

WHERE ARE THE WOODLAND VILLAGES ON CAPE COD AND THE ISLANDS?

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McManamon and Bradley (1986:22-23) have outlined three models derived from recent research in the northeast. In Model I (Ceci 1982), the coastal settlement pattern for pre-Contact times consisted of small dispersed summer camps with no evidence for maize horticulture, while a later maize-based year-round settlement pattern reflected European trade requirements. In Model II (Salwen 1978; Snow 1980), historic and prehistoric occupations of the coast occur chiefly in the summer. In Model III (Sanger 1982; Spiess et al. 1982; McManamon and Bradley 1986) year-round sites at the coast are proposed. At Peter Thorbahn's suggestion, we address these three models for Cape Cod and the islands.

For coastal Massachusetts the definition of an early historic Indian village is a challenge, in part because of the reported mobility of the dwellings. The Indians of Narragansett Bay moved from "thick warm (woody) bottoms where they winter," to their Summer fields;...where they plant Corne" (Roger Williams [1643] 1973:127,28). According to William Wood of Lynn in 1635 (1865:99), the winter house was large, while the summer houses were small, as families dispersed to their planting fields. Ethnohistoric sources also identify seasonal special activity sites, such as hunting houses, fishing places (both salt and fresh, both summer and winter), fowling stations and refuges in swamps during hostilities. Other reasons for moving houses were fleas, depletion of firewood, the death of the owner, and major changes in shoreline (Williams 1973; Wood 1865; Salwen 1978; Winslow [1621] 1841; Gookin [1674] 1792; Little and Andrews 1986).

Although dwellings may have been dispersed and mobile, at the islands each early historic (1640-1700) sachem's territory or town (NCD 2:28,32), was well defined and included an estuary (Figure 1). The exact bounds varied with time. At Martha's Vineyard there were four early sachems (Banks 1966), each with an estuary: Nohtooksæet (Sq), Mankutoukquet (V), Tewanticut (E) and Pahkepunnassoo (Ch); and at Nantucket, there were two groups (Little 1982): Attapehat and partners (M) and Wanachmamack with Nickanoose (Nt). Thus, by estuaries we can identify early Indian sachemships on the islands, and probably on Cape Cod ("Francis, the Nosset [N] sachem" [1664 NCD 1:5]; Mattaquason [C] [Nickerson 1958]), no matter how dispersed or peripatetic dwellings may have been.

As for prehistoric Late Woodland settlement patterns, I here present short contributions, summarizing, in their own words, the views of four coastal archaeologists, Dunford, Stillson, McManamon and Little, which offer promising new approaches and some hard data.

FRED DUNFORD:

On Cape Cod, the rise of sea level stabilized about 3800 BP and allowed the formation of barrier beaches, protected embayments, and the development of estuaries at Sandy Neck, Nauset and Chatham [Figure 1]. Thus, most sites along estuaries date from the Late Archaic through Woodland. I present here a number of hypotheses, most of which are testable, for seasonal activities and changes therein.

Estuarine development provided increasingly rich resources for Early Woodland groups of 30-50 fairly mobile people, who, during the warm months, moved (every few weeks) through the estuarine zone. The activities of the entire group created

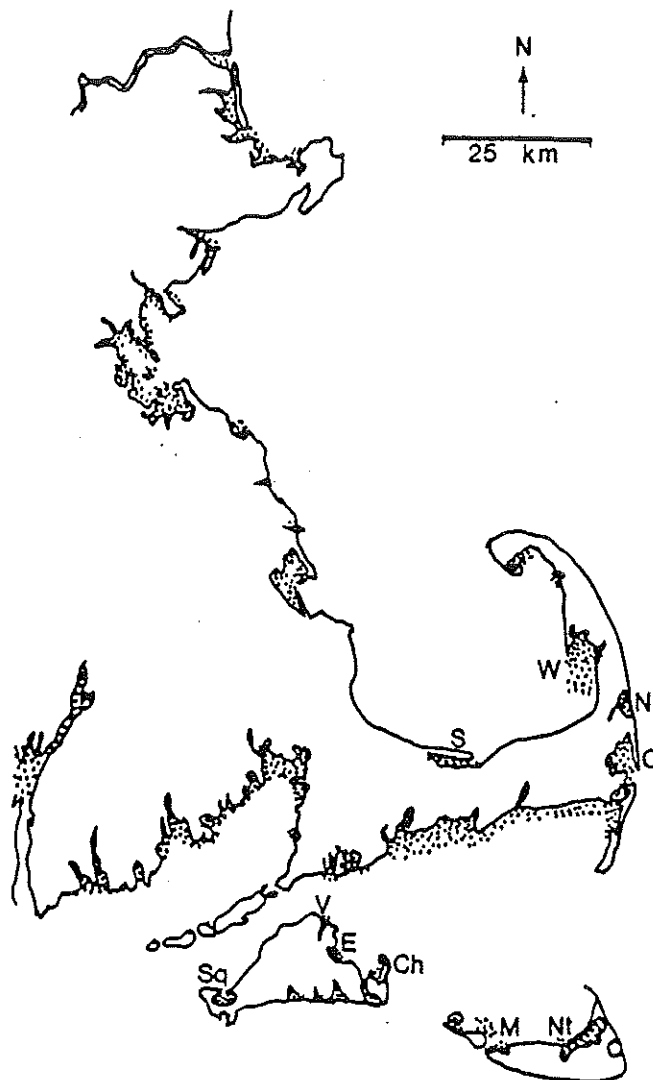


Figure 1. The distribution of shellfish beds (dots) along the coast of Massachusetts in 1909 (after Belding 1909), showing the discreteness of their locations (which are subject to change with time [Little and Andrews 1986]). Estuaries considered in the text are indicated by letters, N: Nauset Harbor; S: Sandy Neck; C: Chatham; W: Wellfleet; Sq: Squibnocket Pond; V: Vineyard Haven; E: Edgartown; Ch: Chappaquiddick; M: Madaket; Nt: Nantucket.

a fairly large shell midden, the focus of camp. During the winter, the group dispersed to the borders of inland ponds for ice fishing and hunting in the central Cape.

Some time in the Early or Middle Woodland, initial experimentation in horticulture began around estuaries in summer in small gardens. About 1000 A.D. maize horticulture, plus beans and squash, was added, with no major shifts or added risks. This resulted in an increase in the size of the population due to increased sedentism.

Between 1000 A.D. and 1300 A.D., shellfish production, especially oyster bed productivity, began to decline, in part due to overuse and increased fresh water run-off. After about 1500 A.D., a fundamental shift took place, in which agriculture intensified. A farmstead consisted of a single household, with horticultural fields, its own storage pits and shell midden around it. Thus, the community or village of Nauset, as Champlain shows it [Figure 2], had a number of dispersed farmsteads along the estuary border, which were year-round habitations. Because a farmstead represented only one family, the middens are small, and thus the archaeological visibility is small.

(Fred Dunford, personal communication 3/12/87)

GEORGE STILLSON:

As I see it, there are two basic questions that are being addressed. The first is, Where are the large Woodland villages? The second is, What were these villages like? The reason for asking the first question is that there is something we don't seem to be finding. The reason for the second is that we don't seem to be quite sure what it is that we aren't finding.

The first question leads to some thoughts on site visibility. Where are the Woodland villages? Well, how about Portland, Portsmouth, Boston, Providence or New Haven? European settlement, plowing and a myriad of other cultural and noncultural post-depositional disturbances may have obliterated most of the evidence for large villages. A word needs to be said also about interpretation of what we do find. A large village aggregation may necessitate different patterns of refuse disposal than a small short term camp. In other words, the village site would have to be kept cleaner than a camp site. Large middens surrounded by an area of very low density of cultural materials may indicate a village site rather than the special purpose resource extraction sites they are sometimes taken to be. A large area with a high density of finds could indicate successive short occupations by a few people.

To try to conceptualize what "a large woodland village" might mean, the first attribute to address is "large". To me that would imply a level of societal organization beyond the kinship level. A village such as Champlain found at Chatham [Figure 1] of 500 to 700 people would almost certainly need more than an ad hoc 'sequential' type hierarchy. Also such a village would be large enough to have been endogamous. Another attribute of village organization would be the exercise of hegemony over a peripheral area, and there might be a positive correlation between the reach of a village and the size of the village. What that means archaeologically is that the larger a village is the farther away we might expect to find a village of equal or greater size. Other attributes to consider would be the social mechanisms of articulation between villages of different sizes, such as social as well as physical boundaries and the mechanisms of crossing these boundaries. As the size of a village increases, biodegradation of nearby resources would necessitate bringing in resources from outside the village or moving the village. Thus we must also consider relations of production and exchange for bringing resources into the village.

Finally, since neither the physical nor the cultural environment was homogeneous across the region it may be inappropriate to look for a single regional settlement model or a single village type. Variation surely occurred between geographic zones such as the islands, the Cape, and the mainland. Ethnohistoric

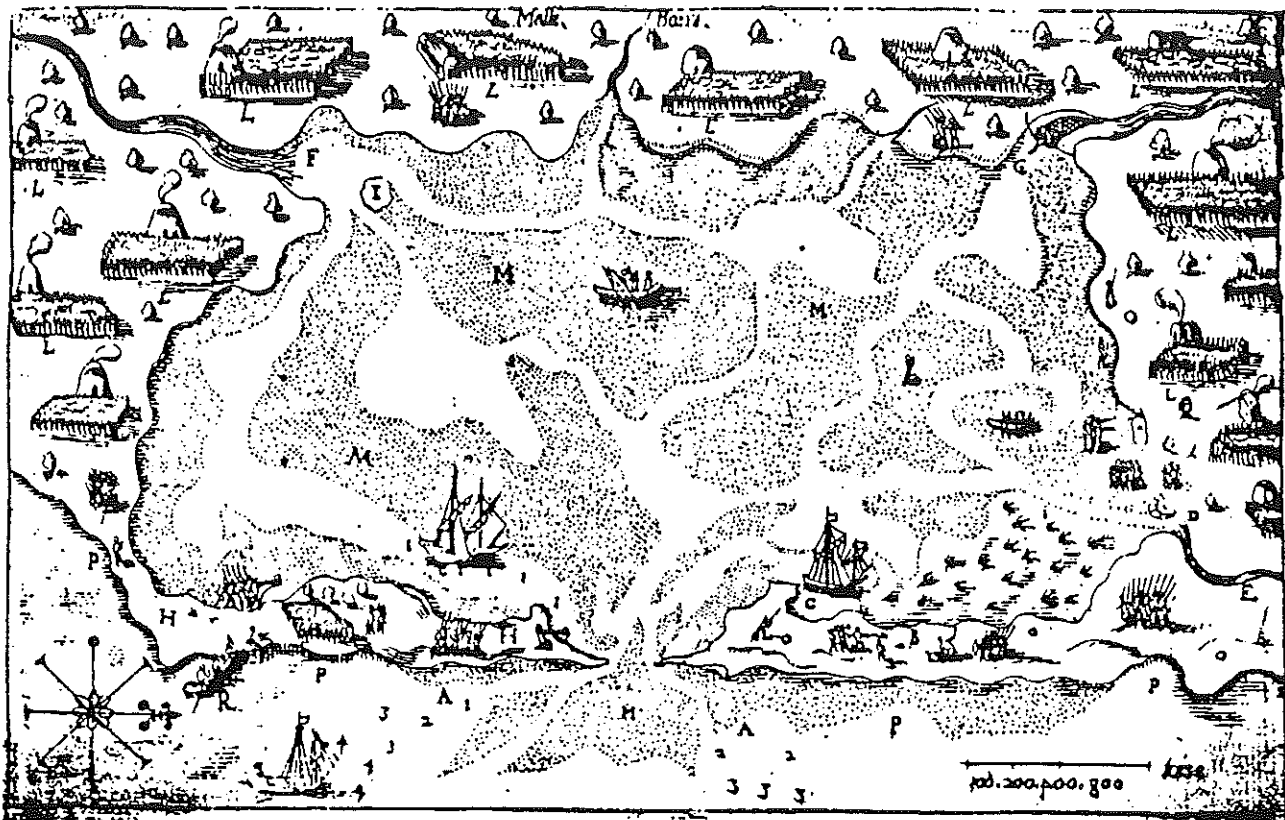


Figure 2. Champlain's Map of Nauset in 1605 A.D. (Champlain 1882).

accounts and modern Narragansett tradition indicates that people moved inland in the winter from coastal villages. At Chatham if you move far inland, you'll find yourself right back on the shoreline.

To find where the large Woodland villages were and to study the variation among them will enable us to start to formulate the important questions about the vibrant social dynamics involved in life during the Woodland Period. Finding the villages will involve more than a sharp trowel. It will involve an even sharper mind.

(George Stillson, personal communication 3/17/87)

FRANCIS MCMANAMON:

McManamon (1984:391) established from seasonality measurements on *Mercenaria mercenaria* (Hancock 1984:121-156; Table 1) that most Middle Woodland and all Late Woodland concentrations studied at Nauset contain only shells collected during the winter half (December through May) of the year. Only a Late Middle Woodland site (341.21) has shell collected in June, July, or August. These data falsify the hypotheses of Models I and II that the coast of Cape Cod was used only with low intensity or only in the summer. Although the seasonality of other midden remains has yet to be reported, McManamon (1984:Ch.16) argues that faunal and floral evidence, the variety of activities at

Nauset sites, and the ossuary at Wellfleet reflect the year-round use of these coastal sites, Model III.

Our conclusion is that the human groups who constructed the ossuary [circa 1000 A.D.] enjoyed a relatively stable cultural adaptation to an environment rich in subsistence resources...that included a wide range of types of food, some of which varied seasonally. Their economic activities probably included horticulture.... They lived in locations like those surrounding Nauset Marsh and Wellfleet Harbor [Figure 1; Figure 2]. These locations allowed easy access to a variety of microenvironments ranging from tidal flats and salt marsh to freshwater wetland and wooded upland.... Extraction of the needed natural resources did not require movement of the principal residences. So, year-round residence at these locations was possible. The plans of their villages were more dispersed than those known commonly among the Iroquois and Huron....We believe that the prehistoric adaptation was very stable and well suited for the natural and social environment in which it developed....That certain parts of the adaptation survived the disruptions caused by arrival and colonization of Europeans illustrates this point.

(McManamon and Bradley 1986:40)

ELIZABETH A. LITTLE:

All but one of the inventoried Woodland or Contact period sites at Nantucket with shell midden lie within one kilometer of shellfish habitat (Little 1983), which is generally north and west of the shore (Fig. 1). However, the aspects of 57 inventoried shell middens show a strong southerly bias (Fig. 3), which suggests the vigorous influence of winter winds at Nantucket, which are predominantly from the northwest during the months of November, December, January, February and March (winter for this discussion). Prevailing winds blow from the southwest in May, June, July, August and September (summer for this discussion).

I have proposed (Little 1985) that all winter sites at Nantucket will have southerly aspects for protection from the northwest wind, and that summer sites will be found with all aspects, although there was no conclusive data with which to test this hypothesis. At three sites at Vineyard Haven and three at Squibnocket Pond on Martha's Vineyard (Figure 1), Waters and Ritchie (1969), from studies of shell midden flora and fauna, inferred that the five southerly facing sites had year-round occupants or were visited sporadically at all seasons, and the sixth, with a northwest and a southeast aspect, was occupied in summer or sporadically all year round. The seasons of availability of foods found in middens cannot falsify any of these hypotheses.

Winter Site Locations at Nauset: an independent test of my hypothesis.

Seasonality tests were made by Mary Hancock (1984) on Mercenaria mercenaria (quahog) shell from shell midden concentrations at Nauset Bay. For the Middle and Late Woodland sites, the data show that all sites with shell concentrations were winter sites and had southerly (S, SE, SW) aspects (some were located in hollows) (McManamon 1984:3-91; Table 1). That is, all winter sites tested had shell midden and protection from northwest winds. Note that most winter shellfish gathering at Nauset took place from December through April; the one month delay of the season of shellfish gathering compared to the season of northwest winds may reflect ocean temperature inertia. McManamon has firmly established the locations of Woodland winter shellfishing sites, and

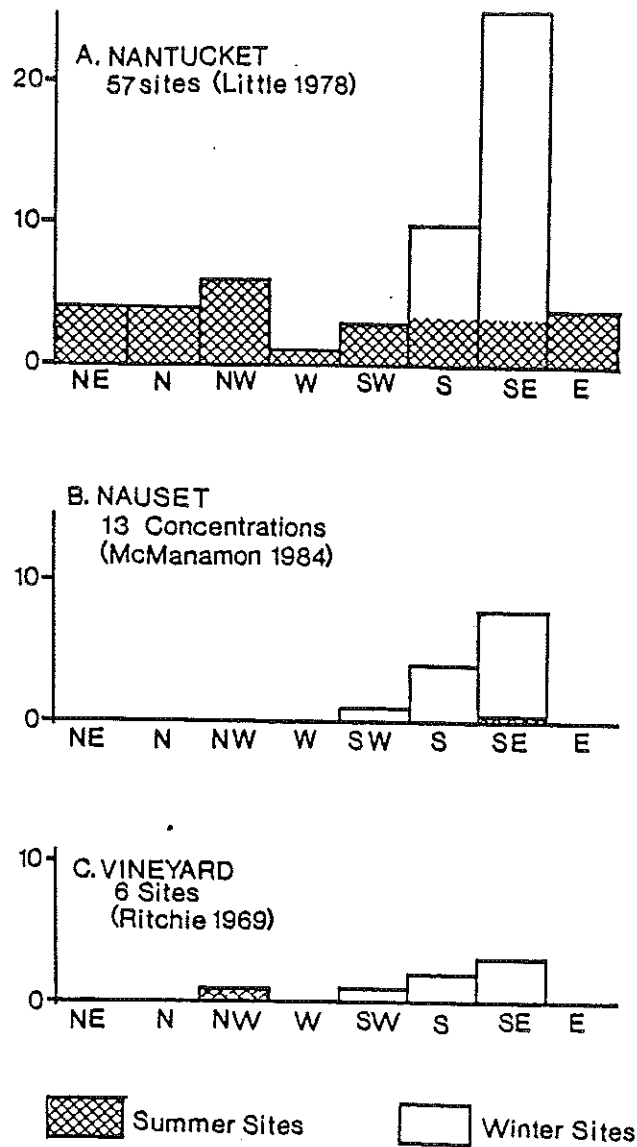


Figure 3. Aspect distribution of 57 shell middens at Nantucket (Little 1985), 13 shell concentrations at Nauset, Cape Cod (Table 1; McManamon 1984), and 6 sites (one has two aspects) at Martha's Vineyard (Ritchie 1969). Distribution of winter and summer sites is hypothetical (winter winds) at Nantucket, determined by shell season of collection at Nauset, and all seasons by resource availability, or, as shown, by hypothesis (winter winds and winter shell) at the Vineyard.

his data supports the hypothesis that, if it's a winter site, it has protection from the NW. The time depth at these sites indicates a rich resource, shellfish, and a rare resource, winter wind protection.

TABLE 1. SEASONALITY INFORMATION FOR CAPE COD SITES BASED UPON ASPECTS AND SHELL ANALYSIS (after McManamon 1984:391). A *Mercenaria mercenaria* shell with a possible collection date range greater than one month is represented by one/range (in months) for each possible month. LW: Late Woodland; MW: Middle Woodland. Little determined aspects from topographic maps and field checks.

Period	Concentration	Aspect	Number of Specimens per Month													
			D	J	F	M	A	M	J	J	A	S	O	N		
LW	308.11	SE			1											
LW	.33	SE			1	3/2	1/2									
LW	.42	S	19/3	10/3	35/6	3/2	1									
LW	323.21	SE	1													
LW	.22	SE	17/3	5/3	11/3	3/2	1/2									
LW	.23	SE	2													
LW	288.42	S	3	2	4	1	1									
LW	.52	S	2/3	2/3	2/3											
LW	410.00	S	1/3	1/3	4/3	1	1/2	1/2								
MW/LW	308.71	SE	1/3	1/3	1/3			1								
MW/LW	341.21	SE	2/3	2/3	43/6	11/2	3	11/2	2	1	3/2					
MW	390.33	SW	2/3	2/3	8/3	1										
MW	274.12	SE				1/2	1/2									
Grand Total:			20.7	9.7	27.7	13.5	7.0	7.0	2.0	1.0	1.5					

Summer Site Locations.

Some summer sites may have had no shell (Little 1985), which has also been proposed for summer components of the winter shell middens at Nauset (McManamon 1984: Chapter 16). Summer sites might have had random aspects, especially N, NW, NE, W, NE, and E (Fig. 3), which are unsuitable for winter sites, but maximize access to fishing places, shellfish beds, horticultural land, landing places and insect dispelling breezes. Summer sites, even with shell, would tend to have lower visibility than winter sites because summer locations, unconstrained by wind direction, could have been smaller and more dispersed (Binford 1980:7).

Except for June/July/August shell at one winter Middle Woodland site at Nauset (Table 1), few summer sites have been identified. At Ritchie's six Vineyard shell midden sites bones of scup, sturgeon, striped bass and bluefish, which are available only in the "summer" half of the year, between May 1 and mid-November (Ritchie 1969; Andrews 1973), are present in nearly every component between 1565 A.D. and 2270 B.C. If the shell in middens at Martha's Vineyard was collected between December and May 1, as the Nauset findings and the southerly site aspects suggest (Fig. 3), then these sites may have been occupied in both halves of the year for a considerable time in the past.

DISCUSSION.

Because of the lack of summer breezes at shell midden sites in amphitheatres at Marthas's Vineyard and Nantucket, I doubt that sites like Hornblower II and Vincent (Ritchie 1969) were summer sites. Indeed, there is another hypothesis that fits the ethnohistoric data more closely. Scup, bluefish, tautog, cunner, striped bass and sturgeon were indeed caught in the summer (May-October) from beaches or boats, but part of the catch was preserved for winter use, an ethnohistorically well-documented activity (Black and Whitehead 1988). Preservation requires removal of the internal organs and drying. If the fish were filleted, there would be no bones, but if steaks were cut perpendicular to the backbone or if the fish were cleaned as codfish are by removal of some of the bones, each portion of fish would have some bones (J. Clinton Andrews, personal communication 1988). According to Wood [1635](1865: 101), fish (he names "Basse") and lobsters, cut thin, were dried on scaffolds in the hot sunshine over smokey fires for winter use. Gookin in 1674 reported (1970:15) that dried fish, cut in pieces, bones and all, were boiled in stews. "I have wondered many times that they were not in danger of being choked with fish bones: but they are so dexterous to separate the bones from the fish in their eating thereof, that they are in no hazard" (Gookin 1970:15). By this argument, the winter shell midden sites on the Cape and Islands we have been discussing may well be only winter sites, with bones of dried summer fish. The incomplete skeletal remains of fish in shell middens (Ritchie 1969; Little 1984) supports this proposal.

Whether these winter sites were used all winter or for short term foraging or for collecting and preserving shellfish for use elsewhere (Binford 1980; Black and Whitehead 1988; Crevecoeur 1971: 106), are unresolved questions.

Since shell middens are found only on the borders of shellfish habitat (Little 1983), if southerly facing shell midden concentrations indicate winter sites in other coastal areas of Massachusetts (Little 1986; see also Claassen 1986 and Erlandson 1988), then the distribution of shellfish beds in 1909 (Figure 1) shows where winter shell middens of Late Woodland sachemships or towns could be expected. Derived from Nauset, Nantucket and Vineyard shell midden data (and Dincauze 1974:53), this hypothesis needs testing for other estuaries. Note that, while we approach an understanding of historic sachemships or Indian towns, and of prehistoric seasonal use of coastal resources, the word village on the Cape and Islands has misleading connotations for a study of Late Woodland settlement patterns.

CONCLUSIONS.

Fred Dunford has presented a model for Woodland settlement patterns that vary through time in response to environmental, cultural and social changes. George Stillson has pointed out variations of settlement patterns in space which could result from social and economic interactions. Both of these contributions indicate testable archaeological hypotheses.

Frank McManamon has provided archaeologists with data with which to test hypotheses. Although most Woodland shell concentrations at Nauset have been identified only as winter sites, floral and faunal evidence as well as the social implications of the ossuary lead him to propose a model for dispersed sites at estuaries occupied year round in the Late Woodland. Elizabeth Little has tested a Nantucket hypothesis, that all winter shell midden sites are south of hillsides, against McManamon's Nauset data and it has survived the test. She proposes that the bones of summer fish in a shell midden may reflect preserved fish eaten during winter, so that summer sites are still unlocated.

While the approaches of these four people all differ, they do not so much conflict with Model I, II or III, as suggest hypotheses, new data requirements, and new tests of hypotheses. Only the small summer shell scatters of Model I would be expected on the north shore sites of Cape Cod and the Islands, as, for example, the Nantucket Field Station (Luedtke 1980); this needs testing. Model II, winters in sheltered valleys, summers dispersed at their planting fields, and various seasons (for various people) at hunting, fishing, shellfishing and/or fowling camps, is a robust ethnohistoric model. However, at Cape Cod and the Islands, winter shellfishing sites in sheltered valleys are the chief sites that have been studied and the only Woodland sites for which the season of collection has been determined. We have not yet established the seasonality of large interior sites without shell midden. We still need to test McManamon's hypothesis for year-round residence at sites dispersed around estuaries; Model III, against a model in which shell midden components were produced by sporadic or seasonal visits. Such studies of settlement patterns in time and in space as suggested by Dunford and Stillson will require close chronological control.

In the summer (late July) and from the east, Nauset houses in 1605 were prominent (Figure 2), but winter houses with NW wind protection would have been invisible from the north. In a visit to Nauset from the northwest in December 1620, the Pilgrims passed planting fields, the frames of unused Indian houses and food storage pits, but, "through snow or otherwise, we saw no houses, yet we were in the midst of them" (Mourt's Relation [1622] 1986:71). We are not the first to have problems finding a Woodland village on the Cape and Islands!

I thank Marie Eteson for a guided field trip to the Nauset sites May 20, 1987, to confirm site aspects, and Dena F. Dincauze for a suggested reference and for useful discussions about "villages" and "settlement patterns".

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