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Turning Wine into Water: Water as Privileged Signifier in The Grapes of Wrath

DAVID CASSUTO

"Eastward I go only by force; but westward I go free."
—Henry David Thoreau

The Old Testament describes wilderness as "a thirsty ground where there was no water." When the Lord wished to punish, He threatened to "turn the rivers into islands and dry up the pools and . . . command the clouds that they rain no rain upon it." When granting redemption in Isaiah, God promises instead that "waters shall break forth in the wilderness and streams in the desert" and that "the desert and dry land shall be glad" (Deut 8:7, 15; Isaiah 5:6, 35:1, 6, 43:20). The Garden of Eden provided the antithesis of desert wilderness, a place where water flowed freely and bounty of all sorts lay ready to spring out of the ground. This is the legacy which spawned what Henry Nash Smith termed the "myth of the garden" in the American West. At the dawn of the common era, John offered Jesus his baptism in the River Jordan. Two millennia later, Casy baptized Tom Joad in an irrigation ditch.

I will argue that *The Grapes of Wrath* represents an indictment of the American myth of the garden and its accompanying myth of the frontier. The lever with which Steinbeck pries apart and ultimately dismantles these fictions is a critique of the agricultural practices that created the Dust Bowl and then metamorphosed into a new set of norms which continued to victimize both the land and its inhabitants. Both nineteenth-century homesteading (based on the Homestead Act of 1862) and agribusiness, its twentieth century descendant (born from the

failure of the Homestead Act), relied on the (mis)use of water to accomplish their respective goals. And both policies resulted in ecological disaster.

The Plains were called upon to supply grain for the international war effort in 1914 and to feed a hungry nation whose population continued to multiply exponentially. Throughout the nation, industrialization held sway as the isolationism of the nineteenth century gave way to the globalism of the twentieth. These transitions required great expenditures of resources and, in the grain belt, the resource most in demand was water. As farmers poured their short-term profits back into land and seed, their fates became ever more dependent on the availability of water. When the climatic pendulum swung back toward aridity, Plains farmers had to declare hydrological bankruptcy, though neither they nor the federal government would abandon the myth of the garden. As the government scrambled to dam rivers and force water into the desert, farmers clung fast to their vision of uncountable abundance amidst a green world.¹

Water was a commodity, symbol of wealth and expanding capabilities. Admitting its unattainability involved acknowledging the limited productive capabilities of the land. Such an admission also meant conceding the limitations of the nation and its people, a prospect that remained anathema to a culture steeped in the dominant myths. Myra Jehlen notes that "the conviction that farming brought reason and nature together (since man and nature had the same reasons) inspired cultivation . . . but made it particularly difficult, in fact, contradictory to contemplate basic changes in agrarian policy" (73). Instead of abandoning the American Dream, the dream itself underwent

¹The course towards a mechanized, anti-agrarian nation was visible as early as 1847 to George Perkins Marsh, one of the first and most influential American ecologists and an early opponent of the myth of the garden. In a speech to The Rutland County Agricultural Society he stated that in the United States, "the full energies of advanced European civilization, stimulated by its artificial wants and guided by its accumulated intelligence, were brought to bear at once on a desert continent" (qtd. in Leo Marx 204).

an ideological shift. The myth of the garden remained intact but its form evolved from an Edenic Xanadu to a neo-Baconian Atlantis which no longer awaited manna from heaven but wrested it instead from the grips of Nature.

Water's primacy as both commodity and signifier in the Southwest arose through a combination of its scarcity and utility. Its privileged place in the biotic schema predates its commodification by the state and corporate apparatus, but the two forces are by now inseparable in the history and mythology of the American West. The social and environmental conditions in the Southwest made water an ideal unit of exchange and this led to its concurrent fetishization. As Gregory Jay characterizes commodity fetishism, "Capitalism structures symbolic exchange so as to elicit desire, manipulate its character, and teach it to find sublimity in prescribed objects" (167). Since water is necessary to a number of human biological functions, in an arid region a dominant state apparatus would need to expend relatively little effort to transform water into a commodity whose scarcity would privilege it as well as its controllers. Once established as a commodity, any item of exchange value acquires symbolic value, connoting power and wealth and thereby enhancing the prestige of its possessor. In this sense, water becomes not just a measure of economic value, but a culturally powerful symbol as well.

The class stratification depicted in *The Grapes of Wrath* arose from corporate control over the region's most precious resource. However, the region's aridity made water an *absent* signifier. Both in the novel and in the desert itself, water's conspicuous absence is what makes it so powerful. The flooding that climaxes the novel is thematically situated to provide maximum counterpoint to the drought which originally forced the Joads to migrate west. Disenfranchised and dehumanized, the Joads can only curse the rising floodwaters even as they once prayed for a deluge to feed their parched crops. The cycle of alienation appears complete; people whose humanity was once integrally tied to the land and the weather now care nothing for

the growing season or the health of the earth. Their survival has come to depend on shelter from the elements rather than the elements themselves. They have become components of the factory-farming process, economically distant from their bourgeois oppressors but closely tied to the industrial ethos which rewards the subjugation of nature. The primary difference between the growers and the migrants now lies in their respective relationships with the privileged signifier. The growers—owners of the irrigation channels, centrifugal pumps, and watertight mansions, control it—while the Okies, starving and drenched, are at its mercy.

In *The Grapes of Wrath*, Steinbeck presents an archetypal Plains family caught in the modernization of the American dream. Forced to adapt to the realities of a closed frontier and a desert in the country's midsection, Americans retrofit their dominant myths to encompass corporate capitalism and, in so doing, accepted water's scarcity and preeminence as commodity in the western region. This shift in ideology completed the antiquation of the Joads' way of life. Ecological realities had long ago proven their lifestyle quixotic, but it took the formidable alliance of the Dust Bowl and corporate agribusiness to dislodge the Okies from their land and homes. Later in his life, Steinbeck returned to criticize the America-as-Eden myth by writing *East of Eden*, a novel whose very title suggests alienation from paradise. It is in *The Grapes of Wrath*, however, that he is most concerned with the hydrological causes for that estrangement.

Steinbeck acknowledges water's primacy in the West by documenting the social ramifications of the ideology which permits its monopolization and waste. At the same time, his abiding affection for the yeoman agricultural ideal forms a strong undercurrent throughout the novel. Donald Worster feels that this nostalgia comes at the expense of a coherent critique of the water-based oligarchy primarily responsible for the ecological demise of the Southwest and its accompanying human suffering (*Rivers* 229). While Worster's criticism has

substantial merit, it fails to address the symbolic power attached to water that pervades the novel. From the drought in Oklahoma to Noah's refusal to leave the river in Arizona to the raging floodwaters that climax the text, Steinbeck weaves water into the novel's structure as well as virtually every thematically significant event.

This tendency to privilege water, either by absence or surfeit, appears frequently in the Steinbeck canon. For example, Of Mice and Men opens and closes on the banks of a river; The Log From the Sea of Cortez, with its fascination with tide pools, offers the clearest presentation of Steinbeck's eco-philosophy; and The Wayward Bus, like The Grapes of Wrath, utilizes floodwaters in the desert to spur its characters to action and the acquisition of wisdom. That in The Grapes of Wrath Steinbeck chose to stress his affection for the yeoman tradition rather than explicitly condemn modern hydraulic society does not detract from the book's acknowledged success in subverting that same hydraulic apparatus. The reactions of the state and federal governments to the book's publication as well as that of the oligarchy-controlled media clearly demonstrate the novel's effectiveness. Vehement condemnations of the book and its author followed shortly after its publication in 1939 and continued for years afterward. That the most vociferous denunciations came from the water-barons and their political allies demonstrates that, contrary to Worster's contention, Steinbeck did indeed understand the politics of water-use and that his novel attacked it successfully.2

²One of the most effective techniques used by the press to discredit the novel involved letters to the editor from supposed "Okies" protesting that the conditions depicted in the novel did not really exist. The letters told of friendly treatment by the growers, clean living conditions and enough work for everybody. The papers also spread rumors of Okies wanting to kill Steinbeck for telling lies about them. Little information defending Steinbeck's version of events reached the public at large until a number of other exposes (most notably Carey McWilliams' Factories in the Field) were released and photographs documenting the migrants' conditions gained widespread notoreity.

I

 \mathbf{W} ater's dominance in the cultural and agricultural hierarchy of the arid region is neither new nor surprising. Not just in the Hebrew Bible but throughout history, the habitability of any region has traditionally been determined by the availability and accessibility of its water. The Spanish explorers who first traversed the Southwest deemed it an inhospitable wasteland, unfit for human settlement except by those savages already content to scrape an existence from the unforgiving rock. American trailblazers including Lewis and Clark and Zebulon Pike held little hope that the arid region could sustain American settlements (Reisner 20). Such criticism, however, quickly disappeared in the storm of patriotism that surged through the new United States. Parallel visions of world dominance and transcendental bonding with nature created a unique blend of ideologies which sought to simultaneously sustain an extractive economy and an unspoiled, untrammeled frontier. Not till near the turn of the twentieth century did the inexorable collision of these visions loom close enough to draw the notice of the nation's policymakers. The resulting tension between ecosystemic requirements and the modes of production caused a "transformation in consciousness and legitimating worldviews," a phenomenon Carolyn Merchant has termed an "ecological revolution" (5).

Settling a "virgin land" offered Americans the chance to reincarnate themselves in a world whose history had no relevance to their inherited Eurocentric worldviews. This rugged

³ The sexual connotations of this term and its accompanying belief system were not lost on those men who first laid claim to the land nor on the historians who later analyzed their actions. The term forms the title of Henry Nash Smith's pioneering study of the mythology of the American West and was answered by Annette Kolodny's ironic title, *The Lay of the Land*. The progression of the land from earth mother/maiden goddess to conjugal partner/slut has been the subject of several excellent analyses, among them the works of Smith, Kolodny, Karen Warren, and Catherine Roach.

new continent, rather than representing a continuation of European cultural hegemony, offered a singular destiny for those brave enough to seize it. Without an acknowledged history, America offered a new beginning wherein land and settler could merge into a single corporate entity and recover, through diligence, husbandry, and mettle, the lost paradise of Eden. Myra Jehlen argues that this vision reified the American tendency to merge selfhood into a collective national ideal while preserving a uniqueness defined by one's own relationship to the land:

The American incarnation fused continent and civilization, nation and citizen, man and nature to constitute a universe where oppositions amounted to different versions each of which was the other's cathartic, so that their difference was itself transmuted into "necessary" means to the emergence of the single and unchanging truth. (82)

For nineteenth-century settlers in the Southwest, that truth lay in the juxtaposition of aridity with the Jeffersonian yeoman ideal. The synthesis of these two poles created the "truth" of the yeoman Plains farmer.

American history shows that people traditionally migrated to the Plains during periods of high rainfall. When the rains subsided to typical levels, people retreated or pressed on. But by the 1920s, the frontier was closed and Americans had bought solidly into the notion that technology and God would see to it that the Great Plains became the agricultural capital of the world. Unable to accept that meeting the grain demands of a global market economy in a region where annual rainfall fluctuated between seven and twenty inches made little ecological sense, Dust Bowl residents lashed out at the weather, believing it caused their woes. There was not enough water, they complained; the weather had failed them. Such an argument is analogous to blaming the mint for not making people enough money. I do not mean to belittle the very real human tragedy of the Dust Bowl nor to deny the nobility of many of those who

suffered through it. Nevertheless, the Dust Bowl's ecosystemic catastrophe was both avoidable and remediable except that neither option was palatable to the region's residents. Worster describes the typical Plains farmer's position as follows:

... [F]ail to anticipate drought, underestimate its duration when it comes, expect rain momentarily, deny that they are as hard hit as outsiders believe... admit that some help would be useful, demand that the government act and act quickly... without strings... pooh-pooh the need for major reform... eagerly await the return of "normalcy"... But whenever the New Deal tried to become new and innovative, plainsmen turned hostile. The fate of the plains lay in the hands of Providence, and Providence, not Washington, would see them come out all right. (Dust Bowl 28)

It is precisely this sort of stubborn adherence to traditional values while implementing ecologically pernicious agricultural methods which brought on the "dirty thirties."

The Joads' saga offers a fictional version of the consequences of this myth of the garden and the accompanying myth of the American Frontier. Both were driven by a perceived superabundance of resources, a national fantasy that prodded the Joads towards Oklahoma and then later to California. Belief in an infinite national trust fueled the American dream of individual wealth and world dominance amidst a rugged land which would never cease testing all those attempting to wrest an existence from it.⁴ West of the 99th meridian, water's scarcity threatened to undermine this popular vision of America as a limitless Edenic paradise. Rather than permit a subversion of the prevailing value system, Americans bought heavily into a myth of hydro-abundance promulgated by Western ideologues such as William Gilpin. Gilpin and his followers' insistence that "rain follows the plow" and boasts that the West contained infinite supplies of

⁴Adherence to the doctrine of manifest destiny, even before it was so named, allowed white settlers to casually displace Native Americans without regard for history, negotiated treaty, or first right of occupancy. Completely dismissing native claims to their homelands permitted the notion of "virgin land" to arise. Acknowledging native claims meant dismantling an intact and seductive mythology as well as relinquishing the American right not just to continue expansion, but to exist at all.

minerals and timber convinced people like Grampa and Gramma Joad to move west, settle in the arid region, and take up the yeoman agricultural ideal first written into American mythology by Thomas Jefferson.⁵

Jefferson, however, lived in Virginia. His philosophy stemmed from his unquestioned intimacy with farming practices in the humid region, yet he was profoundly ignorant of agricultural techniques west of the Mississippi. A century later, John Wesley Powell labored for close to thirty years to bring American western land use policies closer to terrestrial and hydrological realities. Only after Powell's death in 1902 did the regional and federal governments begin acknowledging that

Gilpin insisted that the West contained a reservoir of resources that was unlimited in its capacity to sustain an ever-growing population in conditions of universal affluence. This resource reservoir took first of all the form of agricultural land. (220)

Gilpin was not alone in his views but he was perhaps the most vocal and persuasive of his compatriots. Powell's *Report on the Arid Region* was written primarily to rebut the fallacious assumptions that grew out of such utopian dreamings. See also, Reisner's discussion in *Cadillac Desert* of the Gilpin/Powell duelling ideologies.

⁶Powell's Report on the Lands of the Arid Region (1879) was a revolutionary analysis of the resources and the methods of resource management in the Southwest. The study pilloried the Homestead Act's presumption that any given 160 acres in the West could sustain a family. Powell argued that the controlling resource in the region was and is water; therefore its distribution and availability should govern the size and worth of parcels of land. Water rights and sound counsel on irrigation practices must take the place of square, arbitrarily determined land grants. In a speech to the International Irrigation Congress in 1893, Powell declared:

I tell you gentlemen you are piling up a heritage of conflict and litigation over water rights for there is not sufficient water to supply the land. (qtd. in Worster, *Rivers* 132)

These views were so repugnant to the political and corporate land interests in the region that Powell was all but driven from government service. The establishment of the Bureau of Reclamation through the Reclamation Act of 1902 paid posthumous homage to Powell's prescience. For a more detailed discussion of Powell, see Wallace Stegner's biography, Beyond the Hundredth Meridian; see also Worster's analyses, as well as Powell's own writings (particularly those cited here).

⁵In Fatal Environment, Richard Slotkin offers this assessment of Gilpin's position:

agricultural practices in the arid lands required severe retooling. By then, however, powerful corporate interests already dominated the region's economy. The conflict between misguided government policies, yeoman land-use ideals, and geographical realities had expanded to include the profit-centered machinations of agribusiness concerns.

Early in the novel, Steinbeck establishes the fundamental conflict between the yeoman farmer and the land and then diagrams the imperialist maneuverings of corporate agribusiness:

Grampa took up the land, and he had to kill the Indians and drive them away. And Pa was born here, and he killed weeds and snakes. Then a bad year came and he had to borrow a little money. An' we was born here

... our children born here. And Pa had to borrow money. The bank owned the land then Sure cried the tenant men, but it's our land. We measured it and broke it up. We were even born on it, and we got killed on it, died on it. Even if it's no good, it's still ours That makes ownership, not a paper with numbers on it. (Grapes 34-35)

The above passage reveals several of the guiding principles governing life in the Plains. First, the term "bad year" refers to inadequate rainfall and an accompanying water shortage, a cyclical reality of Plains life that formed one of the bases for the collapse of the yeoman lifestyle. Second, right of ownership was established through displacing the native peoples. That act in and of itself constituted (in the farmer's eyes) a right of title. Last, birthing and dying on the land created a blood-right of succession that no financial transaction could negate. And most importantly, working the land formed the litmus test of possession. The quotation reveals the teller's sadness that the laws of the country conflict with the laws of the land. The agrarian ideology held that only those who work and love the land can truly own it:

If a man owns a little property, that property is him, it's part of him and it's like him. If he owns property only so he can walk on it and handle it and be sad when it isn't doing well, and feel fine when the rain falls on it, that property is him.... Even if he isn't successful he's big with his property. (39)

Such feelings descend directly from the dual myths of the frontier and the garden. The frontier myth posited that land in the West was uninhabited by anybody with legal rights and that the strength of the nation lay in its boundless and unsettled western frontier. The myth of the garden held that the land would yield bountiful harvests to any American willing to work it. Rain would fall in direct proportion to the farmer's needs. Any failure in these natural laws was necessarily transitory and had no lasting relevance. This supposed law of nature was disproven by the Okies' experiences in both Oklahoma and California. After a prolonged drought revealed the unsustainability of their farming methods and drove them from their homes, the wet/dry cycle in California nearly caused their demise.

Not only did meteorological laws conflict with the yeoman belief system, the Okies also found their way of life colliding with the policies of a nation committed to corporate capitalism. Empiricism and a bottom line mentality created rigid parameters for the decision-making process. While for agrarians land constituted a part of themselves and their culture—something for which the term "market value" lacked a referent—banks and corporations translated it into assets on a balance sheet. Where the Joads spoke of "bad years," account managers acknowledged the reality of sparse rainfall and a semi-arid climate. Historical climatic patterns decreed that "bad years" for rainfall were the norm for the Plains, a fact which made tenant farmers a poor investment. For banks, it became a matter of short-term profit at any cost. Years of drought and over-reliance on nutrient-draining cash crops had left the land ecologically devastated. Those keeping accounts looked to squeeze out every vestige of production before abandoning it for more lucrative investments:

⁷Frederick Jackson Turner's essay, "The Significance of the Frontier in American History," (1892) posited that the existence of the frontier allowed the nation's economy to expand constantly and thus allowed capitalism to dominate. His thesis was widely accepted until the middle of this century and is discernable in the literature as well as the governmental policies of the period.

But you'll kill the land with cotton.

We know. We've got to take cotton quick before the land dies. Then we'll sell the land. Lots of families in the East would like to own a piece of land. (34)

The sight of faceless corporate "monsters" intentionally destroying the land's fertility moved the tenants to violence. Yet the Joads and their neighbors had often planted cotton and were at present sharecropping frenziedly in order to build up a stake to take west: "The whole bunch of us chopped cotton, even Grampa" (90). The differences between the Okies and the banks lay more in scale and philosophy than methodology and eventual result. Both sides participated in the capitalist mechanism, but the banks had better adapted to thrive within it.

Mining the land of nutrients and leaving it for dead demonstrates a new, production-oriented allegiance to the frontier myth. Treating the nation's breadbasket as an expendable resource necessarily assumes an infinite resource reservoir from which to replace it. Short-term profiteering, by its very nature, posits that the future will take care of itself. Such a position depends on a telos of inexhaustible plenty, a concept central to the frontier and garden myths. This pattern of behavior again shows that the onset of the Industrial Age and accompanying supremacy of corporate capitalism did not eradicate the dominant myths, but simply adapted them to twentieth century exigencies. Richard Slotkin offers an intriguing explanation for this transition. He argues that the systems of myth and ideology that developed in this country depended on a positive association with physical migration which revolved around two geographical poles: the "Metropolis" and the "Frontier." The Metropolis must have a negative association or no one would want to leave, while the Frontier need offer riches enough to satisfy all of our dreams. Emigrants suffer in the wilderness while temporarily regressing to a more primitive state. The results, though, more than compensate for the ephemeral loss of civilization's comforts:

The completed American was therefore one who remade his fortune and his character by an emigration, a setting forth for newer and richer lands; by isolation and regression to a more primitive manner of life; and by establishing his political position. (Slotkin 35)

This discussion offers striking parallels to the Joads' saga. Slotkin's analysis takes the city or the "Metropolis" as the emigrant's point of departure, but we can substitute the Dust Bowl region without interfering with the argument. Since the trappings of the Industrial revolution came late to the Plains, the region lacked the large, mechanized urban areas that pose such an effective antipode to the wilderness frontier. Instead, mechanization and factory farming—both consequences of industrialization—provided the major impetus that drove families like the Joads from their homes. In the Dust Bowl, wage-slavery and the specter of starvation resulting from technological and economic displacement offered the negative contrast to the frontier. Not present was the traditional coupling of those factors with the dense population centers that characterized urban industry. The Okies' choices, in Steinbeck's view, were either to drive a tractor through their neighbors' homes while raping the land with machinery and cash crops, or to leave.

When the Joads first emigrated to the Sallisaw, they endured isolation and primitive conditions while homesteading their land and seeking to fulfill their yeoman ideals. Aridity and untenable agricultural practices caused the dream's collapse, forcing thousands of people like Steinbeck's Joads to again move west. This time they settled in California, the geographical border of the once limitless frontier, now a privatized corporate fiefdom. Once more the Okies suffered primitive, dehumanizing conditions while attempting to exercise their supposedly inalienable human rights. The growers' cartel, however, had disenfranchised them even before they arrived, forcing them into a nomadic existence designed to destroy the homesteading instinct so central to the Frontier Myth.

Despite uncountable acres lying fallow, no land was available for the Okies, a reality Steinbeck often demonstrates (*Grapes* 225). Their dreams of subsistence farming were fundamentally incompatible with the market economy that allowed a select few to grow vastly wealthy on the toil of disenfranchised adherents to the old American Dream. What ultimately kills Casy and exiles Tom is—just as in Slotkin's paradigm—an urgent desire to participate in the political process. They do not succeed, for the moment, because the growers' control over water rights allows them complete dominion over the local government and media. I will discuss this phenomenon at greater length later in the essay. Its relevance here stems from water's role in the third major cause for the Okies' westward migration: inadequate irrigation and a perceived drought.

II

Steinbeck's humanistic bent impelled him to focus on the human side of the agricultural morass that drove the Okies west. However, the underlying motivation for both the Okies' behavior and that of the agribusiness concerns can ultimately be analyzed in hydrological terms. Rainfall in the Southwest in the 1930s fell well within historical norms; cycles of drought are more common than periods of heavy rain. Drought did not cause the Dust Bowl; a more accurate description of the region's troubles should instead focus on the Depression and local agricultural mismanagement. The Depression, though, did not seriously affect the Great Plains until the onset of the Dust Bowl. If local farmers had been able to continue planting and harvesting cash crops at the rate they had in the 1920s, the Plains might have escaped the worst of the Depression. Unfortunately, by the end of the decade, they had borrowed heavily and expanded their acreage to maximize annual yields. When the crops failed and the "black blizzards" came, the national plague of poverty and joblessness infected the Plains states as well.

By the 1930s, Plains farmers had plowed under virtually all the region's grasslands. Without sod and other vegetation to hold the topsoil in place, the land became extremely vulnerable to ecological disturbance. When the drought hit, the land had no natural defenses with which to keep its topsoil intact. The resulting dust storms stripped the land bare. Yet, if the region had retained its indigenous vegetation, the drought would have had little long-term effect on the land. Profit-oriented agriculture and ecological ignorance turned a cyclical shortfall of water into a disaster.

High-yield monoculture is a dubious ecological proposition even in humid regions, but in the Southwest such methods become disastrous (Worster, Dust Bowl 13). When Grampa Joad cleared the land and put it to plow, he hoped to fulfill the traditional yeoman ideal. Barring precipitation shortfalls, the average homestead proved more than adequate for subsistence farming. The region could not, however, sustain the rigors of a capitalist-based agriculture, a task which the metamorphosis of the American Dream soon demanded. Steinbeck condemns what he sees as a dissolution of the values so cherished by the people who settled the region: connectedness to the land coupled with love and gratitude for its sustaining them. Such reverence became obsolete with the ascension of factory farming.

The driver sat in his iron seat and he was proud of the straight lines he did not will, proud of the tractor he did not own or love, proud of the power he could not control. And when that crop grew, and was harvested, no man had crumbled a hot clod in his fingers and let the earth sift past his fingertips. No man had touched the seed, or lusted for the growth. Men ate what they had not raised, had no connection with the bread. The land bore under iron, and under iron gradually died. . . . (*Grapes* 38)

Steinbeck mourned this change in values but could offer no viable solutions. Even as they cursed the technology that drove them west, the Okies traveled in cars bought through the trade of their mules and watched with sadness as tractors did their work in a fraction of the time. The yeoman farmer was an

anachronism; the American ideal had to be modified to meet the evolving needs of society.

The Okies formed the pivot point for the western land's transition from earth mother to degraded resource. As the yeoman ideal gave way to the wages of capitalism, the Okies adapted their methods to meet the parameters of a market-based economy. Even as they clung tenaciously to their pre-industrial, terrestrial reverence, they grudgingly accepted the new dominance of the capitalist shift. Muley Graves, unable to relinquish his ties to the land, cannot go with his family when they move west. Rooted to the place where he was born, Muley rages against the dual inequity of bad land and evil bankers:

'Cause what'd they take when they tractored the folks off the lan'? What'd they get so their margin a profit was safe?... God knows the lan' ain't no good. Nobody been able to make a crop for years. But them sons-a-bitches at their desks, they just chopped folks in two.... Place where folks live is them folks. They ain't whole, out lonely on the road in a piled-up car. Them sons-a-bitches killed them. (Grapes 55)

For Muley, the link with the land still stained with his father's blood is stronger than his ties to wife and family. He cannot leave even as he acknowledges that he is a living anachronism ("You fellas think I'm touched?"). Sadly, Muley's protestations held little weight with a population caught up in the quasi-divine status allowed them by technological advance. It did not matter if the land was poor because human ingenuity could and would transform it. No longer need the land yield forth its bounty, it will instead be mined and harvested. Modern agriculture provided the means to merge Henry Adams' classic juxtaposition of the dynamo and the virgin. Through this synthesis, the earth ceased to be a virgin and became a wife. Similar phenomena occur often both in the American landscape and literary corpus.

⁸In To a God Unknown, Steinbeck openly acknowledges the sexual bond between men and the land. After Joseph literally makes love to the earth, the narrator matter-offactly notes that "For a moment, the land had been his wife" (11). In The Grapes of Wrath, which postdates To a God Unknown by a decade, Steinbeck again acknowledges

The masculine, aggressive machine assaults and reshapes the idyllic, feminine landscape (Leo Marx 29).

As farmers were forced more and more to mistreat their holdings, they degraded it further to sexual plaything and chattel. This ideological evolution progressed naturally from the dominant myths. As industrialism began to dominate the West, the accompanying mindset fit a unique niche in the American dream of rugged individualism and merit-based achievement.

Bacon, anticipating the Industrial Revolution, advocated reclaiming Eden through industry and science; a century later, Americans embraced the challenge as their destiny. Westerners could reclaim the garden but it involved literally "reclaiming" their place in paradise through diligence and industry. Men

the sexual link—this time in the form of rape: "Behind the harrows, the long seeders—twelve curved iron penes erected in the foundry, orgasms set by gears, raping methodically, raping without passion" (37).

⁹Kolodny argues that the progressive deterioration in cultural reverence for the land was an unavoidable by-product of viewing it as feminine while seeking to settle it:

Implicit in the metaphor of the land-as-woman was both the regressive pull of maternal containment **and** the seductive invitation to sexual assertion: if the Mother demands passivity, and threatens regression, the Virgin apparently invites sexual assertion and awaits impregnation. (67)

10Jehlen argues convincingly that the uniquely American bond with the land and Nature makes anything Americans choose to do necessarily right and natural: "The settlers' implementation of the continent's permanent contours and conditions... places the emerging social structures... in the realm of nature. Those who assist the emergence of those structures, moreover, wield the power of nature itself" (57).

One of the ways Americans cast the conquest of land within the current political climate was by classifying irrigation programs as a struggle between the forces of good and godless communists dedicated to subverting the American way of life. Robert Kerr, former governor of Oklahoma and Head of the Senate's Select Committee on Water Resources rhetorically asks:

Can a pagan Communist nation... make more efficient use of soil and water resources than the most advanced and enlightened nation in the world? Can ruthless atheists mobilize and harness their treasures of God-given wealth to defeat and stifle freedom-loving peoples everywhere? (323-24)

would finish what Nature had begun. Eden, ideologues hastened to point out, was after all an irrigated garden. Adam fell; Americans will stand tall. The Reclamation Act of 1902 established the Bureau of Reclamation, intending to fulfill Powell's credo of "rescuing" and "redeeming" the land from its arid state. The true meaning of the word "reclamation" lost all significance in the technological assault on the region's hydrology. The verb "to reclaim" infers prior ownership; the people seeking to irrigate the desert could make no such claim. Nevertheless, whatever needed to be done would be done to get water to the land and restore it to its imagined, bountiful state. Any water that ran into the sea without serving some agricultural purpose was "wasted," a Providential oversight correctable through human diligence.

Denying the hydrological realities of the Southwest while modernizing the dominant mythology permitted Westerners to reject the implication that all is not within the grasp of any perspicacious American. Henry Luce's *Time* magazine trumpeted the rediscovered limitlessness that irrigation technology brought to the frontier: "Irrigation experts are now convinced that the rapidly growing U.S. can expand indefinitely within its present boundaries" (qtd. in Worster, *Rivers* 266). This quotation is pregnant with the contradictions inherent to the American and specifically western dream of infinite abundance. The notion of indefinite expansion within acknowledged bound-

¹¹Worster offers this account of the Plains mentality during the mid 1930's:

[&]quot;You gave us beer," they told Roosevelt," now give us water." ... "Every draw, arryo [sic], and canyon that could be turned into a lake or lagoon," wrote a clothing store manager, "should be turned into one by dams and directed ditches & draws until there are millions of them thru these midwestern states." A Texas stockman wanted to use natural gas to pump flood waters from the Mississippi River to the Plains An old soldier from Denver penciled his ideas on ruled tablet paper: stage sham battles with 40,000 Civilian Conservation Corp boys and \$20 million worth of ammunition—the noise would be sure to stir up some rain . . . "Try it," he finished, "if it works send me a check for \$5000 for services rendered." (Dust Bowl 39)

aries is fundamentally self-contradictory. Attributing this ability to accomplish the impossible to the calculations of irrigation experts beautifully underscores the incongruities within western water policy. Western land barons relied on irrigation to accomplish the impossible and ignored or destroyed anyone or anything that interfered with their pursuit of that grail. The Joads and their contemporaries were ill-equipped for the ramifications of the growers' zeal. They clung fast to traditional yeoman values even while participating in the market economy. Caught between two worlds, they could not linger in Oklahoma and set out instead for the land where corporate growers had remanufactured the traditional Myth of the Garden to entice exodusters westward.

As they traversed the migrant highway, the Joads met many who, like themselves, had readily believed the leaflets spread by agents of the California growers.

"Why, I seen han'bills how they need folks to pick fruit, an' good wages. Why, jus' think how it's gonna be, under them shady trees a-pickin' fruit an' takin' a bite ever' once in a while.... An' with them good wages, maybe a fella can get hisself a piece a land an' work out for extra cash. Why, hell, in a couple a years I bet a fella could have a place of his own." (Grapes 160)

That the Great Plains could no longer sustain the yeoman ideal did not necessarily spell the death of the American dream for a dispossessed people, barely literate and ready to jump at any hope of salvation. The California growers cartel, already enmeshed in a cycle of wage-slavery, remained convinced that additional workers could only lengthen their profit margins.¹² They recruited Dust Bowl refugees with promises of a vast, temperate paradise wherein they might recreate the home-

¹²Steinbeck had already devoted an entire novel, In Dubious Battle, to the political implications of the worsening tensions between growers and migrants. In The Grapes of Wrath, he ontologizes the migrant struggle and makes the inevitability of social change even more evident. Both novels embody his "phalanx" theory which held that the collective will of the people differs from the sum of its component parts; it is a unique entity whose force far exceeds that of its members (Benson 268).

steads they had been forced to leave. This new myth of the garden presented an even more seductive exterior than the Plains by adapting the Jeffersonian ideal to a region where husbandry was allegedly secondary to the munificence of Nature. Grampa, before becoming overwhelmed by his attachment to the land he cleared and raised his family on, fantasized about bathing in a washtub full of grapes where he would "scrooge aroun' an' let the juice run down my pants" (100). But this vision of unchecked abundance was less a cultural phenomenon than a calculated product of the growers' propaganda mills. The agribusiness consortia dangled visions of their own wealth and massive land-holdings before the Okies in order to fuel their (the cartel's) hegemony. And the irony of that vision, as Steinbeck depicts it, is that the growers were as alienated from their land-wealth as they forced the Okies to be:

And it came about that the owners no longer worked their farms... they forgot the land, the smell and the feel of it, and remembered only that they owned it.... And the owners not only did not work the farms any more, many of them had never seen the farms they owned. (*Grapes* 257)

The California growers had become immensely wealthy and powerful as the result of an uneasy but mutually profitable alliance with the Bureau of Reclamation. Having already incarnated themselves in the image of the new garden which depended heavily on the tools of the technocracy to subdue the land, they looked to consolidate their holdings by enacting the Social Darwinism which fueled their telos of industry. They had managed to consolidate the dual definitions of "garden" into one highly profitable vision of production and wealth. No

¹³California's water wars are far too complex to treat in this essay. Many excellent studies about the subject exist and I have made extensive use of several, including Worster's Rivers of Empire and Reisner's Cadillac Desert. Mary Austin provides a fictional account of the Los Angeles appropriation of the Owens River in The Ford, and the movie "Chinatown" offers another version of that formative event in California's hydrological history. For a well-researched, highly critical history of the Bureau of Reclamation, see Berkman and Viscusi's Damming the West.

longer could "garden" signify either a region of natural, providential splendor or an area of human-created agrarian abundance (Leo Marx 85); the Edenic garden propounded by Gilpin and his nineteenth-century allies was completely replaced by its opposing Baconian definition of a human-engineered paradise achieved through work and intellect. Humans—specifically men—had invented the tools necessary to subjugate nature. Those tools had brought water to the desert via centrifugal pumping and, more importantly, through the diversion of rivers.

By shaping the perceived objectivity of science to fit the needs of western agriculture, an elite group's control over the dissemination of knowledge led to dominion over the region's geography (Foucault 69). Literally overnight, worthless land became incredibly valuable through shady, often illicit dealings that brought subsidized water to the region. The men whose schemes created this technological garden stood to profit most from its enactment and it was they who formed the powerful growers' cartel that enslaved the migrants. Those who controlled the water controlled the entire regional economy, and that domination bled into every other facet of life.

Californian agribusiness's command over nature required large temporary workforces while the capitalist regime necessitated that this transient labor force be paid very little. The growers had traditionally indentured immigrants and other disenfranchised groups since little public outcry arose from their mistreatment. However, the arrival of the Okies, a large, skilled, English-speaking labor force whose migrant status left them bereft of any governmental protection, appeared to be a tremendous windfall to the growers cartel. In the novel, however, the latent power of the oppressed becomes the looming threat to the water-based oligarchy. The Okies come to embody Marx's concept of alienated labor. 14 Their corporate oppressors

¹⁴Marx's description of worker alienation (in "Wages of Labor") is uncannily accurate when related to the migrants:

force them to work ever harder and faster in order to eke out a subsistence, yet each hour worked and each piece of fruit harvested bring them that much closer to unemployment and starvation. They must further compete against each other by underbidding fellow workers in a futile attempt to participate in an exclusionary economic system. Conversely, growers must dehumanize the workers, degrading them as they do the land so that their acts of subjugation can be perpetrated on objects beneath contempt.15 In In Dubious Battle, Steinbeck treats the worker/grower relationship as a matter strictly related to class struggle. In The Grapes of Wrath, he elevates it to the realm of epistemology, viewing the schism between workers and land barons as symptomatic of the larger issue of human alienation from the earth and as a catalyst for the synthesis of humans and their surroundings into the all-encompassing organismic one (Benson 268-69).

Three hundred thousand, hungry and miserable; if ever they know themselves, the land will be theirs.... And the great owners, who had become through their holdings both more and less than men, ran to their destruction, and used every means that in the long run would destroy them. (*Grapes* 263)

Since the worker has sunk to the level of a machine, he can be confronted by the machine as a competitor. Finally, as the amassing of capital increases the amount of industry and therefore the number of workers, it causes the same amount of industry to manufacture a greater amount of product, which leads to overproduction and thus either ends by throwing a large section of workers out of work or by reducing their wages to the most miserable minimum. (69)

The first part of the quotation could easily be describing the situation in Oklahoma while the second half diagrams the Okies' dilemma in California.

¹⁵The women/nature, men/civilization duality linked women to the land and so they shared its degradation. Viewing the landscape as feminine traditionally permitted the patriarchy to construct the cultural paradigm of both women and the land in an image that suited its perpetuation. Damming rivers and mining aquifers in an attempt to reconstruct the landscape to a masculine ideal is analogous to the girdling and reshaping of women to fit the masculine ideal of beauty. See Warren and Cheaney, "Ecological Feminism and Ecosystem Ecology" and Catherine Roach, "Loving Your Mother: On the Women-Nature Relation."

The cycle of poverty imposed on the Okies contained a seasonal period of starvation during the rainy season. Water again, this time through super-abundance, became the immediate threat to the Okies' survival. When Rosasharn goes into labor, the men outside labor frantically to erect a dam to keep the boxcar shelters dry. Water, priceless commodity and building block of life, endangers the birthing process and threatens to starve an entire class of people. Both attempts—the birth and the dam—are unsuccessful. As the floodwaters force the Joads to flee, Uncle John is assigned the task of burying the stillborn child. Rather than do so, he coopts the water, using it and the dead child to spread his message of despair and defiance:

Go down an' tell 'em. Go down in the street an' rot an' tell em that way. That's the way you can talk.... Go on down now an' lay in the street. Maybe they'll know then. (494)

Driven from Oklahoma where widespread refusal to acknowledge water's scarcity resulted in an unsustainable way of life, the Okies found themselves in a new region with an already intact and sophisticated capitalist infrastructure with water at its plinth. As a disenfranchised and powerless class, the migrants had no opportunity to gain control over water rights and consequently could not participate in the dominant discourse. John's act represented an ephemeral yet powerful appropriation of the preeminent unit of capital. Using water to convey a message of worker defiance strikes at the heart of the power structure: if the Okies were to gain actual control over the region's water, the growers' cartel would collapse and the legions of migrants could seize power and redistribute the land according to need and fairness.

The dual hopes for the migrants, according to Steinbeck, are class alliance and worker control over the tools of domination. When Tom takes over the task of organizing the Okies from the martyred Casy, the class struggle takes a symbolic step forward. When Uncle John seizes control over the water that enslaves his

people and threatened their lives, he takes another major step towards toppling the ruling class. Shortly after Uncle John's act of defiance, Rosasharn's gift of her maternal milk to another starving Okie demonstrates that both Tom's and John's acts will eventually bear fruit. Sheltered from the water by a barn, itself a potent symbol of the yeoman agricultural ideal, Rosasharn's offering her breast to a fellow migrant demonstrates the class cohesion that will ultimately topple the ruling class. While her stillborn infant rots in the town below, Rosasharn breast-feeds an old man whose advanced state of starvation has caused him to regress to a pre-lingual state. Her act and the old man's condition represent the succoring of the infant movement toward social change. Each act, while primarily symbolic, is also genuinely subversive. In these small acts of defiance and hope, suggests Steinbeck, lie the restoration of traditional ties between people and between people and the land. So, despite their socialization into a culture in which water is both hoarded and feared, the Okies have not completely acquiesced to their role in the factory-farm mechanism. They retain their dreams of an idyllic land where the family farm reigns supreme and water and land are distributed according to need and connectedness to the land rather than amassed corporate capital and political dominance.

In the final analysis, however, the migrant dream of resurgent family farms reclaiming their place as the preeminent agricultural ideal cannot work in the arid lands. Water reclamation projects, because of their expense and complexity, require the participation of an elite, educated class. The projects therefore become political pawns. The family farmer, allied with a subsistence ideology and unwilling to exploit the land past its carrying capacity, cannot compete with wealthy, powerful, corporate interests. For this reason, the novel, though hopeful, does not offer any quantifiable hope. Worster feels this lack of an attainable goal to be the novel's major failing. Decrying the system of land distribution without explicitly condemning the

accompanying hydrological autocracy leads to the specious conclusion that simply putting the land in the hands of the migrants will solve the region's agrarian morass. In a section of Rivers of Empire entitled "The Grapes of Wealth," Worster argues:

Nowhere in *The Grapes of Wrath* does Steinbeck draw attention to the elaborate hydraulic apparatus that has been required to create the California garden Grapes, carrots, cotton and the like are the products, it would seem, of spontaneous nature, not the contrivances of advanced water engineering and the social organization it has required. (229)

Since Steinbeck failed to acknowledge the inherent oligarchic nature of irrigation-based societies, he creates the false impression that equitable land distribution and a classless society will return the region to ecological stability. Historically, there are no precedents for this vision being realizable. In fact, returning the family farm to the arid region without altering the national capitalist infrastructure will, given the Plains example, cause devastating ecological harm.

Worster's critique does raise the problematic issue of Steinbeck's unrepentant affection for the family farm but does not, as I mentioned earlier, address the powerful critique of hydraulic society implicit in the novel's structure. That he used water throughout the novel as an absent signifier suggests that Steinbeck was well aware of its power and complicity in the region's power hierarchy. When, at novel's end, Steinbeck suddenly introduces water as a tangible presence and powerful symbolic force, it empowers the migrants by demonstrating their class cohesion and latent strength. Structuring the novel in this manner permitted Steinbeck to criticize the extant hydraulic society more effectively than he could through overt polemics. Indeed, the novel's reception, both locally and nationally, bears witness to its powerful subversive nature, a fact which underscores the most crucial flaw in Worster's argument. If the novel caused both the government and the nation-at-large to reevaluate federal irrigation subsidies for corporate growers,

clearly it must have effectively criticized the inequity and corruption infusing California's water-appropriation schema.

The migrants' struggle became a national cause celebre and the novel's verisimilitude was debated at the highest levels of government. The Hearst-Chandler-Copley yellow press pilloried the novel and its author throughout California. Only after a Life magazine expose and Eleanor Roosevelt's endorsement of the book's veracity did the tide of public opinion begin to turn in Steinbeck's favor. The rage and furor from agribusiness conglomerates and their allies arose because The Grapes of Wrath shook the very foundations of the water-based oligarchy. Worster himself acknowledges this:

Up to the very end of the decade, both the Bureau [of Reclamation] and the Department of the Interior were placidly moving forward ... avoiding any cause for alarm on the part of the growers in California ... What changed all of that undoubtedly was ... the publication in 1939 of *The Grapes of Wrath*.... Suddenly, it became rather difficult for a liberal government in Washington to give subsidized, unrestricted water to groups like the reactionary Associated Farmers, to underwrite their labor policies and their concentration of wealth. (*Rivers* 245)

Nevertheless, despite a temporary surge in popular and governmental concern, neither the novel nor the reform movement it generated achieved any lasting change in western water policy. Porkbarrel appropriations bills continued to subsidize corporate growers who continued to couch their greed within the rubric of a technologically controlled Eden which they believed would and should form the destiny of the West. The migrants' struggle faded into the background with the outbreak of World War II. U.S. entry into the conflict stoked the fires of nationalism

¹⁶Congressman Lyle Borden of California declared *The Grapes of Wrath* to be "a lie, a black, infernal creation of a twisted, distorted mind" (qtd. in *Working Days* xxiv). Steinbeck also became the target of a whispering campaign by the Associated Farmers including one rumor that Steinbeck was a Jew acting on behalf of a zionist-communist conspiracy to undermine the economy (Benson 420).

¹⁷After visiting a series of migrant camps in 1940, Mrs. Roosevelt told reporters, "I have never believed *The Grapes of Wrath* was exaggerated" (qtd. in Benson 402).

and the nation turned to the West once again to fuel the American war machine. The Okies benefited from the wartime surge in production, finding work in munitions factories and other war-related industries. Relieved, the growers turned once again to immigrant labor, a class of people they could be relatively certain of keeping disenfranchised and powerless. So, the cycle of exploitation resumed after only a brief hiatus. Public interest in the issue peaked again two decades later when Cesar Chavez briefly managed to organize the Migrant Farm Workers Union into an effective national lobby.

Only in the 1990s, after a prolonged drought and numerous aborted attempts at reform, has the Californian agricultural machine seemingly run dry. Faced with a severe, unremitting drought and a recession-locked nation unwilling to finance any more quixotic reclamation projects, the Californian growers now face a complete embargo on federally supplied water (Reinhold 1). Years of drought and insupportable agriculture in an arid land are seemingly on the verge of accomplishing what neither Powell nor Steinbeck nor any individual person could accomplish on his own: decanonization of the myth of the garden and its accompanying myth of the frontier. These two myths, dominant since the birth of the nation, eventually ran headlong into the realities of a closed frontier and a finite hydrology. Steven Goldstein, spokesman for Interior Secretary Manuel Lujan, aptly summed up the situation when announcing the curtailment of further water-subsidy, saying: "We recognize ... what a hardship this will be. But we cannot make it rain."

WORKS CITED

- Adams, Henry. The Education of Henry Adams. New York: Random House, 1931.
- Benson, Jackson J. The True Adventures of John Steinbeck, Writer. New York: Penguin, 1990.
- Berkman, Richard L. and W. Kip Viscusi. *Damming the West*. New York: Grossman, 1973.
- Foucault, Michel. Power/Knowledge: Selected Interviews and Other Writings 1972-1977. Ed. Colin Gordon. New York: Pantheon, 1980.
- Jay, Gregory S. America the Scrivener: Deconstruction and the Subject of Literary History. Ithaca: Cornell UP, 1990.
- Jehlen, Myra. American Incarnation: The Individual, the Nation, and the Continent. Cambridge: Harvard UP, 1986.
- Kerr, Robert S. Land, Wood and Water. New York: Fleet, 1960.
- Kolodny, Annette. The Lay of the Land: Metaphor as Experience and History in American Life and Letters. Chapel Hill: U of North Carolina P, 1975.
- Marx, Karl. The Economic and Philosophic Manuscripts of 1844. Trans. Martin Milligan. Ed. Dirk J. Struik. New York: International, 1964.
- Marx, Leo. The Machine in the Garden: Technology and the Pastoral Ideal in America. New York: Oxford UP, 1976.
- Merchant, Carolyn. Ecological Revolutions: Nature, Gender and Science in New England. Chapel Hill: U of North Carolina P, 1989.
- Nash, Roderick. Wilderness and the American Mind. 3rd ed. New Haven: Yale UP, 1982.
- Powell, John Wesley. Down the Colorado: Diary of the First Trip Through the Grand Canyon, 1869. New York: E.P. Dutton, 1969.
- -----. Report on the Lands of the Arid Region of the United States. 2nd ed. Washington: Government Printing Office, 1879.
- Reinhold, Robert. "U.S. Says Scarce Water Supplies Won't Go to California Farmers." New York Times Feb. 15, 1992: 1+.
- Reisner, Marc. Cadillac Desert: The American West and Its Disappearing Water. New York: Penguin, 1986.
- Roach, Catherine. "Loving Your Mother: On the Woman-Nature Relation." *Hypatia* 6.2 (1991): 46-59.
- Slotkin, Richard. The Fatal Environment: The Myth of the Frontier in the Age of Industrialization. New York: Atheneum, 1985.
- Smith, Henry Nash. Virgin Land: The American West as Symbol and Myth. Cambridge: Harvard UP, 1970.

Steinbeck, John. In Dubious Battle	. 1936. New York: Penguin, 19	79 .
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- ----. Of Mice and Men. 1937. New York: Bantam, 1975.

- ----. To a God Unknown. 1933. New York: Penguin, 1986.
- -----. Working Days: The Journals of the Grapes of Wrath. Ed.Robert Demott. New York: Viking, 1989.
- Turner, Fredrick Jackson. The Frontier in American History. New York: Holt, 1947.
- Warren, Karen, and Jim Cheney. "Ecological Feminism and Ecosystem Ecology." *Hypatia* 6.1 (1991): 178-97.
- Worster, Donald. Dust Bowl: The Southern Plains in the 1930's. New York: Oxford UP, 1979.
- ——. Rivers of Empire: Water, Aridity & the Growth of the American West. New York: Pantheon, 1985.