

Governor and 1928 Democratic presidential candidate Al Smith's defection from the New Deal may have influenced Hurja (he had been a long-term admirer and acquaintance from the New York days), although apparently the increasing opposition of business interests and the widespread public outcry against FDR's "court-packing" scheme may have swayed Hurja. It is hard to say because Holli never investigates the rationale for Hurja's political positions, nor does he offer an explanation for why he does not do so.

Having burned his bridges to the administration, Hurja soon found himself operating a Washington, DC public relations firm, later buying and becoming editor-publisher of *The Pathfinder*. He was also a part-time consultant to both Democratic and Republican political campaigns. A successful businessman, a political entrepreneur, a good American – Emil Hurja spent an increasing percentage of his civic energies from the late 1930s onward promoting the legacy and contributions of Finnish Americans to American life. He spearheaded the effort to have the Finns' role in the founding of New Sweden (Delaware) duly publicized. He did what he could to build support for Finland after the Soviet attack of 1940. Having succeeded in the terms laid out by Anglo-Saxon America, Hurja could afford to spend his civic energies on his ethnic heritage.

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David Nye, *America as Second Creation: Technology and Narratives of New Beginnings*. Cambridge, MA: The MIT Press, 2003. 400 pages; ISBN 0-262-14081-0; \$29.95 cloth.

To anyone familiar with his earlier work on the social and cultural meanings of technological development in America – *Image Worlds* (1985), *Electrifying America* (1990), *American Technological Sublime* (1998), *Consuming Power* (1998) – the publication of another study by David Nye can only come as welcome news.

The present work, *America as Second Creation: Technology and Narratives of New Beginnings*, is a large-scale, ambitiously conceived study of the role of technology in the nation's "creation stories," as they took shape in the post-Revolutionary period. The initial chapters set out the shared core meaning of these narratives: America's origin understood as a "second creation" built in harmony with God's first creation and in sharp contrast to European and colonial American conceptions of the nature of social and economic organization. Nye is careful to distinguish these technologically based foundation stories from earlier tales of "regeneration through violence" (Richard Slotkin's term) in which pioneers and explorers narrated their hardships or conflicts with Native Americans – tales of violent conquest and definition of the self against an alien "other," embodied in captivity narratives or popular songs and stories of such heroes as Daniel Boone, David Crockett, and Buffalo Bill Cody. Nye's concern is with a second order of narratives which tell the story of how Americans – set-

tlers rather than heroic explorers – created a new nation by transforming a wilderness into prosperous and egalitarian communities, and of the ways in which they wove technology into these stories as a fundamental constituent element. Again and again, as this narrative took shape in the nineteenth century in countless travelers' accounts, newspaper stories, speeches, diaries and letters, popular culture, fairs, art and advertisements, the story is the same: how human intervention and the application of new tools and machines enabled Americans to inhabit new places and construct new communities. Predominantly, Americans thought of their origin and position in the New World in technological terms. Denying that he intends to establish a "deep" structure or idealized form for these technological foundation narratives, Nye nevertheless describes a generic grammar of constituent elements from which emerges a characteristic sequence of events and their representative, exemplary nature. Furthermore, he spends a chapter – extremely illuminating – on unveiling their hidden, unspoken ideological roots in the "fundamental shift of consciousness" which evolved in post-Revolutionary America as the new nation abandoned European and colonial notions of land division, mercantilist regulation, scarcity of resources, and power, in favor of new ideas of space (a national grid system facilitating the surveying and selling of land), natural abundance, laissez-faire and free markets, and increasing access to energy. Within such a framework evolved a fundamentally important order of technological foundation narratives, created by and for majority white Americans to explain and justify their exploitation of the New World by making it appear "natural," "inevitable," and even "ordained" as part of a providential Manifest Destiny. The silences and absences in these narratives were obvious: environmental damage, the destruction of indigenous communities and cultures, and the displacement of farmers, fishermen, and workers by new technologies. Much to his credit, Nye pays extensive attention to the alternative "counter-narratives" produced by these displaced groups – tragic tales of defeat and destruction which retell familiar events from a very different ideological viewpoint. Rejected by the majority culture because they refused to accept the primacy of the grid and the market and thereby limited or threatened the technological foundation stories, the counter-narratives reflect the tactics of the weak. Often fragmentary and transmitted orally, they only occasionally rose to the level of *Black Elk Speaks*, and even the Oglala Sioux chief's story did not escape the influence of the majority culture, mediated as it was by his white interpreter, who domesticated it as he transformed it from oral story to written text.

Thus the pattern is set. Most of the rest of the book alternates between discussions of the major technological creation stories and their respective counter-narratives. The first technology to produce a creation myth was the axe with its attendant imagery of forest clearing and the log cabin, the archetypal pioneer dwelling housing the solitary family in the wilderness. Emerging between the Revolution and the early decades of the nineteenth century, the narrative of the axe merged the frontiersman and the farmer into a heroic solitary pioneer in a paradigmatic tale of conquest of the primeval forest and community building, opening the way for the march of civilization. A pivotal figure in its evolution was Daniel Boone, but it also appeared in the political mania for log cabin imagery as well as in poetry and the arts (popular

engravings, Thomas Cole's paintings and Whitman's "Song of the Broadaxe"). Though presented as fact, it came saturated with cultural and ideological freight, as in the marginalization or exclusion of Native Americans.

Even as the story of the axe evolved and established its dominance, however, it was challenged by counter-narratives of the destruction and loss of a primeval landscape. Early challengers were counter-images of the slave's log cabin and Cooper's professional logger, waging a war on nature rather than improving the land. Others, too, defied the master narrative of the axe and the log cabin: Thoreau, the Hudson River School of painters, George Perkins Marsh, and John Muir, to mention but a few. Into the twentieth century, when not rewritten as environmentalist warnings or dystopian critiques, the counter-narratives variously took the forms of nostalgia and escapism in tall tales of Paul Bunyan, rustic hotels in national parks, and summer cabins, or as upbeat stories of modern scientific forest management, utopian fiction, or Native American wisdom. Over time, the epic tale of the axe, the clearing, and the log cabin metamorphosed into counter-narratives of thoughtless deforestation, land exploitation through the abuse of powerful technologies, or nostalgia for life in the woods.

Another, more overtly technological creation story is the mill narrative – stories of how lumber and flour mills transformed raw materials and local economies and planted the seeds of new communities, exemplified by such Eastern river towns as Lawrence, Lowell, and Rochester, or the Western "boomtowns" of Columbus and Minneapolis. Like other foundation stories they were presented as fact while being in fact highly selective, explaining how with providential inevitability the mill as a dynamic first force developed potentialities inherent in the American landscape and, unlike in Britain, created not factories, industrial cities and poor proletariats, but small mills, pastoral towns, and tightly knit communities. Even as the ante-bellum mill narrative emerged, however, so did counter-narratives. Substituting a different inevitability, they rewrote the mill narrative as a story of conflict between capital and labor, class struggle, and strikes, or of despoiled environments, pollution, and the destruction of forests, fish, and wildlife. Told by, among others, Native Americans, Thoreau, and Faulkner in literature, they also found expression in the photography of Lewis Hine, the paintings of Charles Sheeler, and in film.

Nye's third foundation story involves transportation technologies – the conquest of space through canal and railroad building, highlighted by the Erie canal and the transcontinental railroad projects. Like other technologies, they were celebrated in promotional literature, trade journals, speeches, paintings, poetry, and Currier and Ives prints as extensions of divine will redeeming the wilderness through human effort and man-made machines – the fulfillment of national destiny and human history in civilization's relentless westward march and ultimate "Passage to India" (Whitman). Starting in the 1820s, however, the second creation stories of transportation technologies spawned counter-narratives of power-abusing railroad monopolies and the social and environmental costs of canal and railroad building to people and communities. Voiced by writers (Emerson, Thoreau, Henry George, Mark Twain,

John Muir, Frank Norris, Henry James, muckraking journalists), it could also be found in the arts (Hopper) and the protests of Native Americans. With the decline of canal and railroad transportation, the foundation story frequently metamorphosed into nostalgic rewritings at fairs or in model-train layouts and restoration projects for famous engines by societies of enthusiasts, as also happened with mill narratives.

Nye's last second creation narrative deals with stories of irrigation – tales emerging in the second half of the nineteenth century of the transformation of an arid West into prosperous communities. Stories of the “magic wand” of irrigation came in two variants, frequently with Edenic overtones: an individualistic one, most common on the Great Plains, which, like the story of the axe, featured settlers diverting water from rivers or pumping it up from the ground to fructify their land and make it bloom, or tales of collective dam or canal projects, more typical of the Colorado River Basin and California, and requiring state or federal engineering competence and financing. Promoted by boosters such as William Smythe and celebrated in literature, magazines, and the press, a simple example of the individualistic irrigation creation story is the transformation of Garden City in western Kansas, reported in *Harper's Weekly*, from “a score of log cabins, or prairie dugouts, with a frame story building” to a prosperous regional center in the 1880s by diverting water from the Arkansas River. Both Roosevelts were articulate spokesmen of the collective irrigation myth and supporters of actual irrigation projects, the classic example being the “multiple use” Hoover Dam aimed at controlling the entire Colorado River. In either case, the land was viewed as empty space waiting for Anglo-American whites to develop in partnership with some Divine or Universal Purpose so as to pave the way for prosperity, community building, and even ethical and spiritual growth. The western land's second creation through the application of irrigation technology was seen as a matter of historical necessity and the inescapable destiny of a free people. Yet the facts frequently contradicted the myth, spawning numerous counter-narratives of environmental problems and the human and social cost of irrigation, including the displacement of white ranchers, Native Americans, and Hispanic Americans. As told by Populists, ethnic minorities, writers, artists and, more recently, academic scholars (e.g. Marc Reisner's powerful *Cadillac Desert*), not only did stories of dam, canal, and irrigation projects highlight realities left out by the official foundation narrative. They inverted the narrative's traditional elements, as in Louise Erdrich's novel *Tracts* (1983), which evokes an alternative land ethic and a sense of loss rather than progress, as a landscape and a way of life pre-existing a new technology are altered.

The final chapters record the growing loss of credibility and intellectual bankruptcy of nineteenth-century foundation narratives and the appearance of new narratives taking their place alongside old ones. After 1900, having peaked in the thought and careers of academics, religious and political leaders, inventors and engineers, industrialists and men of business – John Fiske, Josiah Strong, Teddy Roosevelt, Thomas Edison, Henry Ford, James J. Hill, and Robert Thurston – the progressive story found itself challenged by an equally powerful meta-narrative derived from new scientific developments. Its most articulate advocate was Henry Adams, whose alternative nar-

rative was grounded in a new geology, anthropology and, especially, physics, and whose thrust was basically negative – chaos and the law of entropy trumping all human endeavor. In Adams's scenario, humanity was trapped in a declining movement, making the teleological assumptions of technological foundation stories mere vanity.

By the early twentieth century, the central tenets of the second creation trope – the grid, the free market, resource abundance, and access to force – had been seriously challenged. And yet, even in the face of mounting challenges, the vision of second creation refused to die, having become an indispensable “national myth of origin.” Throughout the twentieth century and into our own, it lives on in a variety of forms from television westerns, computer games, exhibits at trade fairs to second creation visions of colonizing outer space. At the same time, new discourses and narratives of the meaning of inhabiting the land have emerged, partly overlapping with, partly in opposition to the traditional narratives and counter-narratives – the “recovery narrative” of the conservation movement, rewriting the second-creation anthropocentric and technological story as one of scientific recovery and management of the environment, the “wilderness preservation narrative” of preserving areas of pristine and sublime nature for its own sake, and finally a more radical “eco-feminist” counter-narrative which substitutes a partnership ethic between man and nature for “subduing” or “domesticating” the land. Today's challenge is recognizing the need to “embrace new stories that move beyond second creation.”

*America as Second Creation* brilliantly reorganizes and remaps a familiar landscape while providing a wealth of fresh material. In important respects grounded in the “myth-and symbol” school – it has already been described as reworking Leo Marx's *Machine in the Garden* – it also takes account of recent scholarship in the history of technology, environmental studies, cultural studies, and the philosophy of history (Hayden White), as reflected in its sensitivity to the element of social construction and myth-making in science. Deliberately discipline-crossing in the best tradition of American studies, it extends its quest for sources beyond the reliance on canonical and “highbrow” texts of Marx's generation to include popular culture materials, as well as social records, promotional literature, trade journals, journalism, and public events as indicators of cultural currents. For the present reviewer its usefulness has shown itself first and foremost in the conceptual tools it provides not just for studying history, but for contextualizing and understanding the continuity of contemporary phenomena with the past. For example, in the light of Nye's map of second creation narratives and counter-narratives, Newt Gingrich's enthusiastic advocacy of the potential of new technologies in *To Renew America* easily falls into place as the rewriting of a familiar tale, as does Gary Snyder's poetry, viewed as an evolving counter-narrative. Even individual poems gain added richness when read in the light of Nye's scheme, an example being offered by “Axe Handles,” the title poem of his 1983 collection.