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Article Summary: Nebraska irrigation began as an effort to adapt to a semiarid region prone to droughts. Water law developed in a single generation at the end of the nineteenth century, giving the state control of water distribution.

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Photographs / Images: chart showing departures from average annual precipitation in Nebraska, 1850-1989; William R Akers; Asa B Wood; map showing irrigation ditches in Scotts Bluff and Cheyenne Counties, 1894; Charles Purnell; broadside advertising 1896 irrigation convention in Lexington; C B Purdy

EL DORADO ON THE PLATTE:

The Development of Agricultural Irrigation and Water Law in Nebraska, 1860-1895

By Sam S. Kepfield

Irrigation was an indispensable element in the settlement of western Nebraska during the closing decades of the nineteenth century. In filling the public domain west of the 100th Meridian, European settlers encountered a land and climate quite unlike anything they had known in the wooded, humid eastern states. As successive waves of settlers attempted to build an agricultural society on the plains, largely staying with their old farming practices, they eventually saw irrigation as a necessity.

As the need to divert precious water from the sparse streams that crossed the plains became clearer, so did the need to adapt a legal system made irrelevant, even antidevelopmental, by geography. A system of water law that awarded eastern landholders rights simply because their land bordered a stream was inimical to creating a system of irrigation ditches to water plains homesteads. By the time settlers moved onto the plains in the 1850s, riparian rights had been altered by practice, but they were still found wanting. Plains settlers and lawmakers borrowed from miners in California in adopting the system of prior appropriation, which operated on a first-in-time, first-in-right principle.

Great Plains water law developed in response to variants in culture, space, and time. Irrigation is primarily an economic phenomenon, and as such the impact of culture on irrigation can be measured by the economic potential of an area, what

its inhabitants want to exploit, and what they can exploit.¹ Space as a factor is self-explanatory; the need for irrigation came about only as settlers crossed the 100th Meridian into a semiarid region prone to droughts. The interaction of culture and environment to produce a modern irrigation regime in fact and in law took place over a relatively short period, no more than a generation.

The climate of the Great Plains was a puzzle that settlers did not decipher until the mid-1890s. It is perhaps most helpful to characterize the region in terms of what it is not, rather than what it is. It is not a lush, humid grassland; neither is it an arid desert. Yet it is entirely possible for the Great Plains to take on either manifestation, at times in alternating years. It was this aspect of the semiarid climate that initially lured settlers onto the expanses of the Great Plains, and then destroyed their crops and their hopes.

In 1878 Major John Wesley Powell drew a line of demarcation at the 100th Meridian. West of the line, rainfall averaged less than twenty inches per year, and was insufficient to sustain agriculture without irrigation. To read Powell's statement that in the semiarid region "agriculture will not be uniformly successful from season to season . . . it may be doubted whether, on the whole, agriculture will prove remunerative" is to know, in a nutshell, the story of plains farming in the latter half of the nineteenth century.²

For centuries, droughts have occurred on the Great Plains every twenty years or so, as measured by tree-ring records taken from western Nebraska.³ A drought hit the plains around 1858, as settlement was getting underway, and lasted until 1866. De-

spite huge crop losses and reports of famine in Kansas, land boosters and settlers who wanted to believe them saw the drought as an aberration.

Nevertheless, the drought was a fact, and some took steps to adapt. Washington M. Hinman, a Pennsylvania millwright who settled near the confluence of the North and South Platte rivers, built the first documented irrigation canal in Nebraska in March 1863, diverting water from the south bank of the Platte River six miles west of Fort McPherson. A year later, John Burke of nearby Cottonwood Springs built a canal below Hinman's. Both were abandoned after 1865, due to the Indian wars in the area. However, both men demonstrated the practicability of irrigating cropland during the 1863-64 growing seasons.⁴

After its founding as a city in 1866, North Platte briefly became a center for irrigation activity. In 1870 a group of businessmen organized the Lincoln County Ditch Company, and built a canal on the north bank of the Platte River three and a half miles west of the city. It ran northeast for half a mile and turned east for another three and one-half miles, to a point half a mile east of North Platte. It averaged two feet deep and three feet wide, could flood 13,000 acres of land, and cost all of \$600.⁵ Although used mainly for stock watering, it was rendered useless by increased precipitation in the late 1860s.

Meanwhile, soldiers at nearby Fort McPherson were building ditches to irrigate their post garden.⁶ In 1872 Fort Sidney soldiers constructed a canal on Lodgepole Creek to water the lawn and trees of the barracks and for a vegetable garden. They ran a small ditch around the parade grounds, and long after Fort Sidney was

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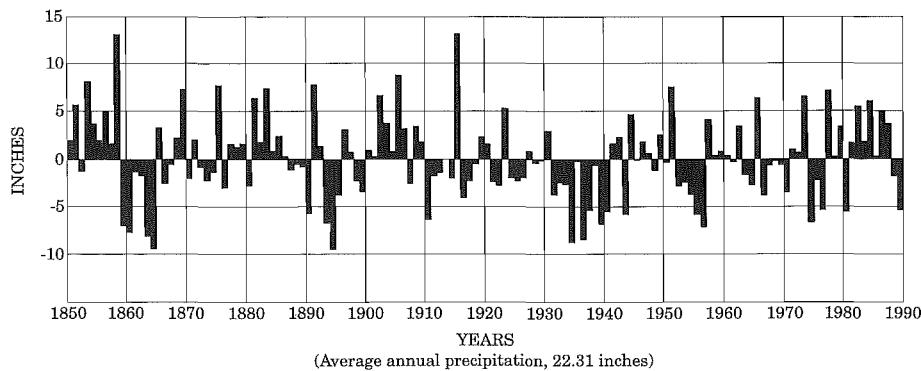
Irrigation in Nebraska

abandoned in 1894, rows of cottonwood and cedar lined the ditch routes.⁷ Because of their novelty, these early efforts had no effect on the Nebraska law of waters.

Irrigation lay quiescent for the 1870s and most of the 1880s. The brief drought that came in 1874 might have spurred more interest and activity, had it not been overshadowed by a plague of grasshoppers that lasted until 1877. After the grass-

lowest order was being pushed by then-renowned academics (Wilber was president of the Nebraska Academy of Sciences), and as such was given great credence.

However, both men were ascribing human causes to a wholly natural occurrence, the variability of the semiarid plains climate, lulling settlers into a false sense of security. Boosters for towns and the state



Annual Departures from Average Annual Precipitation in Nebraska, 1850-1989.

Courtesy of the Conservation and Survey Division, Institute of Agriculture and Natural Resources, University of Nebraska-Lincoln.

hoppers left, men became enamored of the notion that "rain follows the plow." Two Nebraskans, University of Nebraska professors Samuel Aughey and Charles Dana Wilber, were the most vocal proponents of this idea. Aughey argued that the disappearance of buffalo grass and its replacement by crops or eastern grasses, along with the planting of timber, was increasing rainfall on the plains. Aughey also wrote that the cultivation of the prairie sod increased its absorptive power (and, indirectly, precipitation).⁸

Wilber also held cultivation responsible for increasing rainfall. It changed the land from a "hot, dry surface to a cool, condensing surface." Moisture over tilled land would condense as dew and clouds, and not be blown away by hot winds. "The plow will go forward," he told the state horticultural society in 1879, "God speed the plow."⁹ Wilber also believed that electrical currents along railroad tracks and telegraph wires were providing a pathway to attract rainfall.¹⁰ What sounds today like pseudoscience of the

seized upon the works of Wilber and Aughey and incorporated them into promotional literature. Irrigation in the 1880s was not only seen as unnecessary, it was considered libelous to even suggest in print that parts of the state might require irrigation for successful husbandry.

The most prominent canal built during this period, the Kearney Canal, began in 1882 partly as an irrigation project. Boosterism, though, soon overtook agriculture, and the Kearney Canal was being touted as the means to build a modern industrial city on the plains, rivalling Minneapolis.¹¹ In 1890 the Great Kearney Boom collapsed, taking the canal with it.

The backers of the Kearney Canal did make one lasting contribution. Elisha Calkins, an investor in the canal and a state senator, successfully sponsored a bill in 1877 that recognized irrigation ditches as works of internal improvement. Calkins's bill also gave ditch companies the power to condemn land along their routes, much like railroad companies.¹²

Although the Union Pacific Railroad

reached the Nebraska-Wyoming border in 1867, it took another twenty years for settlement to catch up. Not until 1885 did freeholders begin claiming homesteads in the Nebraska Panhandle, along the North Platte River. Settlers drove out the cattle herds that dominated the public domain in the Panhandle with herd laws; townsites were platted, and claim shacks dotted the area by 1887.

The rapid expansion of settlement beyond the 100th Meridian in the 1880s laid the foundation for prolonging the crash to come. Railroads lured settlers to the western half of the state in huge numbers after 1885. Credit was easy, supplied by eastern financiers taking note of the boom in agricultural production as the nation recovered from the depression of the 1870s. Terms were generous, and those receiving credit were prone to extravagance, overinvestment, and speculation, with a consequent inflation in land values.

Unfortunately, the boom in agriculture and settlement coincided with the onset of another period of drought beyond the 100th Meridian. Mortgage payments came due and were foreclosed upon, leaving mortgage companies with near-worthless deeds, which in turn caused them to fail. The boom was clearly over. By 1888 appeals for relief, mainly seed grain, were crossing the desk of Governor John M. Thayer with increasing regularity from those who had stayed on their claims. Something more than relief and idle hopes for rain was needed.

There were no more astute observers of this fact than a small band of men who had taken up claims near Gering in Scotts Bluff County. Irrigation in the North Platte Valley began without fanfare in 1886, when B.F. Gentry borrowed a team of horses and a scraper and plowed a small furrow a mile and a half from Winters Creek to a patch of millet that was withering in the summer heat. Gentry claimed he was probably inspired by the ditch system at nearby Fort Sidney.¹³

The next year, William R. Akers arrived in the valley with several other men who followed him from Colorado. Akers had been born in Ohio, raised in Iowa, fought

in the Civil War and come out unscathed, and settled down to practice law near Fort Collins, Colorado, in 1872. Akers later served in the Colorado House of Representatives before moving to the Platte Valley in Wyoming in 1884.¹⁴ While in Colorado, Akers apparently picked up on the irrigation activity occurring in the South Platte Valley in the 1870s, the Union colony at Greeley the most famous, knowledge that he would apply to the Panhandle.

By September 1887 it was clear to Akers and his main partner, Charles W. Ford, that in the Panhandle nature would prove scant help in raising crops. On the sixteenth of that month, Akers and Ford posted a notice along the banks of the North Platte, one mile east of the Wyoming line, announcing their intention to divert water from the river. Ford rode one hundred miles on horseback to the county seat at Sidney to record the notice with the county clerk's office, and the Farmers' Canal Company was in business.¹⁵

Construction on the ditch began in March 1888. Short on cash, the shareholders of the Farmers' Canal Company picked bleached bones from the surrounding countryside for cash to purchase scrapers. By October 1890 they had finished ten miles of ditch, but before they could build more, undercapitalization forced them to sell the project to a group of eastern financiers.¹⁶ Despite this initial failure, Akers's greatest contributions to the irrigation movement in Nebraska were yet to come.

At the same time, a short distance away, another group of men gathered to begin another ditch company, this time with considerably more success. George W. Fairfield, a Plattsburgh surveyor, knew western Nebraska from working there in the 1870s; in 1885 he started a claims-locating business in Sidney while maintaining a homestead in the area near Scott's Bluffs. In December 1887 Fairfield assembled seven other men in his sod house to organize a ditch company. They lacked even the most basic start-up capital, but one man persuaded his wife to

loan the company \$60 secured on a mortgage note. It took an eight-day trip by mule team to Sterling, Colorado, to purchase used scrapers, but the Minatare Irrigation Ditch Company was in business.¹⁷

Work on the ditch began immediately, and by August 1888 it was complete. In an economy hard-pressed for specie, the shareholders purchased stock the only way they could, with their labor. To buy a



William R. Akers pioneered irrigation in the Scottsbluff area. (NSHS-L514)

\$200 water right, or acquire a \$100 share of stock (largely speculative in the early days), the directors allowed a person ten cents for each cubic yard of dirt moved, and paid those with horse teams \$4 a day. Similar methods were used to pay off the annual assessments for maintenance on the ditch; those who failed to perform their duties had their water shut off.¹⁸ It was Locke's value theory of labor brought to life on the frontier.

The success of the Minatare Irrigation Ditch Company quickly inspired others, and by the end of 1889 several other irrigation cooperatives had sprung up — the Winters Creek Canal Company, the Enterprise Ditch Company, the Castle Rock Irrigation Canal and Water Power Company, and the Chimney Rock Irrigation and

Power Company. They faced the same problems, met them in approximately the same way, and after a century, all of these early canals were still in operation.¹⁹ Because of their efforts, Scotts Bluff County in 1889 had more irrigators than any other county in Nebraska (seventy in all). It was third in irrigated acreage, with 2,753 acres, to 3,049 for Lincoln County and 3,154 acres for Cheyenne County.²⁰

The men behind these first irrigation companies were of a kind. In a raw, rough frontier area, they were about as close as one could get to an elite. Kansas historian C. Robert Haywood called them "the civilized element" in his study of cattle towns. They were the merchants and professionals who had chosen to go west, and initially found a fluid social structure, where they naturally gravitated towards the top. Active in local politics (usually, though not exclusively, Republican) as well as in business affairs, they presided over the social and political circles in the Panhandle about 1888.²¹

To them, starting an irrigation company to combat the drought was more than a practical response to a climatic fact. It was a means of civic and internal improvement, which would boost the nearby town and bring in more settlers, a pattern which was not confined to the Panhandle of Nebraska, or to irrigation companies.²²

The irrigationists found allies in councils of government. During the 1889 legislative session, Representative Henry St. Rayner of Sidney shepherded the state's first true irrigation law through the legislature. The Rayner law, as it became known, conferred the right to appropriate water for any useful or beneficial purpose. All that was required to obtain the right was that a notice be posted on the banks at the intended point of diversion, and a duplicate notice be filed in the county clerk's office. The law limited appropriators to as much water as was needed for good husbandry, and also provided that in time of scarcity, water could be apportioned among all appropriators regardless of their initial allotment.²³ Although not a pure appropriation statute, the Rayner law

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was the beginning of central administration of water rights in Nebraska.

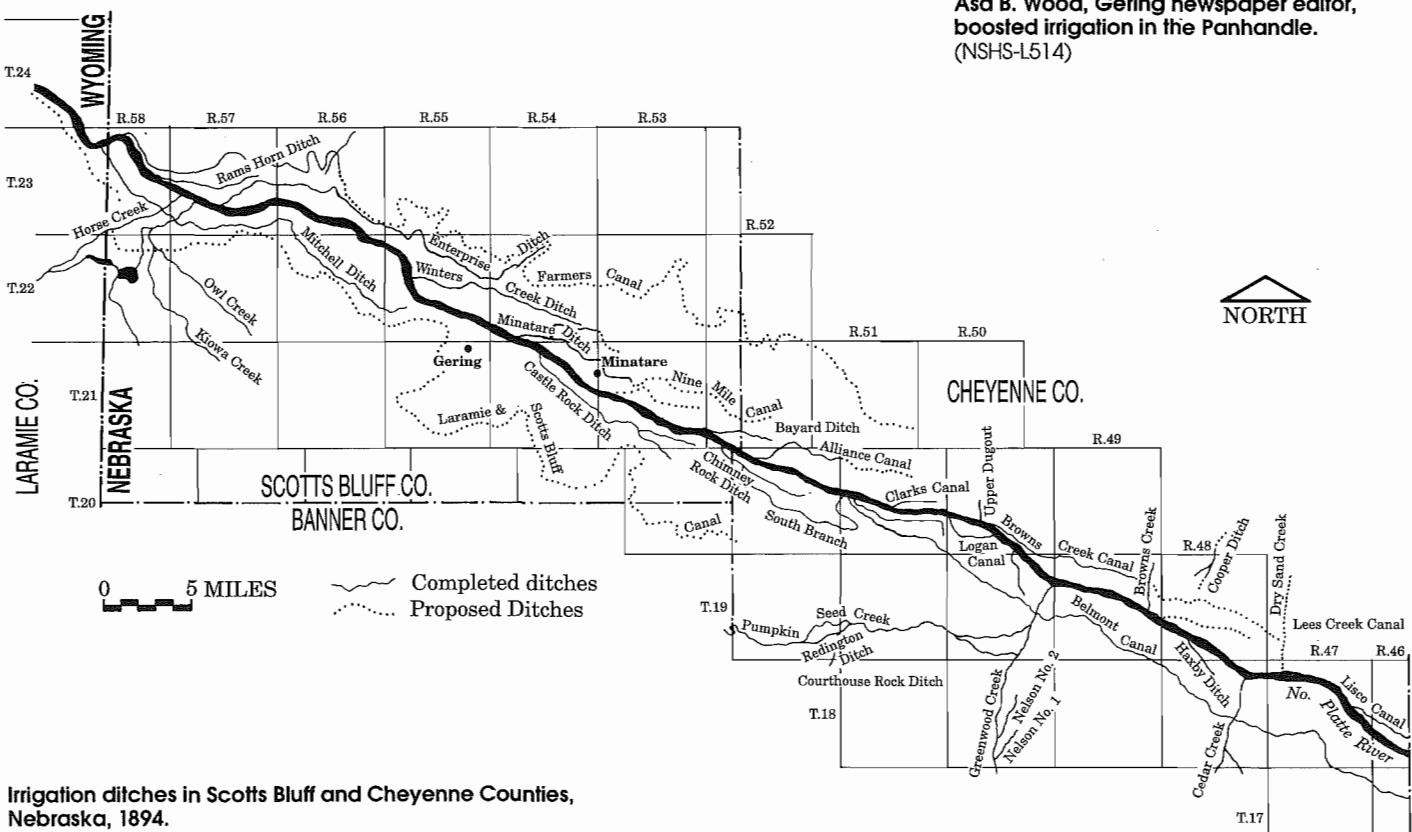
As irrigation became another facet of boosterism, it naturally attracted the attention of local editors. Gering, Nebraska, was the center of the irrigation movement in the Panhandle, and Asa B. Wood, who edited the *Gering Weekly Courier*, became one of its most strident advocates. As the boom was beginning, Wood published a letter in which the writer proclaimed the Gering area "the new El Dorado on the valley of the North Platte."²⁴ As more and more ditch companies were formed, Wood called for regular meetings for exchanging information on irrigation. In May 1889 Wood served as secretary to the first of what would become many irrigation meetings held in western Nebraska over the next five years, where farmers traded information garnered from their trial-and-error methods. They also heard William Akers speak of the possibilities of water power on the North Platte (a feat

that would have to await the Bureau of Reclamation three decades into the future).²⁵

Gering proved to be ahead of its time in 1889. Sixty miles to the south, in Sidney, the local paper declared that the planting of trees would render irrigation superfluous, at least temporarily.²⁶ It was a sentiment shared by state officials in eastern Nebraska, struggling to attract settlers to Nebraska (and away from Kansas or the Dakotas). To admit that irrigation was needed, or required, in one-half of the state would send the much-desired immigrants to other, less-honestly advertised spots. As things turned out, denying the need for irrigation caused more damage than an admission would have. The summer of 1890, the hottest on record, completed a disaster that had been building since 1885. Corn production plummeted from 149 million bushels in 1889 to 55 million bushels. With corn and other crops gone, and with little cash reserved, settlers



Asa B. Wood, Gering newspaper editor, boosted irrigation in the Panhandle.
(NSHS-L514)



who had arrived on the High Plains only a year or two earlier began leaving in droves.

Those who remained sent up a cry for relief supplies and seed grain, which charity did its best to fulfill. Beginning in November, the Nebraska State Relief Commission did its utmost to respond to reports of destitution from settlers west of the 100th Meridian. Generous donations from citizens across the nation failed to meet the demand, and the Nebraska Legislature was forced to vote \$100,000 in bonds for the purchase of relief supplies, and allow counties and townships to do the same.²⁷

Relief was an immediate, palliative response to the disaster that befell western farmers in 1890. The legislature also had before it a long-term, preventive measure in the form of H.R. 147. Introduced on January 19, 1891, by Populist Representative Charles Purnell of Perkins County, the bill was referred to Purnell's own Committee on Irrigation and remained there for nearly a month.²⁸ In its original form, H.R. 147 was little more than a lukewarm reworking of the 1889 Rayner law. Under H.R. 147, landowners could petition for the creation of an irrigation district. The district could then call elections for the issuance of bonds, and levy an assessment on all real property within its boundaries to pay them off.²⁹

In introducing H.R. 147, Purnell misread irrigation sentiment in the Panhandle. Led by William Ellsworth Smythe, a young Bostonian transplanted to Nebraska, the irrigationists began organizing in January 1891 with the purpose of passing an irrigation statute modeled on those of Colorado, Wyoming, and California. Smythe, a devotee of Horace Greeley, came west in 1889 to edit the *Kearney Enterprise*. After the Kearney Boom collapsed, along with the canal he championed, he left Kearney for Omaha. Smythe traveled through southwestern Nebraska in the summer of 1890 to visit a colleague in New Mexico. The sight of ruined crops and destitute farmers moved him to seek a solution, and he hit upon irrigation.

Smythe persuaded Edward Rosewater,

editor of the *Omaha Bee*, to let him write a series of articles expounding upon the need for irrigation, and with much reluctance, the request was granted. The series of seven articles began running on January 4, 1891, and officially launched the Great Irrigation Crusade. "The single greatest problem that concerns the development of Nebraska is the problem of irrigation," the first began.³⁰ In this, Smythe neatly captured the essence of the movement for the next five years.



Populist Charles Purnell's H.R. 147 was the first attempt to codify prior appropriation into state law. (NSHS-L514)

More than simply allowing farmers to survive droughts, the campaign for irrigation sought to enable them to remain and build a modern society that included agriculture as but one component. Opening the Turnerian "safety valve" would provide a vast new market for eastern goods and railroads, and could even serve as a model for community planning on a previously unimagined scale. Irrigation became as much a social movement as it was an engineering problem.³¹

It was, strictly speaking, not really a western solution at all. It viewed the plains as deficient in rainfall, a condition which could be cured only by the eastern-

minded expedient of augmenting the moisture level. Smythe and later irrigation disciples fell prey to subjective terminology that reflected an eastern, humid chauvinism. It did not ask, as did University of Kansas historian James C. Malin, if the plains was submarginal, for what, exactly, was it submarginal? One might just as well claim that from a plains perspective, the area east of the 100th Meridian was "superhumid."³²

At any rate, Smythe soon had irrigationists calling conventions to pressure the legislature into action. First McCook, then Sidney, and then Lincoln hosted irrigation conventions in January and February 1891.³³ The first State Irrigation Association convention was called to order in Lincoln on February 11, 1891, and set about correcting the flaws in Purnell's bill.³⁴

The conventioners incorporated many of the resolutions passed in McCook and Sidney. Modeled primarily on the laws of California and Wyoming, the irrigationists called for the creation of the office of state engineer, appointed by the governor, heading up a state board of control. The superintendents of the six irrigation districts would comprise the remainder of the board, which would be charged with adjudicating rights on each stream, and examining all irrigation works in the state.³⁵ Below the superintendents, district supervisors were charged with making water measurements, determining the suitability of land for irrigation, and surveying canal and reservoir sites.³⁶

More important, Purnell's H.R. 147 as amended at the behest of the irrigationists was the first attempt to codify prior appropriation doctrine into state law. It made all water flowing in navigable streams public property, with rights granted only for beneficial use. However, in times of shortage, water commissioners who headed up each irrigation district had the power to apportion water.³⁷ This provision ran counter to a strict rule of appropriation, which would have required in time of shortage that the appropriators with later rights have their water shut off. The worst defects of the 1889 Rayner law would be

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cured and desperately-needed irrigation investment encouraged. Another month passed before H.R. 147 came to a vote on the floor of the house, and when it did Purnell proceeded to strike most of the amendments, to the consternation of the irrigationists.

H.R. 147 failed on March 21, 1891, with thirty-five voting aye, thirty-two nay, and thirty-three not voting, thus depriving it of a constitutional majority.³⁸ Populist support for the measure was noticeably absent, which doomed it to failure in a chamber in which seventy-six of one hundred members were Populists. Of the fifty-four Populists in the house, twenty-two voted against H.R. 147, and ten were absent. Those Populists opposing or absent were, without exception, farmers—supposedly the very people the bill was designed to aid.

How could a bill which was ostensibly aimed at improving the situation of the agricultural sector fail in a legislature dominated by farmers? Several factors — politics, geography, and status — provide an explanation. Politically, the Populists were not overwhelmingly successful in their reform efforts, due to inexperience and intra-party fighting. Neither did they have an exclusive franchise on reform; Republicans were just as likely to introduce reform measures in western legislatures as were Populists.³⁹

Furthermore, antimonopolism was an article of faith among the Populists. Having come to power in 1890 vowing to smash railroad and grain elevator monopolies, it was no small leap for Populists to imagine a "water monopoly," with an unelected state engineer at the head, doing the bidding of big water companies along the Platte. Such was the case in Colorado, where farmers and the Populists were convinced that water companies were promising more water than was available and overcharging for that which was.⁴⁰ It was also the feared additional burden of taxation that caused the failure of the 1891 bill.⁴¹ Hard-strapped farmers were not about to pay additional taxes for an irrigation canal that might not even serve them.

Geographically, agrarian discontent and the Populist vote were the greatest in an area that ran in a wide diagonal swath from Hitchcock County in the southwest, to Antelope County in the northeast. It was the leading edge of settlement in 1890, straddling the 100th Meridian, and the area hardest hit by the drought. The wetter regions of the east gave the Populists a comparatively low percentage of the vote in 1890.⁴² The far western reaches of the Panhandle were more recently settled, and also more accustomed to drought.

Within the counties themselves, Populist power was concentrated in the countryside (where they regularly garnered 80-90 percent of the vote), while Republicans ruled the towns. Populism hardened a pre-existing rural/urban split, where Main Street was the Establishment, and the Establishment was Republican.⁴³ As irrigation became another means of town-building, it was adopted by the Republican Establishment in the West. As such, it would have to await a Republican legislature before any irrigation scheme could be enacted.

Although the political climate changed two years later, a similar fate awaited the next attempt at irrigation legislation. Lorenzo Crounse recaptured the governorship for the Republicans the previous fall. GOP strength equalled the Populists in the senate, fourteen to fourteen, and surpassed it in the house, forty-nine to forty-one. On January 16, 1893, Populist Senator J.H. Darner of Cozad introduced S.F. 19.⁴⁴ In content, it was virtually identical to the amended version of H.R. 147, and the same fate befell it.⁴⁵

Senate file 19 was referred to the Committee on Internal Improvements (which Darner chaired) the next day, and reported out a month later, on February 20, with the recommendation that it be placed on general file. On March 3 the senate formed a committee of the whole to consider the bill; it resolved that it be amended. On March 7 the committee of the whole, on a motion from its chairman, voted to indefinitely postpone the bill.⁴⁶

The breakdown by party on the mo-

tion to postpone S.F. 19 shows much the same pattern as that on H.R. 147 two years earlier. The senate motion carried by a vote of twenty-one to four, with four absent. Among the twenty-one votes to postpone were those of the thirteen Populists and one Democrat-Populist.⁴⁷

The reasons for the rejection of S.F. 19 were unchanged from 1891. Farmers found it "complicated, cumbersome, and involved a multitude of expensive officials, not warranted by the present or likely development of irrigation as to the state at large."⁴⁸ George Fairfield, still running the Minatare Irrigation Ditch Company, wrote that besides being unwieldy, the creation of so many new offices was probably unconstitutional. Better that the state should function under the present inadequate law rather than submit to this attempt at grandstanding by a politician wholly ignorant of irrigation, merely seeking to make a name for himself.⁴⁹ Fairfield and other irrigationists resigned themselves to a two-year wait for their next opportunity.

The prospects for a record harvest of corn, and a good wheat crop, looked bright in the winter and spring of 1894. As the summer wore on, temperatures rose, and rainfall became scarcer. By late July the corn crop was at a critical stage; it needed rainfall to tassel and survive to harvest.

What happened instead became the stuff of legend. On July 26, 1894, temperatures in excess of 100 degrees combined with stiff winds up to fifty miles per hour to wither the corn in a matter of hours. The loss to the most severely hit area was \$100 million. Over 200 million bushels of corn had been expected; less than 13 million were actually harvested. The hardest hit area was west of a line running from Fumas to Knox counties—almost precisely along the 100th Meridian. The need for irrigation for the western half of Nebraska had finally become undeniable.

Many settlers repeated the pattern of 1890-91 and abandoned their homesteads. In Grand Island in the summer of 1894, the exodus was especially notable. "Every day from twenty to fifty prairie

schooners pass through here," ran one account, "the emigrants expressing themselves in haste to get to some land where it occasionally rains."⁵⁰

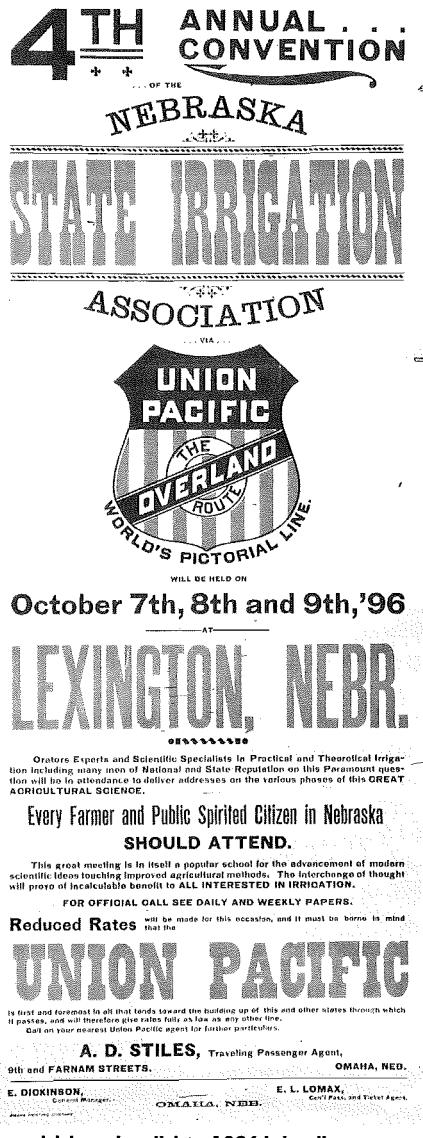
Among those who stayed, calls for relief began pouring into the office of Governor Crounse almost immediately. The drought of 1894 resurrected the Nebraska State Relief Commission, which had performed so admirably in 1891. Governor Crounse appointed the members on October 28, 1894, with Rev. Luther P. Ludden, secretary of the commission from 1890 to 1892, as the chairman.⁵¹

The drought of 1894 only confirmed for all what the irrigationists had known for years — that the "Myth of the Garden" was nothing more than that. As one anonymous letter to the *Gering Weekly Courier* noted,

The idea of increasing rainfall is the dryest [sic] of rot, as we have examined the government report of the rainfall at Fort Laramie for the last 35 years, and there wasn't anymore rain in the last five years than in the first five. One asks "are we in the arid west?" We answer, did you ever see a year in Scotts Bluff County that you couldn't count the rains on your finger ends and leave out the thumbs? In the last year all the counting could have been done on your thumbs.⁵²

In the midst of the mass exodus from the west, Asa Wood wanted it known that "the irrigated district has no complaint to make."⁵³ Since 1889 an additional twenty-two ditches had been dug or proposed, watering thousands of additional acres and sparing Scotts Bluff County from the ignominious fate of asking for relief for a single resident.⁵⁴

Irrigation conventions once again became a favorite pastime among western men of vision and capital, but they took on an increasingly militant cast in view of the recent disaster. Two hundred-fifty irrigation backers formed the Nebraska State Irrigation Association in North Platte on December 19, 1893.⁵⁵ Omaha hosted an even larger gathering in March 1894.⁵⁶ Both gatherings called upon the state to pass some sort of central administration for water rights, and supported the cession of arid lands by the federal govern-



Broadside advertising 1896 irrigation convention in Lexington. (NSHS-MSI-91)

ment to the states for reclamation uses.

The state conventions were the true arenas of activity in the great Irrigation Crusade of the 1890s. William Smythe, after stirring up activity in Nebraska, went on to found a magazine devoted entirely to the subject, *Irrigation Age*. Smythe also created the National Irrigation Congress in 1891, and held the first in Salt Lake City, site of the first large-scale irrigation community in the West.

By the mid-1890s the National Irrigation Congress was still a going concern, though a diminished one. Investors were cautious in the wake of the Panic of 1893, and infighting between Smythe and Wyoming Senator Joseph Carey over land cession pulled the movement farther out of Smythe's control. Gatherings in Los Angeles in 1893 and Denver in 1894 produced much high-flown rhetoric, but little of substance.⁵⁷

Irrigation, not surprisingly, thus became an issue in the 1894 elections, particularly in the region where it had been born — the Panhandle. William Akers ran on the Republican ticket in 1894 to represent the Thirtieth District in the state senate. He received the strong endorsement of the *Gering Weekly Courier*, with Asa Wood reminding voters that Akers "does know something about irrigation, while his opponent Schrader would not know an irrigation canal from a squirt gun."⁵⁸ Akers's strong support of irrigation propelled him to a more than 700-vote majority over his Populist opponent, and later gave him the chairmanship of the Senate Irrigation Committee.

When the new legislature gathered in Lincoln in January 1895, outgoing Governor Lorenzo Crounse admonished them to take up the subject of irrigation law reform. Although a Republican, Crounse voiced Populist-sounding sentiment when he urged that new legislation should protect the rights of individuals to use water from streams, while "prevent[ing] the very appearance of monopoly."⁵⁹

The incoming governor, Silas A. Holcomb (who had been elected on a fusion Democratic/Populist ticket with a 3,000-vote margin of victory), also encouraged irrigation reform. In his inaugural address on January 3, 1895, Holcomb admitted his lack of familiarity with the subject, but noted the presence of members of the legislature "who have had years of practical experience in irrigation," without mentioning Akers by name. Holcomb recommended a law be passed creating irrigation districts, modeled on legislation in effect in either California or Wyoming. A law that enabled water users "to control

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its distribution and price so that it may be to them a source of pecuniary benefit rather than an engine of oppression in the hands of speculators," with protection for water rights of appropriators, would encourage development of projects in the western half of the state.⁶⁰

The legislature first got down to the business of voting relief bonds, despite complaints that the measures passed four years earlier had exhausted the state's bonded indebtedness limit. It voted \$50,000 for immediate relief provisions, and \$200,000 for seed and feed, and by late March trains and wagons bearing provisions were on their way to settlers.⁶¹

Chances for success on irrigation legislation were good, and the irrigationists went into the 1895 session determined not to lose the opportunity. Men of practical experience, like William Akers, dotted both houses. Populist influence in both houses had waned considerably since 1891. Republicans held seventy-two house seats, the Populists had twenty-two and the Democrats but six, and the GOP commanded a twenty-five to eight majority over the Populists in the senate. The Senate Committee on Irrigation, which would hold hearings on any bills, was made up entirely of Republicans.

Rather than lump all irrigation statutes into one bill, this time the irrigation backers drafted two separate bills, and had a version of each bill introduced into each house, for a total of four. The first set of bills, S.F. 50 and H.R. 332, created irrigation districts and gave them the power to issue bonds for financing and levy assessments for maintenance.⁶² After amendments, the most controversial of which exempted existing ditches from the law's operation, and much shuttling back and forth between the chambers, legislators approved H.R. 332 by lopsided margins, seventy-nine to one in the house and twenty-seven to zero in the senate. Holcomb signed it into law on March 27.⁶³

The second pair of bills took a little longer. S.F. 182 and H.R. 443 actually set up the administrative machinery for determining water rights. They replaced an unappointed state engineer in charge of a

board of control with a State Board of Irrigation made up of the governor, the attorney general, and the commissioner of public lands, with the state engineer acting as secretary. The bill also limited appropriators to that amount of water which could be applied to a "beneficial use." H.R. 443 made all water flowing in natural watercourses public property, and the right to use it could never be denied (but could be decreased in time of scarcity). Finally the act declared that water for the purposes of irrigation in Nebraska was "a natural want."⁶⁴

Akers skillfully guided both bills through the legislature, speaking eloquently on their merits before his senate colleagues, and appearing by request (and under protest from opponents) in the well of the house chamber to answer questions.⁶⁵ Irrigationists chose H.R. 443 as the bill to push on this matter, but by late March it had stalled in the house. The reason — a provision that repealed section 2034 of the Rayner law limiting each tract of land to one irrigation ditch. It was a possible hindrance to development, but the irrigation forces gave in when they realized their support of the repeal was endangering the entire effort. In little more than a week, H.R. 443 had been passed and signed into law.⁶⁶

The voting for and against the bill broke down into a familiar pattern. In the house, H.R. 443 passed sixty-eight to twenty-one, with eleven absent. Of the twenty-one Populists in the house, fifteen voted "nay," as compared to only two Republicans and four Democrats. In the senate, where the bill passed twenty-nine to two with two absences, the two nays and two absences were all Populists—half their strength in the upper chamber.

The reasons were no doubt similar to those of 1891 and 1893, and voiced by both Crounse and Holcomb in their respective addresses to the legislature in January. A Republican member of the House Irrigation Committee, J.W. Cole of Hitchcock County, voted for the bill with reservations. Cole led off by noting that, as a member of the Irrigation Committee, he had tried to amend the bill so that it

"might be of some benefit to the users of water, as well as to sellers," and had been outvoted on every attempt. He foresaw the bill encouraging investment in irrigation projects, but warned the chamber that the speed with which the bill had passed, coupled with the lack of amendments from the floor, created a suspicion of a water monopoly in the making.⁶⁷

In the short term, the law accomplished what it set out to do. Under the 1889 Rayner law, irrigators filed 789 claims, built 1,318 miles of ditch at a cost of \$1.45 million with another 909 miles planned at a further cost of \$1.3 million, and the 1.06 million acres of land they serviced saw a net rise in value of \$9 million. Under the new law, by the end of 1895 investors planned 2,111 miles of ditch, at a cost of \$6.2 million. The area of land to be served doubled to 2.36 million acres, and the increase in land values from the ditches was estimated at \$18 million.⁶⁸ By November 30, 1896, 362 claims were filed.⁶⁹

The Akers law (as it came to be called) provided certainty for those contemplating irrigation works, not just the legal certainty of title, but the knowledge that the water would be physically available for use.⁷⁰ It served as the perfect embodiment of Gilded Age concepts about the proper sphere of the law, with regard to what legal historian James Willard Hurst called the "release of individual creative energy." The law, in Hurst's view, promoted and protected this entrepreneurial spirit by providing support of the organized community, or by simply getting out of the way.⁷¹

That certainty and support were not without a price, however, especially in the conception of water as property. Riparian rights, derived from English common law, held that water rights attached only to land abutting a watercourse, and that one who owned such land could not diminish the streamflow. It was a rule that derived from the English gentry, who saw quiet enjoyment of property and water rights as an end in itself, and who were quite opposed to any sort of industrial or commercial development. With the Industrial

Revolution in New England in the early 1800s, that rule began changing, and water law began changing to meet the realities of economic development.⁷²

Courts eventually resolved the issue of competing uses by adopting the “reasonable use” test. Justice Joseph Story, who formulated the doctrine, argued that the true test of the extent of the use was whether or not it actually injured other landowners.⁷³ Just how to define “reasonable” was left for other courts to decide.

Reasonable use became, for all practical purposes, the doctrine of riparian rights, and began undergoing some interesting modifications. Some courts began allowing a prior use for development to halt a later development, adopting a priority system.⁷⁴ Others began allowing diversions of water for “public benefit.”⁷⁵

As riparianism began looking more and more like what would later become prior appropriation, it still did not recognize irrigation for agriculture as a “reasonable use.” In 1842 the Illinois Supreme Court held that irrigation was an “artificial use,” one which was not essential for man’s continued existence, but served merely to increase his comfort and prosperity.⁷⁶ This was the same year that John C. Fremont made his first trip across the Great Plains, where such old concepts would finally break down.

The true development of Great Plains water law, and Nebraska’s in particular, comes not from the East, as a Turnerian theory might argue, but rather from the West. The best way to conceptualize water law on the Great Plains is to see a modified riparianism moving west colliding with a modified prior appropriation system moving east. The parentage of Nebraska’s system runs through California, Colorado, and Wyoming in turn.

Prior appropriation began in the gold fields of California in the 1850s. Both placer and hydraulic mining depended on what sort of water rights could be gained, and settlers quickly divided into two camps. The miners believed that water was a basic right connected only with certain activities, such as mining. Others claimed that water rights were a commodity,

to be bought and sold on the open market. California courts eventually ruled against the miners, allowing the rights to water (but not the actual *corpus* itself) to become a commodity.⁷⁷

Initially, anyone could take as much of a stream as his ditch could hold, as long as he was the first to lay claim to it, and could shut down later appropriators in times of scarcity.⁷⁸ Concern over the destructive nature of hydraulic mining soon forced California courts, led by Justice Stephen Field, to limit the right with the familiar “reasonable use” test, and the legislature followed suit in 1872.⁷⁹ Furthermore, in 1886 the California Supreme Court ruled that prior appropriation did not destroy all riparian rights, and so dual systems of granting rights grew up.⁸⁰ To lessen confusion, the legislature passed an irrigation district law the following year, which allowed the districts to control distribution of water statewide.⁸¹

Colorado’s water rights system derived in large part from former forty-niners who rushed to Pike’s Peak in 1859, but Colorado never strayed from the strict appropriation path. From the beginning, the right to appropriate waters was one that the state could never deny.⁸² An irrigation district law passed in 1879 (and amended in 1881) served merely to supervise irrigation works, and left dispute resolution to the courts. The courts, for their part, promptly abolished riparian rights in the state.⁸³

Colorado’s system was copied and altered by Wyoming, especially under Territorial Engineer Elwood Mead, whose passion for social engineering led him to devise what was the most complex and centralized bureaucracy for setting water rights. The Wyoming system, later copied by Akers and other Nebraska irrigationists, created a rigid hierarchical bureaucracy, headed by the state engineer and four district supervisors. The board of control had the power to adjudicate rights, measure streams, and approve (or reject) permits to appropriate.⁸⁴

After adoption of the Akers law in April 1895, court approval followed swiftly, but the status of riparian rights stood in doubt.

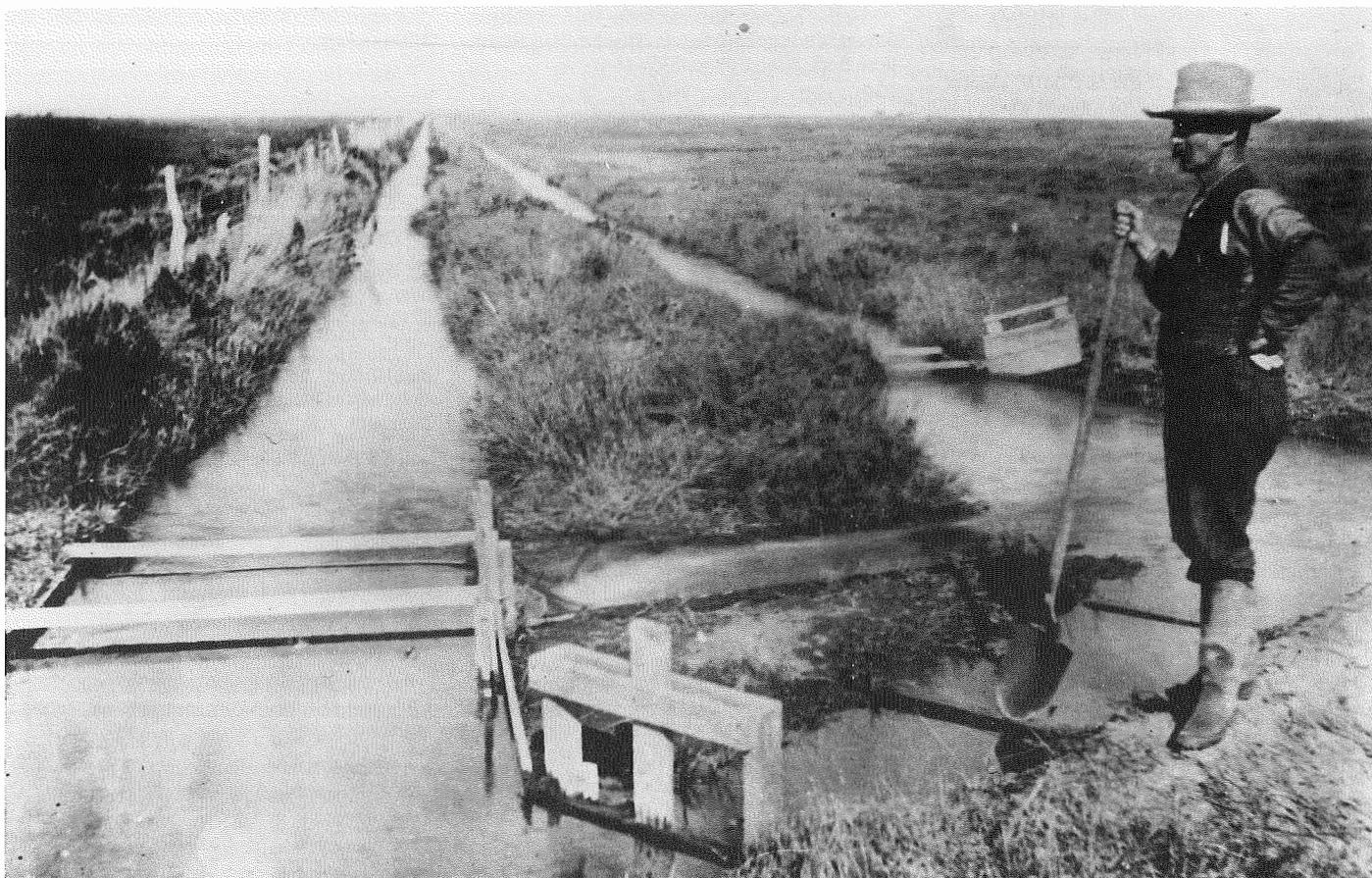
The Nebraska Supreme Court initially ruled in 1895 that riparian rights were vested property rights, and could be terminated only in the public interest. In 1903 it reversed itself, and held that the Rayner law of 1889 had outlawed riparian rights, but only after the date of its adoption. Sixty years later, the court declared that it had “misread” the law in earlier cases, and placed the effective cutoff date for riparian rights at April 4, 1895, the date of the Akers law.⁸⁵ Nebraska was thus left with the California system combining riparian and appropriative rights, as were all the other plains states which straddled the 100th Meridian.⁸⁶

The prior appropriation systems which survive today bear little resemblance to the system which came out of the California gold fields a century and a half ago. “No longer do users take water,” wrote one commentator in the 1920s, “nor can they if they will; it is doled out to them by the state.”⁸⁷ The permit systems adopted by Nebraska and other appropriation states require users to jump through a variety of administrative hoops for practically every facet of irrigation, from applications to use to changes in the manner and place of use.

In light of the adoption of permit systems by riparian states, such as Iowa, there may be little practical distinction between the two. It may even be a mistake to speak of “riparian” or “appropriative” rights at all, which are secured by the individual. A more proper view might be to adopt statist terminology of “grants” or “distribution” of water by a central authority to users.

The creeping introduction of “beneficial use,” which acts in practice much like the “reasonable use” of riparianism, further erodes the idea behind appropriation. The two concepts were wedded together by Frank J. Trelease, a noted western water law commentator, into “reasonable beneficial use,” which holds that a particular use must not only fall within a class of uses held to be beneficial under state statutes, and not only of benefit to the appropriator, but must also be a reasonable and economic use of the wa-

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Irrigator C. B. Purdy of Minatare. (NSHS-I71.6-14)

ter in view of present and future demands on the source of supply.⁸⁸ Beneficial use became the yardstick by which states approved or rejected applications for permits, and the pioneer mindset that allowed one to take as much water as one could gave way to a more scientific and structured means of distribution.

What, in the end, did all this effort accomplish? The immediate facts are apparent enough. Nebraska counted only 11,744 irrigated acres in 1889, but 148,538 a decade later. The number of irrigators jumped from 214 to 1,932 in the same period, 1889-99, and the Panhandle held the lion's share of both.⁸⁹

What of other, more long ranging societal impacts? The University of Oklahoma's Donald J. Pisani argues that Smythe's reclamation movement held the greatest potential for reshaping western

society, a promise that it failed to deliver upon, due largely to growing contempt for small farmers not easily given to change, and the movement's increasing domination by agribusiness.⁹⁰

The cooperation between agribusiness and federal bureaucracy, beginning in the New Deal era, led University of Kansas environmental historian Donald Worster to see the West as a "hydraulic society," modeled on the Oriental despots of the past. Worster borrowed his thesis from Karl Wottfogel, whose *Oriental Despotism* demonstrated how irrigated agriculture supposedly led to tyranny by a small, technocratic elite. Worster looked at the increased concentration of land in the Central Valley of California, sustained by cheap, federally-subsidized water, engaged in intensive, often environmentally degrading agriculture, and dominating

the water politics of the region, and saw a parallel.⁹¹

Unfortunately, Worster's thesis applies only to the Southwest in general, and to California in particular. The Great Plains saw no such concentration of land and federal water projects (and hence, developed a water rights regime different from that of the arid Southwest). In fact, the size of irrigated farms on the plains in the decade 1890-1900 tended to be smaller than non-irrigated farms, averaging fifty-five acres in Nebraska in 1890, and seventy-seven acres in 1900.⁹²

Irrigation began as a logical adaptation to a semiarid climate by men from humid regions, and in typical fashion. Rather than adapt their practices to the land, they bent the land to their will. To fully exploit the agricultural potential of the Great Plains, irrigation became big business, al-

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most a religion for some like William Smythe and Elwood Mead. To complete the transformation of the semiarid plains from the Great American Desert to an irrigated garden, men shaped the law to their environmental needs, facilitating the exploitation of natural resources they found on the plains.

Although the rigid bureaucracy set up by Elwood Mead in Wyoming and William Akers in Nebraska took control away from irrigators and placed it in the hands of the government, it was the end result of a familiar trade-off, that of freedom for certainty. It was a result the irrigators themselves desired, at least in the beginning, to protect their investments of time, labor, and capital. They created a legal regime quite different from those of the East; but also from the West, where prior appropriation doctrine was first cogently formulated.

The irrigation culture that flourished in the Panhandle in the 1880s and 1890s allowed resettlement of a frontier already thought closed. The victory has waxed and waned over the past century, and irrigation costs threaten its stability as the twenty-first century approaches. It is nonetheless an enduring effort, this intertwining of the law and the environment, and if it is not quite the El Dorado on the Platte men dreamed of, then it is surely not for lack of effort.

Notes

¹ Robert F. Berkhofer, Jr., "Space, Time, Culture, and the New Frontier," *Agricultural History* 38 (January 1964): 24.

² John Wesley Powell, *Report on the Lands of the Arid Region of the United States*, 45th Cong., 2d sess., 1878, H.R. Exec. Doc. 73, serial 1805, 13-14.

³ Harry E. Weakley, "History of Drought in Nebraska," *Journal of Soil and Water Conservation* 17 (November-December 1962): 271.

⁴ *Lodge Pole Express*, Apr. 2, 1896, 6.

⁵ *Omaha Weekly Herald*, May 11, 1870, 2.

⁶ Miller J. Stewart, "To Plow, To Sow, To Reap, To Mow: The U.S. Army Agriculture Program," *Nebraska History* 63 (Summer 1982): 209.

⁷ Fort Sidney Post Medical History, 1871-1892, RG518, (microfilm), ser. 1, roll 3, 261, 266, 286. Nebraska State Historical Society (hereafter cited as NSHS).

⁸ Samuel Aughey, *Sketches of the Physical Geography and Geology of Nebraska* (Omaha: Daily Republican Book & Job Office, 1880), 44-47.

⁹ Charles Dana Wilber, "The Relation of Geology to Horticulture," *Annual Reports of the Nebraska State Horticultural Society, 1878-1879* (Lincoln: State Journal Co., 1879), 91-92.

¹⁰ Charles Dana Wilber, *The Great Valleys and Prairies of Nebraska and the Northwest* (Omaha: Daily Republican Printing, 1881), 86-88.

¹¹ Gene Hamaker, "The Kearney Canal — Part 1," in *Tales of Buffalo County* (Kearney, Nebr.: Buffalo County Historical Society, 1982), 23-27.

¹² *Laws of Nebraska, 1877*, 168.

¹³ B.F. Gentry, "First Irrigation in the North Platte Valley," in Asa B. Wood, ed., *Pioneer Tales of the North Platte Valley and the Nebraska Panhandle* (Gering: Courier Press, 1938), 214.

¹⁴ Iowa Census of 1850 Index, 1; 1890 Census of Veterans, (microfilm), RG513, SG3 roll 2, NSHS; Colorado Census of 1880 Index, 4; *Scottsbluff County Republican*, Jan. 22, 1915, 1; *Nebraska Irrigation Annual 1897* (Lincoln: A. G. Wolfenbarger & Co., 1897), 62.

¹⁵ *First Biennial Report of the State Board of Irrigation for the Years 1895 and 1896* (Lincoln: Jacob North & Co., 1897), 15; Lester Danielson, "Irrigation," in *Scottsbluff and the North Platte Valley*, ed. Thomas L. Green (Scottsbluff, Nebr.: Star-Herald Press, 1950), 74.

¹⁶ Danielson, "Irrigation," 75-76; *Gering Weekly Courier*, Nov. 13, 1891, 2.

¹⁷ Minatare Irrigation Canal Papers, 1887-1896, MS 467 (microfilm), NSHS.

¹⁸ Ibid., Minutes of the Board of Directors, 7-9, 30, 48-53.

¹⁹ *Forty-Ninth Biennial Report of the State Department of Water Resources to the Governor of Nebraska, 1991-1992*, 72-75.

²⁰ Bureau of the Census, *Census Reports, 1900*, vol. 6, pt. 2, *Crops and Irrigation* (Washington: 1902), 870.

²¹ C. Robert Haywood, *Victorian West: Class and Culture in Kansas Cattle Towns* (Lawrence: University Press of Kansas, 1991), 38-52.

²² Paula M. Nelson, *After the West was Won: Homesteaders and Town-Builders in Western South Dakota, 1900-1917* (Iowa City: University of Iowa Press, 1986), 84.

²³ *Compiled Statutes of Nebraska 1881* (4th ed. 1889), ch. 93a, art. 1, sec. 8; art. 2, sec. 13.

²⁴ *Gering Weekly Courier*, Mar. 22, 1888, 1.

²⁵ Ibid., May 4, 1889, 2-3.

²⁶ *Sidney Telegraph*, Apr. 20, 1889, 1.

²⁷ Sam S. Kepfield, "'A Great Deal Like Smallpox': The Destitution Business and State Drought Relief in Nebraska, 1890-1895," *Heritage of the Great Plains* 26 (Summer 1993): 37-46; *Laws of Nebraska 1891*, 297-313.

²⁸ The bill was amended, and favorably recommended on February 23, 1891. *Nebraska House Journal, 1891*, 924.

²⁹ H.R. 147 (1891), sec. 1-4, 12-15, 17, RG56, Nebraska Legislative Records, 1855-1972, ser. 1, vol. 74, NSHS.

³⁰ *Omaha Daily Bee*, Jan. 4, 1891, 3.

³¹ Donald J. Pisani, "Reclamation and Social Engineering in the Progressive Era," *Agricultural History* 57 (January 1983): 49.

³² James C. Malin, *History and Ecology: Studies of the Grassland*, ed. Robert P. Swierenga (Lincoln: University of Nebraska Press, 1984), 29.

³³ *McCook Tribune*, Jan. 30, 1891, 5; *Sidney Telegraph*, Febr. 14, 1891, 1.

³⁴ *Nebraska State Journal*, Febr. 12, 1891, 8.

³⁵ H.R. 147 (substitute) (1891), art. II, sec. 14-22, RG56, ser. 1, vol. 76, NSHS.

³⁶ Ibid., art. I.

³⁷ Ibid., art. III, sec. 1-7.

³⁸ *Nebraska House Journal, 1891*, 1629-30.

³⁹ K.D. Bicha, "Western Populists: Marginal Reformers of the 1890s," *Agricultural History* 50 (October 1976): 627-32.

⁴⁰ Robert W. Larson, *Populism in the Mountain West* (Albuquerque: University of New Mexico Press, 1986), 152-53.

⁴¹ William F. Zimmerman, "Legislative History of Nebraska Populism, 1890-1895" (master's thesis, University of Nebraska, 1926), 33.

⁴² John D. Barnhart, "Rainfall and the Populist Party in Nebraska," *American Political Science Review* 19 (April 1925): 534-38.

⁴³ Frederick C. Luebke, "Main Street and the Countryside: Patterns of Voting in Nebraska During the Populist Era," *Nebraska History* 50 (Fall 1969): 263-64.

⁴⁴ *Nebraska Senate Journal, 1893*, 94.

⁴⁵ S.F. 19 (1893), RG56, ser. 2, vol. 11, NSHS.

⁴⁶ *Nebraska Senate Journal, 1893*, 104-5, 345, 469-70, 524-25.

⁴⁷ Ibid., 525.

⁴⁸ *Gering Weekly Courier*, Febr. 3, 1893, 2.

⁴⁹ Ibid., Febr. 17, 1893, 1.

⁵⁰ *Nebraska State Journal*, July 27, 1894, 3.

⁵¹ *Report of the Nebraska State Relief Commission to the Governor of the State of Nebraska, 1895*, Luther P. Ludden, comp., RG33, box 2, 6, 19-20, NSHS.

⁵² *Gering Weekly Courier*, Febr. 2, 1894, 1.

⁵³ Ibid., Aug. 10, 1894, 1.

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⁵⁴ O.V.P. Stout, "Water Supply in Nebraska," *Bulletin of the Agricultural Experiment Station, University of Nebraska*, vol. 7, no. 41 (Febr. 4, 1895), 157; *Relief Commission Report 1895*, RG33, 91.

⁵⁵ *North Platte Telegraph*, Dec. 23, 1893, 1.

⁵⁶ *Omaha Daily Bee*, Mar. 21, 1894, 2.

⁵⁷ Lawrence B. Lee, "William Ellsworth Smythe and the Irrigation Movement: A Reconsideration," *Pacific Historical Review* 41 (August 1972): 304-5; Donald J. Pisani, *To Reclaim a Divided West: Water, Law, and Public Policy 1848-1902* (Albuquerque: University of New Mexico Press, 1986), 265-66; *Official Report of the Third National Irrigation Congress Held at Denver, Colorado, September 3rd to 8th, 1894* (Denver: Local Committee of the Arrangements, 1894).

⁵⁸ *Gering Weekly Courier*, Nov. 2, 1894, 1.

⁵⁹ *Nebraska Senate Journal*, 1895, 64.

⁶⁰ *Ibid.*, 101-02.

⁶¹ *Laws of Nebraska* 1895, 201-10.

⁶² H.R. 332 (1895), RG56, ser. 2, vol. 6, NSHS.

⁶³ *Nebraska House Journal*, 1895, 790; *Nebraska Senate Journal* 1895, 857-58, 960-66.

⁶⁴ H.R. 443 (1895), RG56, ser. 2, vol. 36, NSHS.

⁶⁵ *Nebraska State Journal*, Mar. 14, 1895, 2.

⁶⁶ *Nebraska House Journal*, 1895, 1089-91; *Nebraska Senate Journal*, 1895, 1027-28, 1167-68.

⁶⁷ *Nebraska House Journal*, 1895, 1091-92.

⁶⁸ *Nebraska Irrigation Annual, 1896: A Stenographic Report of the Proceedings of the Third Annual Convention of the Nebraska Irrigation Association* (Lincoln: A.G. Wolfenbarger, 1896), 151; *Annual Report of the Nebraska State Board of Agriculture for*

the Year 1895 (Lincoln: Jacob North & Co., 1896), 150-55.

⁶⁹ *First Biennial Report of the Nebraska State Board of Irrigation*, 258-78.

⁷⁰ J.W. Milliman, "Water Law and Private Decision-Making: A Critique," *Journal of Law and Economics* 2 (October 1959): 47.

⁷¹ James Willard Hurst, *Law and the Conditions of Freedom* (Madison: University of Wisconsin Press, 1956), 6.

⁷² Morton Horwitz, *The Transformation of American Law, 1780-1860* (Cambridge: Harvard University Press, 1973), 43.

⁷³ *Tyler v. Wilkinson*, 24 F.Cas. 472 (No. 14,312, D.R.I. 1827).

⁷⁴ Morton Horwitz, "The Transformation in the Conception of Property in American Law, 1780-1860," *University of Chicago Law Review* 40 (Winter 1973): 249.

⁷⁵ *Cary v. Daniels*, 49 Mass. 466 (1844).

⁷⁶ *Evans v. Merriweather*, 4 Ill. 492 (1842).

⁷⁷ Douglas R. Littlefield, "Water Rights During the California Gold Rush: Conflicts Over Economic Points of View," *Western Historical Quarterly* 14 (October 1983): 417-19.

⁷⁸ *Irwin v. Phillips*, 5 Cal. 140 (1855).

⁷⁹ Charles W. McCurdy, "Stephen J. Field and Public Land Law Development in California, 1850-1866: A Case Study of Judicial Resource Allocation in Nineteenth-Century America," *Law and Society Review* 10 (Winter 1976): 261-62; *Civil Code of California 1872*, tit. 8, sec. 1411.

⁸⁰ *Lux v. Haggin*, 69 Cal. 255 (1886).

⁸¹ *Supplement to Deering's Statutes and Codes of California 1887-1889*, Civil Code, sec. 1422 et. seq.

⁸² Colorado Constitution, art. XVI, sec. 6 (1876).

⁸³ *Coffin v. Left Hand Ditch Company*, 6 Colo. 443 (1882).

⁸⁴ *Revised Statutes of Wyoming 1899*, Ch. 9-14.

⁸⁵ *Clark v. Arapahoe Irrigation and Improvement Co.*, 45 Neb. 798 (1895); *Crawford Co. v. Hathaway*, 67 Neb. 325 (1903); *Wasserburger v. Coffee*, 180 Neb. 149 (1966).

⁸⁶ *Clark v. Allaman*, 71 Kan. 206 (1905); *Sturm v. Beck*, 6 Dak. 71 (1888), affirmed 133 U.S. 541 (1890); *Mud Creek Irrigation, Agriculture, and Mfg. Co. v. Vivian*, 74 Tex. 170 (1889).

⁸⁷ Moses Lasky, "From Prior Appropriation to Economic Distribution of Water by the State — Via Irrigation Administration, Part 2," *Rocky Mountain Law Review* 1 (June 1929): 269-70.

⁸⁸ Frank J. Trelease, "The Concept of Reasonable Beneficial Use in the Law of Surface Streams," *Wyoming Law Journal* 12 (Fall 1957): 19.

⁸⁹ *Census of Agriculture 1900*, 870.

⁹⁰ Pisani, "Reclamation and Social Engineering," 46, 56-58, 63.

⁹¹ Donald Worster, *Rivers of Empire: Water, Aridity, and the Growth of the American West* (New York: Pantheon Books, 1985; Oxford University Press, 1992); Karl Wittfogel, *Oriental Despotism* (New Haven: Yale University Press, 1957).

⁹² Frederick Haynes Newell, *Report on Agriculture in the Western Part of the United States at the Eleventh Census: 1890* (Washington: GPO, 1894), 257; *Census of Agriculture 1900*, 870-72.