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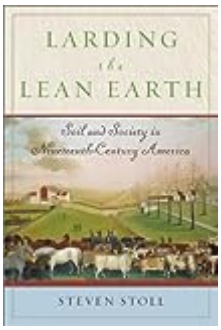

Steven Stoll. *Larding the Lean Earth: Soil and Society in Nineteenth-Century America.* New York: Hill & Wang, 2002. xii + 287 pp. $30.00 (cloth), ISBN 978-0-8090-6431-1; $26.00 (paper), ISBN 978-0-8090-6430-4.

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Steven Stoll's inauspicious opening to this study of soil fertility in early America, "I have no rubber boots" (p. 3), suggests at once the breadth of the disciplinary slough he is traversing and the self-consciousness with which he has set about it. Although this is Stoll's second book of agricultural history, he writes with the self-deprecating sincerity of the interdisciplinary laborer, punctuated by the occasional scatological winks that seem to be required for writing about dung.[1] "Strangely," Stoll observes, standing in a farmer's field in Connecticut, "what comes out of the other end of a cow opens a dynamic view to the environment" (p. 9).

Why this style? While understandable, is it still necessary? In the past decade or so environmental historians (I use the term broadly) from Jack Temple Kirby and Frieda Knobloch to Richard Grove and Simon Schaffer have argued, demonstrated, and indeed taken for granted the significance of agriculture both as a form of natural resource use and as an integral part of culture. Timothy Sweet's *American Georgics*, Richard Drayton's *Nature's Government*, Brian Donahue's *Reclaiming the Commons*, and Joyce Chaplin's *An Anxious Pursuit*–some of these recent works bridging environmental, social, and literary history Stoll cites, others he does not. While one applauds Stoll's declaration that his book's single largest point "is that farming matters" (p. 8), it is somewhat disconcerting to get the impression that the author has only recently come around to this point of view himself.

But this is a relatively small objection to what is otherwise an eloquent and important book. Stoll's objective is to trace the origins of nineteenth-century conservation, and in particular the thinking of George Perkins Marsh. The author's discovery is that Marsh's ideas about natural resource management grew out of a rich and heated discussion, in the late eighteenth and early nineteenth centuries, about soil fertility, plant nutrition, and livestock management. More fundamental than any other resource, soil, as Stoll correctly observes, "became the focal point for a conception of nature as strictly limited" (p. 14), and it was farmers and agricultural writers who best understood soil. Conservation, in other words, was not simply a reaction to the ecological consequences of farming but a positive outcome of agricultural thought.

Although Stoll's central focus is "the short period between the War of 1812 and the California Gold Rush" (p. 7), he begins by tackling one of the core paradoxes of the colonies and early Republic: amidst all the boostering celebration of American abundance were dissonant voices, saying over and over that American farming practice in general is terrible, shocking, wasteful. As the Linnaean disciple Pehr Kalm put it in a representative reaction from 1750, "the grain fields, the meadows,

the forests, the cattle, etc. are treated with equal carelessness; and the characteristics of the English nation, so well skilled in these branches of husbandry, is scarcely recognizable here."[2] Stoll shows that it was not just traveling natural historians who made observations like this, but thoughtful American residents as well, and that the problem gave rise to a major disagreement about the wisdom of territorial expansion. Stoll quotes a member of the Society of Virginia for Promoting Agriculture who wrote in 1818, "fresh lands of great fertility ... at very low nominal prices, [have] greatly contributed to accelerate among our land killers, the exhaustion of our soil" (p. 34). The contradictory career of Thomas Jefferson notwithstanding, restoration and improved management of eastern soils, on the one hand, and westward emigration in search of fresh soils, on the other, seemed to represent alternative paths forward for the young nation.

The book, then, is divided into three parts. Part 1 contextualizes improvement thinking in the early republic; part 2 examines thoughts on husbandry, settlement, and emigration in two starkly contrasting states, Pennsylvania and South Carolina; part 3 seeks to carry the discussion forward towards late-nineteenth-century conservation. Stoll ranges widely within each section, however, tracing connections as they arise, moving from biography to biology to economics as needed. Helpfully, Stoll includes brief but lucid explanations of some of the physical, chemical, and biological processes that govern soil fertility. His discussions of nitrogen, erosion, and soil pH, for instance, are at once impassioned and precise. "Soil is the tablecloth under the banquet of civilization," Stoll writes early in the book, discussing erosion. "[N]o matter what people build on it, when it moves all the food and finery go crashing" (p. 14). And later, "a study conducted by the Southern Regional Committee of the Social Science Research Council in 1936 found that 61 percent of the nation's 150 million acres of eroded land (or 91.5 million acres) could be found in the South and that 'a single county in the South Carolina Piedmont has actually lost by erosion 277,000 acres of land from cultivation' " (pp. 138-139).

Another of the book's valuable features is its collection of sketches of the many individuals, from the famous to the obscure, who can be said to have played a role in the history of agricultural improvement. John Lorain wrote *Nature and Reason Harmonized in the Practice of Husbandry* (1825), one of the best American agricultural treatises of the early-nineteenth century; Solon Robinson edited the *American Agriculturist* and founded Solon, Indiana; Edmund Ruffin edited the *Farmers' Register*, authored a geological survey of South Carolina, and was the prophet of marl as a solution for impoverished Southern soils; Horace Greeley was the editor of the *New-York Tribune* and the inspiration for the "irrigated colony" of Greeley, Colorado; Jesse Buel was the founder of the *Cultivator* in 1834; and Andrew Jackson Downing was a designer of picturesque cottages and advocate of horticulture as a solution for depressed Eastern agriculture. Stoll fits all these figures and many more into the tumultuous, sometimes tragic, often strange history of American agricultural theory and practice.

One of the reasons this subject is so challenging–and so interesting–is that improved farming has always been ideologically complex, equal parts evangelism and ecology, as much ethic as economic theory. Stoll deftly traces the agricultural interests that lay behind political controversies like the Nullification Crisis, which pitted Southern planters against Northern farmers and manufacturers, or various Senate resolutions attempting to restrict the sale of Western lands, which broke down along similar lines. One only wishes to add that in England–from which Stoll has the United States receiving "the new husbandry" as "the most monumental advance in landed practice since the invention of agriculture itself" (p. 21)–the doctrines of improvement were likewise frequently ambiguous, contradictory, and politically volatile. Even the most successful and tireless of the British agricultural writers, such as Arthur Young, had mixed feelings about the effects of improvement and struggled to reconcile the contrary forces of emigration and restoration, intensive versus extensive agricultural development. With "six hundred thousand waste acres in the single county of Northumberland," Young wrote in 1773, "why are we so eager to people America, and give so little thought to peopling our own countries"?[3] Young, too, had seriously considered emigrating to America himself.

In some ways the most suggestive part of Stoll's argument has to do with improvement's fate–how it merged and evolved into other intellectual movements, like conservation, which then covered their tracks. As Stoll puts it, "the events of the 1840s and 1850s amounted to a distending of the original creed so far and so broad that no one remembered the farmers who first espoused it" (p. 175). In part this was the result of technological innovations, like the McCormick reaper and the importation of guano for fertilizer, which morphed good husbandry into "progressive farming." In part it was a weakness of political strategy: Stoll observes that improvement was "a matter more of individual restraint than of centralized regulation" (p. 22), as conservation would come to be, and

individual restraint could only be urged on audiences, not enforced. (Whereas conservation proper would find federal expression in the founding of the National Park Service and other land management agencies, the legacy of "agrarian conservation" can be seen, Stoll notes, in the twentieth-century emergence of organic farming and gardening as a countercultural movement focused on the individual's "rejection of industrialized food" [p. 184].)

Stoll asks, in conclusion, "was there ever a stable agriculture in North America after Europeans arrived?" (p. 209). Although part 3 closes with the historian's measured assessment that improved farming could not have been more than it was and thus should not be lamented as a lost opportunity, in an epilogue he describes a visit to another farm, this time in Ohio, the home of Amish writer and sustainable farming advocate David Kline. Here, Stoll marvels, soils are well managed, chemicals and heavy equipment are not used, yields and income are high, wildlife and family life flourish. One might object that from prologue to epilogue Stoll himself has succumbed to the temptation to move west in search of better land; or that to discover a model of modern sustainable farming among the Amish suggests a need to re-examine the agricultural history of German immigrants, widely acknowledged to be the best farmers of the colonial period and after, the only settler group capable of good husbandry amid natural abundance. But, as Stoll emphasizes, "good management is a basic human desire" (p. 226); the Klines represent a flourishing remnant of a much wider impulse, one that deserves to be remembered and revived.

By the end of the book, in short, Stoll has found his boots. One hopes other scholars will follow his example, tracking dirt into the archive and library dust back into the fields.

Notes

[1]. See Steven Stoll, *The Fruits of Natural Advantage: Making the Industrial Countryside in California* (University of California Berkeley Press, 1998).

[2]. Peter Kalm, *Travels in North America*, ed. Adolph Benson (New York: Dover, 1966), vol. 1, p. 308,

[3]. Arthur Young, *Observations on the Present State of the Waste Lands of Great Britain* (London: W. Nicoll, 1773), pp. 36-37.

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