in Nebraska are abundant proof of this assertion. Whatever may be the cause of it the rainfall is clearly increasing from year to year. It is also indicated by the disappearance of vegetable forms, characteristic of dry regions and the introduction of species native to moist regions . . . The alienation therefore of 500,000,000 to 800,000,000 acres of these vast fertile areas that are surely changing their dry characteristics to answer the farmer's varied demands and by law maintaining them as vast pastures or commons, when, they could in the near future be fruitful farms . . . would be fearful robbery, and those who are conspirators in the attempt should receive public execration.³⁷

Disregarding previous failures and with optimistic prophets of the future bolstering their spirits, farmers

³⁶Smith, Virgin Land, Book Three, 138-291. See the exceptionally fine article by Henry Nash Smith, "Rain Follows the Plow: the Notion of Increased Rainfall for the Great Plains, 1844-1880," Huntington Library Quarterly, X, (February, 1947), 169-93; see in addition Fred A. Shannon, The Farmer's Last Frontier, Volume V of the Economic History of the United States (New York: Rinehart and Company, Inc., 1945), Chapter I, "Nature and the Farmer."

³⁷Aughey and Wilber, Agriculture Beyond the 100th Meridian, 5, 7.

faithfully planted their crops the second or third year.³⁸ And in the dry years that followed, they hoped for a change in the climate and reassured friends and neighbors who were newcomers that the current drouth was exceptional.³⁹ Those eking out an existence in the semiarid reaches of western Kansas soon discovered that "dry spells" were commonplace. Farmers suffered the woeful and debilitating effects of inadequate moisture in 1854, 1856-1857, 1860, 1863-1864, 1870, 1874, 1886, 1887, and 1890.⁴⁰ Understandably, upon one level of consciousness, tenacity had its merits; "holding on" in the face of adversity was heroic. The tragedy, however, was that life's cruel experiences taught deep and abiding lessons that failed to correlate with the conventional wisdom offered by promoters and speculators.

In spite of the optimistic rhetoric suggesting the climate was altering to "answer the farmer's varied demands," the fact remained unimpeachable--a fluctuating and erratic weather pattern continued to exist.⁴¹

³⁸E.V. Smalley, "The Future of the Great Arid West," The Forum, XIX (June, 1895), 488.

³⁹Ibid.

⁴⁰Weather Bureau Bulletin Q, 53.

⁴¹Ibid.

The variety of soft wheat planted and the inept preparation of the soil constituted part of the farmers' problems. These factors, a historian has suggested, might have been solved, but hot winds, dryness and cold winters could not have been altered.⁴² The delusion of climate improvement through breaking the sod, however, failed to diminish easily. Settlers held to the conception that cultivation absorbed great amounts of moisture in the ground which otherwise would have run off in streams. This, in turn, increased the evaporation cycle, thereby producing clouds which returned the moisture to earth in the form of rain.⁴³ The principle, therefore, was that plowed earth acted as a large sponge creating greater levels of humidity and thus producing larger amounts of rainfall. Unfortunately, precipitation records collected at military posts throughout the West failed to substantiate the theory. From the 1840's to the 1850's, "exhaustive study of rainfall" received at these posts fails to show any progressive change in the average annual rainfall amount or in its distribution through the year."⁴⁴

⁴²James C. Malin, "Adaptation of the Agricultural System to Sub-humid Environment," Agricultural History, X (1936), 135.

⁴³E.V. Smalley, "Our Sub-arid Belt," The Forum, XXI (June, 1896), 468.

⁴⁴Weather Bureau Bulletin W., 2.

Such data, even though it had been widely dispersed among settlers, would have been attacked for it contradicted popular conceptions. Many agriculturists continued to adhere to the conviction that the climate was changing for the better.⁴⁵ A Kansas weather novice, H.P. Caddy, attempted to prove that precipitation was increasing at Hays, a small farming community near the one hundredth meridian, "rainfall . . . is increasing 6/100 . . . annually, two and one half inches."⁴⁶ Caddy explained his hypothesis of greater precipitation by alluding to "the changed condition brought about by cultivation . . . /producing/ a slight permanent change in the climate."⁴⁷

Farmers also clung to adaptation techniques of little or no value in a semiarid environment. For example, during favorable rainfall periods, farmers would resort to agricultural methods and crops proven successful in regions of higher humidity. The rationale which motivated agriculturists to regress to earlier farming methods seems to have been their acceptance that brief periods of increased rainfall

⁴⁵Lawrence (Kansas) Republican, August 16, 1860.

⁴⁶Hamilton Perkins Caddy, "Is the Rainfall in Kansas Increasing?" Kansas Historical Collections, XII (Topeka, Kansas: State Printing Office, 1912), 132-33.

⁴⁷Ibid. See also the Salina (Kansas) Journal, July 14, 1887.

had substantially altered the climate. They were, however, often confronted by the reappearance of a dry cycle and, found themselves unprepared for the emergency.⁴⁸ Obviously, a lack of knowledge relative to the climate of the State and what it might offer to agriculturists made the Kansas farmer's task difficult and emphasized the dilemma of transition from the eastern regions to the semiarid farming belt.⁴⁹

By the mid-1870's, there were those who began to voice pessimistic "second thoughts." For example, a Kansas newspaper in 1874 revealed:

The corn crop in several of the western states must prove very short and in many localities a total failure. Kansas is suffering in many places, and the corn in some of our counties will hardly be worth gathering, unless soaking rains fall very soon.⁵⁰

In the late summer of the same year, a Wichita editor urged the settlers of Kansas to face the bitter realities of the region:

The lesson of this year's experience to the farmers of Kansas may be summed up in a few words. It is more grass and less grain. Three things have conspired to deprive the

⁴⁸Maling, "Adaptation of the Agricultural System to Sub-humid Environment," 162.

⁴⁹Ibid.

⁵⁰Wichita (Kansas) Eagle, July 16, 1874.

husbandman this year of a good part of the fruits of his labors; chinch bugs, drouth and grasshoppers . . . what we need and must have if farming is to be made profitable in Kansas is a better adaptation of our products to the soil and climate.⁵¹

And, the Abilene Chronicle, in 1881, described the climate of Kansas in much the same manner:

The late spring, cold frosty winds . . . burning blighting winds; violent storm and the vast army of chinch bugs, have all combined to destroy or diminish the wheat harvest; while the present excessive dry weather is playing sad havoc with the growing of crops.⁵²

It was amid such pessimism that Lydia White's poem, "The Plowman," appeared in the Wichita Eagle, in 1874, alluding again to the mythical conception of the relationship of the yeoman to Nature: "It matters not and God will bless the labors of the plow."⁵³

Realistically some individuals faced the bitter vicissitudes of the climate. In time, a host of farmers abandoned their claims, gave up their optimism and ability to conquer "the desert," and journeyed back East. Others migrated to the Pacific northwest seeking the rainfall and

⁵¹Ibid., August 27, 1874.

⁵²Abilene (Kansas) Chronicle, August 26, 1881.

⁵³Lydia A. White, "The Plowman," Wichita Eagle, April 23, 1874.

bonanza promised by that area. Many remained. Though initially thwarted in their agricultural quest, they hoped to avoid the clutches of a capricious environment. An observer traveling in Kansas in the late 1870's looked upon a number of lonely and abandoned homesteads conquered by weeds instead of wheat--mute testimonies to a battle waged in silence by nameless yet heroic people.

Those who had come to Kansas in the 1860's, 1870's and 1880's brought hopes of creating a garden in a semiarid climate. Many who gave up the agricultural struggle and sought farms in other less demanding regions had failed to reckon with the abrasive side of Nature which withheld its benevolence. Upon occasions, nature had frivolously restricted rainfall and many farmers accepted the harsh reality. Yet the homesteaders, who courageously continued the agricultural battle against odds they seldom comprehended, maintained their perseverance while longing for a panacea which would ultimately solve their agricultural woes. The prevailing and optimistic mythology, therefore, of an interventionist Deity providing for a "chosen people", was indeed sustained. Time honored myths die hard. Nature's God, despite the experiences of life that might have deterred the optimism of agriculturists, was still subject to the hopes of "his people" to provide in-

creased rainfall. One simply had to find the proper machination, pursue it, try harder, or look to next year and apply the formula for success.⁵⁴ Competing remedies surged to the forefront of consciousness among the Kansas homesteaders; they believed in these, trusted them for a time, but, in the end, cast them aside as worthless. Prior to the advent of the rainmaker cure-all for inadequate moisture, farmers tested theories of climate alteration. This logical extension of optimism, therefore, would be ultimately tested in parched wheatfields of western Kansas.⁵⁵

⁵⁴Smalley, "The Future of the Great Arid West," 488, Salina (Kansas) Journal, July 14, 1887; Wichita (Kansas) Eagle, July 16, 1874; Ibid., April 23, 1874; and Hamilton P. Caddy, "Is the Rainfall in Kansas Increasing?," 133.

⁵⁵Clark G. Spence, "Melbourne, the Australian Rain Wizard," Annals of Wyoming, XXXIII, 1 (1961), 6; see also Martha B. Caldwell, "Some Kansas Rainmakers," Kansas Historical Quarterly, VII (August, 1938), 306-24; and Agnes Wright Spring, "Rainmakers of the Nineties," Colorado Magazine, XXXII (1955), 289-98.

CHAPTER II

ALTERATION AND ADAPTATION

To adapt agricultural methods to the western part of the state, Kansas farmers found careful discrimination necessary. Complex and interrelated factors affected the farmers' ability to survive and, in the process, transform the region beyond the ninety-eighth meridian into habitable and productive homesteads. Yet, Kansas farmers represented only agricultural adaptation. By necessity, agriculturists had been called upon to develop new and to alter old technology to meet environmental challenges upon each successive frontier from the colonial era to the waning years of the nineteenth century.

The innovative agricultural methods utilized in eastern timbered areas of the continent had served agriculturists well. Such techniques, however, were generally ineffective in the semiarid belt. In contrast to Kansas, pioneers in the East confronted frontiers abundant with the necessities required for agrarian life and agricultural success.¹

¹James C. Malin, "The Soft Winter Wheat Boom and the Agricultural Development of the Upper Kansas River Valley," Kansas Historical Quarterly, XII (May, 1943), 156.

Woodland areas, therefore, offered the settler materials for the construction of homes, sheds and animal pens. In turn, waterways linked the farmers to eastern markets and generally served as arteries for transportation. In subhumid regions the ability to survive in general depended upon the expertise of the farmer. Kansas, however, because of less rainfall, timber, navigable waterways, and extremely erratic weather offered a new and unique environmental challenge to those seeking to conquer its extremes.

The tide of immigration from the East swept westward in the seventies engulfing the central portion of Kansas, subsequently penetrating the arid environ beyond the ninety-ninth and one-hundredth meridians.² Homesteads, readily available to those willing to take the risk of claiming and living upon them, served as magnets pulling the line of settlement farther west. Available lands suitable for homesteading, however, were largely found in remote areas, inaccessible to towns, rail lines, or waterways, areas where farming was extremely hazardous.³ Confronted by the treeless

²Paul W. Gates, Fifty Million Acres: Conflicts over Kansas Land Policy, 1854-1890 (Ithaca, New York: Cornell University Press, 1954), 247.

³Ibid., 242.

plains, some settlers felt they had been deceived by editorials in newspapers, promoters, or, more frequently, by optimistic relatives imbued with an over zealous passion for the agricultural potential of the region. Others were more realistic in their assessment of their agricultural existence.⁴ But glowing accounts of bonanza, such as the letter of an agriculturist in Sumner County in 1872, were typical:

It is a mystery to me why so many men with limited means will stay East, eke out a miserable existence, and pay a rich, miserly contemptible flint-hearted, cunning landlord more in a year than it would take to get one hundred and sixty acres of rich land here.

My advice is to quit paying high rents, come to Sumner County, preempt a quarter section of land, improve and enter it, and make a home where you can enjoy all the comforts of life; where you will feel independent, and by energy will soon gain a fortune.⁵

The editor of the Dodge City Times further exemplified high agricultural hope for the future when he predicted in 1877 that "Two million bushels of corn will be shipped south of here." The delusion of the "Great American Desert" was

⁴Ibid., 247.

⁵Bloomington (Illinois) Leader, May 22, 1872; in addition see the Dodge City (Kansas) Times, September 29, 1879, in which the editor offered the opinion that "twice the quantity of hay has been cut this year over last year." He then suggested that farmers in the Dodge City region would soon top the New Mexico hay market making fortunes from the economic venture.

rapidly dying, the editor asserted, and great agricultural communities were expanding into an area formerly thought to have been barren. He added, "A few years more will see every quarter section in Ford County occupied and blooming like a garden."⁶ Although admitting dry weather, hot winds, and damaged crops, a report by the State Board of Agriculture substantiated the Times' optimism in 1887, assuring potential settlers that "the country is improving, the rainfall is increasing, and the time is coming when crops in western Kansas will be nearly as certain as in the eastern portion of the state . . . With intelligent treatment, this vast domain may be converted into a veritable paradise, a world in itself, possessing the highest possible environments ever realized by man."⁷

⁶Clippings and typescript copies of the Dodge City (Kansas) Times, 1877, in Walter S. Campbell Collection, Box 94, Manuscript Division, Bizzell Memorial Library, O.U., Norman, Oklahoma. Hereafter cited as the Campbell Collection. The "Great American Desert" concept relative to the plains area originated with the journies of Zebulon Montgomery Pike. For his description of the western plains, see Coues, ed., Expeditions of Zebulon Montgomery Pike, II, 525. For similarly pessimistic assessments by subsequent travelers of the plains, see Thwaites, ed., Early Western Travels, XVII, 191; and XVI, 147.

⁷John D. Parker, "Vegetation in Western Kansas," Fifth Biennial Report of the Kansas State Board of Agriculture to the Legislature of the State, for the Years 1885-1886 (Topeka, Kansas: Kansas Publishing House, 1887), 190, 193.

Settlers were occasionally warned that semiarid farming could prove precarious. Perhaps reflecting a loss of population to Kansas, a Missouri newspaper, in 1879, urged those considering acquiring homesteads to be cautious:

The self-deluded people [living beyond the one hundredth meridian] should be brought back to central and eastern Kansas by force if necessary, and controlled by the militia or by the superintendents of the insane asylums. They would not listen to the facts when they made their homes in a desert and can only be forced to give up their delusion by the severest personal experience . . . it is madness to engage in general farming . . . where the rainfall averages only nineteen inches.⁸

Such pronouncements challenging the general tone of optimism apparently changed few minds. Besides, planting trees could modify the climate. The State Board of Agriculture argued that timber somehow contributed humus to the soil helping it to retain moisture thereby increasing the level of humidity. By looking at the eastern United States, the optimists could see evidence suggesting a direct correlation between forested belts and substantial rainfall. If eastern regions experienced greater precipitation, forests

⁸The (Larned, Kansas) Chronoscope, July 17, 1879, taken from an article, "Too Far West," which appeared in the Saint Joseph (Missouri) Herald, n.d., in Rain and Rainfall Clippings Notebook, I, 23, in the Library Division of the Kansas State Historical Society, Topeka. Hereafter cited as RRCN with appropriate volume and pages.

evidently played a role. The application of this idea to Kansas might hold the key to future agricultural success. Weather novice, J.A. Wardner, in 1872, offered the opinion that the climate of Illinois was "less windy today than forty years ago and [This] is attributed to trees." If one planted timber "and plenty of it," dryness in western Kansas could be overcome.⁹ In a speech before the Kansas State Board of Agriculture in 1872, the President of that agency suggested trees planted between the Rocky Mountains and the ninety-eighth meridian would significantly diminish the drouths afflicting the region.¹⁰ And, in the same year, R.S. Elliott of the State Board of Agriculture added that if the forests of the state were substantially increased "gentle showers would be more frequent."¹¹

J.A. Anderson, President of Kansas State College, 1873-1879, agreed with the views of his contemporaries. "The fact is," he asserted, "these regions, which less than ten years ago, were generally believed to lack sufficient

⁹Taken from an address by Dr. J.A. Wardner, speaking before a meeting of the Kansas State Board of Agricultural Society, Transactions of the Kansas State Board of Agriculture (Topeka, Kansas: State Printing House, 1872), 61.

¹⁰Ibid., 35.

¹¹Ibid., 327.

rain for . . . profitable agriculture, are . . . the ones . . . yielding remunerative crops."¹² Others, perhaps seeking to reinforce their hopes of ultimate success, relied upon the fabled conceptions of the old timers. Optimism periodically needed strengthening and Kansas was rich with knowledgeable senior citizens who studied the weather as an avocation. According to Frank Snow, Professor of Science at the University of Kansas, in 1876,¹³ "It is the unanimous testimony

¹²J.A. Anderson, "Sketch of Kansas Agriculture," Fourth Annual Report State Board of Agriculture to the Legislature of the State of Kansas, 1875 (Topeka, Kansas: State Printing House, 1876), 19.

¹³Frank H. Snow, "The Climate of Kansas," Second Biennial Report of the Kansas State Board of Agriculture to the Legislature of the State of Kansas, 1875 (Topeka, Kansas: State Printing House, 1876), 19. J. Sternberg, in an address before the Kansas State Horticultural Society in 1875, agreed with Snow: "I would much rather let our timber grow, our grasses furnishing food for stock and a mulching for the surface of the earth, thus rendering the superincumbent atmosphere, as well as the soil, more moist, and greatly modifying the climate in the interest of the husbandman." Sternberg described the modifying process at work: "Even the scorching south winds, like the simoons of the desert, to which our plains are subject in the summer seasons, under whose heat all vegetation withers, and especially that which is planted by the hand of man, are becoming less frequent and destructive, as the country is settling up. These winds are produced primarily by the denudation of the earth's surface. The sun's vertical or nearly vertical rays falling upon naked sand, or rock, or soil, strike fire at once. How great the contrast between the blistering heat of the dusty highway in a hot summer's day and the grateful coolness of the green grass by the road-side." See the Kansas State Horticultural Society Report, 1875 (Topeka, Kansas: State Printing House, 1876), 122-23.

of the oldest residents of Kansas that the rainfall is more equally distributed . . . and showers extend over more hours than formerly." The steady advancement of civilization also helped insure increased precipitation. Encouraging reluctant settlers who might have been hesitant about moving farther west, Snow stressed in 1879 that Kansans were witnessing permanent changes in climate:

The full agreement of the records . . . would seem to establish beyond question the fact of a gradual increase of rainfall in eastern Kansas, from causes put into operation since the settlement of the State. There can be no reasonable doubt that the general settlement of the western portion of Kansas will have a similar effect upon its rainfall.¹⁴

Snow urged settlers to "reclaim from the wilderness," homesteads in areas of the state in which agricultural success would have been marginal.

¹⁴Ibid. Such a concept seems to have been widely accepted among agriculturists and scientists as well. See "Variations in Climate," Scientific Monthly, XVI (January 12, 1867), 28. In addition see R.S. Elliott, "Forest Trees in Kansas," Transactions of the Kansas State Board of Agriculture and the Report of the State Horticultural Society (1873), 321-34. In addition see William E. Webb, Buffalo Land: An Authentic Account of the Discoveries, Adventures, and Mishaps of a Scientific Sporting Party in the Wild West (Philadelphia: Hubbard Brothers, 1873), 483-84; and Kansas State Horticultural Society, Transactions, 1875 46 vols. (Topeka, Kansas: Kansas Publishing House, 1876), V, 123.

Such notions of increased rainfall had been articulated as early as the mid-1830's. For example, Josiah Gregg, plains traveler, Santa Fe trader, and entrepreneur, recorded words in his journal similar to the ideas of editors, scientists, and professors fifty years later. To Gregg, the high plains seemed too dry and lifeless to produce timber:

. . . yet might not the vicissitude of nature operate a change likewise upon the seasons? Why may we not suppose that the genial influences of civilization . . . contribute to the multiplication of showers . . . Or that the shady groves, as they advance upon the prairies may have some effect upon the seasons? . . . Then may we not hope that these sterile regions might yet be thus revived and fertilized, and their surface covered one day by flourishing settlements to the Rocky Mountains.¹⁵

Although Gregg invoked visions of a future agricultural paradise, what was to become Kansas remained a close-cropped meadow of short grass ravaged by periodic drouths.¹⁶

¹⁵Perhaps the earliest advocate of tree culture for the plains was Josiah Gregg. See his Commerce of the Prairies: or, the Journal of a Santa Fe Trader, 2 vols. (New York: H.G. Langley, 1844), II, 202-3. Many others felt trees would remedy aridity, see Ferdinand V. Hayden, "Sketch of the Geology of the Country about the Headwaters of the Missouri and Yellowstone Rivers," American Journal of Science, XXXI (March, 1861), 245. In addition see U.S. Department of Interior, Report of the Commissioner of the General Land Office for the Year 1867 (Washington: United States Government Printing Office, 1867), 135-6; "Influence of Forests Upon Rain," Scientific American, XXII (April 30, 1870), 288; Also Ibid., for (1869), 394-416.

¹⁶Gregg, Commerce of the Prairies, II, 202-3.

Within a few decades Gregg's assessment of the region found support from others. The federal government launched a scientific survey of the plains in 1867. The study, referred to as the Geological and Geographical Survey of the Territories, began with extensive surveys of Nebraska under the direction of Ferdinand V. Hayden. Like Gregg before him, the surveyor contended that flourishing farm communities of the future depended upon wide-spread forestation of the region. Hayden's report was significant. But, two members of the scientific team, Samuel Aughey and Charles Dana Wilber, played more prominent roles in fostering the myth of increased rainfall for the plains.¹⁷ Upon completion of his work with Hayden, Aughey joined the faculty of the University of Nebraska as Professor of Natural Sciences. His companion, however, lacked the necessary academic credentials and spent the remainder of his career dabbling in a variety of amateur scientific pursuits. In fact, Wilber coined the mythological and highly symbolic phrase, "rain follows the plow."¹⁸ In Wilber's words,

In this miracle of progress, the plow was the avent courier--the unerring prophet--the producing cause. Not by any magic or enchant-

¹⁷Henry Nash Smith, Virgin Land, the American West as Symbol and Myth (New York: Random House, 1950), 210.

¹⁸Ibid.

ment, not by incantations or offerings, but, instead, in sweat of his face, toiling with his hands, man can persuade the heavens to yield their treasures of dew and rain upon the land he has chosen for his dwelling place. It is indeed a grand consent, or, rather concert of forces--the human energy or toil, the vital seed, and the polished raindrop that never fails to fall in answer to the imploring power of prayer or labor.¹⁹

Hayden refused to resort to such romanticized rhetoric in offering his opinion of the potential of the semiarid belt. He did, nevertheless, concur with Wilber and others by reporting to the Commissioner of the General Land Office that settlement and the cultivation of trees would inevitably alter the plains' erratic rainfall pattern. In Hayden's view, the "settlement of the country and the increase of the timber has already changed the climate . . . along the Missouri. I am confident that this change will continue to extend across the dry belt."²⁰

Unfortunately, for western Kansas farmers the weather refused to yield to words, prayers, trees, or plowing.

¹⁹Charles Dana Wilber, The Great Valleys and Prairies of Nebraska and the Northwest (Omaha, Nebraska, 1881), 69; see also Samuel Aughey and Charles Dana Wilber, Agriculture Beyond the 100th Meridian, A Review of the United States Public Land Commission (Lincoln, Nebraska: Journal Company, State Printers, 1880), 1-7.

²⁰As quoted in Smith, Virgin Land, 210; See also Lydia White's poem, "God Will Bless the Labors of the Plow," Wichita (Kansas) Eagle, July 24, 1874.

Chance and luck stalked the settler. Wheat farmers sometimes received little return for their long hours of back-breaking labor. Moreover, they were often plagued by late frosts, frigid winters and spring and summer drouths. The report of a federal census enumerator in 1885 vividly portrayed the stark realities of farm life in Edwards County, noting that "out of 471 acres of fall wheat there is not enough wheat to cover 15 acres. All has been . . . killed."²¹

The Kansas State Horticultural Society, along with other agencies and promoters, persisted in encouraging the planting of orchards, vineyards, and ornamental trees.²² Although the Society concentrated most of its effort in the eastern area of the State, annual reports reflected the growing optimism concerning man's ability to control nature:

. . . drouths will become less frequent and protracted. Already the climate on the plains has been greatly modified by the progress of settlements. We are beginning to have many days of cloudy, misty weather. We have fogs, drizzling rains and gentle showers . . . In short, our climatic conditions are constantly approximating those further

²¹James C. Malin, "Adaptation of the Agricultural System to the Sub-humid Environment," Agricultural History, X (1936), 135.

²²Transactions of the Kansas State Horticultural Society, 1875, V (Topeka, Kansas: Kansas Publishing House, 1876), 153.

east . . . While therefore, our interest, comfort and enjoyment, all emphasize the importance of tree culture upon the plains, and while the difficulties in the way of success are confessedly greater than in timbered countries, yet experience can, and perseverance will, insure success.²³

Congress and most agencies of the federal government also accepted the validity of the relationship between forests and increased rainfall. Under the provisions of the Timber Culture Act of 1873, settlers could add to claims if they agreed to plant trees upon 25 per cent of their land.²⁴

Despite the chorus of voices claiming that the spread of civilization, increased plowing, and forestation had altered the climate of Kansas, some observers remained skeptical. When more abundant rainfall cycles occurred, farmers planted

²³Ibid., 123.

²⁴The Timber Culture Act passed by Congress, March 3, 1873, provided that, "Any person who shall plant, protect, and keep in a healthy, growing condition for ten years forty acres of timber . . . shall be entitled to a patent to the whole of said quarter section at the expiration of said ten years, on making proof of such fact by not less than two credible witnesses; Provided, That only one quarter section in any section shall be thus granted." In addition those farmers under the provisions of the Homestead Act of May 20, 1862, having homesteaded on the public domain could at the end of the third year of residence present proof that they had under cultivation for two years, "one acre of timber for each and every sixteen acres of said homestead," and receive the patent for their homestead. U.S. Statutes at Large, XVII, 605-06.

greater acreage. Wet years were frequently followed by extended periods of drouth which severely diminished the optimism of farmers. With increased rainfall the line of settlement bent westward pushing arriving immigrants onto homesteads located in even more remote and desolate terrain.²⁵ Thus, the believers and those who wanted to believe interpreted the

²⁵Weather information was made available to settlers in Ford County, Kansas, by a local newspaper. Such data, if carefully studied by agriculturists, warned of extremely erratic weather patterns. The following table appeared in the Dodge City (Kansas) Times, August 3, 1878.

"Table showing monthly means of barometer and thermometer, monthly velocity of wind, and amount of rainfall, with the prevailing direction of wind, etc., for the month of July, 1878.

Monthly mean barometer, 29.525
 Monthly mean thermometer, 30
 Monthly mean humidity, 60.50
 Highest barometer, 29.855
 Lowest barometer, 29.179
 Mo. range of barometer, 0.676
 Highest temp., 102 deg.
 Lowest temp., 54 deg.
 Mo. range of temp., 48 deg.
 Greatest daily range of temp., 35 degs.
 Lowest daily range of temp. 14 degs.
 Mean of max. temp., 92.2 degs.
 Mean of min. temp., 67.1 degs.
 Mean daily range of temp., 25.1
 Total rainfall or melted snow, 1.61 inc.
 Prevailing wind, So.
 Max. velocity of wind, 40 mi per hr from N.W.
 No. of days on which rain or snow fell, 7

William H. Clendenon
 Sgt., Signal Service USA"

years of ample precipitation as unimpeachable evidence of weather modification. Settlers with misgivings, those who had endured repeated crop failure, sought more scientific alternatives: crop diversification and dry-land farming.

Homesteaders carried grains successfully grown in the east into Kansas. Newly arrived settlers found the light, horse-drawn plows used in the east of little or no value; only a heavy steel plow drawn by three oxen could turn up the stubborn prairie sod. Corn, the staple for household as well as live stock, constituted a mainstay on most farms. In addition, settlers usually planted some small grains such as buckwheat, wheat, oats and rye. Since the majority of farmers had come from corn-growing areas, they planted those crops with which they were most familiar. Climate, soil, or distant markets soon dictated innovation. In the mid-section of the Great Plains both soft-spring and hard-winter wheat were often planted in season. Sowing winter wheat proved advantageous. If the crop failed to mature, others could be planted upon the same ground in the spring, thereby preventing total failure.²⁶

²⁶James C. Malin, Winter Wheat in the Golden Belt of Kansas, A Study in Adaptation to Subhumid Geographical Environment (Lawrence, Kansas: University of Kansas Press, 1944), 3.

Occasionally, more realistic observers of weather and crops urged farmers to experiment. Because of the lack of experience with climate and soil, the Lawrence Republican pleaded with Kansas farmers in 1857 to try different crops and techniques, recognizing that "for some time they will be obliged to work comparatively in the dark."²⁷ In an 1874 article, entitled "The Lesson of the Season," a Wichita newspaper reiterated a similar idea, arguing that Kansas agriculture could become profitable only after "a better adaptation of our products to the soil and climate."²⁸ Some writers, disregarding the mythology of climate alteration, suggested that careful crop selection and rotation should direct agricultural effort rather than unproven theories of questionable validity.

Inordinate dependence upon corn as a staple posed the most significant obstacle to crop adaptation, and in 1874 farmers stood by helplessly as hot winds, grasshoppers and drought destroyed the crop in the fields. "Kansas is suffering in many places, and the corn in some of our counties will

²⁷Lawrence (Kansas) Republican, December 17, 1857, in ibid., 3.

²⁸Wichita (Kansas) Eagle, August 27, 1874.

hardly be worth gathering,"²⁹ warned a Wichita newspaper in late 1874. By August, corn yields were lower than even the most pessimistic predictions, and a dour editor lamented that "Kansas will have little use this year for these long horned, long legged corn cribs, which have brought more loss than gain to the state."³⁰

The "sod crop",³¹ as corn was affectionately called, enjoyed such popularity among the farmers that agriculturists were reluctant to abandon it. Corn yields in 1872 amounted to 46,000,000 bushels, a decrease in production of 37 per cent over the previous year's harvest.³² To a knowledgeable farmer these statistics should have indicated that corn adapted poorly to arid conditions in western sections of the state. Noting the decline of corn production, some farmers shifted to wheat or other cereals. Settlers were admonished to look to the past as a guide to developing divergent agricultural methods in the future. In it's Fourth Annual Report in 1875, the Kansas State Board of Agriculture counseled

²⁹Ibid., July 16, 1874.

³⁰Ibid., August 13, 1874.

³¹J.A. Anderson, Fourth Annual Report State Board of Agriculture, 24.

³²Ibid., 24.

farmers to abandon their obsession with corn and turn to diversification over the next ten years.³³ A few followed such advice. Most ignored it.³⁴

Although corn remained popular with most Kansas farmers, statistics clearly indicated its limitation as an adaptable

³³Ibid., 28-9. In the Fourth Annual Report to the State Board of Agriculture the agency urged: "As in most Western States, corn has been the leading crop; the statistics show that it is far from being either the most certain or the most profitable. The fluctuations of the corn crop are very suggestive. During the earlier years the statistics were not carefully collected as they have been since 1870; and those of former years attainable, it is more than probable that they would indicate still greater variations than are here exhibited . . . with the utmost emphasis, that in the measure that other crops are planted, precisely in that measure are the chances for profit increased. Look at the swing from 1870 to 1872; the pendulum started from 17,000,000 [bushels] and reached 46,000,000 [bushels]; but then, look at the return lunge, where, in the next two years, it comes in to 15,000,000. On the other hand, and especially since the facts have been collected, notice how surely and splendidly the wheat line comes out; two, two and a half, three, six, then, thirteen; and it does this wholly irrespective of the motion of the corn crops. The one is like the permanent outgrowing of yielding branches--reaching out in the calm, it is true, but bent, swayed and beaten back before the tempest.

If any lines ever said anything in the world, these shout to the farmer, 'Don't put all your eggs in one basket; put most in the wheat basket, it is safer;' and . . . [such statistics show] that Kansas farmers, each for himself studying his own business and own prospects, are rapidly changing form the old theory that corn was the crop to the one already indicated." 28.

³⁴Ibid., 30.

crop.³⁵ In 1870, 17,000,000 bushels of corn were produced; in 1872, 46,000,000 bushels. During the disastrous year of 1874, which included an invasion of grasshoppers as well as drouth, corn production dwindled to 15,000,000 bushels.³⁶ Again, some agricultural specialists advised farmers to concentrate on wheat. "Statistics showed that Kansas farmers," the report reminded, "were studying [Their] own business . . . rapidly changing from the old theory that corn was the crop," superior to all others.³⁷ "No part of the state [was] so dry," advised a science professor at the University of Kansas, "that some kind of husbandry [would] not succeed in it"³⁸ To many, the dream of Kansas as a garden depended upon shifting acreages from corn to wheat.

Those who accepted the advice of editorialists, scientists, and agricultural agencies, however, found they often met with only limited success:

³⁵Ibid., 28.

³⁶Ibid.

³⁷Ibid.

³⁸F.H. Snow, "Meteorological Summary for the Year 1886," Fifth Biennial Report of the Kansas State Board of Agriculture to the Legislature of the State, for the Years 1885-86 (Topeka, Kansas: Kansas Publishing House, 1887), 179-80.

. . . though some of the causes may be found in the manner and time of sowing . . . a determination to study more thoroughly than ever heretofore the relations of soil and climate, and from the experience of the past deduce those principles which, when properly applied shall give comparative immunity to the wheat crop from the damaging effects of even such extraordinary drouths as that which is now upon us . . . The failure of the present season has not diminished the faith of our best farmers--acquired by the favorable results of many previous years' experience--that Kansas is peculiarly adapted to the growth of wheat, of both fall and spring variety.³⁹

In addition to grappling with an unpredictable climate, the uncertainties of crop adaptation, and the lack of knowledge concerning semiarid farming, agriculturists lacked the capital necessary for investments in heavy machinery. As historian James Malin has forcefully argued, the inefficiency of the frontier system of agriculture increased the percentage of crop failures.⁴⁰ Besides, injury to crops planted early in the growing season stimulated greater experimentation and served a positive purpose. Cotton, grown as far west as Geary County during the sixties, was thought to have been--with misplaced enthusiasm--drouth resistant. Briefly, tobacco

³⁹Emporia (Kansas) News, May 5, 1860, cited in Malin, Winter Wheat, 7.

⁴⁰Malin, Winter Wheat, 4.

was hailed by settlers for its ability to survive under dry conditions. Gipsy-rice-corn, championed by some agriculturists as "never failing" in semiarid regions of Kansas, often provided large yields and proved superior to buckwheat for bread. In Ford County, dissected by the one-hundredth meridian, farmers reported to the State Agricultural Board, 1877, a wide diversity of crops raised within that area. Settlers harvested winter wheat, rye, spring wheat, corn, barley, oats, buckwheat, Irish potatoes, sweet potatoes, sorghum, castor beans, and broom corn from the 2,440 acres under cultivation.⁴¹

Some newspapers saw adaptation as the panacea for Kansas agriculture. As the Abilene Chronicle put it in 1881, "We have got to adapt ourselves to the country we are living in. There are several kinds of crops that we know will grow here in Kansas, one of them is sorghum or sugar cane, which grows right along through drouth, hot winds or grasshoppers,

⁴¹First Biennial Report of the State Board of Agriculture to the Legislature of the State of Kansas, for the Years 1877-8, 2nd ed. (Topeka, Kansas: State Publishing House, 1878), 215. Historian Alfred B. Sears has suggested that the "imaginary desert had," by the 1870's, "been banished from the mind of the Ohio School boy," in Alfred B. Sears, "The Desert Threat in the Southern Great Plains," Agricultural History, XV (1941), 4.

and will no doubt soon be a profitable crop for a farmer to raise."⁴² Chiding those who continued to plant crops grown in the eastern United States, a Kansas State College professor in 1877 felt "like commending from the first, any agricultural project of which it can be said, 'They don't do so in the East.'"⁴³

Attempts to implement procedures aimed at insuring greater moisture absorption also found proponents. Deep plowing, seeding thin, and maintaining a more compact soil constituted some of the approaches utilized in the seventies and eighties. Farmers also tried constructing a surface dust mulch composed of finely pulverized soil, summer fallowing, and keeping sown fields free of undesirable weeds and grasses.⁴⁴

Other plains' farmers experimented with new agricultural equipment. In the sixties and early seventies, Illinois' farmers, adjacent to manufacturing centers, dominated the applications for patents. Kansas settlers, heeding the pleas

⁴²Abilene (Kansas) Chronicle, September 9, 1881; see also Dodge City (Kansas) Times, September 29, 1879; and Ibid., October 4, 1879.

⁴³The Industrialist, (January 11, 1877) 160.

⁴⁴Everett Dick, "Going Beyond the Ninety-Fifth Meridian," Agricultural History, XVII (January, 1943), 110; The Free (Colby, Kansas) Press, March 27, 1890, mentioned techniques later referred to as dry farming methods; see also Malin, Winter Wheat, 240.

of those urging them to innovate, also applied for patents in the eighties.⁴⁵ In April 1881, John Longes of Delphos, Ottawa County, applied for a patent on a lister utilizing the "double-plow" technique. Longes' invention split the sod, turning half the soil to each side thus creating deep furrows.⁴⁶ E.M. Shelton, an agronomist at Kansas State College, claimed that Longes' lister greatly increased plowing efficiency and that farmers utilizing this method could lower costs by a maximum of one third. Some experts predicted that deeper planting and the resulting advanced root development increased resistability to drouth.⁴⁷

Hardy W. Campbell represented one of the most prominent innovators of new agricultural techniques in the eighties and nineties. A native of Vermont, Campbell migrated to South Dakota in 1879. In this region, in which drouth conditions

⁴⁵Malin, Winter Wheat, 212.

⁴⁶Ibid. In addition see Earl W. Hayter, "The Patent System and Agrarian Discontent," Mississippi Valley Historical Review, XXXIV (June, 1947), 59-82. Hayter maintains: "With the opening of the western lands to homesteaders following the Civil War, the need was quickly created for many different kinds of agricultural tools and implements. This need soon produced a flood of patented inventions. By 1863, the patent office recorded 400 ag patents; the number increased to 642 by 1865 and to more than 1,800 by 1866," 60.

⁴⁷Malin, Winter Wheat, 212.

closely approximated those of western Kansas, Campbell encountered frequent and devastating crop failures. As a result of such experiences and hoping to recoup his losses, he searched for new and more efficient agricultural methods. In 1885, Campbell's experimentation produced a "subsurface packer" subsequently marketed throughout the semiarid belt. His implement utilized six multiple plow heads which penetrated well below the surface applying pressure to the soil beneath thereby leaving a loose mulch at ground level. In addition to the "packer," Campbell urged farmers to plow deep frequently.⁴⁸

Campbell's creative approach to semiarid farming generated intense interest among Kansas homesteaders. Approximately two of the annual inches of precipitation in western Kansas was lost from run-offs into streams. It was hoped

⁴⁸James C. Malin, The Grassland of North America, Prolegomena to Its History (Lawrence, Kansas: University of Kansas Press, 1956), 228; see also Harris P. Smith, Farm Machinery and Equipment (New York: McGraw-Hill Book Company, Inc., 1948), 160-63; for a discussion of the impact of Campbell, see Dick, "Going Beyond the Ninety-Fifth Meridian," 111-12; in addition see Publications of the Nebraska State Historical Society, XXII (Lincoln, Nebraska: State Historical Society, 1936), 316, which states, "The chief center for the 'Dry Farming' or soil culture program for dealing with lands in semi-arid regions was in Lincoln, Nebraska. H.W. Campbell was its leading prophet and his publications carried the propaganda over all of western America."

that Campbell's procedure, along with better soil preparation, cultivation, and maintenance would lessen moisture loss.

The heaviest rains normally occurred in the western regions of the state from April through August, and exceedingly low humidity near the Colorado border created a high evaporation rate.⁴⁹ Agriculturalists, therefore, searched for some technique to retain moisture in the soil for later use.⁵⁰

Other problems plagued even the most inspired and innovative farmer. As indicated by its insulating properties when used for houses, prairie sod absorbed little rainfall and readily shed precipitation when it occurred in large volume. When broken with a plow, however, the underlying subsoil had a greater capacity to retain precipitation. Thus it was assumed the more thorough the cultivation the greater amounts of moisture retained. In an experiment at Geneva, Nebraska, in 1892 the United States Department of Agriculture found extremely dry subsoil beneath uncultivated prairie grass. Only with great difficulty could agronomists force an auger-bore through it. In a subsequent report, however, the Depart-

⁴⁹Milton Whitney, "Soils in their Relation to Crop Production," Yearbook of the United States Department of Agriculture (Washington: United States Government Printing Office, 1895), 157.

⁵⁰Ibid., 158.

ment described the sample taken from the subsoil as resembling fine powder or dust.⁵¹ In contrast, other experimenters found moisture under cultivated sod up to depths of six feet. Some experts concluded from the Nebraska study that the conservation of moisture represented the major problem facing farmers in the semiarid plains. In most cases, success depended upon careful soil preparation insuring ready absorption of rainfall. In turn, the evaporation of moisture had to be minimized.⁵² To attain this objective, the Department called upon farmers of the regions to employ a light small-pointed plow, larger in the rear than front.⁵³ Scientists also suggested that farmers plow well in advance of planting so the sponge-like action of the plowed earth could absorb a larger percentage of rainfall.

Although offered in good faith, such suggestions later proved detrimental to the farmers' chances of success and to the environment. Following the advice of a host of experts, some farmers deposited dry humus on the surface of the ground. Consequently, the hot winds of the semiarid

⁵¹Ibid., 159.

⁵²Ibid., 160-61.

⁵³Ibid., 163.

belt scattered the surplus soil over young crops. Subsequent dust storms and wind erosion plagued homesteaders, creating an additional problem.⁵⁴ As late as 1894, however, the Agriculture Department clung to the notion that "subsoiling . . . where necessary and frequent cultivation . . . would undoubtedly make the crops . . . much safer in the semiarid regions of the West."⁵⁵

As settlers in the seventies accepted proof of increased rainfall, similarly, in the eighties and nineties their hopes had depended upon innovative agricultural methods. Because profits in part depended upon continued population growth, historian Fred Shannon⁵⁶ has argued that the railroads operating in the plains advertised dry-farming techniques as a panacea

⁵⁴Thornthwaite, Climate and Man, 184.

⁵⁵Whitney, Yearbook of the U.S. Department of Agriculture, 1894, 164; as James C. Malin has pointed out in "Dust Storms, 1850-1860," Kansas Historical Quarterly, XIV, 2 (May, 1946), 129-44, dust storms had long plagued the settlers even before such agricultural techniques were employed.

⁵⁶Fred A. Shannon, The Farmer's Last Frontier, Agriculture, 1860-1894, Volume V of the Economic History of the United States (New York: Rinehart and Company, Inc., 1945), 220; according to the U.S. Bureau of the Census, Eleventh Census of the United States: 1890, Agricultural Statistics, I, 144, farm size by county averaged: in Sherman County, 138 acres; Sedgwick County, 166 acres; and Cherokee County, 127 acres.

for the regions' agricultural ills. In retrospect, however, Shannon noted since it was futile to attempt them on less than a full section of land, genuine dry-farming efforts were not widely used prior to 1900.

Settlers in western Kansas were frequently reminded of the unpredictable extremes of their environment. Truly a land beset by paradoxes, the climate could lull the complacent newcomer with its seemingly gentle nature. Ostensibly, its hospitable weather and rich soil enticed migrants to venture into its semiarid regions to seek their fortunes. Those homesteaders, agronomists and scientists who invoked the theory of increased rainfall during the seventies and eighties, found their ideas shaken in 1890 by the advent of a severe drouth. Many settlers conceded defeat. The population of Kansas declined by 6 per cent in 1890 as 84,674 people fled the State.⁵⁷ For many, the myths of increased rainfall in the semiarid belt no longer seemed credible. Increasingly, the farmer found himself at the mercy of the climate, for an unsympathetic local bank held the mortgage on his unproductive land. If only rain would come, he must have thought, then his

⁵⁷Kansas State Board of Agriculture, Eighth Biennial Report to the Legislature of the State for the Years 1891 and 1892 (Topeka: Hamilton Press Company, 1893), viii.

economic problems might disappear and indeed the hope of creating a garden in Kansas might ultimately occur.

In the eighties and early nineties, the fiction of increased rainfall became more apparent. Failure followed failure and want and distress spread across the plains.⁵⁸ The haunting phrases of hope for increased rainfall must have evoked bitter responses from settlers. Initially, a beautiful theory that was widely accepted, it had degenerated into a mocking memory to futile efforts.⁵⁹

Yet, the idea lived on in western Kansas. A Goodland journalist exuded the optimism many accepted as unimpeachable truth when he wrote in 1890:

⁵⁸The counties of western Kansas were indeed suffering by 1890. Agricultural statistics for Sherman County exemplify extreme hardship. Approximately four and eight tenths per cent of the corn crop was harvested in that County in 1890. Wheat production showed a low yield and in some instances, averages were four bushels per acre. The Secretary of the State Board of Agriculture characterized 1890 as "A most disastrous year. Commencing with 1887, it was the last of a series of bad crop years, the parallel of which has not been known." Ibid.

⁵⁹Rainfall statistics, 1880 through 1942, in opposition to widespread beliefs in the latter portion of the nineteenth century, clearly show that rainfall did not increase. Rather, the data reveals great annual fluctuations in the amount received throughout the State. Such an erratic yearly rainfall pattern partially explains the conviction that precipitation was becoming more plentiful. See Kansas State Agricultural Experiment Station, Kansas Weather and Climate; Bulletin 302 (Topeka: Kansas State Printing Plant, 1943), 60.

People who have lived here since the spring of 1886 know that each year the rainfall has increased in quantity and been more and more seasonable and that the rains have fallen late in the season each year. They also know that with each year the yield has increased until we have been able last year to ship thousands of bushels of grain out of the country.⁶⁰

⁶⁰Goodland (Kansas) News, January 23, 1890.

CHAPTER III

SHERMAN COUNTY, KANSAS: THE LESSON OF THE SEASON AND HOPES FOR NEXT YEAR--A CASE STUDY

Many disillusioned settlers in western Kansas realistically assessed their agricultural opportunities and chose to farm or labor elsewhere in 1890-1891.¹ Others, however, remained to match wits with the erratic climate. The hope of "one good year" with abundant rainfall apparently motivated them to try again. Particularly dry years began in Kansas in 1887, and by 1890 had increased in scope and severity until some farmers found protracted drouth a way of life. Unfortunately, arid conditions occurred when farmers found themselves overburdened by financial obligations assumed during the boom period. The combination fomented a crisis. One spokesman for the Kansas State Board of Agriculture characterized the period from 1887 to 1890 as "the last of a series of bad crop years, the parallel of which has not been known in

¹M. Mohler, in his introductory remarks prepared for the Eighth Biennial Report of the Kansas State Board of Agriculture to the Legislature of the State, for the Years 1891 and 1892 (Topeka, Kansas: Press of the Hamilton Printing Company, 1893), viii.

Kansas."² Tenacious farmers responded to the crisis by employing dry farming techniques to conserve a percentage of the rainfall; this would increase humidity, modify the climate, and give rise to greater amounts of rainfall.³ According to the State Board of Agriculture, a successful farmer felt the urgency to utilize every drop of rain in order to obtain the maximum agricultural results. "Subsoiling will increase," one State Board official predicted confidently in 1888, "the rainfall of Kansas by saving nearly all that is precipitated over the land so plowed."⁴

Many agriculturalists, however, needed little goading to improve their farming techniques. Some clung to a simplistic faith exemplified by "Old Charley" Withington, one of the earliest settlers in Lyon County, located in the eastern third of the State. Withington had come to Kansas as a blacksmith for the Kansa Indians during the territorial period. After he settled on a tract of land, he opened a stock ranch some

²Ibid.

³The Free (Colby, Kansas) Press, March 27, 1890; also see James Malin, Winter Wheat, 240.

⁴H.R. Hilton, "Moisture Economy," Sixth Biennial Report of the State Board of Agriculture to the Legislature of the State, for the Years 1887 and 1888 (Topeka, Kansas: Kansas Publishing House, 1889), 118.

twenty miles east of Council Grove and supplemented his income as a guide on the Santa Fe trail. In 1887, when asked about the availability of rainfall in Kansas, Withington replied:

. . . it never rains here much, so far as I know and I have been here as long as any white man, but I reckon it will rain fast enough now that the white men are coming in to settle and make use of it. I tell you . . . it's my opinion that the good Lord don't waste his good things by sending them where they are not wanted. As long as there was nothing here but Indians, wolves and buffalo, there was not much use for rain, and it didn't come, but now that it is wanted you will see that there will be rain enough.⁵

Perhaps aware of--but choosing to ignore--the cruel realities,⁶ the journalist who recorded Withington's observation noted that in 1887, farmers received more than abundant rainfall.⁷ Indeed, they cherished their myth. The less it seemed to rain, the harder they stretched for the elusive possibility of increased rainfall.

Evidence published by the Kansas State Board of Agriculture indicated that erratic patterns of precipitation prevailed in widespread areas of the State with the anticipated rain periodically diminishing. For example, data assembled

⁵Garden City (Kansas) Sentinel, June 8, 1887, in RRCN.

⁶Ibid.

⁷Ibid.

at Ford County, Kansas, which is dissected by the one hundredth meridian, revealed progressively less annual rainfall during the period 1881-1887. In 1881, Dodge City, the most populous village within Ford County, received an abnormally high level of 33.55 inches. This ample amount of precipitation compared to 15.96 inches in 1882 and 15.71 inches of rain in the drouth-ridden year of 1887.⁸

Such statistics should have warned the most enthusiastic devotees of the myth of increased rainfall that even Kansas experienced unpredictable wet periods followed by extremely dry years. Furthermore, the climate was obviously neither moderating nor improving as Withington and other weather novices simplistically predicted. The rainfall tables published by The State Board revealed a harsh truth that settlers conveniently overlooked, namely, the environmental conditions in the semi-arid plains were subject to frequent and rapid change. Even prior to the 1880's, precipitation data compiled at Fort Wallace in extreme western Kansas documented rainfall fluctuations:

⁸F. Hawn, "Meteorological Record for 1881 and 1882," Third Biennial Report of the State Board of Agriculture to the Legislature of the State, for the Years 1881 and 1882 (Topeka, Kansas: Kansas Publishing House, 1883), 619.

1870	16.02	inches of rainfall
1871	16.35	" " "
1872	14.94	" " "
1873	6.57	" " "
1874	12.17	inches of rainfall ⁹

The weather patterns of the seventies and the eighties with their attending fluctuations continued into the nineties. In Dodge City, in 1892, for instance, the precipitation decreased 12.71 inches from the previous year.¹⁰ Such a wide variance created a vast and complex contradiction for farmers who remained largely ignorant of climate, meteorology, or the application of scientific agricultural procedures.

Agricultural optimism permeated Kansas farm communities in 1890. Sherman County, located in northwestern Kansas represented a typical case. Here, local newspapers mirrored the prevailing belief in climate improvement and increased moisture. A writer for The Goodland News, for example, wrote in January, 1890, of the moderating climate:

People who have lived here since the spring
of 1886 know that each year the rainfall has

⁹J.T. Lovewell, "Review of the Meteorology of Kansas for 1887 and 1888," Sixth Biennial Report of the State Board of Agriculture to the Legislature of the State, for the Years 1887 and 1888 (Topeka, Kansas: Kansas Publishing House, 1889) 223.

¹⁰J.T. Lovewell, "The Outlook of Meteorology in Kansas," Eighth Biennial Report, 288-9.

increased in quantity and been more and more seasonable and that the rains have fallen late in the season each year. They also know that with each year the yield has increased until we have been able last year to ship thousands of bushels of grain out of the country. They know that the trees are growing all over the country and with but very little care of cultivation. These things show that climatic changes are taking place which have been a benefit to the country and which brought prosperity to many who have stayed.¹¹

Thomas County, bordering Sherman on the west, is another example. The Colby Tribune described western Kansas as "the Eden of the World and no mistakes were made when it was created."¹² According to another account, Sherman and Thomas Counties were "capable of being made a garden."¹³

Shortly after the Colby, Kansas, editor alluded to Sherman County as "the garden spot," conditions there altered dramatically, threatening the settlers' sense of optimism. An editorial entitled, "Western Kansas is Suffering" appeared in The Goodland News in 1890. It assessed more realistically the farmers' experiences: "There is no doubt,"

¹¹The Goodland (Kansas) News, January 23, 1890.

¹²The Colby (Kansas) Tribune, October 29, 1891.

¹³Ibid., July 12, 1888; Dodge City, (Kansas) Times, 1877, Campbell Collection.

the News reported, "that in many counties there is suffering and much destitution . . . no crops whatever were raised in many localities and the people who were dependent entirely upon the products of the season . . . are now left with absolutely nothing upon which to depend for sustenance Without money and food," the newspaper asserted, "they must either be relieved or starve."¹⁴ Such an acknowledgement resulted from a rare infusion of conscience into editorials. Most editors found such negative assessments of future agricultural potential for the County and region difficult to admit. In the past, homilies and simplicities bolstered the optimism of many of the settlers who seemed assured that such beliefs, indeed such myths, would brace them in the trying days ahead.

Specifically, the "myth of the garden" provided the western Kansas homesteader a sense of participating in the kind of experience that gave rise to national greatness and a sense of mission. Their activities were, in some ways, analogous with the early settlers' "city on the hill" experiences, or the "errand in the wilderness" venture. The very names they gave their towns--Good-Land, Eureka, Garden City--

¹⁴The Goodland (Kansas) News, January 29, 1890.

reflected the Providential dimensions of their mythology. Furthermore, the guiding compass of Providence, the Kansas settlers felt, sustained their needs as they toiled on their agricultural mission in the wilderness, even if such needs involved attempts at climate alteration.¹⁵

A few editors seemed to recognize that the exigencies of semiarid farming had been a costly experiment for settlers. "Unless they get coal and provisions hundreds of families on our beautiful prairies will suffer," declared The Goodland News in reference to area farmers in 1890.¹⁶ In May 1888, the editor at Colby referred to western Kansas as the "most

¹⁵Many writers have explored similar themes. See, for example, Leo Marx, Machine in the Garden, 142-3; see also Henry Nash Smith, Virgin Land, 123; also William Ward, Symbol for an Age, "The Plowman and the Professor," 46-78. "'Tis toil that over nature gives man his proud control . . .," was a stanza of a popular Granger hymn, in William B. Hesseltine, "Traditions," Journal of Southern History, XXVII (1961), 3-33; Lydia A. White, "The plowman," Wichita (Kansas) Eagle, April 23, 1874; Joel Moody, Song of Kansas (1893); finally, increased rainfall, and that agricultural prospects for the future were bright as "the white man" used the region as Providence so dictated, typify the "mode of belief" of late nineteenth century Kansas settlers. See Garden City (Kansas) Sentinel, June 8, 1887, RRCN. Finally, Phillip Durham and Everett L. Jones, eds., in The Western Story: Fact, Fiction, and Myth (New York: Harcourt, Brace, Jovanovich, 1975), peruse western mythology.

¹⁶The Goodland (Kansas) News, January 29, 1890.

promising and encouraging state in the Union."¹⁷ One week later, however, the same newspaper revealed the precarious nature of farming in the area by reporting that "one of the most severe dust storms ever known struck last night. For about half an hour it was impossible to see across the street, so thick was the dust."¹⁸ Kansas weather frequently taught farmers that more than high hopes were necessary to survive dust storms, inadequate rainfall, and hot winds.

Indeed, the data compiled by the State Board of Agriculture reflected the extreme gap between the myth of farm life and its realities in Sherman County. In 1890, for example, 31,112 acres of corn were sown in the County, but only 622 acres were harvested at a value of \$1,555.00. Forty miles east, in Sheridan County, farmers encountered similar crop failures. In 1889, this County produced 844,832 bushels of corn. Having enjoyed excellent yields the year before, Sheridan County agriculturists planted 21,177 acres of corn, but a severe drouth produced a meager harvest yielding a crop on only 212 acres. Corn production averaged less than three bushels per acre with a total market value of

¹⁷The Colby (Kansas) Tribune, May 17, 1888.

¹⁸Ibid., May 24, 1888.

\$382.00 for the County's corn crop. On the southern border of Kansas, residents of Seward County faced their agricultural plight bravely. Corn acreage there in the same year totaled 4,929 with ninety-nine acres of corn harvested. Yields in Seward County were exceptionally low, averaging five bushels per acre with a monetary value totaling \$322.00 for the corn crop.¹⁹

Efforts to grow wheat in Sherman County were equally disappointing. Winter wheat production declined in 1890 by \$2,044 compared to the valuation of the 1889 crop.²⁰ Of 10,578 acres sown in winter wheat in 1890, less than half of the total acreage was harvested. Yields averaged only four bushels per acre.²¹

In June, 1889, a subcommittee of the United States Senate Committee on Irrigation visited western Kansas, stopping in Sherman County. Ostensibly, the subcommittee came to assess the region's farming potential, determine

¹⁹"Agricultural Statistics," Seventh Biennial Report of the Kansas State Board of Agriculture to the Legislature of the State, for the Years 1889 and 1890 (Topeka, Kansas: Kansas Publishing House, 1891), 8-9.

²⁰Ibid., The average price of winter wheat in 1889 was \$.56 per bushel; and in 1890, the price was \$.71, in Ibid.

²¹Ibid., 6-7.

the practicality of irrigation methods, and report its findings to Washington for further study. Professors Fairchild and Shelton, faculty members of Kansas State College, accompanied the group. Both professors initially spoke favorably of the settlers and their struggle against the climate in Sherman County. "The farmers," in the opinion of Fairchild and Shelton, "were fully capable of taking care of themselves." Subsequently, Shelton invoked the wrath of the Goodland editor who wrote that the professor was "an ignorant ass . . . who insulted and villified the entire county."²² The enraged editor added that the academician had slandered hard-working settlers by spreading "malicious tales" and falsehoods, and went on to equate Shelton's visit with that of a "pole cat."

Shelton became the target of such wrath because he had courageously suggested an alternative method of land utilization for the area. It was Shelton's recommendation that efforts be made to create larger tracts of land for the exclusive use of cattle and sheep ranchers.²³ In pessimistically reviewing the region's abortive agricultural

²²The Goodland (Kansas) News, February 20, 1890.

²³W. Tweedale, "Irrigation for Homesteaders in Western Kansas," Seventh Biennial Report, 220.

efforts he added, the agricultural attempts in "western Kansas do not make a cheerful chapter in the history of the State." According to Shelton, the "scores of abandoned farms, with their ruined dugouts and other small improvements seem in all of these recently settled counties to be evidence of brave efforts ending in futility."²⁴

Shelton was labeled a "liar, an intimidator, and unprincipled tool of eastern speculators,"²⁵ not only because he suggested an alternative method of land usage that might have depreciated the value of the myth of the garden, but more importantly because he had inadvertently attacked the sacrosanct mythology of the garden. Acceptance of Shelton's assessment and its implications meant that the farmers, editors, poets, and other optimistic observers would have to admit that the climate had failed to improve as had been predicted. Such an admission would presume that Providence had abandoned the farmers and had severed the link connecting God and Jefferson's yeomen. Moreover, it would have implied that farmers had fallen from grace and, in effect, labored alone in the face of an indifferent universe, a merciless God.

²⁴The Goodland (Kansas) News, February 20, 1890.

²⁵Ibid.

A non-interventionist Deity would refuse to "bless the labors of the plow," to provide ample rainfall to white settlers, or to aid in creating a garden within a desert.

Juxtaposed with Shelton's observations, Sherman County residents once again read an optimistic prediction offered in the spring of 1890:

This year's crop in this county from the present outlook will surprise the state. Carload after carload of stock have been shipped out of the county this year and there are few of our farmers but what have their cattle and their hogs. Orchards have been planted everywhere and in a year or two will be loaded with fruit. We are on the road to success and eastern lies cannot hinder us from achieving it.²⁶

The Brewster Gazette, in nearby Thomas County, editorialized similar hopes. "In talking with a number of farmers we learn that the wheat crop is going to be much better than we expected . . . many fields of wheat are going to make a good yield."²⁷ Optimism continued to develop and by mid-June The Goodland News courageously predicted that "this year Sherman County will lead all western Kansas in crops and be ahead of many eastern counties." According to the News,

²⁶Ibid., May 22, 1890.

²⁷Brewster (Kansas) Gazette, June 19, 1890.

"a number of times the rains have always come to make crops. . . . Reports from many counties around us are that they have burned up." Finally, the newspapers prophesied, "Sherman County is not the worst place to live."²⁸ And, farmers in Wilson County, in the eastern portion of the State, read in the Fredonia Democrat in June, 1890, that "early wheat in some localities generally was damaged by May frost. Fields that promised to yield forty bushels to the acre are not expected to yield more than ten. It [the wheat] looks well, but there are few grains in the head."²⁹ If agricultural conditions adjacent to the village of Fredonia, far to the east in a more moderate rainfall belt, were bleak, and if counties near Goodland were "burning up," Sherman County could not--despite glowing predictions--escape a similar fate. Homesteaders would ultimately learn that unfavorable weather, climate and rainfall extended over the entire state.

The summer of 1890 proved to be exceptionally dry, taking a heavy toll of crops. Formerly optimistic euphemisms withered as rapidly as the dying corn in parched fields; the Goodland News revealed the despair of nearby farmers:

²⁸The Goodland (Kansas) News, June 19, 1890.

²⁹Fredonia (Kansas) Democrat, June 19, 1890.

We do not blame the people for feeling nervous over these agricultural prospects and in fact it is more than natural that they should, for . . . we are in a new country, and a total failure of crops would be a terrible thing, and our people in many cases would suffer . . . the people have expected too much for their hopes to be realized; thinking they should do as well here as in an old settled country, and when the crops have not been as large as they raised back in the eastern states they have grumbled.³⁰

Almost as an afterthought, but perhaps more accurately paying homage to the myth of the garden, the editor added, "we have a good country."³¹ Those surviving in nearby communities were in "worse condition," according to the account in the newspaper, for some agriculturists in adjacent counties had lost all of their crops. Locally, however, the wheat was described as stunted and very short with "heads . . . well-filled." "One good sign," continued the News, "is that a large number of harvesters have been sold [farmers] which shows that at least some have faith in the country."³² Despairing readers were reminded that 1890 had been an exceptional year for rainfall, and that Goodland would not experience another like it for years to come. Agriculturists were advised to

³⁰The Goodland (Kansas) News, July 3, 1890.

³¹Ibid.

³²Ibid.

retain their faith in the potential of the country for "You can weather it through if you will only think so, and next year there will be better luck and better crops."³³ Unfortunately, simplistic homilies seldom sustain even the most faithful.

Throughout the State arid conditions prevailed in 1890. Appreciable amounts of rainfall had failed to occur in June or July. As a result of the drouth, The Colby Tribune admitted in mid-July that in "some of the western counties, conditions are very discouraging."³⁴ Somewhat earlier, The Goodland News resorted to optimistic clichés similar to those appearing in the spring: "The farmer should not be discouraged," opined the News, "because their wheat will not make thirty-five or forty bushels to the acre." The editor added that "all that is required for agricultural success and good fortune in Sherman County is backbone . . . Nebraska is in worse condition than we are, therefore, we say, cheer up."³⁵ Some settlers literally accepted the advice the Goodland newspaper offered, for the neighboring Colby Tribune

³³Ibid.

³⁴The Colby (Kansas) Tribune, July 17, 1890.

³⁵The Goodland (Kansas) News, July 10, 1890.

noted that "the wheat and every other crop is a failure this year, yet at one of those places \$190 worth of beer was sold in a single day."³⁶

The application of the rallying cries of "weathering it through," applying greater amounts of "backbone," and "cheering up," may have momentarily lifted the spirits of a few western Kansas farmers. Despite disclaimers to the contrary, the lack of precipitation had to be faced. Traditionally, September in Kansas was a time reserved for frivolity and gaiety, best exemplified by the county fair. Sherman County was no exception to this widely practiced tradition, and in the early fall of 1890 farmers from the region began to gather with family and friends. The lonely isolation of the distant homestead seemed far removed as men, women and children renewed themselves, conversed with friends seldom seen and swapped stories of hardship and perseverance. As talk naturally turned to weather, rumors of disappointment spread among the discontented, conjuring an image of defeat and pessimism. The Goodland News responded to surfacing negativism: "this year," farmers were reminded, "word has gone abroad that this county is all dried up and we have

³⁶The Colby (Kansas) Tribune, July 31, 1890.

raised nothing . . . yet we have raised some very good wheat and other small grains and the late rains have advanced the corn wonderfully."³⁷ Data compiled by the State Board of Agriculture, however, revealed little cause for rejoicing. Yields were low.³⁸ According to the Board, a meager 5 per cent of planted corn was harvested in Sherman County. The News concluded with what was, perhaps, a more realistic indication of the plight of local farmers by observing the price of admission to the Fair had been reduced, "in view of the close times . . . so that all can attend and not feel themselves impoverished thereby."³⁹

Delightful county fairs, bountiful harvests and hopes for more abundant yields "next year" were certainly exemplified in the poetry, the letters, the hymns, or even the minutes of church gatherings. In one poem, entitled appropriately enough, "Thanksgiving," a poet exhorted:

Time, with sure and steady step,
Once more hath brought around
The slanting ray that from above
Beams on the frozen ground;
His hoary touch is on the herb--
His breath upon the flower,

³⁷The Goodland (Kansas) News, September 11, 1890.

³⁸"Agricultural Statistics," Seventh Biennial Report, 8-9.

³⁹The Goodland (Kansas) News, September 11, 1890.

And Nature sighs, as one that dies,
Beneath His fatal power.

Though sad to see the scenes we love,
Like visions pass away,
And feel the blight within our heart
We see in the decay;
Yet there's a voice that swells
Along the hill-top and the shore
It is the voice of Gratitude
For Autumn's bounteous store.⁴⁰

The moralism revealed by a poem written some years earlier, nevertheless, suggested anew the unique relationship of the western Kansas farmer to cosmic forces. Metaphysically, when settlers of the semiarid belt fully accepted reality, the exigencies of their dismal existence might be fully forgotten. Such a pathos of daily life is revealed in the letter of a nameless nineteenth century Kansan:⁴¹

⁴⁰"Thanksgiving," Christian Watchman (November 23, 1838), n.p., in John G. Pratt Papers, Box 631, Kansas State Historical Society, Topeka, Kansas.

⁴¹Undated letter received by Samuel A. Burgert from "somewhere" in the State in the late nineteenth century. Samuel A. Burgert Collection, Commission on Archives and History, Kansas West Conference of the United Methodist Church Library, Southwestern College, Winfield, Kansas; equally revealing is a book by the District Superintendent of the Methodist-Episcopal Church, A.N. See, Fifty Years in the Kansas Conference, 1864-1914: A Record of the Origin and Development of the Work of the Evangelical Association in the Territory Covered by the Kansas Conference (Cleveland, Ohio: Press of Evangelical Association, 1914-1915), 49, 70, 101, 117, and 190. Also C.F. Erffmeyer's Fifty Years and More (Self published, 1939), reflects upon the difficult days of homesteading in Kansas in the late nineteenth century.

One night family and I stayed in a sod house
with dirt roof . . . the roof was made
first with poles thrown on the wall, reaching
from one wall to the other, brush was thrown
on these, then earth . . . about midday it
began raining, or rather pouring and kept
it up till daylight.

Gathered in tiny congregations on hot and cheerless Sunday
mornings, western Kansas farmers likewise raised their incan-
tations of other worldliness in songs of hope which deferred
to their mode of being:

Sow Beside All Waters
Sow in the morn thy seed;
At eve hold not thy hand
To doubt and fear give thou no heed;
Broadcast it o'er the land.

. . . Grace keeps the precious germ alive,
When and wherever strown . . .
Thou can'st not toil in vain
Cold, heat and moist, and dry,
Shall foster and mature the grain
For garnerers in the sky.⁴²

Church meetings reinforced agricultural myths, frequently
revealing to Kansas settlers that "God has remembered us; to

⁴²Methodist Episcopal Church Hymns (rev. ed.; Cincinnati, Ohio: Poe and Hitchcock, 1865), 132. Also see Methodist-Episcopal Church, Minutes of the Nineteenth Session of the Kansas Annual Conference, April 1-6, 1874 (no publisher, 1874), 48-9, in which frequent references are made to overcoming wind, rain, hail, snowstorms and drifts, dust and mud in Kansas. Frequent reference to Providence holding the farmer in special esteem is recorded in Methodist-Episcopal Church, Minutes, Sixteenth Session (March 15, 1871). Also see Ibid., Seventeenth Session, (1872), 45-6.

some of our fields He has sent drops of mercy and to others refreshing showers . . . Other fields have rewarded the toils of the husbandmen, and fruit has been gathered."⁴³ On other occasions, settlers had been advised by local theologians: "As farmers who now depend upon the older counties for subsistence will soon send back from their fertile lands their rich results, so will the Church, through the blessings of God, send her new existence in the new field."⁴⁴

Frustrated by the advice of the State agricultural agency to employ dry farming methods, bolstered by the belief the climate would substantially moderate through less frequent dust storms, tornadoes and cyclones, confident in the hope that rainfall would increase with white settlement, and supported by theological promises, the populace of the "Eden of the world," with "backbone" and "cheer" as editorialists had suggested, "weathered it through" the disappointment of 1890. The anticipation of a high yield next year sustained their efforts. Again, seeds were sown. Before those crops matured

⁴³Ibid.

⁴⁴Ibid., Sixteenth Session (1871), 59-60. A.N. See, in Autobiography similarly alludes to such a mystical process and reenforces his conceptions in Fifty Years in the Kansas Conference. In addition see various items contained in numerous issue of the periodical, Christian Watchman, in the nineteenth century.

and died in the blistering summer sun of the coming season, a unique environmental panacea--an extension of existing rainfall myths--would be tested upon the streets of Goodland; the shadow of the rainmaker lay upon the horizon as a distant mirage. Soon the rainmaker would walk the dust-fogged streets beneath the cloudless western Kansas sky, seeking to work new magic.

CHAPTER IV

'CHARLATANS AND SHARPERS':

SHERMAN COUNTY, KANSAS AND THE RAINMAKER

In the early nineties fictionalized beliefs of increased rainfall became more obviously erroneous to those laboring in the withering fields.¹ Crop failures became

¹Introductory remarks by M. Mohler in the Eighth Biennial Report of the Kansas State Board of Agriculture to the Legislature of the State, for the Years 1891 and 1892 (Topeka, Kansas: Hamilton Printing Company, 1893), viii. In addition see Horace Greeley's An Overland Journey, from New York to San Francisco in the Summer of 1859 (New York: C.M. Saxton, Barker and Company, 1860), remembering that conditions and hopes altered little by 1890. See Albert R. Greene, "In Remembrance," Kansas State Historical Society, Collections, XI (Topeka, Kansas: State Printing Office, 1909-10), 482-84. Hamlin Garland's A Son of the Middle Border (New York: The Macmillan Company, 1917), provides a realistic conception of late nineteenth century farm life. The western Kansas newspapers at the Kansas State Historical Society, Topeka, provide late nineteenth century insights into the agricultural "dualism" of optimism for the future (with longings for the peaceful past) and the pathos of the nineteenth century "moment." See Walter P. Webb, The Great Plains (New York: Ginn and Company, 1931), 8-45; also Everett Dick's Sod House Frontier (New York: Appleton-Century Croft, 1937); in addition see Michael Lesy's Wisconsin Death Trip (New York: Pantheon, 1973) which vividly portrays what life was like in urban and rural settings in the 1890's. Finally, a perceptive book is Conrad Richter's The Trees (New York: Knopf, 1940) which includes the following nineteenth century vignette: "That's how life was, death and birth, grub and harvest rain and clearing, winter and summer; you had to take one with the other, for that's the way it ran."

common occurrences as want and despair intensified for the long-suffering homesteaders. Haunted by optimistic phrases, homilies and moralisms, the farmers hoped for ample yields and a less severe life. Indeed, as panaceas withered and dreams of agricultural abundance waned, a curious remedy arose to sustain the hopes of the farmer. By 1891 artificial rainmaking constituted the salvation for settlers of the parched plains. This particular technique concerning climate control added a new dimension to existing beliefs and it too, therefore, became a viable and fully acceptable option for settlers faced with sparse precipitation.

Efforts to induce rainfall artificially had originated years before settlers ventured onto the High Plains. Long before the era of the western Kansas rainmaker, some people had accepted the theory that a causal relationship existed between concussion and cloud formation and that under proper conditions, the combination of the two could readily produce precipitation. In the 1830's, an amateur weather observer and scientist, R. De C. Ward, concluded that bombardment of clouds mystically held the key to inducing rainfall. The ancient Greek writer Plutarch, Ward argued, initiated such a theory by observing that precipitation usually occurred after battles. The noise and perspiration of clamoring warriors

locked in fierce combat frequently resulted in the formation of clouds that would give rise to rainfall at the conclusion of a military engagement. Ward theorized, "it is a matter of current observation that extraordinary rains generally fall" after the engagement of opposing forces.²

The "fire theory," a widely accepted nineteenth century antiquarian assumption, held that intense heat acted as the catalyst in the mystical process of rainfall production. James P. Espy, a respected educator and meteorologist of the pre-Civil War era, frequently experimented with the relationship between fire and rainfall.³ He hypothesized on the necessity to form a column of super heated air attracting cooler currents in order to induce rain. The ensuing mixture of cold and warm air would, in Espy's opinion, produce precipitation.⁴ Superheated air columns, the meteorologist urged, could be created by setting fire to sizeable tracts of land.

²R. De C. Ward, "Artificial Rain; a Review of the Subject to the Close of 1889," American Meteorological Journal, VIII (1891-1892), 484.

³Clark G. Spence, "A Brief History of Pluviculture," Pacific Northwest Quarterly, LII (October, 1961), 129-30. In addition see Ward, "Artificial Rain," 484; and also James P. Espy, "Fourth Meteorological Report," 34th Congress, 3rd Session, Senate Executive Document Number 65 (1857), 3.

⁴Ward, "Artificial Rain," 484.

To relieve drouths, he once proposed burning twenty to forty acres in Maryland, Pennsylvania, and Virginia throughout the summer in seven day intervals.⁵

Included in Espy's publications⁶ were letters from a Paraguayan missionary who observed clouds and lightning allegedly produced by smoke. According to Espy, another individual at Cowdersport, Pennsylvania, in 1844, produced "large drops of rain by burning . . . the fallow."⁷ Apparently convinced that fire and heat could produce rainfall, Espy was equally confident his scientific knowledge could be converted into monetary gain if a state legislature or Congress would "promise a sufficient reward in case of success."⁸ Subscribing to the validity of the "fire theory," an idea made more convincing by the testimonies of those who witnessed rainfall produced after fields were burned, Espy advised agriculturists to collect timber and brush as the dry periods began. When

⁵Spence, "Brief History of Pluviculture," 130.

⁶Among the publications by Espy are articles in the National Gazette and Literary Register (April 5, 1839); To the Friends of Science (1845), 1-6; and his more widely known, Philosophy of Storms (Boston, 1841), 493-95.

⁷Espy, "Fourth Meteorological Report," 29.

⁸Ward, "Artificial Rain," 485.

drouth occurred farmers should ignite the gathered brush and timber creating a superheated column of warm air currents subsequently bringing rain.

Congress, although mildly interested in Espy's theories, failed to appropriate funds for such experiments. In 1884, the Australian government, however, expressed interest in testing Espy's fire theory. Later calculations revealed that nine million tons of coal would need to be consumed daily in Sydney to have increased rainfall in adjacent areas by 66 per cent. Faced with such a sizeable expenditure, the Australians chose to abandon the grandiose project.⁹

J.C. Lewis, in a letter to the National Intelligencer in the summer of 1861, was one of many devoted advocates of the "concussion method" of rainfall inducement. He recalled witnessing a "copious rainfall" after a boistrous celebration commemorating the completion of the Erie Canal in 1841. The "deafening discharge" of assembled cannons "at contiguous points produced such a concussion of vapor" that rainfall thereafter dampened the spirits of the celebrants.¹⁰

⁹Robert G. Dyrenforth and Simon Newcomb, "Can We Make it Rain?" North American Review, CLIII (October, 1891), 388.

¹⁰J. Lewis, "Rainfall Following the Discharge of Ordinance," American Journal of Science, XXXII (September, 1861), 296.

As further proof of the relationship between bombardment and the production of rain, Lewis added that widespread rainfall near Manassas, Virginia, July 21, 1861, resulted from cannonading at Bull Run.

Related to Lewis' findings were the reflections of General J.A. Garfield who noted that he had observed "the frequent occurrence of heavy showers soon after the battles of our late war."¹¹ Similarly, the inauguration festivities of Louisiana Governor Hahn in the sixties were curtailed by the noise of musical instruments and the frequent cannonading, both of which resulted in rainfall.

Generals William T. Sherman and John A. Logan, along with Senator C.B. Farwell of Illinois, all displayed varying degrees of enthusiasm for the bombardment theory. According to Sherman and Logan, the expenditure for supplies, estimated to be in excess of \$80,000 per experiment, represented the major barrier preventing a test of the theory's validity.¹² Although it was conceded that private sources for such a project were unavailable, it was suggested that the Department of Agriculture construct experimental stations throughout

¹¹Garfield to Powers, October 28, 1870, reproduced in Dyrenforth and Newcomb, "Can We Make it Rain," 391.

¹²Ibid., 390.

the West substantially reducing the cost of concussion experiments. Others looked to Congress as well as additional government agencies for funding.¹³

As interest in rainmaking intensified in the East during the seventies and eighties, excitement began to build among farmers and editors in the semiarid belt. Orange Judd, editor of the Prairie Farmer, published in Chicago, was a well-known and respected agricultural journalist who had previously advocated the theory of the westward migration of rainfall.¹⁴ Widely read by rural people, Judd's forum frequently alluded to panaceas and homilies in articles and editorials familiar to settlers who fully understood the mythical implications.

Judd had received additional notoriety as an orator on the rural stump and was often sought as featured speaker at County fairs and various farm meetings. Invited to address agriculturists at the Nebraska State Fair in the fall of 1885, Judd chose to enumerate why rainfall was increasing in Nebraska and throughout the plains region. In the oration he included hopeful possibilities for the future:

¹³Ibid., 392.

¹⁴Walter Kollmorgen, "Rainmakers on the Plains," Scientific Monthly, XL (February, 1935), 150-51.

There is just as much water in the bright, clear sky above you at this hour as there is on the most densely cloudy day, or as there is during the severest rain storm. Electrical conditions, or currents of colder air or other influences lower the temperature, and the hidden moisture comes out and falls as I have described.¹⁵

To Judd, moisture was omnipresent in the atmosphere above the plains and the correct method could bring rain to the parched earth.

In 1890 Senator C.B. Farwell of Illinois continued to pressure Congress resulting in an appropriation for experiments in rainfall production using the concussion method. The sum of \$2,000 was to be utilized under the auspices of the Department of Agriculture with the effort directed by General Robert G. Dyrenforth. In August 1891, Special Agent Dyrenforth received permission to experiment with explosives in the atmosphere above the Staked Plains of Texas, near Midland.¹⁶ Dyrenforth assembled an assortment of elaborate apparatus for his scientific observations including one hundred large kites, sixty-eight explosive balloons, twenty thousand pounds of iron borings, sixteen thousand pounds of sulphuric acid, generators, two thousand five

¹⁵Ibid.

¹⁶Dyrenforth and Newcomb, "Can We Make it Rain," 393-94.

hundred pounds of zinc oxide of manganese, substantial amounts of rackarock powder, other high explosives and strange looking electrical and meteorological apparatus. Dyrenforth outlined his strategy for the experiment:

Three lines were to be formed, each some two miles in length, and placed about one-half mile apart. The first line to the windward was to consist of a large number of ground batteries, where heavy charges of dynamite and rackarock powder would be fired at frequent intervals. The next line to the rear was to consist of a number of kites flown to a considerable height by electric wires, bearing dynamite cartridges suspended from them, to be fired high in the air. The third and main line was to consist of explosive balloons which would produce terrific 'air quakes' at intervals of one to two hours throughout the day or during the continuance of the operation.¹⁷

For sixteen days the project continued through the simmering heat of a West Texas summer. Daily, the General and his scientific party blasted the Texas skies claiming their bombardment was responsible for nine widely scattered showers. Significantly, Dyrenforth optimistically insisted, the experiments "have been exceedingly gratifying and encouraging to the advocates of the theory that rain can be produced at will by artificial means."¹⁸ He predicted that in those sections

¹⁷Ibid., 395.

¹⁸Ibid., 398.

of the country experiencing insufficient rainfall, "precipitation may be caused by concussion."¹⁹ In his official report to Congress, Dyrenforth later insisted that a relationship existed between rainfall and the frequent bombardment of clouds.²⁰

George E. Curtis, a journalist, wrote an incisive article in 1892 placing the rainmaking machinations of the Dyrenforth expedition into proper perspective. In specifically referring to the Texas venture, Curtis observed that "the rainmaking myth is added to the numerous errors about the weather which already prevail." Prophetically, he added, "charlatans and sharpers have not been slow to seize the opportunity thus afforded."²¹ Indeed, the rainmaking wizards to which Curtis alluded had begun to work their magic on the

¹⁹Ibid., 399. Dyrenforth was deeply impressed with the results he and his party achieved in Texas bombarding the clouds. There were many notable individuals who showed an interest in rainmaking by such a procedure and who genuinely believed in the merits of the method. The Department of Agriculture was devoting some thought to constructing "bombarding stations" throughout the semiarid regions of the West. See Ibid., 392.

²⁰Robert G. Dyrenforth, "Experiments in Production of Rainfall," 52nd., Congress 1st Session, Senate Executive Document Number 45, Serial 2900 (1891-1892), 8.

²¹George E. Curtis, "The Facts About Rainmaking," Engineering Magazine, III (1892), 550.

plains of western Kansas performing before audiences of settlers wishing to believe. Taking the proverbial leap of faith, Goodland extended an invitation to Frank Melbourne--the "Rain Wizard"--who walked the dusty roads promising a baptism of moisture amid a revivalistic atmosphere.

Unlike Special Agent Dyrenforth who attempted to apply degrees of late nineteenth century scientific expertise to the Texas operation, Melbourne relied upon secretive rainmaking procedures. Mystery characterized Melbourne's efforts and, as a consequence, settlers observed little of his rainmaking wizardry. Historian Clark G. Spence, an authority on the history of rainmaking, has characterized Melbourne as one of many shrewd and calculating confidence men of the region.²² In the opinion of Spence, the "Rain Wizard" capitalized upon the desperation of westerners, duping them in order to fill his pocket with money.²³ In 1891, settlers, editorialists and leading citizens of Sherman County overlooked Melbourne's duplicity. Goodland needed rain and in their view Melbourne could magically provide it.

²²Clark C. Spence, "Melbourne, the Australian Rain Wizard," Annals of Wyoming XXXIII (1961), 5.

²³Rocky Mountain (Denver, Colorado) News, August 2, 1891; The Cheyenne (Wyoming) Sun, August 13, 1891, in Spence, "Melbourne," footnote 2, 16.

A native of Ireland, Melbourne lived in Australia and New Zealand prior to migrating to the United States to seek his fortune. Supposedly forced to flee Australia because he was responsible for a flood-producing deluge, Melbourne joined his two brothers in Canton, Ohio, in the eighties. He brought to the Buckeye State those rainmaking methods acquired in Australia, techniques that he subsequently refined in the American West. After experimenting with various rain-making formulae, Melbourne traveled to the semiarid sector of the high plains where conditions offered an arena for his talents and people to appreciate them.²⁴

In August, 1891, Melbourne appeared in Cheyenne, Wyoming, benevolently exhibiting to the citizens of that community his secretive and yet peculiar genius for producing rainfall. He negotiated with the citizens and agreed to produce showers, provided the people would, in their turn, produce one hundred and fifty dollars. Upon the conclusion of the agreement, Melbourne selected a shed in which to perform his mysterious experiments. According to the former Australian, strict secrecy had to prevail if his mysticisms were to pay dividends in the form of rainfall. To insure that the security of the experiment would not be impaired, Melbourne entered the shed

²⁴Spence, "Melbourne," 8.

with an eye-catching black revolver tucked into his leather belt. It was obvious to the curious bystanders that Melbourne meant to protect his unpatented recipe from overly inquisitive observers who might decide to venture too close. The "Rain Wizard" covered the windows of the "laboratory" with blankets, stuffed rags into cracks in the wooden walls (thwarting curious eyes from discovering the "secret"), and meticulously barred the door of the shed from the inside. Frank Melbourne was thus prepared to bring rain to Cheyenne.²⁵

Melbourne's secretive incantations, conjured in the solitude of his crude wooden laboratory, provided a one-half inch shower on August 31, 1891. The committee originally agreeing to compensate the rainmaker deliberated to determine if the rainfall, indeed, occurred because of Melbourne's efforts. Unanimity soon prevailed and Melbourne received the stated fee. According to a local editor, the Melbourne shower represented a supernatural occurrence resulting from the manipulations of his monkey wrench, safety valve, and water gauge. The editorialist added that Melbourne had "turned a crank" and as he did, rain-laden clouds magically appeared subsequently bringing to the hamlet of Cheyenne

²⁵The Cheyenne (Wyoming) Daily Leader, August 30, 1891, in Spence, "Melbourne," footnote 31, 17.

"a devil of rain."²⁶ The fame of "the Australian Rain Wizard" swept the semiarid West and soon his genius was sought in the tiny village of Goodland amid the parched plains of western Kansas.

Competition for Melbourne arose among western communities as Goodland contended with exotic Reno, Nevada, as well as several California communities, for the rainmaker's mysterious machinations. Such rivals left the Goodland sector with little hope of attracting the renowned Melbourne. A.B. Montgomery, however, a prominent citizen of the community, persisted in drafting a note to Melbourne in September, to determine the means necessary to attract the rainmaker to western Kansas where he might display his mystical abilities. Melbourne replied on September 10, 1891:

A.B. Montgomery, Esp.

Dear Sir--

Your letter of the 2nd is in my hand.
You ask what my terms are to furnish rain
in a given place. My charges for a good
rain in your district would be five
hundred dollars. My rain would reach
from fifty to one hundred miles all around
from the place where I would operate.
I expect to be in the western states

²⁶Cheyenne (Wyoming) Daily Leader, September 8, 1891, in Spence, "Melbourne," footnote 31, 17.

for some time. I do not expect to be at Cheyenne more than a few days.

Respectfully yours,

Frank Melbourne²⁷

Because his fee for rainmaking had appreciated, the environment of western Kansas perhaps presented a greater challenge to Melbourne than the climate of Cheyenne. Increased cost of materials might also explain the abrupt monetary demand Melbourne enunciated to Montgomery. In any event, if farmers wished to profit from the unique talents of Melbourne, money had to be raised among the citizenry with all dispatch. When news emerged that the rainmaker might include Goodland upon his itinerary, settlers reacted with mixed emotions. When urged to contribute to the "rain fund," one resident suggested that he would not participate "because it was interfering with the Lord's business and harm would come of it." Another, obviously distressed by word that Melbourne would tamper with the elements, indicated his lack of belief in such an endeavor and added "the first thing we know we could have a hell of a tornado here that could blow the town from the face of the earth." A third settler, equally distressed, demurred from contributing to the "fund" referring to rain-

²⁷The Goodland (Kansas) News, September 10, 1891.

making as "humbug because the clouds were beyond the reach of man and controlled by the Lord and when man went to tampering with them he was setting himself up against divine powers."

In rebuking fellow Kansans who doubted the rainmaker's abilities, one Goodlander reminded them that "we have caged the lightning and poured oil on the water to quell the elements."²⁸ Although there were those who dissented and feared the upcoming experiment because God's wrath might be brought to bear upon the community, the five hundred dollar purse was easily raised and preparations were initiated to welcome Melbourne to western Kansas.

Commenting on exciting news farther west in September 1891, a Sherman County editor proclaimed his unmitigated faith in Melbourne's veracity. Success had recently been achieved by the rainmaker near Salt Lake City, Utah. Melbourne reportedly produced a significant rain "over an area of one hundred miles." Those with qualms and misgivings were urged to lay their doubts aside and support the local rainmaking effort destined to occur in the near future. After all, Melbourne could produce rainfall upon a barren desert through

²⁸As quoted in interviews published in Ibid., September 24, 1891.

his mystical machinations, then he could bring the rains to the "garden spot of the West."²⁹

An eager Melbourne arrived in Goodland in late September, 1891. Although he desired to begin his rainmaking venture immediately, he nevertheless delayed the operation. Showers had appeared in the drouth-stricken community thereby postponing the Melbourne project for several days. A sense of irony pervaded the Kansas hamlet encouraging some inhabitants to speculate that Nature was awed by the presence of its master in their midst. Fearing Melbourne's cataclysmic incantations, Nature had dutifully responded to the wizard's omnipotence. A local newspaper, reflecting wonder at the magnitude of events, noted that Nature caught in the web of an existentialist moment, reacted to the rainmaker as had "the coon in the story of Davy Crockett. Don't shoot, Mr. Melbourne, the rain will come right down."³⁰

Inclement weather delayed the beginning of Melbourne's project for several additional days. Members of the Goodland welcoming committee, however, were not deterred by the cloudy skies and showers. They began the construction of a

²⁹Sherman County (Kansas) Farmer, September 17, 1891.

³⁰The Minneapolis (Minnesota) Tribune, September 26, 1891, in Spence, "Melbourne," footnote 57, 18.

two-story building. The structure, built on the Sherman County fairgrounds, provided all citizens the opportunity to observe the anticipated miracle. His expenses borne by the citizenry, Melbourne indicated that he would utilize the building's second level for his operation while his manager, Frank Jones, and his brother, Will, maintained security on the first floor by carefully scrutinizing the curious populace. As in Cheyenne, privacy to Melbourne remained a necessity and the maintenance of security could dictate the success of the rainmaking venture.³¹

Apparently the rainmaker found acceptable atmospheric conditions prevailing on the twenty-ninth of September. A contemporary writer provided a succinct account of Melbourne's experiment and indicated the rainmaker began his work in the face of a "furious gale" howling from the south.³² Mysteriously, Melbourne entered the shaky structure serving as his laboratory bolting the door from the inside. Spectators formed a semi-circle near the building and began a vigil peering with anxious eyes toward the door where the reticent Melbourne worked. Occupying the interest of the settlers was a six inch hole in the roof through which, some hoped, lightning might emerge.

³¹Spence, "Melbourne," 12-13.

³²Sherman County (Kansas) Farmer, October 1, 1891.

By one o'clock in the afternoon the barometer fluctuated and became "riled" indicating a storm might be rapidly approaching the Goodland vicinity. By nine o'clock in the evening, however, no rainfall had occurred and the sky cleared. But there were clouds in the distance sustaining the hopes of the faithful citizens patiently waiting for the miracle to occur. Through the night the wind diminished and the next morning the rainmaker provided a light shower. Clouds that had earlier obliterated the sun disappeared and the heat of late September wilted the enthusiasm of the onlookers. Finally, Melbourne emerged from the building promising greater rainfall in the evening when conditions would substantially improve. In calculating the sum of the day's activities, one writer suggested: "the 'wizard' seems to have forgotten to put any 'earmarks' on his clouds, and they look just like the clouds dame Nature has favored us with since we began to run her business for her."³³ The Goodland News retained its generous support for Melbourne's efforts:

There never was \$500 spent to a better advantage than the money we have given Melbourne. Something of this kind should be done every year, and you would be surprised at the result. \$500 may seem to be a large amount to invest in advertising the town but it

³³Ibid.

will pay, just as the Melbourne experiment will pay us even if we were going to have enough natural rain, as it will tell the whole United States that there is such a place as Goodland and that here people are full of pluck and business and the conclusion arrived at that it is a good place to live. Keep the town before the people and the people will do the rest.³⁴

Although Melbourne's solitary experiments continued for an additional week, his rainmaking efforts aborted. Replying to an inquiry from members of the Goodland welcoming committee, the rainmaker blamed his failure upon erratic weather conditions alluding to Goodland's temperature extremes of warm days followed by cold nights. The News reasserted its faith in his integrity: "We believe Melbourne is honest in his pretensions and he deserves credit for the lengthy trial he has made. There was a good rain at Shermanville Tuesday which was no doubt due to his influence."³⁵

The middle of October revealed no progress for Melbourne's rainmaking venture. He had, the News reported, produced clouds which "hung as a curtain" but these dissipated

³⁴The Goodland (Kansas) News, October 1, 1891.

³⁵Ibid., October 8, 1891. A poem in ibid., October 8, 1891 captured the spirit of the event:

Now I'm happy all day long
My farm I will maintain
I'll buy a drill and put in wheat
And wait for Melbourne's rain.

failing to yield the showers the rainmaker diligently sought. At this point Melbourne and his party abandoned western Kansas for rainmaking opportunities elsewhere. In response to his departure a local newspaper exhibited its tradition of "looking to next year," predicting "this will be his last trial here for the present . . . but he will come again in the spring and demonstrate that he can make rain on the prairies."³⁶ Initially The Sherman County Farmer, guarded in its assessment of Melbourne, by mid-October praised his efforts and justified the prevailing air of secretiveness. Farmers were reminded that prayers in the past had accomplished little, but small quantities of "muratic acid and zinc might do a great deal." For those who might have doubts, the editor suggested, "the man who sneers at the possibility of [rainmaking] before us is not aware that the portals of a new science are opening and a new power awaiting the genius of race."³⁷

The Goodland News joined the Farmer in its adulation over the prospects for the region should rainmaking pay dividends. "Should the scheme be a failure," the editor suggested, "there is no harm done . . . and if a success do you realize what a future is in store for us? . . . crops

³⁶Ibid., October 15, 1891.

³⁷Sherman County (Kansas) Farmer, October 15, 1891.

will be such as few places ever had but the advance in land will be unprecedented." Goodland, it was predicted, would ultimately become a rail head as agriculture thrived in the developing rainfall belt. Obscurity would be obliterated; with agriculture providing the stimulant Goodland would emerge from its isolation becoming the "metropolis of western Kansas."³⁸

As memories of Melbourne faded from the consciousness of Goodland citizens, word spread among the populace that local businessmen were contemplating forming a "rain company." The response of the Sherman County Farmer to such an enterprise was indicative of the hopes many settlers placed in such venture:

Our readers will be interested to learn that a company has been formed at this place Goodland that has secured the 'rain wizard's' secret,--a fact that will cause every man to hold onto his land as never before. Now . . . plenty of rain can be had during the warm months. It means millions to the fertile soil of our western prairies . . . we are confident that the best crops in

³⁸The Goodland (Kansas) News, October 15, 1891. For an exceptional elaboration of the desire of communities in Kansas to acquire rail lines see Paul W. Gates, Fifty Million Acres. The national pattern is brilliantly interpreted by Robert Wiebe, The Search for Order, 1877-1920 (New York: Hill and Wang, 1967). In addition, Kansas newspapers frequently alluded to such possibilities.

the world can be raised upon the western plains by aid of this wonderful discovery.³⁹

In urging drouth-plagued settlers to "hold onto" their land because such tenacity might mean "millions to the fertile soil," The Sherman County Farmer, perhaps inadvertantly, hinted of speculative schemes. The rain wizard's activities, should they prove successful, could create a prospering "garden" spot in western Kansas with attendant rail lines and a booming urban center as well. Typical of land speculators and town promoters were perpetually subtle and often overt motives of hosts of western entrepreneurs--rainmaking efforts were no exception to this nascent capitalistic pattern.⁴⁰ The effort to create rain artificially in the semiarid belt tempted the scheming individuals who harbored speculative hopes; nevertheless rainmaking remained a mode of belief to homesteaders eking an existence in the sparse rainfall region. The settlers hoped rainfall would increase through the planting of trees. Moreover, they felt that rainfall magically increased with settlement and the climate moderated with fewer weather catastrophes. Sherman County would blossom as the "Garden Spot" of the West and rain would follow the plow. They

³⁹Sherman County (Kansas) Farmer, October 22, 1891.

⁴⁰Gates, Fifty Million Acres.

continued depicting the farmers as "the chosen people of God," and believing the late nineteenth century extension of earlier myths that culminated in the rainmaker. These concerns categorically attested to an optimistic agrarian mind-set, which, in the face of personal disaster, exceeded speculative levels of profit-taking sustaining the faith of agricultural believers.⁴¹

In the early and middle nineties, following Melbourne's charismatic example, western Kansas was beset by rainmakers who promised to provide instantaneous deluges if communities would meet the inflated cost of their services. Although Melbourne failed in his crucial test at Goodland, he toured the plains seeking additional opportunities before he faded into obscurity. Avid faith in rainmaking grew in Sherman County, reinforced by the optimism of The Goodland News:

Suppose the people do put their faith in the rainmakers, they are out nothing if the thing is a failure, as the agreements of the company distinctly state that unless they do what they promise, no money is to be paid . . . You start the machine and get the rain. It's as easy as falling off a log.⁴²

⁴¹The Goodland (Kansas) News, January 23, 1890, reiterated an earlier and frequent theme in Kansas newspapers by assuring the homesteaders that "Sherman County is indeed a garden spot."

⁴²Ibid., December 24, 1891.

In the editor's opinion, agricultural hopes lay in throwing a switch and "starting a machine." Artificial rainmaking constituted the new salvation for the parched land. Indeed, this particular mythology of climate control added yet another dimension to the existing modes of belief among western Kansas settlers. It too, therefore, emerged as a viable and tempting option for those saddled with few hopes in an environment lacking enough rainfall to insure a satisfactory degree of agricultural success. With Melbourne's departure from western Kansas, other rainmakers followed his example and they too sought to work similar magic.

CHAPTER V

MELBOURNE AND THE DISCIPLES

ADDITIONAL RAINMAKING EFFORTS IN KANSAS IN THE NINETIES

The orderly and rhythmic cadence of the seasons¹

¹For an interesting elaboration of this basic theme see Robert H. Wiebe, The Search for Order, 1877-1920 (New York: Hill and Wang, 1967), especially chapters Two and Three, "The Distended Society," and "Crisis in the Communities," 11-110. Wiebe, in a recently published monograph, touches upon the underlying reality of the nineteenth century which, in turn, existed outside the pale of simplistic rural assumptions of order and harmony where none actually existed. See Robert H. Wiebe, The Segmented Society: An Historical Preface to the Meaning of America (New York: Oxford University Press, 1975), 27-8. Bernard W. Sheehan has, perhaps, captured the nineteenth century mind-set more perceptively than any other historian in Seeds of Extinction: Jeffersonian Philanthropy and the American Indian (New York: W.W. Norton and Company, Inc., 1974). In Sheehan's opinion attitudes toward Nature may best be summarized in this fashion: "Tightly bound within the ever-changing and beneficent order of nature, men became in great measure what the world made them. Differences among men, variety in nature, could be explained by environmentalism, as could any changes induced by a reaction to nature or by positive human decision," 8. One pioneer guidebook exulted, "You look around and whisper, 'I vanquished this wilderness and made the chaos pregnant with order and civilization . . .,'" in Roderick Nash, "The American Wilderness in Historical Perspective," Forest History, VI (Winter, 1963), in Carroll Pursell, ed., From Conservation to Ecology: The Development of Environmental Concern (New York: Thomas Crowell Company, 1973), 3. Walt Whitman wrote, ". . . but never before have we had man in the open air, his attitude adjusted to the sun by day and the stars by night." See F.O. Matthiessen, American Renaissance: Art and Expression in the Age of Emerson and Whitman (Rev. ed. New York: Oxford University Press, 1968), 626.

governing the discipline of the daily agricultural routine provided nineteenth century settlers with the illusion that Providence mystically controlled Nature and, hence, their isolated existence. In Seeds of Extinction, historian Bernard W. Sheehan correctly suggests that Nature followed its own course irrespective of the activities of man. A cosmic force orchestrated the laws of the universe--and orchestrated it free of error. Man played a prescribed role within this plan.² Bolstered by such a credo, the despairing Kansas farmer toiled on amid a concatenation of circumstances. Indeed, unalterable principles unfolded, sustaining the settlers' labors, providing cosmic miracles as agricultural needs arose.³

Frank Melbourne's rainmaking operation remained interpreted as an extension of such antiquarian assumptions relative to Nature, climate and weather. Rainmaking experiments,

²Sheehan, Seeds of Extinction, 8.

³Leo Marx, in Machine in the Garden, suggests that "He [the farmer] locates himself at the center of an idyllic domain--a land of order, form, and harmony," 228. "Man . . . is indeed, lord of creation; and all nature, as though daily more sensible of the conquest, is progressively making less and less resistance to his dominion," in American Journal of Science, XXXVIII (1840), 276-97, in Marx, Machine in the Garden, 196. According to Nathaniel Hawthorne, in "Ethan Brand," the agriculturist "rested peacefully in the hollow of the great hand of Providence," in Ibid., 277.

therefore, correlated with beliefs prevailing in the minds of Sherman County citizens. Acting upon those truths emerging from their perception of reality, Goodlanders had invited the "Australian Rain Wizard" to coax moisture from the clouds. Melbourne's ability to create rain artificially would substantiate the veracity of their faith in the unwritten law of climate control.

Although Melbourne's effort in Goodland aborted, it stimulated similar projects in western sectors of the State.⁴ Some observers interpreted his failure to provide rainfall as little more than a momentary barrier to progress, a necessary step in the drive toward ultimate utopia when showers would occur at the discretion of man. Following Melbourne's example, Kansas produced a host of "rain wizards" in the early and middle nineties. These individuals, much like their predecessor, paraded their wares in a number of tiny Kansas communities. As before, many citizens reasserted their

⁴W.E. Steps, "Artificial Rain Making," Transactions of the Kansas Academy of Science, 59 (1956), 94-103. Steps writes that L. Gathman, of Chicago, Illinois, in 1891, applied for and received a patent "to create rainfall by chilling the atmosphere through the release of liquid carbonic acid gas from shells fired into the air." In addition Steps further observes that Frenchmen in North Africa, during the nineties, were "supposed to have achieved remarkable success in inducing precipitation from clouds by means of a kite flown into them on silken string," 95.

faith in their secretive--yet mystical--abilities. The Colby (Kansas) Tribune testified to the impact of Melbourne and similar efforts when it concluded in late October, 1891:

. . . recent experiments have demonstrated conclusively that we can assist nature, even if we cannot absolutely at will control the precipitation of rain. The government [Dyrenforth] experiment in Texas ought to convince the most skeptical that where moisture in the air has assumed the form of clouds it can be made to rain by artificial methods.

Regarding the Melbourne theory of producing both clouds and rain when desired, we think it may yet be classed as an experiment only, but enough has been done to justify hopes of success.⁵

One rainmaker, Clayton B. Jewell, a native of Topeka, Kansas, proclaimed that he had become the sole possessor of Melbourne's well-guarded formula. Jewell, reticent and reluctant to reveal the method he utilized to obtain "the secret" from Melbourne, persuaded the Rock Island to sponsor and support him in a series of experiments. After selecting a railroad car, the railman/rainmaker equipped it with an intricate variety of instruments including a funnel-shaped stack protruding from the roof. From a tiny compartment

⁵Colby (Kansas) Tribune, October 29, 1891; see also the expression of similar hopes in the Wakeney (Kansas) World, October 29, 1891.

inside the car, Jewell produced mysterious gases which rushed upward through the elaborate stack. Jewell,⁶ who humbly adopted the pseudonym Mr. Rainmaker, embarked upon a tour of the semi-arid region of the State in 1892.⁷ In an interview some decades later, Merritt L. Beeson, an early settler, reflected upon the spectacle of Jewell's arrival and subsequent efforts at Dodge City:

Crowds would gather while the operator retreated inside the strange-looking structure on the railroad car. Calculated puffs of smoke or gas, as it was called, would emerge from a smoke-stack-type apparatus on top of the structure.⁸

While conducting his elaborate experiments in Dodge City, Jewell encountered strong gusts of high wind which supposedly aborted the local rainmaking effort. The chemical-laden south winds, according to Jewell, would affect distant communities and as a result there "would be a good rain at Salina the day after tomorrow."⁹

⁶Topeka (Kansas) Daily Capitol, n.d., Obituary, "Rainmaker Born in Topeka Forty-Four Years Ago, Dies," in Kansas Scrapbook, VII, 182. Kansas State Historical Society, Topeka. An additional article reflecting upon the rainmaker era is valuable, see Kansas City (Kansas) Times, September 22, 1954.

⁷Jewell's itinerary included Dodge City, Burlington, Mankato, Belleville, Lincoln, Cloud, Council Grove, Wichita, Beloit, and Wakefield, Kansas. See Kansas City (Kansas) Times, September 22, 1954.

⁸Ibid.

⁹Ibid.

Jewell's flamboyant activities spread beyond the Kansas borders. "Mr. Rainmaker," as oldtimers later recalled, "had appointments all over the southwest."¹⁰ Jewell's visit to South Dakota in the nineties increased his fame. Years later, the Garden City Telegram claimed that he ran "into good luck in the form of a long rainy season. It rained every day he was in [that] state."¹¹ Evidently defamed by Kansas disbelievers, and while returning, in 1892, to Wichita from engagements in adjacent areas, Jewell sought to silence his detractors by providing a deluge. One witness to the event reminisced that Jewell threatened to transform Douglas Avenue, the major east-west traffic artery in the downtown area, into a canal.¹² "And he just about

¹⁰Garden City (Kansas) Telegram, November 7, 1947.

¹¹In recalling the era of Jewell and other Kansas rainmakers the Telegram observed that the Goodland newspapers in the late nineteenth century "always stood by their rainmakers." Jewell was supposed to have provided such an abundant amount of rainfall in South Dakota that farmers there asked him to cease his operations. His reply was incisive: "Machine wound up for ninety days. Same price for stopping as for starting. Teach the calves to swim," in Ibid.

¹²Interestingly the detractors of rainmaking efforts were usually effete urbanites of the cities--the vice-ridden saloon supporting intellectual enclaves--agriculturists had repeatedly attacked. Kansas City (Missouri) Star, September 17, 1946.

did," recalled the Kansas pioneer, "for an exceedingly heavy rain came which sent the rivers and creeks out of their banks. His believers were not at all surprised."

The completion of the Rock Island's line into Ford County in 1891 stimulated interest in the utilization of the "machine" as an apparatus for rainfall production.¹³ One settler recalled that driving the final spike into the railroad tie coincided with the coming of a drouth to Dodge City. "Delegations of farmers," recalled the settlers, "called upon Rock Island officials and pointed out that 'Providence couldn't produce any rain, how about the railroad trying.'"¹⁴

Prior to the Dyrenforth expedition to the staked plains of Texas and Frank Melbourne's subsequent rise to fame as the "Rain Wizard," John Hay, a resident of Junction City, Kansas, theorized about the rain producing cycle within the

¹³Kansas City (Kansas) Times, February 19, 1938.

¹⁴Ibid., Leo Marx, Machine in the Garden, has perceptively written of the impressions individuals in pastoral America held toward "the machine," i.e., the locomotive. To the isolated Kansas settler the railroad appeared as a universal panacea for many ills, including drouth. The locomotive, providential in the power it conveyed, was the symbol of progress, unbridled strength, and unlimited potential. It seems proper, within such a context, that farmers after praying unsuccessfully for rainfall, would have turned to the railroad to tap this source of energy.

the State.¹⁵ Ostensibly concerned about the semiarid sector of Kansas, Hay suggested that the "absorbent power of the atmosphere must be overcome and this can only be done by a water supply from which ascends the vapors which make rain. We doubt if noise [the concussion method] will do it."¹⁶ In Hay's view the "absorbent power of the atmosphere" might be deterred through widespread construction of dams. Hay went on:

During a residence of thirty years in Central Kansas I cannot call to mind more than two years when there has not been at some time in the year sufficient water to annihilate and abate in their very inception every hot wind that has [destroyed] the vegetation of our state; even at this very early date in the year 1891 our creeks and rivers have been over burdened with business, carrying millions of tons of water to the gulf of Mexico.¹⁷

Hay added that the climate of the State would be transformed with "no hot winds next July and August." "The matter," he insisted, "is in our own hands." Although, in an age awaiting the advent of the rainmaker, few Kansans agreed with Hay, the Kansas City Gazette exhibited a mild interest in the Kansan's views: "Let us try Nature's way, and husband

¹⁵Kansas City (Kansas) Gazette, July 15, 1891.

¹⁶Ibid.

¹⁷Ibid.

the water given us by making ponds, from which vapor will arise, as it now does from bodies of water, and which will return to us as more rain."¹⁸

The residents of the semiarid region of the State expressed little interest in testing Hay's "Water-producing-vapor process." Goodland citizens had witnessed the fabled Melbourne and the heroism he displayed permeated their consciousness. The Goodland News put it aptly: "There seems to be no question as to Melbourne's having an influence over the clouds and this is admitted by many."¹⁹

A.B. Montgomery, the Goodland citizen who first invited Frank Melbourne to come there, joined the many Kansans enthralled with the possibilities additional experiments held for the semiarid region. After Melbourne departed western Kansas, Montgomery sought an audience with the "Rain Wizard" in Omaha, Nebraska. The Goodland News captured the spirit of jocularly that prevailed between Montgomery and Melbourne in the description of the Kansan's attire:

He Montgomery had on a new suit which he said was his rain clothes. When he was asked if that kind of clothes was not a little bit too nice to make speeches on how Kansas was

¹⁸Ibid.

¹⁹Goodland (Kansas) News, October 15, 1891.

starved out and how ragged her people were, he told the boys that he had a suit to make speeches in and if he wanted two suits it was none of their business . . . if he will get Melbourne and Melbourne will get the rain next summer, Monty can call on his constituents for another suit.²⁰

Montgomery, the Goodland entrepreneur, obviously met with success in his Nebraska meeting with Melbourne. Resorting to what must have been secrecy-ridden negotiations, he finally obtained the former Australian's rainmaking formula. "The Secret is Ours," proclaimed the News, adding predictions of what lay in store for the Goodland community: "When we tell you that the Melbourne secret is the property of a company of Goodland men and that they have the right to operate the same wherever they may choose," The Goodland News confidently urged their readers, "you can mark up the price of your land and expect an era of prosperity for the county. Such is the fact."²¹

The illusion of the rapidly approaching utopia suggested by such "promises" along with the "expert" opinion of agricultural agencies and the State's scientific community raised hopes anew. Some old settlers in Goodland must surely

²⁰Ibid., October 22, 1891.

²¹Ibid.

have reflected upon similar promises borne out of the semiarid past, but they continued to hope. And, such hope sustained them. "The possibilities of this fertile land with a plentiful rainfall cannot be realized," the News extolled, "Not only will the crops be such as few places ever had but the advance in land will be unprecedented."²²

Not to be outdone by its journalistic rival, The Sherman County Farmer expressed similar enthusiasm. In an article entitled "Hurrah for Goodland," the Farmer repeated the idea that abundant rainfall could be produced artificially. "There is not a doubt in the minds of any man in the company," the Farmer stressed, "who has become acquainted with the [rainmaking] process but what plenty of rain can be had during the warm months. It means millions to the fertile soil upon our western prairies."²³

Armed with the Melbourne process, Montgomery applied for a charter for the "rain company." As if to add more legitimacy to the enterprise, The Sherman County Farmer assured those interested in the unsold shares that Melbourne himself held stock. Specifically, the Farmer reported:

²²Ibid.

²³The Sherman County (Kansas) Farmer, October 22, 1891.

Mr. A.B. Montgomery filed the charter Monday. The board of directors and officers are E.F. Murphey, President, H.E. Concarlos, Sec'y, H.M. Haller, Treas., A.B. Montgomery, O.H. Smith, M.B. Tomblin, L. Morris.

The company has full possession of the process and a machine for operating anywhere in the United States . . . the best crops in the world can be raised upon the western plains by aid of this wonderful discovery.²⁴

Parched areas south of Goodland also offered opportunities for Sherman County rainmakers. The Goodland firm sent a delegation to Oklahoma City to conduct experiments there.²⁵ In assessing the potential of "the Oklahoma operation," E.F. Tennant, editor of The Goodland News, expressed faith in such endeavors arguing this "is encouragement and gives more confidence that rain can be made here in warm months."²⁶

In November, the Goodland entrepreneurs assumed the title of the Interstate Artificial Rain Company extending their operations into Texas. The experiments in the Lonestar State occurred near Temple November 9. Because of a long drouth of several months' duration, anyone claiming the ability to produce moisture found a ready market among

²⁴Ibid.

²⁵Goodland (Kansas) News, October 29, 1891.

²⁶Ibid.

desperate farmers there. In describing the experiments at Temple, The Goodland News included the familiar assessment of such experiments:

. . . hazy atmosphere and thunderheads in the north--all indications of dry weather. No results could be seen for the first few days, but Friday the sky became overcast with clouds, that hung over this section which showed a blue margin all around the horizon. Saturday a high south wind prevailed. Sunday showers fell all day and at night . . . The rainmakers are jubilant, and claim the rain as the results here, and yesterday left for home. It's understood that \$50,000 was the price paid. The process is claimed to be the same used by Melbourne.²⁷

The success of the Texas venture convinced even the most doubting Kansans that the company must have acquired Melbourne's miraculous secret.

West of Goodland, The Denver News voiced suspicion concerning the rainmaking project in Texas, urging Colorado citizens to proceed with caution should the firm attempt to expand operations to the eastern slopes. They noted that

²⁷Ibid., November 19, 1891. It is highly unlikely that Interstate received \$50,000.00 for their "Texas Operation." Other rainmakers, Clayton B. Jewell, for example, were paid far less than this sum for their "successes." In addition there were companies as well as individuals competing in the "market place" for rainfall dollars and these companies were willing to work their magic with the elements for far less monetary gain.

"the various experiments in rainmaking are yet too crude and uncertain a state of development to warrant any investment therein." Furthermore, even if the Kansas company turned the barren plains into incredibly thick forests, the people of Colorado should be absolutely certain before purchasing rainfall with what the Denver editor called "hard earned dollars."²⁸

The Goodland News, sensing attacks on the integrity of some of its citizens, defended Interstate and all rainmaking efforts. In launching a verbal tirade against the unconverted, the News alluded to Montgomery's "pluck," reminding readers that he and other Goodlanders had taken the initiative to respond to semiarid exigencies. Because of such innovative citizens, Goodland had become "the envy of all the towns around us as indicated by their papers." In urging adjacent communities to view rainmaking within the broader perspective of a "bonanza" for all, the newspaper editor reminded citizens that artificial rain would indeed bring benefits to all.²⁹

²⁸Denver (Colorado) News, In Goodland (Kansas) News, December 10, 1891.

²⁹Goodland (Kansas) News, December 10, 1891.

By late December, 1891, The Goodland News began to anticipate the coming season's prospective yield of grain and produce. Fearing an avalanche of requests from distant communities during the dry season, the editor urged his readers to "make some arrangements with the Interstate company." In cajoling the settlers the News noted the company's willingness to create rain, provided the citizens paid promptly for services rendered. "We are liable," the newspaper cautioned, "to need the rain and we must be looking out for it."³⁰ In emphasizing support for Interstate's operations, the News added: "The rain wont come unless we are willing to work and pay for it." Settlers were reminded, furthermore, that the initial experiments, by Melbourne in October, 1891, had been largely financed by benevolent townspeople who only marginally benefited from the "Rain Wizard's" secretive process. Although farmers had also contributed to the "rain fund" underwriting Melbourne's Goodland operation, the News emphasized that in the future agriculturists would be "expected to chip in and help pay the bill." No matter what the source of the rain, the News suggested that the farmer should "be willing to give a small sum to be insured a good crop rather than

³⁰Ibid., December 24, 1891.

see his seed wasted and the crop burnt up. Let some action be taken."³¹

The demand for rainmakers enticed additional entrepreneurs to the Kansas plains. Such was the case in January, 1892, when a Goodland newspaper announced formation of the Swisher Rain Company.³² This firm had also acquired the Melbourne method:

'competition is the life of trade;' and now that we have another company in possession of the Melbourne rain secret we may expect rain in quantities to suit purchasers at reasonable rates. The new company has not made any tests yet that we know of, but will doubtless do so in the very near future, and if they do have the secret will not suffer for lack of opportunity to use it.³³

W.B. Swisher incorporated the new company, named it after himself, and appointed himself as president.³⁴ At a later meeting representatives of the Goodland rainmaking companies presented to the citizens of Goodland their unique approaches to rainmaking. "Come out and see how these rain men make water," the Sherman County Farmer dutifully urged its readers.³⁵

³¹Ibid.

³²The Sherman County (Kansas) Farmer, January 14, 1892.

³³Ibid.

³⁴Ibid.

³⁵Ibid.

Both companies in 1892 ventured beyond the Goodland community to provide rainfall in the semiarid belt. Weather novice, W.E. Steps, in an article written more than two decades ago, indicates rainmaking ventures occurred at such diverse farm villages as Mankato, Colby, Burlington and Council Grove, Kansas.³⁶ In the opinion of Steps, efforts by these companies lacked success because the elements refused to yield to the rainmaker's skills. "The following month at Council Grove," wrote Steps, "the skies wouldn't cooperate; at one Nebraska town it began raining while the rainmaker was setting up his equipment."³⁷ Years later, a resident of Downs, Kansas, recalled the futility of the Interstate Artificial Rain Company's bombardment of the clouds.³⁸

Almost four decades after the rainmaker era had faded from the popular mind, the Kansas City Star attempted to recapture the excitement rainmakers had generated in western Kansas. Experiencing the beginnings of the "dust bowl" days

³⁶W.E. Steps, "Artificial Rainmaking," Kansas Engineering Society Bulletin, XIII (October, 1952), 10.

³⁷Ibid.

³⁸Topeka (Kansas) Journal, August 28, 1920. Assuming Interstate utilized the concussion method at Downs, Kansas, it is doubtful the firm possessed the fabled Melbourne formula.

of the thirties, older residents looked back on the early nineties and the plight they had faced. "The days were blistering hot. Across the prairies blew a withering wind. Even the buffalo grass was burned. Corn was baked. Springs went dry. The southwestern corner of Kansas fairly sizzled."³⁹

Reminiscing about the 1890 drouth, one settler recalled the speed with which various rainmaking theories passed from one parched community to another. Settlers also spoke of the role the Rock Island railroad played in fostering the hope of drouth stricken farmers:

The news spread over the southwest that the railroad would bring a rainmaking machine to Dodge City. When the day came the town was filled with rigs! The flatcars carried mysterious contraptions. The day was hot enough to fry an egg on the pavement. But the temperature didn't keep away the crowds which milled about the cars.⁴⁰

One observer described the railroad's rail machine as "a cross between a cannon and a slingshot." The imagination of the gathering crowd of townspeople quivered at the sight of a device with such awesome potential. At a signal from the operator the "cannon/slingshot" lofted "bombs" high into the air above the city. Exploding chemicals, knowledgeable

³⁹Kansas City (Missouri) Star, August 26, 1930.

⁴⁰Ibid.

onlookers suggested, would somehow induce the rain to fall. One witness to the event recalled that "Everyone gasped when the bombs were sent high in the air. The bombs exploded according to directions and there was a result, but not the one expected by the rainmaking experts."⁴¹

The effort to coax rain from the heavens at Dodge City, like other attempts in the nineties, resulted in failure. One reason for the abortive effort lay in the cloudless days chosen for the attempt. "The bombs let out a gas with an odor," one eyewitness later recalled, "that scattered the crowd and drove away the idea of seeing rain come from the clear sky. There was no rain that day."⁴²

In an in-depth article in 1894, the Chicago Herald explored the activities of the Great Plains rainmakers. At Abilene, Kansas, typical of communities in the semiarid belt, the Herald reported: "The faith of prairie residents in the modern Aquarius, the rainmaker, is evidenced by the large sums received from localities for trials of the unique service." According to the Illinois newspaper, any community seeking the services of a rainmaker should be prepared to pay

⁴¹Ibid.

⁴²Ibid.

"from \$100 to \$500 for five day's work." Such a sum was "the ruling quotation" and fees were provided "the modern Aquarius" even if rain failed to fall.⁴³ Originally rainmakers had worked independently, or, as in the case of Melbourne, with a small contingent of devoted followers. The Herald, however, observed that technology had overtaken the solitary operator. "The modern rainmaker," observed the newspaper, "has his apparatus on wheels, and his car's advent into a prairie town is hailed with delight and wonder."⁴⁴ Three specially equipped railroad cars, outfitted by Rock Island railroad funds, had recently toured the parched plains of Kansas and Nebraska attempting to create rain. At least "half a score of aspirants for cloud-ruling," observed the Herald, "are at work in the same territory." Earlier, in 1892, an astute writer had accurately predicted what ultimately would occur in Kansas and across the semiarid sector by warning, "the rainmaking myth is added to the numerous errors about the weather which already prevail . . . charlatans and sharpers have not been slow to seize the lucrative opportunity thus afforded."⁴⁵

⁴³Chicago (Illinois) Herald, August 18, 1894.

⁴⁴Ibid.

⁴⁵George E. Curtis, "The Facts About Rainmaking," Engineering Magazine, III (1892), 550.

Apparently the Rock Island railroad spared little expense in equipping and embellishing its freight cars for rainmaking experiments. "When the rainmaker's car is side-tracked at a prairie station and gets ready to bombard the heavens it presents an awesome appearance,"⁴⁶ described the newspaper in its account of the arrival of the rainmaker. They used a massive steel tank to store eight hundred gallons of water for the experiments. Three slender cylindrical tubes protruded through the roof of the freight car emitting a secretive mixture of chemicals strategically aimed at the sky. The Herald described the interior of the rainmaker's compartment inside the adapted freight car:

In one end of the car is the operator's living room. In the other end is an imposing array of bottles, jars, electric battery cells, pipes and wires.⁴⁷

According to the Herald, the scientific rationale or theory substantiating the Rock Island's operation assumed that the gases produced inside the freight car, provided the volume remained sufficient, would rise to attain a level of four thousand feet above the ground. At this height the gases would be intercepted by moisture-laden air currents, moving

⁴⁶Chicago (Illinois) Herald, August 18, 1894.

⁴⁷Ibid.

from northeast to southwest, creating a vacuum. A super-saturated mixture would result within the vacuum thereby producing rain. The Herald, presenting both the pros and cons associated with this particularly impressive display of rain-making expertise, emphasized that upon occasions "clouds have formed soon after the issuing of gases at many stations although in some instances they have bombarded the heavens in vain for days." A holiday atmosphere awaited the railroad crew as the Rock Island engine, laden with its unique cargo, approached an expectant Kansas hamlet:

Much attention is attracted by the cars as they stand at the prairie railway stations and scores of curious settlers surround them, gazing at the mysterious pipes and searching the horizon for a cloud's appearance. In case of high wind the gases are blown to one side and rain frequently falls in an adjoining county and not at the place of operation.⁴⁸

Despite the grandiose rainmaking efforts by the Rock Island Railroad and the efforts by others who followed, no sustained rainfall occurred within the State in the nineties--at least none directly attributable to rainmakers. A Topeka journalist reflected upon the "golden age" of cloud

⁴⁸Ibid.

"controllers"⁴⁹ reaffirming in the twentieth century the basic belief held by settlers years before: "Many persons were positive that the rains were caused by the heavy bombardment and cannonading going on abroad [World War II] a belief . . . that really went far back into the folklore and popular superstition of the human race."⁵⁰ A Kansan, and a contemporary

⁴⁹Agnes W. Spring, "Rainmakers of the Nineties," Colorado Magazine, XXXII (October, 1955), 289-98; Louise Pound, "Nebraska Rain Lore and Rain Making," California Folklore Quarterly, V (April, 1946), 129-45; Martha Caldwell, "Some Kansas Rainmakers," Kansas Historical Quarterly, VII (August, 1938), 306-24; "'Rainmaking' on the Chicago, Rock Island and Pacific Ry," Engineering News, XXXIII (February 14, 1895), 108; Wichita (Kansas) Eagle, May 3, 1895; Clark G. Spence, "Melbourne," Annals of Wyoming, 5-18; Alexander Macfarlane, "On Rainmaking," Scientific American Supplement, XXXVI (November 4, 1893), 14881; Topeka (Kansas) Journal July 25, 1940; Cleveland Abbe, "On the Production of Rain," Agricultural Science, VI (July, 1892), 298-99; American Meteorological Journal, X (December, 1893), 357; Scientific American, LXIX (September 23, 1893), 200; and Rock Island Railroad, Clippings, I (1886-1963), 71, Kansas State Historical Society, Topeka. The chronology of events, 1891-1893, are provided by Kansan Frank A. Russell, Seventy-five Years in Kansas, or Corn Bread and Sorghum Molasses (Lawrence, Kansas: Private Printing, 1956), 81-2:

October, 1891--Rain followed the experiments of Frank Melbourne;
 December, 1891--Artificial Rain Company, "dickering" with Goodland, Kansas, for the right of making rain;
 May, 1892--The Swisher Rain Company, signed a contract to furnish rainfall at San Pedro, Mexico (\$30,000);
 June, 1892--Swisher Rain Company, given credit for heavy rain at Goodland;
 August, 1892--Frank Melbourne received \$1,000 for one half inch of rain at Fort Scott, Kansas;
 May, 1893--Wellington, Winfield, South Haven, Arkansas City, and Newton, Kansas, were bombarded with cannons and explosives for two hours--received the heaviest rain in ten months.

⁵⁰Topeka (Kansas) Journal, July 25, 1940.

witness to the rainmaking hysteria of the late nineteenth century, suggested that superstition failed to motivate semiarid settlers to believe in the magical skills of roaming bands of rainmakers. Rather, their belief documented their faith in Providence.⁵¹

The ultimate panacea for dry-land farming appeared in the twentieth century when the scientific community sought to alter crops through hybridization rather than altering the climate of the semiarid belt. Individual homesteads gave way to progress in the area as farmers converted small holdings into vast acreages numbering their acquisitions by sections rather than by acres. As such developments occurred, Kansas farmers relinquished their belief in romantic weather fables.

⁵¹Chicago (Illinois) Herald, August 18, 1894.

CHAPTER VI

FAITH AND FORTUNE:

RAINMAKING IN KANSAS WITHIN A ROMANTIC PERSPECTIVE

The fictionalized hope, held by Kansas agriculturists, of creating rain artificially in the semiarid belt during the nineties was neither new nor unique. Rainmaking continued as an extension of agricultural myths based, in part, on the premise that Providence held the yeoman in special esteem. Indeed, the basis for such a concept assumed that man had been granted dominion over the elements and therefore he had the capacity to alter the climate as agricultural needs, in the semiarid region dictated. Such a romanticized conception of the agriculturalist, therefore, served as a stimulant for westward migration into the trans-Mississippi plains.

The optimism of late nineteenth century Kansas immigrants, relative to the agricultural potential in the former "desert," reinforced itself through widely accepted beliefs. Some agriculturists universally placed their faith in rain following the plow. Still others believed the Kansas climate would become more moderate and conducive to farming through settle-

ment. Cultivation of the soil, some suggested, would substantially alter the semiarid environment. Editors offered the opinion that Kansas would ultimately become a garden because of the unalterable laws of Nature. Finally, many scientists and agriculturists agreed that rainfall would increase through the cultivation of forests, widespread adaptation of crops, and the utilization of dry farming techniques.

As land became available in Kansas following the passage of the Homestead Act in 1862, scores of eastern settlers gravitated to the semiarid belt, drawn there by optimistic--yet unfounded--hopes that their presence coupled with their relationship to what Jefferson referred to as Nature's God would insure agricultural success. Kansas newspapers, State agricultural societies, popular periodicals, and promotional literature, as well as the reports of federal agencies, all strongly suggested the widespread circulation and public acceptance of various theories that the Kansas climate had moderated substantially in the late nineteenth century and that agricultural bonanza for farmers lay in the near future.

The diaries of Elam Bartholomew, a native Pennsylvanian, who as a child moved with his family to the Ohio and Illinois frontiers before migrating to Kansas as a youthful school

teacher in 1874, typify the nineteenth century agriculturist in Kansas in at least two respects. They reflect the migration of farmers from Eastern frontiers to Kansas, as well as the dependence of homesteaders upon rainfall for their very survival. Bartholomew notes in his entry for March 16, 1874, "Having made up my mind to go to Stockton, Rooks Co., Kansas, as a place of future residence . . . I spent the a.m. in packing my personal effects."¹ After a rigorous journey to Kansas by rail Bartholomew recorded, on different occasions, his awe of the semiarid summer: "Exceedingly hot weather," "it still being exceedingly hot," "It being intensely hot these four days."² Although mildly traumatized by weather patterns more erratic than those of Illinois, Bartholomew, nevertheless, remained in Kansas, his optimism largely sustained by his religious faith. He wrote of his frequent church attendance for services, singings, meetings and social gatherings. On November 25, the settler noted "an excellent sermon by Mr. Bracken on 'The Joys of Heaven,' from Psalm/s/7

¹Elam Bartholomew Diaries, Kansas State Historical Society, Topeka, Kansas, I (1871-1876), hereafter cited as Bartholomew Diary.

²June 3, 1874, June 7, 1874, and June 21, 1874, in Bartholomew Diary, I.

16:11 'In the presence is fullness of joy at the right hand there are pleasures for evermore.'"³

Somewhat more revealing are the diaries of Thomas Andrew Bone for they bristle with references to weather, crops, hopes for agricultural success in the future, and the notations of his family's involvement in church.⁴ Concern with the weather and its relationship to his crops also occupied Bone's mind: "weather warmer," and "first rain of the spring," exemplify the farmer's entries.⁵ Likewise, Bone's diaries attest to his involvement in the local church.⁶

Even more succinctly, Charles A. Thresher's diaries described the plight of the nineteenth century Kansas farmer, his concern with the environment, his avid optimism for the region, and his faith in Providence. Few diary entries bet-

³Ibid. Bartholomew noted the "very large congregation" upon Sundays in which he attended a local Presbyterian church.

⁴Thomas Andrew Bone Diaries, 3 vols., (1851-1911) Kansas State Historical Society, Topeka, Kansas, hereafter cited as Bone Diary.

⁵Bone Diary, II, January 13, 1877; April 6, 1879. A perusal of Bone's notations reveal an avid concern with rainfall, see entries, for example, March 14, March 16, and March 21, 1879.

⁶Ibid. For example see entries for March 2, 1879, March 9, 1879, March 16, 1879, and March 23, 1879. A typically revealing comment is ". . . went to Sunday School quite a good number in attendance," March 23, 1879.

ween 1871 and 1879 failed to mention the weather. On May 8, 1871, Thresher noted, "rains . . . will do good"; and in late summer of the same year, he entered the notation, "heavy rain every night."⁷ Displaying a consciousness of the erratic weather, Thresher also revealed the insight of his total dependence upon "good weather," i.e., rainfall for his agricultural survival: "RAIN . . . awful big rain--7 inches fell last night."⁸

Frequently, "RAIN RAIN," written in large letters dominate the page as Thresher expressed his exultation for the downpour.⁹ Confident of the improvement in the climate of Kansas, Thresher wrote on July 23, 1889, "RAIN RAIN never a july in Ks like this in 30 years past."¹⁰ Most revealing

⁷Charles A. Thresher Diaries, (1871-1879), Kansas State Historical Society, Topeka. Hereafter cited as Thresher Diary. August 2, 1871.

⁸Thresher Diary, August 10, 1889.

⁹Ibid., August 10, 1889. See entries for the 9, 14, 15, 16 of July, 1889. Also the word "RAIN" printed to itself as the notation for January 15, 1889. Many notations by Thresher are exclusively weather assessments, see February 27, 1889, March 31, 1889, as typical examples of his weather concerns. Often when the word "RAIN" is imprinted upon the page for emphasis, it is obvious that Thresher pressed his pencil more firmly upon the page. See the entry for May 12, 1889.

¹⁰Ibid., July 23, 1889.

is Thresher's final entry for a given year, labeled "Retrospect."¹¹ At the close of 1881, the settler reviewed his labor and observed: ". . . corn about 7 or 8 bushels to the acre--had to sacrifice my stock of hogs--in fact fell in rears . . . borrowed 150. on the house." For Thresher, 1885 improved agriculturally, "A good year--crops fair . . . health ordinarily good - Good revival meetings . . . our children joined the Church." Two years later Thresher expressed his thanks for the family's health and added, ". . . very poor crops and raised little or no corn--and cattle almost no sale at all. Yet homes are fair or better than might be expected." The Thresher family enjoyed both good health and crops in 1889, but the crucial year 1890 contained no mention of harvests. The drouth of 1890 and 1891 took its toll on Thresher as he reviewed the year, "Crops--half crop of corn--oats a failure. Wet spring . . . dry season afterward . . . health variable . . . close times."

Although the diaries revealed the daily hardships of nineteenth century Kansas farmers as well as their concern for rainfall and weather, diaries were for individual consumption and reflection. In contrast, letters of Kansans

¹¹Ibid., "Retrospect" for 1881, 1885, 1887, 1889, 1890, and 1891.

mailed to eastern relatives and friends were available to those contemplating a move to the Jayhawk State. In this sense the letters of Dr. Louis Watson, writing from Ellis County to his mother in Illinois, are most revealing.¹² In July, 1871, Watson wrote, "Nothing suffers from the want of rain" Commenting upon the number of settlers coming to the State in 1873 Watson claimed, "Ellis County has been growing considerably and there are quite a number of decent people here."¹³ The following year the frontier doctor noted the effect Kansas had upon the health of settlers: "The plains are very healthy and with little population 4 or 500 of our town it would be supposed that there would not be sufficient business to support me."¹⁴ He added, as if to emphasize his enthrallment with the semiarid belt, "I like it as well as I should in eastern Kansas and probably are more contented than I should now be at Quincy."¹⁵

¹²Letters of Dr. Louis Watson to his mother in the P.J. Jennings Papers, Kansas State Historical Society, Topeka.

¹³Watson to Mother, Ellis County, Kansas, Jennings Papers, July 17, 1871 and December 22, 1873.

¹⁴Ibid., December 12, 1874.

¹⁵Ibid.

Watson emphasized his faith in the future agricultural potential of western Kansas. In the summer of 1875 he penned a note to Illinois in which he emphasized that there "has been sufficient rain this spring to make all sorts of crops thrive and everything looks well." In the fall of 1875 Watson elaborated upon his assessment recorded in earlier letters:

Crops this year have been very good. The soil is rich . . . this country would beat Illinois in many farm products. The plains or prairies (for they are as much prairies as the . . . country of Illinois) are changing as respects their vegetation. 'Buffalo grass' is passing away and other grasses replacing it.

I firmly believe that within a few years here, 300 miles west of the Missouri River, many agricultural products will be bountifully produced.¹⁶

Beyond such personal letters, promotional literature published in the form of immigrant guides by individuals, state agencies and railroads fostered greater hopes among potential settlers for agricultural success than newspapers, periodicals, or books. The guide, Kansas As She Is, an example of such literature, emblazoned upon its frontpiece "Free Homesteads in the Garden of the World." If such a phrase failed to capture the imagination of the potential

¹⁶Ibid., June 8, 1875, October 29, 1875.

Kansan, the rhetoric found inside its pages would surely lure them:

The homestead act throws open to settlers thousands of acres of unoccupied land in Kansas - a gift from the government to the poor. No other country under the sun offers such inducements to the toiling masses and enables her citizens 'without money and without price,' to become independent lords of the soil.¹⁷

According to Kansas As She Is, incoming settlers could expect "great harvests," "bountiful yields," and "liberal prices."¹⁸ Such forecasts, fostering extremely optimistic and mythological conceptions of agricultural potential, paralleled glowing assessments of the State's semiarid environment:

The climate of Kansas is, without exception, the most desirable in the United States--it is better than that even of the same latitude, east of the Mississippi River.

Since the year 1860, the State has been blessed with an abundance of rain . . . The oldest inhabitants universally agree that the drouth of 1860 was the only one of consequence

¹⁷Kansas As She Is: The Greatest Fruit, Stock and Grain Country in the World (Lawrence, Kansas: Kansas Publishing Company, 1870), n.p.

¹⁸Ibid., 6.

that ever visited Kansas.¹⁹

The promotional work closed with the admonition that "God might have made prettier country than Kansas, but never did."²⁰

Other guides, ostensibly published to aid eastern farmer contemplating a move to Kansas, reinforced the glowing statements found in Kansas As She Is. The Kansas Guide, published in 1871, alluded to fictionalized concepts of "get-rich-quick" agricultural panaceas and excerpted descriptions

¹⁹Ibid., 8. The publishers mythically suggested that Kansas was the "Mecca of the young man's hopes, the place of all others where the poor man can achieve a competence and independence and rise to usefulness and honored citizenship," 26-27.

²⁰Ibid., 62. Also see W.H. Emory, Notes of A Military Reconnaissance from Fort Leavenworth in Missouri, to San Diego in California Including Parts of the Arkansas, Del Norte, and Gila Rivers (Washington: Wendell and Benthuyssen, Printer, 1848), in which early descriptions of climate, topography, and fauna resemble the glowing assessments published decades later. In addition see Percy G. Ebbutt, Emigrant Life in Kansas (London: Swan Sonnenschein and Company, 1886); John W. Scott (land commissioner with the L.L. and G.R.R.) Homes for All and How to Secure Them: A Guide to the Leavenworth, Lawrence and Galveston Railroad and Its Land in Southern Kansas (Lawrence, Kansas: Spirit of Kansas Print, n.d.), 4; Northern Kansas Immigration Association, The Advantages Northern Kansas Offers to Homeseekers and Land-Buyers (Kansas City, Missouri: Press of Ramsey, Millett and Hudson, 1888); M.H. Leonard, "Southwestern Kansas Seen With Eastern Eyes," Atlantic Monthly (July, 1885), 101-8; Joseph Copley, Colorado and Its Relations to Kansas (Lawrence, Kansas: n.p., 1873); and Wayne Griswold, M.D., Kansas Her Resources and Developments or the Kansas Pilot Giving a Direct Road to Homes for Everybody also the Effect of Latitudes on Life Locations, With Important Facts for All European Immigrants (Cincinnati: Robert Clarke and Company, 1871).

of the State from other sources: "We warm toward Kansas whenever we hear the name spoken," suggested the Massachusetts Ploughman. The New England Farmer relegated its remarks to succinct descriptions of wise immigrants seeking land beyond the Missouri River. "Not less than a thousand immigrants a day," continued the Farmer, "have been finding homes in Kansas during the fall of 1870, and this flowing still continues even into the winter."²¹

In Kansas As It Is, L.D. Burch eloquently compared the semiarid region to "the plains of Lombardy" adding that Kansas soon would become "as lovely as the fabled Eden." In his words settlers moving into Kansas could expect a land where "the sunlight falls upon it matchless landscapes as softly as upon the limpid waves of Naples Bay . . . It is," Burch continued, "something to live in a land where Apollo

²¹George W. Hamblin, The Kansas Guide. Facts and Practical Suggestions to Those who Intend Seeking New Homes in the "Far West" (Ottawa, Kansas: George W. Hamblin, 1871), 4, 5. See also F.G. Adams, The Homestead Guide Describing the Great Homestead Region in Kansas and Nebraska and Containing the Homestead, Preemption and Timber Bounty Laws and a Map of the Country Described (Waterville, Kansas: F.G. Adams Compiler and Publisher, 1873). Adams' Kansas Guide included frequent references to settlers who came to the State and subsequently, through hard work and application of industry, improved themselves monetarily. "The facts are," Adams insisted, "that a man with proper notions of life, and with a disposition to be industrious and frugal, can better himself by going west," 30.

may tend flocks on the hills and Sappho turn dairy-maid, singing her sweet songs in the shadows of the blue mounds."²² Burch urged his readers to join those settlers who had decided to seek their agricultural fortunes in Kansas. "How instinctively everything moves westward," admonished Burch, ". . . out of the West comes life."²³

In assessments of the State compatible with those of Burch, Frederick Collins in Kansas!, published in the mid-eighties, referred in his preface to the State as "the garden of the world." He reminded Eastern readers of what fortune lay in the future for them should they decide to homestead beyond the Missouri River. In Collins' opinion, "God never favored man with a fairer land, richer plains, more fertile valleys, clearer skies, a more genial climate, greater promise of such unparalleled advantages."²⁴

²²L.D. Burch, Kansas As It Is, A Complete Review of the Resources, Advantages and Drawbacks of the Great Central State. (Chicago: C.S. Burch and Company, 1878), 141.

²³Ibid.

²⁴Frederick Collins, Kansas! Information Relating to its Location, Extent, General Surface Feature, Population, Farm, Crop and Livestock Statistics, Mineral Resources, Vacant Public Lands, Schools, Churches, Manufactures, Assessed Valuation, Etc., Etc., Etc. (Belleville, Kansas, n.p., 1885-1886), n.p. Collins suggested in his "guide" that his compilation of data was taken from "a Report of the Kansas State Board of Agriculture," n.p. A contemporary writer observed that such "guides" were "published and broadcast through the country, painting Kansas as the Paradise of farmers."

Promotional literature published by the Union Pacific Railroad, designed to capture the migrating fancy of potential emigrants in the East, contained glowing accounts of an agricultural paradise included in immigrant guides, but it stressed that the Kansas climate offered greater farming opportunities. "The climate in these parts," in the testimonial of a Saline County settler, "has been materially modified in the past few years by some cause" Another Kansan stressed that tornadic and cyclonic storms had diminished in regularity and that "We now have rain without thunder and lightning."²⁵ Jeff Jenkins, in The Northern Tier, agreed with settlers, promoters, newspaper editors, State agricultural publications, and college professors relative to a substantial and lasting alteration of the Kansas climate. "The hot winds," wrote Jenkins, "and occasional drouths that were observed before the country was settled are things of the past."²⁶ In The Homestead Guide, Adams agreed with his contemporaries and elaborated that "The fall of moisture on the plains is steadily

²⁵B. McAllaster, Kansas. The Golden Belt Lands Along the Line of the U.P.R.R. (Kansas City, Missouri: n.p., n.d.),

²⁶Jeff Jenkins, The Northern Tier: or Life Among the Homestead Settlers. (Topeka, Kansas: Geo. W. Martin, Kansas Publishing House, 1880), 32-33.

on the increase . . . as cultivation and tree-growing advance, and as the Indian, the buffalo and the prairie fires cease to prevail."²⁷

Literature extolling Kansas as an Eden with abundant rainfall made an impact upon those easterners willing to believe the rhetoric. The journalist Horace Greeley noted in the New York Tribune the degree of acceptance in the popular mind of the emerging agricultural mythology. "Settlers are pouring into . . . Kansas by carloads, wagon loads, horse loads, daily," he reasoned, "because the fertility of her soil, the geniality of her climate, her admirable diversity of prairie and timber, the abundance of her living streams, and the marvelous facility wherewith homesteads may be created."²⁸

Moreover, the publicity afforded Kansas' fruit for "the largest and best display . . . unequalled in size and beauty,"²⁹

²⁷F.G. Adams, The Homestead Guide, 41.

²⁸New York Tribune October 9, 1870, in D.W. Wilder, Annals of Kansas (Topeka, Kansas: T. Dwight Thacher, Kansas Publishing House, 1886.)

²⁹Ibid., 551. The St. Louis Fair, 1871, awarded the State "a diploma for the best exhibition of apples"; the New England fair, also in 1871, recognized Kansas "for its display of fruit;" and the Pennsylvania Horticultural Society awarded Kansas farmers "a silver medal for fruit." In Annals, 552. Some five years later, at the Centennial in Philadelphia, Kansas fruit was "awarded the first premium." Annals, 724. The Burlington (Kansas) Patriot, May 1, 1885, noted that Kansas agriculture had made an outstanding showing at the World's Fair.

by the American Pomological Society at Richmond, Virginia, in 1871 added to the State's agricultural mystique. Indeed, such notoriety for horticultural accomplishments led one publication in 1879 to exclaim: "The whole of the East, and North and Northwest was on the alert. It was wild to go to Kansas⁷." ³⁰ Former President Ulysses S. Grant joined those praising Kansas by appearing for a July 4th speech at Emporia in 1880. Typical of such speeches the Civil War hero roared to an enthusiastic crowd of Jayhawkers that "in our whole beautiful country we have none that looks to be more productive than the very land I see around me here."³¹ An optimistic assessment of Kansas by the eminent journalist Greeley and the endorsement of the agricultural potential of Kansas by the

³⁰Commonwealth (October 17, 1879), in Annals, 860.

³¹Annals, 884. Grant joined the chorus of praise lifted to Kansas agricultural virtues. "Western Kansas," wrote a nineteenth century author, "has one of the most genial and pleasant climates, all the year round, of any section of the United States. Owing to this salubrious climate the health of the people is most excellent. Epidemics seldom occur. The diseased become robust and strong. The native consumptive is unknown. Catarrh is extirpated. The hope stimulated by health stimulates and exhilarates all the people." See Dr. W.A. Yingling, Westward or Central Kansas (Ness City, Kansas: Star Printing Company, 1890), 11. Jeff Jenkins in The Northern Tier described the Kansas Climate as possessing "vernal beauty, enlivened with refreshing showers and sunshine." He added that the State's environment, as a result was "invigorating," "healthy and inviting," 32.

man who had preserved the Union led Jenkins to assert in his Northern Tier that it "was only natural for those in thickly-settled New England and Middle States, surrounded with facilities for comfort and luxury, to imagine that a homestead settler, by procuring a quarter section of land for a mere nominal sum, in the midst of an extensive prairie, surrounded by nature's embellishments, was a fortunate being who with a few days' labor could convert his new possession into a garden of beauty and fields of plenty." This temptation, in Jenkins' view, induced "the landless in the east to make the trial by the gratuitous advice of friends, and elaborate articles in newspapers, culminating in the memorable words of a . . . journalist, 'go West!'"³² Some years earlier journalist Frederick Lockley wrote from a similar perspective about the migration to Kansas: "There is no doubt that a large share of the many thousands who are flocking into Kansas have their minds filled with exaggerated ideas of the profitable chances that await them."³³

³²Jenkins, Northern Tier, 85.

³³Lakeside Monthly, (1871), 199. Lockley, as others, stimulated the desire among easterners to homestead in Kansas when he offered the opinion that "A hardy and industrious settler can here [Kansas] find an ample farm within his means of purchase; and what future enhancement of values results from increased population, serves to reward him for the privations and exposure of his early years," 201.

Still, the most eloquent description of Kansas, its people, and their success "in the garden," emerge in Jeff Jenkins' Northern Tier. For example, Jenkins carefully paraphrased the words of a sermon delivered by Rev. Romulus Pintus Westlake:

The honest laborer and Christian who 'hews to the line,' and makes society better and happier, and causes the light of civilization to penetrate the wilderness, thus dispelling the gloom of ignorance and barbarism, and causes Christianity to speak its genial rays over the world, may truly be classed as Nature's noblemen . . . whose energy and enterprise have caused the rose to blossom upon the desert waste, beautified the forest wilds and gathered the splendors of the valley into the storehouse of usefulness.³⁴

Jenkins referred to the invincible spirit among newly settled homesteaders and their burning desire, sometimes amid temporary privation, to extend "a desirable civilization into the wilderness." Moreover, the writer had himself observed the conversion of "waste places" in northern Kansas into "fields of plenty." In words similar to those used by other writers, Jenkins utilized symbolic language, pregnant with meaning to eastern minds, as he, too, suggested Kansans daily created an agricultural utopia in which the landscape blossomed "like a

³⁴Jeff Jenkins, The Northern Tier, 103.

garden."³⁵ Indeed, a garden was attainable because to Jenkins, the terrain revealed an extremely rich soil "checkered with . . . meandering streams of pure water," while uncultivated sod anticipating the settler's plow, "was covered . . . with nutritious grasses."³⁶ Jenkins' agricultural hero, performing heroic deeds as he transformed the desert into a garden, symbolized "the sun-burned settler, clad in his home-made raiment," who daily laid "the foundations of a high civilization."³⁷

Letters sent to Governor George Anthony by easterners considering homesteading in Kansas revealed that optimistic assessments of Kansas had penetrated the minds of the eastern populace. A letter from Pennsylvania typified eastern inquiries and suggested that "20-25 families" would, in the near future, homestead in Kansas.³⁸ Similarly, A.W. Tourgee of New York

³⁵Ibid., 151. Jenkins' words as others' had to have popular appeal to a landless easterner, or to a debt-ridden farmer looking eagerly to the West. "The prospect of a home unburdened with rent," Jenkins emphasized, "and unincumbered with debt and mortgage; the future prospect of schools and churches, the noble impulse to establish the nucleus of civilization . . . in which the healthful breeze would fan the brows of a free people . . ." Ibid., 17.

³⁶Ibid. 32.

³⁷Ibid., 21.

³⁸Papers of Governor George Anthony, Incoming Correspondence (1877-1879), Box 3, Kansas State Historical Society, Topeka, hereafter cited as Anthony Papers.

informed Anthony that he desired land in Kansas because he wished "to go where [1] can find free schools and free men."³⁹ From Belleville, Illinois, a prospective settler wrote that he should expect "thirty or forty families" to homestead in the State in the near future.⁴⁰ Additional prospective settlers participated in forming colonies to enter the State. A. Copley, representative of such colonizers, wrote Anthony seeking the Governor's aid in selecting the site for a colony when he arrived.⁴¹ Materials published by the State Board of Agriculture impressed one prospect contemplating a Kansas homestead: "I am thinking," wrote the easterner, "about emigrating to Kansas with a half dozen other people and in looking at the matter I have seen 'The Report of the State Board of Agriculture for 1875.' That contains a great deal of information I [can] use."⁴² "We have," wrote V.C. Taylor from Cleveland, Ohio, "a great many people in our city who are thinking of emigrating

³⁹A.W. Tourgee to Anthony, New York, June 8, 1877, Anthony Papers.

⁴⁰Simon Peter to Anthony, Belleville, Illinois, January 13, 1878, Ibid.

⁴¹A. Copley to Anthony, November 28, 1877, Ibid.

⁴²F.H. Fuller to Anthony, Albany, New York, November 5, 1877, Ibid.

to your State and there is not a day passes but what I am inquired of if I know what kind of land there is in such a country as Kansas."⁴³

From New York City, C.R. Parmele informed Anthony that he had wished for years to migrate to Kansas. The Jayhawk State, Parmele confessed, loomed even more attractive for him because of the "fine display . . . made at the Centennial." Edgar Eddy ⁴⁴ wrote a relative in Kansas, George Leslie Eddy, November 25, 1877: "Hod talks about coming to Kansas." Earlier, in April 1877, Edgar again wrote to George Leslie

⁴³V.C. Taylor to Anthony, Cleveland, Ohio, January 14, 1878, Ibid.

⁴⁴C.R. Parmele to Anthony, New York City, New York, June 25, 1878, Ibid. H.H. Forbes in Bolton, Connecticut, wrote Anthony that he wished to read more material on the future prospects of the State: "I am contemplating going West . . . send me a descriptive catalogue" H.H. Forbes to Governor George Anthony, May 16, 1878. The Eddy Correspondence is contained in a private collection, The Eddy Papers, in the possession of John L. and Margaret Eddy, Neodesha, Kansas. This writer is indebted to them for giving him permission to peruse them. The letters contain many references to friends and relatives who were in the process of making the lengthy journey from New York to Kansas. Subsequent Kansas governors received considerable amounts of mail from eastern residents who expressed their desire to homestead in the State. See the George Glick Papers (1883-1885), Incoming Correspondence, Kansas State Historical Society, Topeka; see also the John St. John Papers (1879-1883), Correspondence Received, Kansas State Historical Society, Topeka; finally, the Harry E. Kelley Papers, Kansas State Historical Society, Topeka, reveal similar letters from the East.

Eddy from Broken Straw, New York, asking if his cousin was "bound to stay out there [In Kansas] and get rich? There is quite a number gone from Panama [New York] to Kansas this Spring. Dr. J.C. Lewis went last Monday and Eugene Butler, Luly Rundall's man and some others up on the town line road." Beyond such letters, didactic poetry fostered the mythical imageries of peaceful pastoral scenes. Poetry reinforced the prevailing assessments of other writers for it appealed to the heroic conception of farmers conjured in the popular mind. W.A. Yingling, in his guide for immigrants entitled Westward or Central Kansas, included a poem filled with vivid imagery:

Verdant wheatfields stretching southward
 Fruitful orchards east and west;
 Not a spot in all the prairies
 That the spring-time has not blessed;
 Every field a smiling promise,
 Every home an Eden fair;
 And the angels-Peace and Plenty-
 Strewing blessings everywhere.⁴⁵

Similarly, E.P. Ford, in Kansas, beckoned the easterner to the State in the final stanza of the poem, "Kansas:" "We invite the honest toiler to this garden spot of earth." He urged the intrepid victim in the East to abandon his:

⁴⁵W.A. Yingling, Westward or Central Kansas, 23.

Sterile hillsides,
 Pulling roots and picking stones
 See this land of milk and honey,
 Leave the hillsides to the drones.

We have room for brawn, and brain,
 And for energy galore;
 And tho thousands now are coming
 There is room for thousands more.⁴⁶

Joel Moody in "The Song of Kansas " praised the State's climate and its citizenry. In the last stanza he described what the future immigrants could expect to attain should they choose a Kansas homestead:

Husbands and wives and little ones,
 Are kings and queens on Kansas soil,-
 Their empire rests secure from broil,-
 And here in peaceful life they toil,
 And raise for liberty her sons.⁴⁷

Few poems, perhaps, possessed the capacity to stir the imagination of potential homesteaders in the nineteenth century more than Eugene Ware's "Ironquill." Ware alluded to a mythical prehistoric age in the initial stanza drawing

⁴⁶E.P. Ford, Kansas: Its History, Resources and Prospects (Wichita, Kansas: Eagle Printing House, 1890), n.p.

⁴⁷Moody, however, recognized the difficult life in store for settlers. He wrote in an additional stanza:

What though their humble life be hard!
 What though their humble house be sod!
 They bend no knee to tyrant's nod;
 There they may live and worship God,
 And love shall never be debarred.

See Joel Moody, The Song of Kansas and Other Poems (Topeka, Kansas: George W. Crane Company, 1890), 83.

the reader's imagination toward the dawn of creation. Cadmus roamed the earth, the author suggested, in "days unknown." In an age in which the dormant plains remained unmolested from human encroachment, Cadmus planted the seeds of a future civilization. The Indians and the Spanish conquistadores failed to unlock the mysteries of the semiarid region, but then "Came the blue-eyed Saxon race/ And it bade the desert waken." In Ware's words:⁴⁸

And it /Saxon race/ bade the climate vary;
 And waiting no reply
 From the elements on high,
 It with ploughs besieged the sky-
 Vexed the heavens with the prairie.

⁴⁸Eugene Ware, "Ironquill," in D.W. Wilder, Annals, 1170. Lydia A. White had suggested a similarly symbolic and mythological process in her poem, "God Will Bless the Labors of the Plow," Wichita (Kansas) Eagle, April 23, 1874. The impact of the didactic poem is, perhaps, best expressed by a Kansas journalist: "During the year 1879, closing with August, not less than sixteen million acres of government lands were taken up by homestead entries alone, and fully fourteen million acres of new lands were sold to settlers. It is estimated that half a million people settled upon the new lands in 1878, and the number for the present year promises to be greater." Dodge City (Kansas) Times, April 10, 1879, typescript copy, Campbell Collection. For the determination of the stockholders and railroad executives to pass the land into the hands of actual settlers, see Second Annual Report of the Board of Directors of the Kansas Pacific Railway Company to the Stockholders for the Year Ending December 31, 1868 (New York: Baker and Godwin Printers, 1869), 1. The promotional literature published by various rail lines within the State contained, again, glowing estimates of agricultural bonanza and evidence that the climate of Kansas was improving and becoming more hospitable for farming.

Then the vitreous sky relented,
 And the unacquainted rain
 Fell upon the thirsty plain,
 Whence had gone the knights of Spain,
 Disappointed, discontented.

We have made the State of Kansas
 And today she stands complete . . .

Ware emphasized that the transformation of the desert had been dependent upon the Anglo Saxons, who with their plows had attacked the sky, demanding of Nature that it provide rainfall for the civilization to come. Such an epic spoke directly to a popular mind in the nineteenth century which accepted this literary form and blended it with what they considered to be the actual experience of semiarid settlers. Within this blurred vision of reality, mystical though it appeared, homesteaders and easterners as well accepted the rhetoric and romanticism as fact. Moreover, the slogan, "We have made the State of Kansas," was no longer an idle boast; but rather it projected a particular perception of reality--an acceptable mode of belief--to the nineteenth century mind. Similarly, a pioneer guidebook suggested, "You look around and whisper, 'I vanquished this wilderness and made the chaos pregnant with order and civilization . . .'"⁴⁹

⁴⁹Roderick Nash, "The American Wilderness," in From Conservation to Ecology, 8.

Ralph Waldo Emerson, in Nature, emphasized that "Nature is thoroughly mediate. It is made to serve It offers all its kingdoms to man as the raw material which he may mould into what is useful."⁵⁰ On another occasion, Emerson, in an essay entitled, "Farming," observed, "The farmer was the first man, and all historic nobility rests on his possession and use of the land." Emerson further inquired:⁵¹ "Who are the farmer's servants? . . . Geology and chemistry, the quarry of the air, the water of the brook, the lightning of the cloud, the castings of the worm, the plough of the frost." And he

⁵⁰Ralph Waldo Emerson, Nature (1868), in Leo Marx, Machine in the Garden, 231. The world, Emerson suggested, "becomes at last only a realized will, the double of the man," in William Hesselstine, "Four America Traditions," Journal of Southern History, XXVII (February, 1961), 21, is compatible with Emerson's views; see also the poem "Oh there is Good in Labor," in ibid., 19. In addition see American Journal of Science, XXVIII (1840), 276-97, in Leo Marx, Machine in the Garden, 196. To the scientific community, writer and poet, and the popular mind as well in the nineteenth century, "man . . . is indeed, lord of creation; and all nature, as though daily more sensible of the conquest, is progressively making less and less resistance to his dominion." Ibid.

⁵¹Ralph Waldo Emerson, "Farming," in Shirley D. Babbitt and Lowry C. Wimberley, eds., Essays on Agriculture (1921), 1, 5, 1. Emerson emphasized the role of the farmer in the mystical process of transforming land, devoid of agriculture, into productive farming regions. "The food which was not," wrote Emerson, "he/The farmer/causes to be." Ibid., 1. In addition see Robert E. Spiller, ed., Five Essays on Man and Nature: Emerson (Northbrook, Illinois: AHM Publishing Corporation, 1954).

continued by noting that "the profession has in all eyes its ancient charm, as standing nearest to God, the first cause."

Decades thereafter, L.H. Bailey, in The Outlook to Nature, essentially agreed with Emerson's wisdom recorded in "Farming." Bailey suggested that the farmer struggled in a state of Nature against what must have been seemingly insurmountable odds. "But day in and day out, year in and year out; sun and rain," Bailey wrote, "he [the farmer] stands by his plow and works out his own salvation. It is not mere dull work to follow the plow . . . if one is conscious of all the myriad forces that are set at work by the breaking of the furrow; . . . the free fields, the clean soil, the rain, the promise of crops."⁵²

The imagery of mystically unlocking the supernatural forces, previously untapped in the universe by the plow or

⁵² L.H. Bailey, The Outlook to Nature (New York: The Macmillan Company, 1905), 83, 159. Nineteenth century writers concerned with agricultural themes often refer to farming as a "conversion" or "salvation" experience. Leo Marx, in Machine in the Garden, observing such a trend in literature, has written: "The idea of the countryside as the appropriate site of the conversion experience is common to the Christian tradition and the romantic poets. It is the accepted convention of New England Calvinism. [Jonathan Edwards] describes the state of grace as making the soul 'like a field or garden of God, with all manner of pleasant flowers; all pleasant and undisturbed; enjoying a sweet calm and the gently vivifying beams of the sun,'" 232.

furrow, conjured to Bailey and conveyed to the popular mind, as well, the fabled process of rain dutifully following the plow. Such a premise had become to the Kansan and the potential Jayhawker in the East an unimpeachable dictum in the seventies and eighties. Indeed, as rainfall appeared in the semiarid belt seemingly beckoned by the settler's plow, one Dodge City newspaper predicted in 1879 that "we will be standing in fields bearing luxuriant growth--the tree, the vine, the flower to give shade and rest from a hard day's toil."⁵³ Similarly, the glowing rhetoric of Joel Moody, expressed in his poem, "Song of Kansas," conveyed and sustained allegorical truths while also dispelling "False signs to scare," or "eastern lies" occasionally cropping up among discerning

⁵³Dodge City (Kansas) Times, September 20, 1879, typescript copy, Box 94, Campbell Collection. "Morris Collar," according to the Times, "has cottonwood trees fully sixteen and twenty feet high and four and six inches in diameter. The growth of all kinds of trees has been wonderful," in Ibid., October 4, 1879. Many individuals of the nineteenth century assumed there was a relationship between soil fertility and the growth of trees. In addition to this concept the prevailing myth in the semiarid sector of the plains was that groves of trees would help modify and moderate the exigencies of the scant rainfall belt. Also see Ibid., September 9, 1879, in which the Times welcomed "the immigrants to a warm and cordial reception . . . and rich fields; where health and prosperity await the prudent and industrious. A few years will transform the bleak and cheerless waste into teeming fields and verdant groves." See Dodge City (Kansas) Times May 21; May 31; and June 18, 1878. Also see July 26, and September 29, 1879, for additional descriptions of Kansas agricultural experiences in "the land of the one hundredth meridian." Box 94, Campbell Collection.

critics of the State's agricultural potential. Admitting that the immigrant might be subjected at "crossings of old Indian trails" to scandalous untruths about crop failures, drouths, and storms, Moody, nevertheless, urged future homesteaders to follow the lead of the agrarian hero depicted in his poem. When faced with falsehoods, Moody's farmer became a militant farmer-activist:

At these the sturdy pioneer
 Leveled his axe; and with a stroke
 Cut down the lies; and then he broke
 The sod with plow and steers and woke
 The earth to grow his harvests here.⁵⁴

More importantly, as Eugene Ware suggested in "Ironquill," and as Lydia A. White expressed in "God Will Bless the Labors of the Plow," Moody, too, recognized the omnipotence or "the power of the plow" in the mystical but unfolding process of climate modification in the steady march of the pioneer toward the utopia of agricultural plenty. To accomplish the goal of productivity, Ware's farmer-heroes, "the blue-eyed Anglo Saxon race," had resorted to the weaponry of their plows in voicing their demand for rain from the heavens. Lydia A. White's agriculturist, however, refused to resort to such militancy; the possession of the plow by the farmer, and the

⁵⁴Joel Moody, "Song of Kansas," in Song of Kansas, 83.

thrusting of that instrument into the earth would by the force of that magical moment insure the blessings of Nature's God. Moody's hero-farmer, however, had to "set things straight" before he implemented the cosmic forces of climate alteration with his plow. The imagery of didactic poems, in the nineteenth century, from Emerson to Moody, had a great impact upon the popular mind.⁵⁵ The reception of such mythology,⁵⁶ through the written word, depended upon the willingness of thousands of potential immigrants to test the fictionalized conceptions of western Kansas--the mythical region responsible for spawning and sustaining the romantic concepts. The influx of immigrants the State received in the latter portion of the nineteenth century attested to the faith in romantic ideologies and became the primary indicator of the level of acceptance of fictionalized beliefs among the people. Stimulated by

⁵⁵Leo Marx, Machine in the Garden, 360.

⁵⁶". . . the association of America with idyllic places," according to Marx, "was destined to outlive Elizabethan fashions by at least two and one half centuries. It was not until late in the nineteenth century that this way of thinking about the New World lost its grip upon the imagination of Europe and America," Ibid., 40.

weather myths, the masses journeyed to Kansas. Once on the "semiarid soil," they put the existing concepts to the test.⁵⁷

Nineteenth century rainmaking efforts in Kansas thus emerge as the result of a complex pattern of agricultural myths. The basis for the faith of the settlers in rainmaking experiments began in the eighteenth century amid the philosophical concepts of Thomas Jefferson who stressed the virtue of farming and that those who chose it as a vocation were, in

⁵⁷Various writers have defined the word, myth. To F.O. Matthiessen, ". . . myths are collective dreams," in American Renaissance, 629; "Thomas Mann has said almost the same things about myth. He has called it a mode of celebrating life whereby the moment becomes infinitely larger than itself, and the individual existence escapes from its narrow bounds and finds sanction and consecration 'life in the myth, [in the words of Thomas Mann] life so to speak in quotation, is a kind of celebration, in that it becomes a religious art, the performance by a celebrant of a prescribed procedure; it becomes a feast. For a feast is an anniversary, a renewal of the past in the present,'" Ibid. Matthiessen also wrote: "Thoreau's major reason for valuing myth: the way it reveals the inevitable recurrence of the elemental human patterns," Ibid., 631. Marc Landy has insisted that "myths do more than communicate information; they foster catharsis," in "Country Music: the Melody of Dislocation," New South, XXVI (Winter, 1971), 68; to Leo Marx, in Machine in the Garden, myth is "a mode of belief," 142-43; finally, William V. Thomas suggests that myths become most meaningful as modes of belief when they are attacked by those who fail to share their belief. In Thomas's words, "Unwilling to endure the erosion of our myths, we suffer to defend them, since their collapse is a prelude to our own," "Literary Excursions into Death," The Chronicle of Higher Education, X (May 12, 1975), 10. This contemporary interpretation of mythology helps explain the tenacity of nineteenth century farmers who clung desperately to their beliefs.

turn, the "chosen people of God." Agriculturists were viewed as unique in their relationship to Providence and because of this linkage were granted dominion over the elements with the mystical power to alter the climate regardless of semiarid obstacles that might lay in their path to agricultural success. Fictionalized conceptions of the West and of agricultural potential were spread by journalists, speculators, early plains travelers, agriculturists, members of the scientific community, railroad advertisements and promotional literature, state and national agricultural and horticultural agencies, and a host of nineteenth century authors and poets.

As it became apparent to Kansas homesteaders that the climate in the sparse rainfall belt had not immediately moderated, homilies and simplicities relative to the State appeared regularly. Some clung to the idea that the climate changed, however imperceptibly, with settlement and, in spite of evidence suggesting otherwise, drouths became exceptions and past phenomena. Fluctuating and erratic weather patterns prevailed and new methods of cultivation arose as panaceas in exceptionally dry portions of the State. New homilies emerged as farmers toiled attuned to the slogans: "try harder," "wait 'til next year," "Tough it through!" Other agriculturists held to the concept that God blessed "the Labors of the Plow."

Many felt that inadequate rainfall could be effectively solved by planting trees in verdant groves throughout the State. Still others believed that with greater migration to Kansas rainfall would substantially increase.

Crop adaptation and new plowing methods were attempted to insure agricultural success in the eighties by farmers whose crops dried and withered in parched fields.⁵⁸ The advent of the "drouth of 1890" called for more effective measures to guarantee adequate rainfall for crops. Many Kansas farmers,

⁵⁸T.S. Eliot, in "The Waste Land," published in 1922, captured in another setting the pathos of hopelessness approaching that experienced by Kansas settlers decades before:
 April is the cruellest month, breeding
 Lilacs out of the dead land, mixing
 Memory and desire, stirring
 Dull roots with Spring rain.

. . .
 What are the roots that clutch, what branches grow
 Out of this stony rubbish? Son of man,
 You cannot say, or guess, for you know only
 A heap of broken images, where the sun beats,
 And the dead tree gives no shelter, the cricket no relief,
 And the dry stone no sound of water.

. . .
 If there were the sound of water only
 Not the cicada
 And the dry grass singing
 But sound of water over a rock
 Where the hermit-thrush sings in the pine trees
 Drip drop drip drop drop drop drop
 But there is no water.

T.S. Eliot, The Waste Land and Other Poems (rev. ed. New York: Harcourt, Brace and World, Inc., 1962). 29, 30, 43.

therefore, accepted the mythical rainmaker who promised to beckon precipitation from the clouds and who became a charismatic and cosmic miracle worker. With his mystical machinations and drawing from a tradition which stressed that man could control the elements as agricultural needs so dictated, the rainmaker worked his magic--but to no avail. The agricultural mind of the nineteenth century had been prepared for his arrival.

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