

to light out for the Territory ahead of the rest, because Aunt Sally she's going to adopt me and sivilize me, and I can't stand it. I been there before." The West, the theory had gone, was the place where one escaped the trials and burdens of American civilization, especially in its Southern version. Those "trials and burdens" often came in human form. Repeatedly, Americans had used the West as a mechanism for evading these "problems." Much of what went under the rubric "Western optimism" was in fact this faith in postponement, in the deferring of problems to the distant future. Whether in Indian removal or Mormon migration, the theory was the same: the West is remote and vast; its isolation and distance will release us from conflict; this is where we can get away from each other. But the workings of history carried an opposite lesson. The West was not where we escaped each other, but where we all met.

The Frontier as the Forefront of Capitalism

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In his 1862 essay "Walking," Henry David Thoreau described a daily ritual that was characteristically American in his time. Coming out of his house on Main Street in Concord, Massachusetts, he would pause for a moment to consult his instincts. Which way should he go for his ramble into the countryside? Generally the needle of his inner compass would settle west or southwest, and he would head off in that direction, just as thousands of pioneers were doing, had done, and would go on doing for a long time to come. "The future lies that way to me," he wrote, "and the earth seems more unexhausted and richer on that side." Going west, he anticipated finding a wilder America where the trees grew taller, the sun shone brighter, and the field of action was still open to fresh heroic deeds.... "Eastward I go only by force; but westward I go free."

Had Thoreau kept on walking toward the west, traveling well beyond the outskirts of Concord clear to the Pacific shore, had he walked on and on through time into the late twentieth century, what would he have discovered? Would he have come upon a West that had delivered on its promise to him and the nation? Would he have found there in fact a greater scope for individuality, for innovation, for the creative mind, than existed in the East? A people who put less emphasis on the accumulation of property, who practiced less stratification in their society? Would he have found a more perfect democracy? A flourishing of personal freedom? A vindication of the idea of progress?

Thoreau died in the year his essay appeared in print and thus he could not have seen, could not even have anticipated, the real West as it has evolved.... Even now, a century and more past Thoreau's age of romantic optimism, many westerners—not to mention millions living elsewhere—remain confused by idealizing myths and ritualistic incantations of the old slogans. The West is still supposed, in popular thinking, to be a land of untrammelled freedom, and

in some of its corners it may be just that. However, that is not all it is, is not even the more important part of what it is. The American West is also more consistently, and more decisively, a land of authority and restraint, of class and exploitation, and ultimately of imperial power. The time has come to brush away the obscuring mythologies and the old lost ideals and to concentrate on that achieved reality....

Perhaps the best place to begin that reexamination of the West is by sauntering along one of its irrigation ditches. In it are important, neglected clues to the meaning of freedom and autonomy, of democratic self-determination and openness, in the historical as opposed to the mythical West. One might choose, for example, the Friant-Kern Canal coming down from the Sierra foothills to the desert lands around Bakersfield in the Great Central Valley of California. It is a vastly different stream of water from the Sudbury and Concord rivers on which Thoreau paddled his boat.... Friant-Kern, in contrast, is a work of advanced artifice, a piece not of nature but of technology. It has no watershed of its own but rather draws off water from a reservoir and transports it briskly to deficient areas to raise a cash crop. It means business. For long sections it runs straight as an arrow over the land, cutting across the terrain with a devastating efficiency. Engineers report that it carries, at maximum, 5,000 cubic feet of water per second. In that method of precise calculation is hinted the determination on the part of engineers, farmers, and other modern westerners to wrest every possible return from the canal and its flow. The American West literally lives today by that determination. Though its importance has seldom been well understood, more than any other single element, it has been the shaping force in the region's history. In that determination to exploit to the uttermost, there is little of Thoreau's ideal of freedom sought or expressed or possible. There is no freedom for nature itself, for natural rivers as free-flowing entities with their own integrity and order, and there is very little of the social freedom Thoreau expected humans to enjoy in the West. Friant-Kern offers a study in ecological and social regimentation....

It is a techno-economic order imposed for the purpose of mastering a difficult environment. People here have been organized and induced to run, as the water in the canal does, in a straight line toward maximum yield, maximum profit. This American West can best be described as a modern *hydraulic society*, which is to say, a social order based on the intensive, large-scale manipulation of water and its products in an arid setting. That order is not at all what Thoreau had in mind for the region. What he desired was a society of free association, of self-defining and self-managing individuals and communities, more or less equal to one another in power and authority. The hydraulic society of the West, in contrast, is increasingly a coercive, monolithic, and hierarchical system, ruled by a power elite based on the ownership of capital and expertise. Its face is reflected in every mile of the irrigation canal. One might see in that reflection the qualities of concentrated wealth, technical virtuosity, discipline, hard work, popular acquiescence, a feeling of resignation and necessity—but one cannot find in it much of what Thoreau conceived as freedom.

Few parts of the American West, or for that matter of the world, have been changed so thoroughly as the Great Valley of California. Already at the time

Thoreau wrote of walking west, the valley was beginning to undergo an ecological revolution. In turn, that upheaval brought about a social transformation of extraordinary proportions. In both respects, the valley can be seen as representative of an emerging West and its sudden transition, more sudden than in any other region, from wilderness to technological dominance....

When Thoreau was coming of age in Concord, a town already two hundred years old in his lifetime, the Great Valley was still an environment virtually untouched by the white man. It was the undisputed province of those wild creatures and of several Indian peoples. The latter were the Wintun, Patwin, Valley Maidu, Valley or Plains Miwok, and, most numerous, the Valley Yokut tribes, of which there were fifty, each with its own name, dialect, and territory. All of the native peoples were lumped together by the invading white Americans under the contemptuous term "Diggers."

The Spanish rarely ventured into the valley, and when they did, they were repelled by the prospect. It was too hot, dry, and bleak, or alternately too swampy, to attract them away from their coastal missions. The American fur trapper and explorer Jedediah Smith passed through in 1827, and then in 1849 came a voracious horde from the east, from all over the world, looking for gold. To protect the gold seekers from the Indians and make maps of the valley, the American government dispatched Lieutenant George Derby in 1849 and 1850. Derby was a twenty-six-year-old topographical engineer, about Thoreau's age and from his part of the country, but he had received an education in the sciences at West Point and become a wide-ranging traveler with a practical mission. Derby made the first thorough, systematic survey of the valley's agricultural potential. Of the possibilities for white settlers where the San Joaquin and Merced rivers converge, he wrote this: "Exceedingly barren, and singularly destitute of resources, except a narrow strip on the borders of the stream; it was without timber and grass, and can never, in my estimation, be brought into requisition for agricultural purposes."...

In the period from 1850 to 1910, writes ecologist Raymond Dasmann, the state of California experienced a series of massive environmental changes, and nowhere more so than in the Great Valley. During those few decades, the fauna and flora went through an upheaval comparable only to the cataclysmic postglacial extinctions. However, in this later case, the changes were not the work of blind forces of nature but rather of conscious, rational men. Those men, driven by a vision of the valley's potential wealth and by a passion to possess it, shot out the waterfowl. They trapped out the furbearers. They cut down large numbers of the great spreading oaks, burned away the saltbush, the chaparral, the blackberry and willow thickets, and drained the tule marshes. They decimated the large grazing herds, until only a tiny remnant of the elk remained in a wildlife preserve. As their food and habitat disappeared, so did the grizzly, the condor, and the wolf. And so did the aboriginal human settlers, the Yokut and the rest, who became the victims of disease, of superior force, of land hunger. In their place developed the wealthiest agricultural operation in the United States....The technological control of water was the basis of a new West. It made possible not only the evolution of a prosperous agriculture but also, to a great extent, the

growth of coastal cities like Los Angeles and San Francisco. It eventually made California the leading state in America, and perhaps the single most influential and powerful area in the world for its size....

Many books and articles have been written about the arid West and its search for water, and they are good, scholarly books, but they remain on the periphery; they have not yet penetrated very far the thinking of most generalizers and theorists of the region's character. In those generalizers' hands the history of the West has tended to remain, against all evidence to the contrary, ... a saga of individual enterprise, of men and women going out from civilization to carve with their own hands a livelihood from nature, a tale of release (or attempted release) from eastern form, tradition, and control. To be sure, the West was all of that at times, but for most of its history and for most of its people the region has had a very different story to tell: one of people encountering difficult environments, of driving to overcome them through technological means, of creating the necessary social organization to do so, of leading on and on to indigenous bureaucracy and corporatism. It is time that this emergent technological West, the West of the hydraulic society, the West as seen in the Great Valley of California, be put beside the storybook West of fur trappers, cowboys, sodbusters, and intrepid adventurers....

[C]apitalism has created over the past hundred years a new, distinctive type of hydraulic society, one that demonstrates once more how the domination of nature can lead to the domination of some people over others. Recognizing this, certain important questions must be addressed.... In what ways has that ecological domination expressed in the new water systems shaped the social order of places like the American West, creating new structures of power there, reconcentrating wealth and authority?...

The most fundamental characteristic of the latest irrigation mode is its behavior toward nature and the underlying attitudes on which it is based. Water in the capitalist state has no intrinsic value, no integrity that must be respected. Water is no longer valued as a divinely appointed means for survival, for producing and reproducing human life, as it was in local subsistence communities....

The behavior that follows making water into a commodity is aggressively manipulative beyond any previous historical experience. Science and technology are given a place of honor in the capitalist state and put to work devising ways to extract from every river whatever cash it can produce. Where nature seemingly puts limits on human wealth, engineering presumes to bring unlimited plenty. Even in the desert, where men and women confront scarcity in its oldest form—not the deprivation of a particular industrial resource, which is always a cultural contrivance, but the lack of a basic biological necessity—every form of growth is considered possible. Undaunted by any deficiency, unwilling to concede any landscape as unprofitable, planners and schemers assure that there is water in the driest rocks, requiring only a few spoken commands to make it gush forth without end. That collective drive to make the bleakest, most sterile desert produce more and more of everything comes from aggregating individual drives to maximize personal acquisitiveness without stint or hindrance. It is an ideology shared wholeheartedly by agriculturists and water

bureaucrats, providing the bond that unites their potentially rival centers of power into a formidable alliance....

"I'm pushing on when dawn's a-breaking, going 'cross the wide Missouri." The words of that song, the most beautiful ever written in America, tell of an experience, repeated again and again, that began with anonymous longings and ended in myth. They tell of a solitary man swimming his horse across a brown, surging river and through a sea of grass, the unbroken prairie. They tell of a woman driving a team of oxen and a covered wagon into the river, pulling up on the other bank, dripping and breathless yet eager to go on. They tell of a family on a flatboat loaded with their belongings, poling and warping their way upstream to Wyoming, Idaho, the Oregon country. Always in that endless migration there was one more river to cross. After the Missouri were the Sweetwater, the Gunnison, the Owyhee, the Dirty Devil, the Salmon, the Pecos, the Tuolumne, the Yellowstone, the Green, the Cimarron, the Escalante, the Columbia. Each was unique in character and challenge. And on the other shore, or up near the headwaters, or somewhere in the unbounded space lying beyond, there was a new life to make. There was an ancient story of exodus to reenact, a new promised land to occupy. There was a West to invent....

The pattern I want to describe begins as pioneers came into western valleys, made their homes there, plowed new fields, and started a process of river development. They had passed through the waters; now they turned them to their advantage. That process was one of ecological intensification—of extracting more and more economic yield from the rivers and their watersheds. It was not a steady progression, but a broken rhythm of fits and starts, of long periods of intensity, then long or short periods of consolidation or regress when development ran up against obstacles. Again and again, nature imposed limits on the settler, and often he did not have the capital, the technology, or the social organization needed to overcome them....

The Mormons, or Latter-day Saints, of Utah have sometimes claimed, in moments of high filio piety, that they were the first Americans to practice irrigation on a wide scale. A more careful statement is that they were the first Americans of northern European ancestry to do so. More important, they were the first in the West to propagate assiduously, in deeds as well as words, the gospel of desert conquest sanctioned by God. And they were the first to encounter the fact that that gospel had no logical point of closure. Its fate was that it worked and worked, until it worked its own undoing. River valley after river valley came under Mormon command, testifying to their religious zeal and organization. Then one day they passed the point where it was God they were primarily serving. In the end, money and the American marketplace had become the dominant forces driving them on. Their religion had served admirably, it turned out, as an impetus toward, and a justification for, the accumulation of capital. It had helped the Mormon people become the first commercially successful irrigators in North America....

Before the Mormons founded their desert kingdom, there were the Indians and the Spanish. To understand the Mormons as irrigators, we first need to see them in relation to those peoples who came before them. The southwestern

Indians, as described in the preceding chapter, had achieved a measure of water control and political concentration many centuries before white men arrived on the scene. The Spanish, whose techniques were hardly more advanced, were the first Europeans to irrigate in what is now the United States. A hundred years after Columbus's discovery they were on the Rio Grande, directing local Indians in digging a ditch near present-day San Juan, New Mexico. By 1800 they had constructed 164 *acequias*, or irrigation canals, in the upper part of that river basin. All of them were essentially communal undertakings, drawing on the peasant culture of southern Spain, on Moorish influences, and on the native pueblo experience....

The Mormons, when they came West in 1847, bypassed those older settlements, though they sent traders there and observed their irrigated fields. For their refuge the Mormons chose an area that no one before them had tried to irrigate—the slope from the Wasatch Mountains to the Great Salt Lake. Despite their efforts to collect advance information, they were frightfully innocent of the first principles of water application, and they had no vernacular or folk tradition to guide them in the enterprise. Moreover, they had virtually no capital when they first arrived. What they did have was an irrepressible confidence that God had picked out a part of the desert for their homeland and would see that they thrived on it....

On 23 July 1847, a committee of Mormons broke their first ground for farming. They had just walked over eight hundred miles from Iowa to the future site of Salt Lake City. They had staked out a piece of ground near City Creek where they would plant potatoes, beans, and corn. Now they were ready to dam the creek and cut a trench from it through the hardbaked Utah ground to their new fields. Shortly thereafter, stream after stream flowing from the mountains was turned out of its bed. The means available for that work were at first primitive. Planks bolted together in the shape of the letter A formed a "go-devil," a wedgelike tool the Saints used to tear canals across the landscape. A pan filled with water served, in the absence of levels and surveying instruments, to lay out the waterways with enough decline to make the water run smoothly in them: not too fast, or the current would erode the ditch; not too slow, or the silt would settle out and clog the works. Dirt and rocks scraped together with brush made a dam. These were not much better than Indian ways, but they were only a beginning.

From that first point of ad hoc innovation, Mormon irrigation diffused north, south, east, and west, creating a ganglion of colonies tied to the Mother Church in the capital city. Led by their astute patriarch Brigham Young, inspired by their murdered founder and prophet Joseph Smith, the Mormons wrote their imperial ambitions on the face of the earth for all to see. They took the bee and its hive as a symbol of their industry, but a more appropriate one would have been the beaver, for control over water became the ecological basis of their society.

One of the most remarkable aspects of Mormon irrigation was the speed of its conquest over the desert. By 1850 there were 16,333 irrigated acres in what would become the state of Utah, and on them were grown 44,000 bushels of potatoes, 4,800 tons of hay, and 107,700 bushels of wheat, along with oats,

corn, and rye. Within another forty years, the irrigated acreage amounted to 263,473, and it supported more than 200,000 people. Almost every one of the 10,000 farms in the state was irrigated, and their average size was 27 acres. In forty years the potato crop had jumped over 1,000 percent, the wheat yield over 1,500 percent.

The Spanish irrigation settlements, after two-and-a-half centuries of endeavor, could still not show such results. For a people who had come without even a fund of experience or capital, the Mormons had made an impressive showing....

Though they came to the arid West with empty pockets and a lack of training, the Mormons did have a system of hierarchy and group discipline, and that critical quality made possible their rapid success in water manipulation. Under their first leader, Joseph Smith, they had taken the form of a religious corporation—a theocracy (in intent if not in actuality) constructed along the lines of modern rationality. At the top of their chain of authority stood the First Presidency, the Quorum of the Twelve Apostles, and the Council of Seventy; at the bottom, the local ward bishop....It provided a unified scheme of development and—within the limits of the available technology—a maximization of resource exploitation, and it freed the communities from individuals squabbling over water rights. It allowed the amassing of capital to undertake new projects and provided a cushion of security when projects failed. And, most important, it claimed to speak with the voice of God....

Within the space of a few years the Mormons had broken the Hispanic-Indian monopoly on western irrigation. But then, beginning around 1870, their bold new wave was eclipsed in influence by even newer waves. About that date the center of innovation shifted to eastern Colorado, then to California....

[A]nother promoter of the irrigated colony was the Southern Pacific Railroad. Altogether that company had been given one-tenth of the state of California (11,588,000 acres) in federal land grants to encourage transportation development. Much of that land was sold to capitalists, the proceeds being put into track, bringing a direct connection with marketplace America to the entire central valley by 1876. For many wheat farmers, the railroad was “the Octopus,” an enormous power squeezing life and profit out of them, “huge, terrible, flinging the echo of its thunder over all the reaches of the valley, leaving blood and destruction in its path.” But the railroad also sold lots to small farmers and promoted the irrigated farmstead in the valley. William Mills, who worked as chief land agent for Southern Pacific from 1883 to 1907, strongly believed that it was in the economic interest of the company to encourage diversified agriculture in the state and the growth in population it would require. He sent salesmen all over the world to promote California, and through the Southern Pacific Colonization Agency attempted to help newcomers make a go of it raising fruits and vegetables along the company’s tracks....

As the *Visalia Delta* paper said, “All that is desired is that these barren plains should be made to blossom as the rose. And all that is necessary to make them bloom is to give them away in chunks.”

One river, the Kern, small and erratic, with no outlet to the sea. Two claimants, with large, insatiable appetites. In 1881 they met in court in the case

Lux v. Haggin (Lux was Miller's partner and stand-in) to settle which man would rule the desert, and until the state supreme court resolved their dispute five years later, the California law of water rights hung in the balance. [Henry] Miller claimed the river was his under the common law of riparian rights, which the state had implicitly adopted in its constitution of 1850. He owned land along the Kern's banks, making the stream his property (if one stretched the riparian doctrine of usufruct and natural use beyond all recognition). [James] Haggin, on the other hand, claimed the river through purchase of rights of prior appropriation, which, in California as in Colorado, had emerged out of the mining frenzy. The courts, he argued, had established those rights, beginning with the case of *Irwin v. Phillips* (1855), and so had the state legislature, in the Civil Code of 1872. Thus the battle was joined, not between an archaic, foreign riparian idea and a modern, indigenous appropriationist idea, as the historians sometimes describe it, but between two versions of capitalist grab.

As the battle of the Kern River barons commenced, California agriculturalists began organizing themselves into rival water camps—for Miller or for Haggin. The word "rival" comes from the Latin *rivalis*, "one using the same brook as another," usually referring to parties standing on opposite banks trying to monopolize the flow. In California of the 1880s the rivalry was not of one bank against the other. Instead, it pitted the riparian landowners, who as a rule were cattlemen, against those living at a remove but needing water if they were to grow grapes and oranges. The riparianists took Miller, of course, as their champion and were sure that he would vindicate their rights. The opposing appropriationists had the clear majority, for most people wanting access to water did not, and could not, live along a river's banks. Whether they had come early or late, whether they possessed twenty or twenty thousand acres, they claimed the rivers ought to be available to them too. James Haggin, they believed, was fighting their case in court.

The dispute quickly took on false ideological tones: a struggle of democracy versus elitism. At stake, the appropriationists argued, was whether a small, privileged group of men could achieve a monopoly on a resource, thereby denying economic opportunity to the masses. In 1883, a state irrigation convention assembled in Riverside to make that argument loudly and forcefully to state legislators....

The legislators, they demanded, should establish once and for all the doctrine of appropriation and free the state from the dead hand of the past—from a riparianism that was like a medieval suit of armor, imprisoning the youthful energies of California and preventing its natural growth. Making appropriation the sole basis of water law in the state would promote "natural justice," they asserted, and assure the triumph of democracy.

The convention's statement obscured the real issues confronting democratic land use in California. In the first place, irrigation was practiced to some extent by both sides in the dispute, though the riparianists typically relied on stock raising for their main source of income and used the water only for raising native grass or a little alfalfa in the bottomlands. Second, no one in the convention proposed to take Haggin's lands away from him, though they had been acquired by dubious means, and distribute them in twenty-acre irrigated homesteads to the

world's poor. The appropriationists, though more numerous, could hardly be said to represent agrarian democracy when their number included some of the biggest land monopolizers around, when it included investors like Haggin who lived far off in San Francisco and bought up appropriation claims as readily as railroad or mining stock. Third, the doctrine of appropriation could create an elite as small as, or smaller than, the riparian principle did. Under appropriation, a single individual could acquire rights to an entire river and, conceivably, take its water a hundred or more miles away, leaving streamside dwellers with a dry bed. Water taken out and used immediately along the banks might find its way back into the stream, or most of it would, but appropriated water was commonly lost water for all who lived downstream.

The notion that appropriation was a more democratic approach to water rights rested on a single assumption, unexamined and unsubstantiated in the convention: that democracy was promoted by intensive reclamation of the desert. The more land that was irrigated, the more wealth it produced, the nearer the state would come to realizing democratic ideals. It is obvious, the convention's statement implies, that following the legal principle of appropriation must mean more irrigation development than is possible under riparianism. *Ipsa facto*, democracy must flourish....

Given sentiments like those expressed by the irrigation conventions of 1883 and 1884 and by most of the newspapers in the central and southern parts of the state, it came as a shock and an outrage that Henry Miller won his case. In 1886 the California supreme court, in a split decision, upheld the riparian doctrine and gave Miller priority over the Kern. Immediately, there were charges that he had bought the justices. There were Jeremiahs who predicted that the state would be left behind in the western rush for development. And there was a move initiated to get the constitution changed, a move that would take forty years to accomplish. For his part, Henry Miller proved to be a magnanimous winner. Having established that he was indeed lord of the waters, he turned around and offered a partnership to Haggin. The two barons agreed to build an upstream reservoir on the Kern to provide enough water for both, with Miller to get one-third of the downstream current thereafter, Haggin two-thirds. After all, they were big men, and big men act big, even over a little water....



FURTHER READING

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