CHAPTER 8

Archaeological Indices of Environmental Change and Colonial Ethnobotany in Seventeenth-Century Dutch New Amsterdam

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ABSTRACT

This chapter analyzes the environmental implications of seventeenth-century ethnobotanical data from the initial shoreline block of the Dutch West India Company (WIC) in Lower Manhattan. In addition to the structural remains of the colony's early inhabitants, the excavation yielded a well-preserved sequence of colonial plant remains spanning the periods of Dutch and early English rule. This analysis of the archaeological chronology and plants: (1) provides new understandings of the continuity and shifts in the relative prevalence of European and indigenous plants between the seventeenth and the eighteenth centuries; (2) presents new archaeological insights about the introduction and nature of early Dutch cultigens in New Amsterdam; (3) suggests that many of the archaeologically recovered early-seventeenth-century plants may have been maintained or collected as foods, dyes, or medicines, from both European and Native American sources; and finally (4) building from new research in Dutch botanical history, suggests mechanisms and institutionalized protocols in the exchange of medicinal plant knowledge between Native American herbalists and Dutch botanists in the seventeenth century.

INTRODUCTION

The study of environmental history has two ways to go. As brought to my attention by my Dutch colleague Jaap Jacobs, in 2008 Geoffrey Parker—a British-trained military historian of sixteenth and seventeenth-century Europe—defined the dilemma as follows: "Either we 'fast-forward' the tape of history and predict what might happen on the basis of current trends; or we 'rewind the tape' and learn from what happened during global catastrophes in the past. . . . [Many] experts . . . have tried the former, few have systematically attempted the latter" (Parker 2008, 1078).

Parker's work supported the notion that much of contemporary environmental modeling is too shallow in time-depth to provide reliable bases for projecting into the future. He also cited the work of two Norwegian scientists, Nordås and Gleditsch, who summarized a recent military intelligence assessment entitled, "National Security and the Threat of Climate Change: Report from the Panel of Retired Senior US Military Officers" (Military Advisory Board 2007). This crossover report between the disciplines of military threat assessment and the study of climate change is relevant because it criticized the: "failure of the International Panel on Climate Change (IPCC) to undertake systematic analysis of historical evidence to show how climate change acts as a threat multiplier for instability in some of the most volatile regions of the world" (Nordås and Geditsch 2007, 627–38; in Parker 2008, 1078).

This inadvertent validation of the need for time-depth in environmental reconstruction is music to an archaeologists ears . . . and an opera to

environmental historians working on issues of habitat change in colonial New York. We have the best of both worlds: an unmatched material record of early Dutch settlement, coupled with a trove of seventeenth-century archival sources, in Manhattan, Albany, and The Netherlands. Accordingly, while most of our regional environmental modeling has relied heavily on relatively recent nineteenth, and rarely eighteenth, century sources, I will use archaeological and ethnobotanical evidence from New Amsterdam to push the record back to the mid-seventeenth century.

Accordingly, consistent with the focus of this volume, *Environmental History of the Hudson Valley*, and the four hundred-year anniversary of the arrival of Henry Hudson, I will use the archaeological record of seventeenth-century New Amsterdam to characterize the environmental conditions and consequences of human interaction within the confines of the Dutch West India Company (WIC) property in Lower Manhattan, which fronted on the waterfront at Pearl Street, then also referred to as the Strand (Fig. 8.1). The 1984 NYC Landmarks Commission–mandated excavation, eight to twelve feet below the modern city (protected by the rising sea and the thick brick basement floors of early-nineteenth-century row houses), documented the survival of the four hundred-year-old structural remains of the colony's first inhabitants (Grossman et. al. 1985; Grossman 1985; 2000; 2003; 2008). In addition to the recovery of 43,000 well-preserved Dutch, English, and Native American artifacts, foundations, and cisterns, the deep urban dig disclosed a number of

FIG. 8.1. The Seventeenth-Century Environment of New Amsterdam. Extruded from Viele's 1865 topographic map of Manhattan, this 3D terrain model shows the environmental context of the seventeenth-century Dutch West India Company colony (red outline) and excavated western end of the block at Pearl Street and Whitehall (red rectangle). The initial settlement was bounded to the north by a two-pronged escarpment which stepped down from a higher plateau at City Hall Park, and to the east by a spring-fed marsh (Blommaerts Vly) which drained into the East River through a ditch (the "Graft") under modern Broad Street. The predominantly "open" vegetation illustrates not a "pristine" or "primeval" canopy of continuous tree cover at European contact, but instead an "anthropogenic" landscape representing centuries of Native American seasonal clearing, burning, cultivation, and selective tree harvesting. As put forth by Hammett (2000) and others (cf. Day 1953; Cronon 1983; Denevan 1992), these activities suggest a patchwork for Lower Manhattan of upward to thirteen humanly altered habitats. In addition to major thoroughfares (e.g., Broadway), these probably included fields and gardens, residential and defensive sites, food (fish and shellfish) processing stations, edge areas and meadows, parklands and orchards, hunting areas, old fields, and landing sites.