


# CHANGES *in the* LAND

*Indians, Colonists,  
and the Ecology of New England*

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*A division of Farrar, Straus and Giroux*

*New York*

2003

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## THAT WILDERNESS SHOULD TURN A MART

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New England in 1800 was far different from the land the earliest European visitors had described. By 1800, the Indians who had been its first human inhabitants were reduced to a small fraction of their former numbers, and had been forced onto less and less desirable agricultural lands. Their ability to move about the landscape in search of ecological abundance had become severely constrained, so that their earlier ways of interacting with the environment were no longer feasible and their earlier sources of food were less easy to find. Disease and malnutrition had become facts of life for them.

Large areas particularly of southern New England were now devoid of animals which had once been common: beaver, deer, bear, turkey, wolf, and others had vanished. In their place were hordes of European grazing animals which constituted a heavier burden on New England plants and soils. Their presence had brought hundreds of miles of fences. With fences had come the weeds: dandelion and rat alike joined alien grasses as they made their way across the landscape. New England's forests still exceeded its cleared land in 1800, but, especially near settled areas,

the remaining forest had been significantly altered by grazing, burning, and cutting. The greatest of the oaks and white pines were gone, and cedar had become scarce. Hickory had been reduced because of its attractiveness as a fuel. Clear-cutting had shifted forest composition in favor of those trees that were capable of sprouting from stumps, with the result that the forests of 1800 were physically smaller than they had been at the time of European settlement. The cutting of upland species such as beech and maple, which were accustomed to moist sites, produced drying that encouraged species such as the oaks, which preferred drier soils.

Deforestation had in general affected the region by making local temperatures more erratic, soils drier, and drainage patterns less constant. A number of smaller streams and springs no longer flowed year-round, and some larger rivers were dammed and no longer accessible to the fish which had once spawned in them. Water and wind erosion were taking place with varying severity, and flooding had become more common. Soil exhaustion was occurring in many areas as a result of poor husbandry, and the first of many European pests and crop diseases had already begun to appear. These changes had taken place primarily in the settled areas, and it was still possible to find extensive regions in the north where they did not apply. Nevertheless, they heralded the future.

Why had these things happened?

To compare New England ecosystems in 1600 with those in 1800 as if examining two snapshots—New England before the Europeans and New England after—is to imply that the European invasion was the chief agent of environmental change. In a crude sense, there can be little doubt that this was true. Most of the transformations described above would not have occurred had the Atlantic never been crossed, and so our analysis of ecological change must inevitably focus on differences between the human communities that existed on opposite sides of the ocean: differences in political organization, in systems of production, and in human relationships with the natural world. The shift from Indian to English dominance in New England saw the replacement of an earlier village system of shifting agriculture and hunter-gatherer activities by an agriculture which raised crops and domesticated animals in household production units

that were contained within fixed property boundaries and linked with commercial markets. Ultimately, English property systems encouraged colonists to regard the products of the land—not to mention the land itself—as commodities, and so led them to orient a significant margin of their production toward commercial sale in the marketplace. The rural economy of New England thus acquired a new tendency toward expansion. The dynamics which led colonists to accumulate wealth and capital were the most dramatic point of contrast between the New England economy of 1600 and that of 1800. The economic transformation paralleled the ecological one, and so it is easy to assert that the one caused the other: New England ecology was transformed as the region became integrated into the emerging capitalist economy of the North Atlantic. Capitalism and environmental degradation went hand in hand.

And yet the problem is not quite so simple. One serious danger of a two-point analysis which contrasts New England before and after the Europeans is that it obscures the actual processes of ecological and economic change. It makes that change seem too sudden and uncausal. The Europeans brought to the New World, not just new economic institutions, new markets, and new ways of bounding the landscape, but other things that are less easy to attribute to the direct agency of "capitalism." The devastating effects, for instance, of the disease organisms which wrought such havoc with Indian populations were primarily a function of the Indians' isolation from Old World disease environments, and would have been similar no matter what the economic organization of the European invaders. For the Indians, new diseases were one of the clearest consequences of European settlement, but once present, their effects had more to do with biology than economics. This is not to say, of course, that biology and economics were unrelated. That sailors and settlers came to America in sufficient numbers to bring diseases with them was a direct result of social and economic transformations in Europe. By the same token, the demographic collapse which diseases visited upon Indian populations was instrumental in disrupting the Indians' status systems so as to encourage their participation in the fur trade; diseases also had the effect of clearing the land of its earlier inhabitants and facilitating its conquest by European settlers. If Europeans were responsible for bringing dis-

eases to America, it is no less true that those diseases in turn helped promote European expansion. They were as much a socio-economic fact as an ecological one.

Similar claims about multiple causation can be made for many of the ecological relationships which English settlers eventually reproduced in New England. As we have seen, domesticated animals exercised a profound influence on New England landscapes, and represented a dramatic contrast between the ways Europeans and Indians went about obtaining their livelihoods. But here again there are dangers in attributing the effects of livestock solely to capitalist expansion: Old World pastoralism antedates capitalism by four or five thousand years. Livestock—whether raised for market or for home consumption—were themselves a major reason for the dispersal of colonial settlements. Ecological pressures brought on by overgrazing and inadequate forage reinforced economic incentives flowing more directly from market demand: together, the two impelled colonial movement onto new lands. Similar arguments can be applied to European grain production and forest clearing. Insofar as these practices would have provoked ecological changes no matter what the economy in which they were embedded, their effects cannot be attributed only to the expanding markets and trade relationships of European capitalism—and yet it was precisely those markets and relationships, themselves being transformed in the transition to capitalism, which had brought Europeans to America in the first place. Economic and ecological imperialisms reinforced each other.

No one was more aware of this fact than the Indians. One of the most perceptive analyses of ecological change in early New England was delivered in a speech by the Narragansett sachem Miantonomo in 1642, just a few years after English colonists began to settle in the vicinity of his people's villages. "You know," he said, speaking of a time just recently past,

our fathers had plenty of deer and skins, our plains were full of deer, as also our woods, and of turkies, and our coves full of fish and fowl. But these English having gotten our land, they with scythes cut down the grass, and with axes fell the trees; their cows and horses eat the grass, and their hogs spoil our clam banks, and we shall all be starved.

For Miantonomo, as for other New England Indians, the struggle against the English, in its most basic form, was a result of the colonists "having gotten our land." The English accomplished this by a wide variety of means: their different conceptions of property, their willingness to use military force and legal deceit in acquiring land, their ideology of conquest and conversion, and so on. The Indian response to English land hunger was a shrewd mixture of economic self-interest and cultural adjustment, but was ultimately expressed as political resistance. Many villages which had initially welcomed the English presence as a means of acquiring trade goods and making powerful allies eventually chose to fight further colonial encroachments on their territories. They did so by forging new alliances with other Indian (and European) groups, responding with great creativity to the new diplomatic circumstances in which they found themselves. Miantonomo himself used his ecological analysis to argue for the necessity of a new Indian unity to match that of the English: "for so," he said, "are we all Indians as the English are, and say brother to one another; so must we be one as they are, otherwise we shall be all gone shortly." His argument for a new pan-Indian unity led him finally to propose that he and his allies ambush the colonists, "and kill men, women, and children, but no cows." The latter, he said, should be used for food "till our deer be increased again."<sup>1</sup>

Miantonomo's speech illustrates the sometimes contradictory ways in which Indians responded to the European threat: theirs was a flexibility whose range of choices was increasingly constrained by colonial dominance. As in the case of the European cows which Miantonomo thought might replace Indian deer, Indians were quite willing to adopt and modify European tools and textiles to their own purposes. They learned to use and repair European weapons, and oriented their hunting toward production for European markets. They began raising livestock, expanding the size of their corn crops, and practicing more sedentary ways of life. Their political communities became more extensive in the form of tribal alliances and confederacies in order to meet the need for pan-Indian unity and resistance which Miantonomo described. Indians, in other words, adjusted to what the Europeans brought to New England by modifying the ways they obtained their livelihoods, but at the same time retained



their political and cultural identity. By ceasing to live as their ancestors had done, they did not cease to be Indians, but became Indians with very different relationships to the ecosystems in which they lived. Only in this limited—but ecologically crucial—sense can we say that an earlier Indian way of life had become impossible by 1800: although the subsistence practices of the New England Indians resembled those of European peasants more than they had before, Indians continued to define themselves as people apart, people resisting full incorporation into the world of their conquerors. The material conditions which had allowed them to practice their annual journey through the seasons no longer existed, but the Indians themselves remained, however much their communities and economies had changed with their environment.<sup>2</sup>

There is thus a second danger in analyzing New England ecological change simply by contrasting two landscapes, one before, the other after, the Europeans arrived. By making the arrival of the Europeans the center of our analysis, we run the risk of attributing all change to their agency, and none to the Indians. The implication is not only that the earlier world of "Indian" New England was somehow static but also that the Indians themselves were as passive and "natural" as the landscape. In fact, the Indians were anything but passive in their response to European encroachments. Faced with what they perceived as new opportunities, they took them as they saw fit; faced with threats to their political autonomy, they fought back as best they could. There is no inherent reason to believe that Indians could not have made far more dramatic adjustments than they did to their new ecological circumstances, if in no other way than by becoming fuller participants in the North Atlantic economy. That they generally did not do so must be attributed in part to their own choice and in part to the English refusal—whether enforced by violence or by law—to let them do so. If Indian communities were no longer autonomous political entities by 1800, it was because English colonists had made them so, denying them access to the land and resources which would have allowed them a more independent existence.

Instead, those Indians who remained in New England were confined to reservations, forced onto inferior farmlands, left without animals to hunt or fish, and so had to make their ecologi-

cal adjustments in a far from ideal setting. Being overpowered is not a sign of passivity: however large the ecological forces that drove Indian communities toward change, it is crucial that we see those forces in their political and economic context. Ecology can help us analyze why Indians in 1800 had trouble sustaining themselves on the lands which remained to them, but it cannot explain why they had been compelled to live on those lands in the first place. Only politics can do that. Here the fate of Miantonomo can serve as a token of the political interactions between colonists and Indians which accompanied the ecological conflicts he described so well in his speech. Ransomed by his tribe from a rival sachem who had captured him, he requested that he be turned over for safekeeping to the English with whom he was then allied. The colonists responded by arranging for his assassination: he was murdered in cold blood.<sup>3</sup>

Putting the ecological transformations of colonial New England in their larger political and economic context carries us full circle to the expansion of European capitalism in the seventeenth and eighteenth centuries. Even after we have admitted the multicausal quality of the European institutions transferred to the New World, even after we have acknowledged the autonomous agency of the Indians in meeting the challenges those institutions posed, we are still confronted with a regional ecology which in 1800 bore fundamentally new relationships to other parts of the world. Those new relationships had as their source a new human perception of how the resources of the New England landscape might be made useful to those who could possess them. As the French anthropologist Maurice Godelier has remarked, a natural "resource" cannot exist without some intervening human agency which defines it: "there are thus," he writes, "no resources as such, but only possibilities of resources provided by nature in the context of a given society at a certain moment in its evolution." By drawing the boundaries within which their exchange and production occur, human communities label certain subsets of their surrounding ecosystems as resources, and so locate the meeting places between economics and ecology.<sup>4</sup>

All communities exercise choice in their labeling of resources, but they do so in radically different ways. Perhaps the central contrast between Indians and Europeans at the moment they first encountered each other in New England had to do with

what they saw as resources and how they thought those resources should be utilized. Indians had a far greater knowledge of what could be eaten or otherwise made useful in the New England environment; their economy defined a correspondingly greater range of resources. But most of those resources were simply used or consumed by the household which acquired them, or, if exchanged, were traded for similar items. Very few resources were accumulated for the explicit purpose of indicating a person's status in the community: wampum, furs, certain minerals, and ornaments of the hunt generally served these purposes. Class authority was maintained more by kin networks and personal alliances than by stores of wealth, and the latter were in any event limited by the community's commitment to geographical mobility. There was thus little social incentive to accumulate large quantities of material goods. A wide range of resources furnished economic subsistence, while a narrow range of resources conferred economic status. The community's social definition of "need" was inherently limited, and made economic abundance a relatively easy attainment for its members. It was for this reason that Roger Williams could write of the Narragansetts: "Many of them naturally Princes, or else industrious persons, are rich; and the poore amongst them will say, they want nothing." Rich and poor alike were relatively easily satiated, and so made relatively slender demands on the ecosystems which furnished their economy its resources.<sup>5</sup>

The same could hardly be said of the European colonists. For them, perceptions of "resources" were filtered through the language of "commodities," goods which could be exchanged in markets where the very act of buying and selling conferred profits on their owners. Because European economies measured many more commodities in terms of money values—abstract equivalencies which could be accumulated, no matter what the resource involved, to become indicators of wealth and social status—they had few of the limitations which constrained the growth of their Indian counterparts. As a result, European markets, as the anthropologist Marshall Sahlins has suggested, at least in theory "erected a shrine to the Unattainable: *Infinite Needs*." Those needs were determined not only by the local communities which became established in colonial New England but by all the distant places to which those communities sold their

goods. The landscape of New England thus increasingly met not only the needs of its inhabitants for food and shelter but the demands of faraway markets for cattle, corn, fur, timber, and other goods whose "values" became expressions of the colonists' socially determined "needs." Ironically, though colonists perceived fewer *resources* in New England ecosystems than did the Indians, they perceived many more *commodities*, and so committed much wider portions of those ecosystems to the marketplace. "Nor could it be imagined," wrote the colonial historian Edward Johnson in 1653, "that this Wilderness should turn a mart for Merchants in so short a space, Holland, France, Spain, and Portugal coming hither for trade."<sup>6</sup>

The process whereby colonists (as well as Indians) linked New England ecosystems to market relationships was neither instantaneous nor continuous. Just because the earliest English explorers perceived the New England coast in terms of its commodities does not mean that their perceptions had immediate ecological consequences. Colonial economies underwent nearly as profound an evolution in New England as those of the Indians. Many English colonists, for example, initially supplemented their agriculture with subsistence activities—hunting and gathering—which looked distinctly Indian; colonists were eventually forced to limit these for the same ecological reasons that Indians did. Colonial systems for fixing property boundaries were not fully articulated until late in the seventeenth century. The degree to which land was committed to commercial production depended upon a host of changing factors: population growth, imperial regulations, ease of transportation to urban markets, and so on. Most early farmers directed only a small margin of their production to market sale. Perhaps their most important attachment to the market was not even related to immediate production—their expectation that the size of that margin would increase, and with it the value of their land. The inhabitants of some New England towns speculated in land almost from the beginning, but others awaited market developments of the late seventeenth and the eighteenth centuries before real estate was treated as so abstract a commodity. Markets, in other words, like commodities, were socially defined institutions which as a result of the transition to capitalism operated very differently at the end of the colonial period than they had at its beginning.

However true this may be, it must nevertheless be repeated that the abstract concept of the commodity informed colonial decision-making about the New England environment right from the start. The colonists brought with them concepts of value and scarcity which had been shaped by the social and ecological circumstances of northern Europe, and so perceived New England as a landscape of great natural wealth. Searching for commodities which would allow them to obtain European goods, they applied European definitions of scarcity—that is to say, European prices—to New England conditions of abundance. Operating in an economy where labor was scarce and difficult to hire, where accumulated capital was smaller than it had been in Europe, colonists turned to the factor of production which could compensate for the ones they lacked: they turned to the land and all it contained. Fish, fur, and lumber were assigned high values because of their scarcities in Europe, but were more or less free goods in New England. They had only to be taken and transported to market to yield a substantial return on invested labor; because of this, they were treated as wasting assets capable of rapid conversion to more liquid capital. Labor cost alone operated as a constraint on their exploitation, since colonists could consume natural wealth as a substitute for capital.

The result was an economy which used natural resources in a way which often appeared to European visitors as terribly wasteful. "In a word," wrote the Swedish traveler Peter Kalm of American farming practices, "the grain fields, the meadows, the forests, the cattle, etc. are treated with equal carelessness." A number of Americans agreed. In 1787, the physician Joseph Warren wrote a critique of American agriculture in which he argued:

There is, perhaps, no country in the world, where the situations, nature, and circumstances of things, seem to point out husbandry as the most essential and proper business, more than our own; and yet, there is scarcely one where it is less attended to.

Warren attributed this apparent paradox to several factors: the Americans' tendency to farm overlarge tracts of land, their "rage for commerce," their investment of little capital in their farmlands, and their wasteful practices in feeding livestock. At the

most basic level, however, what distinguished European and American farms was their production of nearly identical commodities with very different proportions of labor and land. As Warren noted, "Nothing will give a clearer idea of the different management, than the following facts: in England, rents are high and labour low; in America, it is just the reverse, rents are low and the rate of labour high." Here there was no paradox: American relations of production were premised upon ecological abundance, and so attached a higher value to labor than had been the case in Europe. Returns to labor were so high in America precisely *because* returns to land were so low.<sup>7</sup>

Land in New England became for the colonists a form of capital, a thing consumed for the express purpose of creating augmented wealth. It was the land-capital equation that created the two central ecological contradictions of the colonial economy. One of these was the inherent conflict between the land uses of the colonists and those of the Indians. The ecological relationships which European markets created in New England were inherently antithetical to earlier Indian economies, and so those economies were transformed—as much through the agency of the Indians as the Europeans—in ways that need not be repeated here. By 1800, Indians could no longer live the same seasons of want and plenty that their ancestors had, for the simple reason that crucial aspects of those seasons had changed beyond recognition.

But there was a second ecological contradiction in the colonial economy as well. Quite simply, the colonists' economic relations of production were ecologically self-destructive. They assumed the limitless availability of more land to exploit, and in the long run that was impossible. Peter Kalm described the process whereby colonial farmers used new land until it was exhausted, then turned it to pasture and cut down another tract of forest. "This kind of agriculture will do for a time," he wrote, "but it will afterwards have bad consequences, as every one may clearly see." Not only colonial agriculture, but lumbering and the fur trade as well, were able to ignore the problem of continuous yield because of the temporary gift of nature which fueled their continuous expansion. When that gift was finally exhausted, ecosystems and economies alike were forced into new relationships: expansion could not continue indefinitely.<sup>8</sup>



The implications of this second ecological contradiction stretched well beyond the colonial period. Although we often tend to associate ecological changes primarily with the cities and factories of the nineteenth and twentieth centuries, it should by now be clear that changes with similar roots took place just as profoundly in the farms and countrysides of the colonial period. The transition to capitalism alienated the products of the land as much as the products of human labor, and so transformed natural communities as profoundly as it did human ones. By integrating New England ecosystems into an ultimately global capitalist economy, colonists and Indians together began a dynamic and unstable process of ecological change which had in no way ended by 1800. We live with their legacy today. When the geographer Carl Sauer wrote in the twentieth century that Americans had "not yet learned the difference between yield and loot," he was describing one of the most longstanding tendencies of their way of life. Ecological abundance and economic prodigality went hand in hand: the people of plenty were a people of waste.<sup>9</sup>

## AFTERWORD

### *The Book That Almost Wasn't*

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Looking back to its first publication in 1983, I still feel a considerable sense of wonder that this little book exists at all, to say nothing of my gratitude for the generous ways readers have responded to it over the years. In truth, it could easily have languished inside a filing cabinet without ever seeing the light of day. The story of how it finally found its way into print thus has more than its share of serendipity, and may be of interest for what it reveals about the quirky accidents that lead historians to study and write about the things they do.

In one sense, *Changes in the Land* got started during my first year of graduate school at Yale, when I wrote the seminar paper that eventually became this book. But in another sense, it began much earlier, in the years I spent growing up in Madison, Wisconsin. My father was a professor of American history at the University of Wisconsin, and although his approach to the past was not mainly environmental—he specialized in U.S. national politics during the first half of the twentieth century—he taught me from a very early age to move through the world with the most basic of history's questions always in mind: "*How did things get to be this way?*"

The beauty of this seemingly simple query is that its answer is almost never as obvious as it seems. We typically take the world of our day-to-day lives far too much for granted, assuming without much thought and despite all evidence to the contrary that what we see before us is just the way things are—and presumably always were. This is, I think, especially true of many young people, which is a chief reason why high school history classes often