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Late Woodland (CA. 1000 - 1740 CE) Foraging Patterns of the Lenape and Their Neighbors in the Delaware Valley

Marshall Joseph Becker
West Chester University of Pennsylvania, mbecker@wcupa.edu

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Table of Contents

Two Monongahela Sites in Fayette County, Pennsylvania ............................ Bernard K. Means 1
“Late Woodland” (CA. 1000-1740 CE) Foraging Patterns
of the Lenape and Their Neighbors in the Delaware Valley ............. Marshall Joseph Becker 17
An Analysis of Prehistoric Ceramics Found
at the Ebbert Spring Site, 36FR367 ................................................ Ronald D. Powell 32
Richard George’s 2008 C14
Dating Project ................................................................. William H. Tippins and Richard L. George 60
A Discussion of New Radiocarbon Dates from the
Gnagey 3 (36SO55), McJunkin (36AL17),
and Household (36WM61) Sites ............................................ Bernard K. Means and William H. Tippins 63
Artifacts ..................................................................................... 75

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"LATE WOODLAND" (CA. 1000-1740 CE) FORAGING PATTERNS OF THE LENAPE AND THEIR NEIGHBORS IN THE DELAWARE VALLEY

MARSHALL JOSEPH BECKER

ABSTRACT
For over a century, archaeologists and historians have mis-categorized the lifestyles of the Lenape and their neighbors in the Delaware Valley and have misidentified these distinct tribes as "Delaware Indians." For the Lenape, subsistence was based on the collection of anadromous fish, not maize horticulture in a village setting. The origin, duration, and demise of traditional Lenape foraging strategies are discussed in this paper. In addition, the term "Late Woodland" as it applies to the Lenape, as well as other cultures in the Northeast, is discussed in an effort to clarify confusion in terminology.

INTRODUCTION
The cultural borders, settlement patterns, and economics of the Lenape and their neighbors in the Delaware Valley are better known today than in the 1970s. We now know that Lenape subsistence strategies were centered on "harvesting" anadromous fish (Becker 2006a) and not maize horticulture as had previously been theorized. This foraging lifestyle is significantly different than the conventional model of "village life" that dominated the literature in the 1970s (e.g., Weslager 1972), and continues in popular use today. The lifestyles of the Lenape and their neighbors have been misunderstood for over a century and these separate tribes continue to be collectively mislabeled as "Delaware" Indians or all grouped together as "Lenape."

A detailed review of the historical record has revealed the origins of some of the myths regarding these populations that began to emerge in the 1830s and remain current in the works of many historians and archaeologists. The "village" models tend to correlate with a view that conflates all four of the tribes along the Delaware River and Bay into one group, identified by the English name "Delaware" (see Goddard 1978). These four tribes themselves used the names "Lenape", "Lenopi", "Sekonese" (Ciconicin), and "Munsee" (as well as variations of these spellings) and each had their own unique territories and lifestyles (Fig. 1) (see Becker 2006a for more information).

Why do historians and other scholars continue to use the English term "Delaware" when referring to these several and distinct native peoples? I suggest it is because "Delaware" is easier to work with than the names of the lesser known specific tribes. In addition, few historians likely understand the complex cultural distinctions among these tribes. One purpose of this paper is to reinforce the idea that the European term "Delaware" is no longer acceptable, and the simple substitution of "Lenape" for this European term is also an error. More details on the lifeways of these peoples will be presented so that researchers and historians can better understand the distinctions among these tribes. For the most part, this discussion will focus on the Lenape, based on archaeological and historical research conducted for over 40 years.

When did the Lenape fish-based "Late Woodland" foraging pattern first emerge? How does the Lenape pattern differ from the foraging patterns of other cultures in the nearby area? And, when did the Lenape pattern come to an end? These and other questions will be explored in this paper.
Figure 1. Map of the Lower Delaware River Valley and surrounding areas showing Contact era tribal names and territories (see Becker 2006a for more information).

DEFINING FORAGING

Basic foragers gather foods on a daily basis (Binford 1980:9). Specific events may provide calories for several days (e.g., encountering a beached whale or taking several large animals on the same day). Forager strategies may include hunting parties or other resource collecting groups that bring food from a distance to a “residential camp” (Binford 1980:10). Binford’s (1980) suggestion that “collectors” have the capacity to store food resources “over considerable periods of time” is unclear and needs specific study for each tribe. Foraging societies gather their resources largely, if not entirely, from foods found in their natural environment. Foragers may act as collectors during specific periods and resort to foraging at others. The production of cereals or other foods through
planting or other techniques that manipulate the environment involve alternate strategies. These need not be two distinct systems. "Horticulture" usually applies to low level crop production where the process is in the hands of women. People practicing horticulture may derive the majority of their calories from foods collected by the men. The egalitarian Five Nations Iroquois, and perhaps the Sekonese chiefdom, were at the low end of the "horticultural" spectrum, producing more food through foraging than by growing crops.

Distinguishing Lenape economics from those of their immediate neighbors reveals that Boas' historical particularism (see Moore 1996)—developed to challenge 19th century models of cultural evolution—needs to be applied where distinct cultures are lumped together. Boas proposed that each society has its own unique path of development and should be understood within its own, unique historical context (cf., Swartz 1996). What this means for archaeological interpretation is particularly difficult to describe. Binford (1980) searched for a means by which ethnography could be used to decode the archaeological record. He did not intend to dichotomize foraging strategies, but his efforts at creating scientific order (predictability) were meaningless.

Ethnographic reconstruction reveals that the Lenape fishing bands were sedentary for up to nine months each year, and broke into mobile families to forage for the winter. The Lenape most closely resemble Murdock's (1967:159) Type 2 hunters and gatherers who occupied fixed locations for only up to six months of the year.

DEFINING THE LATE WOODLAND PERIOD: ARCHAEOLOGISTS AS MYTH MAKERS

Before examining the questions raised in the introduction of this paper, the "Late Woodland" (LW) period, as it applies to the Lenape, should be defined. The history of any field that purports to use scientific methods often passes through a phase in which terms and concepts need to be better defined and agreed upon. As our friends in the business world say, "let's be sure that we're all on the same page." A concern with defining the Late Woodland period is not only basic to understanding cultural processes that operated during that era but also provides insights into the complex reasons why archaeologists bought into being the myths surrounding the idea that the Lenape lived in villages. I now believe that the various definitions that have been used for the LW period have reinforced the erroneous belief that the Lenape lived in villages "just like" the Five Nations Iroquois—a belief that emerged only after 1830.

Woodland/Late Woodland: Non-Specific Terminology Reinforces Confusion

The concept of a "Woodland" culture was formulated as a vaguely defined archaeological concept in the 1930s. As with much social science, the term "Woodland" and what it implied were defined differently by everyone who used it. Most scholars agree that the term originated with W. C. McKern's (1939) attempt to classify archaeological data into "patterns" using a scientific framework based on the Linnaean method. James Griffin (1943) attempted an early explication, but without resolving some of the basic flaws. Griffin's work influenced William Ritchie's dissertation of the same year, published soon after (Ritchie 1944). While time lines were far from clear, Ritchie had an Archaic "pattern" preceding a "Woodland" pattern followed in turn by a "Mississippi" pattern. Aspects of this system continued in use for another decade, with some elements surviving into modern culture histories. Quite clearly the "Woodland" pattern reflected foraging societies, whereas the "Mississippi" pattern was associated with food production systems. By applying a Mississippi Valley sequence in New York, Ritchie erroneously associated food production with all Iroquoian peoples. As Douglas Mackey points out (personal communication 2009), the term "Late Woodland" was not used by Ritchie in 1944.

In New York and the Northeast in general, the term "Mississippi" as a phase designation soon faded as archaeological research found little in that region linked with the Midwestern region. However, the term "Eastern Woodland culture" (singular) was still being used in the 1950s to identify the lifestyle of all the peoples between the Mississippi Valley and the Atlantic coast. As a student in the 1950s, the idea of a homogeneous prehistoric "culture" that stretched across this vast area seemed absurd to me. Under the tutelage of James Griffin, the young scholars Schmitt (1952) and MacNeish (1952) provided significant impetus to understanding local variations in cultural patterning (see also
Anderson and Mainfort 2002). A useful effort to trace the specific development of these terms and concepts was made by Swartz (1996) in a review of the McKern “taxonomic” system that had been formulated in the 1930s. Swartz provided a helpful statement regarding the history of the term “Woodland” and a number of other terms used in Americanist archaeology. In her review, Swartz (1996:6) clarifies the parallel histories, which includes tracing the idea of a “Late Woodland” period back to James Griffin (1952:352). In my opinion, Swartz is not quite correct.

Griffin’s editing of the famous *Archeology of the Eastern United States* was a major effort to review data regarding Americanist archaeology. Note the use of the spelling “archeology.” Griffin’s contribution to that volume begins by stating that “United States Archeology” includes five culture periods beginning with Paleo-Indian and Archaic, and then including the Early Woodland and Middle Woodland, and ending with a conjoined “Mississippi and Late Woodland” (Griffin 1952:352). His text, however, describes at length “the Mississippian Period” and includes mention of a “Late Woodland” but once; indirectly and without explanatory information (Griffin 1952:361-364). The Late Woodland did not concern Griffin. Griffin was not concerned with things beyond the Mississippi drainage. In that volume he left discussions of the Late Woodland period, as a construct, to discussions by Karl Schmitt (1952) and Richard MacNeish (1952). Schmitt, whose brilliant insights ended with his early death in an automobile accident, recognized that in the Northeast, by the Middle Woodland period (correlated with Hopewell in Ohio and elsewhere), there was diversity among the eastern cultures, but that the “Late Woodland period” could be characterized by considerable diversity. No dates appear in the body of his text. Schmitt (1952:70) noted that cultural continuities “through to the Late Woodland are strong.” MacNeish (1952:46) actually included a “Final Woodland”, but also offered no dates. Only in Figure 205 do we find a chronological review in which the Early Late Woodland begins ca. 950 CE and ends ca. 1700 CE. MacNeish’s brilliant suggestion that a Final Woodland, associated with trade goods, implied continuities in cultural tradition is what I hope is being revived here. This idea is in keeping with what Swartz (1996:6) observes; that these divisions are not temporal units but were meant to reflect cultural content.

The confusion between cultural content and chronology confounds many contemporary archaeologists who persist in identifying all post 1000 CE cultures in the Northeast as maize horticulturalists (or worse, identifying these people as “agriculturalists”). The Mississippian phase proposed by Griffin was meant to reflect archaeologically identifiable traits documented from the Upper Mississippi Valley—where “agriculture” (extensive use of cultigens, including maize) appeared ca. 1000 CE. The concept of a “Woodland” (foraging?) phase as appearing between the “Archaic” and the Mississippian is only part of this confusion. This Mississippi Valley “Woodland” tradition is variously dated to 600-1200 CE or 500-1000 CE. William Ritchie (1965:87) noted that the term was related to the vaguely defined “Woodland Pattern in the Midwestern Taxonomic System.” Despite any efforts that may have been made to clarify the term “Woodland” at the First Woodland Conference, held in Chicago in 1941 (Ritchie 1965:178), the meaning continued to remain vague or poorly defined in the literature.

Willey’s (1966) classic text on American archaeology makes no reference at all to a “Late” Woodland period, and confuses the “Woodland Tradition” with the use of maize and cultigens; to whatever degree they were utilized. Custer’s (1989) effort to trace the origin of the term to Willey failed to note that Willey actually stated that “The Woodland Tradition” was defined “by the presence of Woodland pottery” and that this tradition waned during the “Temple Mound Periods (A.D. 700-1700)” (Willey 1966:267). In an important effort to clarify cultural chronology for the Delmarva Peninsula, Custer (1989:298) proposed a “Woodland II/Contact Period” that began at 1000 CE. Unfortunately, Custer’s Woodland II, beginning ca. 1000 CE, is said to derive from the traditional “Late Woodland period” as defined by Willey (1966:267-286). In fact, the word “Late” is not in Willey’s original but is Custer’s insertion, leading readers to assume that the definition of a Late Woodland period that began ca. 1000 CE can be traced to Willey. It cannot.

A recent paper based on prehistoric hunter-gatherer economies in coastal Georgia incorporates some of the ideas regarding Woodland “periods” without clarifying much about some of the aspects of these so-called periods. Thompson and Turek (2009:255), in a jargon-rich examination of the temporal period from “ca. 4,200-1,000 B.P.”, use resilience theory to address cultural changes in the
target area. They imply that their cutoff date reflects the introduction of maize and other cultivars, and provide dates for the four named periods within this period (Thompson and Turck 2009:258-259). The Late Woodland period, as they define it, dates from 1,500 to 1,000 B.P. (ca. 500-1000 CE), which they imply is followed by a Mississippian (cultivar oriented) phase (see Willey 1966:292 for an example of confusion in matters relating to “traditions” and his pp. 247-249 for problems in assigning dates to them). Thompson and Turck (2009:265) posit a decrease in the size of Early Woodland population, with “an even-larger increase in Middle and Late Woodland period populations.” The lifestyles posited for coastal Georgia (Thompson and Turck 2009:271-273) distinguish between the Middle and Late Woodland periods. In effect, their terminology is borrowed for use in coastal Georgia without being clarified or refined. I believe that this type of uncritical borrowing has also created some difficulties with decoding cultural processes in the Delaware Valley.

Other sources of confusion regarding Lenape foraging are related to the archaeological focus directed toward nearby horticulturalists. Although maize growing may have entered the mountain inland areas of New York and Pennsylvania ca. 1000 CE, as an “Iroquoian” adaptation, this does not mean that these peoples were dependent on maize as a staple, or basic foodstuff. The Monongahela, Susquehannock, and all of the Five Nations Iroquois were wide ranging foraging collectors using “horticulture” to supplement their diet. I call these peoples low-level horticulturalists, identified as matrilineal in descent and egalitarian in social structure. A recent review of variations in Monongahela settlement patterns (Raber 2009) emphasized an important aspect in the economic strategies of these low-level maize horticulturalists that often is overlooked. The considerable extent of supplemental foraging needed for Monongahela communities, a pattern also seen among the Susquehannock as well as all of the Five Nations Iroquois, has been explored by several scholars (e.g., Casselberry 1971), but Raber’s concern is with widening our view of maize horticulturalists in the Northeast in order to understand the importance of basic foraging in their economy. Elsewhere I have argued that these low-level horticulturalists were, in effect, foragers who spent most of their time “collecting” and grew supplemental maize and beans to survive and maintain populations larger than basic foragers in a non-coastal environment. Raber’s (2009) recent review of one Monongahela site and a related but smaller entity reveals a system unrelated to any of the several LW foraging societies in eastern Pennsylvania and along the coast to the north. The ecological strategy of low-level maize horticulture was not employed by coastal tribes.

Many of the ideas about the economy of what had earlier been called the “Woodland” system, however defined, have been adopted by scholars when referring to the peoples of the Delaware Valley, including the idea that the peoples of this area became maize horticulturalists ca. 1000 CE. We also need to understand that what began as an attempt to describe an economic pattern, or system based on certain aspects of an economy, started without a clear correlation of any time-spans. The merger of cultural patterns with specific periods of time has a long history. Of specific concern here is the nature of culture change as revealed by artifact assemblages. Archaeologists often suggest that the processes of culture change reveal ecological adaptation rather than being reflections of social organization or other aspects of culture such as viewed by cultural anthropologists. I am indebted to Douglas Mackey (personal communication 2009) for lucid communications identifying what are called cultural boundaries in the archaeological record. But as Richard MacNeish (1952) implied, native peoples in the “Final Woodland” period (after Contact) retained their “Woodland” (foraging) lifestyles. My reading of the vast documentary record relating to the Lenape from ca. 1600 to 1740 suggests that they retained language, social organization, rituals, and ecological interactions while shifting rapidly to incorporate superior technologies into their culture. Introduced materials were superior in almost every way, yet the Lenape adapted them where needed. This is indicated by the archaeological evidence for the Lenape ca. 1720-1733 (Becker 1992a, b, c, 2006a, etc.), and probably holds true for each of their neighbors.

A further problem in the recognition of distinct cultural behaviors associated with specific territories relates to our use of the term “settlement” as it relates to patterns of land use. The term “settlement” tends to connote a basically stationary lifestyle, typified by the palisaded villages of the Susquehannock or Monongahela. The use of the expression “settlement pattern” may in itself predispose the reader to visualize a “village” residential pattern rather than any pattern of landscape
use as originally intended. As previously noted, traditional Lenape life was never centered on village life and maize horticulture (Becker 1988b, 1995). Their foraging patterns, which are best described as Late Woodland in nature, extended well into the 1700s. In summary, Lenape life during the Late Woodland period was unique and should be treated as such rather than being applied as a model for all of the peoples of the Delaware Valley.

In working out the histories and processes specific to Lenape life between 1500 and 1750 we have also revealed the very distinct identity of the several other cultures that occupied the Delaware River valley and Delaware Bay area (Becker 1983b, 1985, 1986b, 1997b, 2004b). The term “social process" is, at present, used to explore what I had once limited to “culture history." I acknowledge the distinction, but note that I began my work with the simpler goal of reconstructing Lenape "culture history" (Becker 1980). The research progressed from there.

THE LENAPE AND THE LATE WOODLAND PERIOD: CA. 1000-1740 CE

The origins of Lenape culture defined as a distinct system or way of life specific to the “inborn" or native members of this self-defined group are traceable to ca. 1000 CE. About that time, as indicated by archaeological records, we see a transition from Middle Woodland (MW) wide-ranging foraging as, over time, a series of different economic strategies developed based on distinct resource extraction modes specific to each local environment (cf., Curry and Kavanagh 1991, for Maryland). This general transition appears to correlate with the introduction of the bow and arrow for reasons that are not clear. These different strategies, including one that involved supplemental maize horticulture, characterize the local LW period. Thus the several descendants of the MW peoples, around 1000–1100 C.E., entered into diverse modes of resource extraction, each of which was pursued by a specific population. This led to the formation of the several different cultures of the Delaware Valley and Bay that were later historically documented by European settlers.

The people who called themselves Lenape emerged from these MW groups with a system focusing on the spawning runs of the eight species of anadromous fish, and the catadromous eel that use specific feeder streams that empty into the Delaware River (Becker 2006a). These streams all enter the Delaware from the west side of its drainage (the right bank when going downstream). All the anadromous species of fish taken by the Lenape spawn only in the streams between and including Tohickon Creek, just below the Lehigh River, and Delaware’s Old Duck Creek (now the Leipsic River). This ecological adaptation resulted in the patrilineal foragers who became the Late Woodland period Lenape forming a series of kin-related fishing bands that shifted to matrilineal descent (extended family groups organized around the female members of the lineage). How and why this transition took place will be explained below.

These fish-oriented bands ranged in size from about a dozen individuals, as in the case of the Okehocking band (Becker 1986a) to perhaps as many as 60 in the largest; probably the Schuylkill River band (Becker 1997a; see also Becker 1989a). Each band fished for most of the year, functioning as “collectors" at its own fishing area located along the Delaware River (Becker 2006a, 2009a). In the fall, all the bands gathered at one location for their annual renewal “ceremonies.” In effect, this is the forager equivalent of fall harvest feasts. At this season the game is at its fattest, nuts are abundant, and all food resources enable large numbers of foragers to collect in one location without devastating the resource base. Marriages can be arranged. Strategies for winter foraging and other important collective matters can be discussed. After a few days, the attendees returned home briefly to prepare for winter dispersal, during which period each individual family relocated to the interior for cold weather foraging. This environmentally adapted foraging pattern, with the focus on harvesting huge numbers of anadromous fish, formed ca. 1000-1100 CE or later.

During the “warm weather" phase of their annual round the Lenape were, in effect, relatively settled "collectors." I once used this term for the Lenape (Becker 1988b), but found that readers might over-emphasize the settled aspect of what was a very complex life style. During the remainder of the Lenape year, or during the winter months, they operated as mobile foragers. Despite 40 years of reading the documents relating to the Lenape prior to 1740 CE, I have found no evidence that any individual Lenape ever opted to remain at a fishing station during the entire year. In addition, no permanent structure has been identified at a possible Lenape fishing station (cf., Becker 1993b).
"LATE WOODLAND" (CA. 1000-1740 CE) FORAGING PATTERNS OF THE LENAPE AND THEIR NEIGHBORS IN THE DELAWARE VALLEY

Lenape fishing stations, located along or very near the Delaware River in the centuries prior to ca. 1660 CE, were in a zone that was impressively resource-rich. A location may have been used by a band for about five to seven years before local resources such as trees and edible roots were depleted. The presence of large quantities of fish guts also may have spurred a shift in residence area to a relatively nearby location; perhaps one used some years before in which resources had recovered. Excavations uncovering several acres beneath Philadelphia's present National Constitution Center (NCC), directed by Douglas Muñoz for the National Park Service, identified a number of ephemeral native sites (personal communication 2009). These data were posted on the Philadelphia Archaeological Council's web site. While indications of earlier occupations were present, several areas produced hundreds of glass trade beads ranging in date from perhaps 1550 to as late as 1660. These reveal the locations of several Lenape fishing stations such as noted above, each in use for a limited period of time. The locations are all relatively close to fresh water as well as to the Delaware River. Studies of the more dense of the bead find-spots may provide greater insights into these encampments. Studies of early maps may help locate appropriate target areas for future study. Most significantly, none of these sites date from after 1660, confirming the thesis recently proposed (Becker 2009b) that Lenape fishing stations were shifting towards inland locations after 1660.

The shift from patrilineal to matrilineal descent among the Lenape probably took place between ca. 1200 and 1500 CE, since the usual transition in basic social organization of a culture requires about 300 years (Murdock 1949). The shift to matrilineal descent that we now recognize among the Late Woodland period Lenape reveals that fishing was the work of women, and that women were the "owners" of the home territory of the band. This Lenape foraging strategy apparently began during the transition to the Late Woodland period and lasted well into the 1700s in the Delaware Valley. Between 1660 and 1740, the traditionalist Lenape bands began to shift their focus from fishing to a mixed foraging economy. Consequently, the process of change in the descent system was reversed. Lewis Henry Morgan studied "Delaware" kinship in the middle of the 1800s, only a century after the last Lenape bands had left the Delaware Valley. Not surprisingly he found that the Lenape were still utilizing a matrilineal descent system (Morgan 1870), then 200 years into the process of changing in response to changes in their foraging strategy that began ca. 1660 C.E. (cf., Murdock 1949).

European contacts brought about an impressive shift in the material goods used by all of these cultures in the Delaware Valley (cf., Becker 2005b). The change, however, may have begun in the 1500s and only gradually increased over the period until about 1660, when the Lenape became significant players in the pelt trade (Becker 2009b). I place the end of the Late Woodland period at the point when these traditional cultures began to alter basic socio-political frameworks (Becker 1988b). For the traditionalist Lenape, or those who remained in the Delaware Valley after 1660, this shift in the economic focus of their society took place in the decade from 1730 to 1740.

THE TERMINAL LATE WOODLAND SETTLEMENT PATTERN OF THE LENAPE

Many recent studies illuminate the specific activities that are the bases for native land use patterns, land sales, and patterns of adaptation and acculturation within the Delaware Valley, as well as migration out of parts of this region (Becker 1996). Understanding these dynamics is difficult, and complicated by the multiple traditions of the "English" colonists in the Delaware Valley—a collective political entity which actually included Quakers, Anglicans, and an assortment of other religious and ethnic groups, particularly the descendants of Swedish and Dutch colonists.

What impressed me when I first began these studies was the evidence that some Lenape were still living a Late Woodland lifestyle some 250 years after "contact" with Europe, and for more than 150 years after regular interactions with Europeans had begun to make a major impact on the material culture of this region, ca. 1590 (Becker 2005b). As noted earlier, many archaeologists place the end of the "Late Woodland" period, as it applies to each specific Native American population, at or about the years when significant changes in material goods become evident in the record. However, changes in material goods that survive in the archaeological record tend to reveal an extremely gradual process. The documentary record for the Lenape, and for their several neighbors, suggest that each of these peoples maintained traditional culture (cognitive aspects of how they should live their lives) long after some material aspects of their culture had long been augmented by
imported goods. Over the years since the 1970s there have been gradual shifts in perception among scholars who are concerned with the several different native peoples of the Delaware Valley. We now can demonstrate that Lenape lifestyles and traditions did not end with the first regular contacts with Europeans, around 1600 CE, or with the entry of growing quantities of trade goods into their homeland during the next 60 years.

By 1660 a few Lenape individuals, families, and possibly entire bands had begun to relocate to central Pennsylvania to improve their economic status through participation in the European centered pelt trade (Becker 2009b). This trade collected peltry from all of North America. From the center of the Plains and to the west pelts moved to west coast markets and a longer arm of the system. The eastern coastal markets also collected pelts for European factories, where the hides and hair were separated and processed. Most of the hair was converted to felt for the Russian and Chinese markets, in exchange for silk and tea. Entering into a world trade system that exchanged a waste product (surplus pelts) for valued goods created the basis for major political changes among Native American populations across North America. In Pennsylvania, the pelt trade was largely controlled by the Susquehannock based in the central part of the present state. Lenape movement west to participate in the pelt trade can be documented as early as 1660, with other Lenape following these "pioneers" over the next 75 years. Thus, the Lenape relocation to the west had begun long before William Penn arrived, and may be the reason why he could, over a period of 21 years, buy tracts of land wholesale from the various bands (Becker 1984b, see Kent 1979). Even after their last sale in 1701, at least some of the Lenape remained in the Delaware Valley and maintained their fish-based foraging economy into the 1730s (Becker 1976, 1984a, 1986a, 1997a). Thus over a period of more than 75 years the Lenape made a transition from their focus on anadromous fish to full time "Woodland" foragers who used a mixed peltry economy; that is, they enhanced a foraging lifestyle with the benefits gained by the trade in peltry.

The last traditionalist "Late Woodland" Lenape fishing bands abandoned their homeland around 1736-1737, leaving behind only those Lenape who had married among the colonists, or those who simply lived and worked in the expanding agrarian economy (Becker 1990a, 1992a, 1993a). Traditionalist Lenape began to shift their economies decades earlier, but maintained annual rounds similar to their fish-oriented ancestors into the 1730s. By 1800 nearly all of these native-descent people had died, as had most of the colonial farmers who had actually seen the Lenape fishermen in action. By 1798 young Quaker men from that same region in Pennsylvania once occupied by the Lenape were sent to the area around the northwestern corner of the newly formed Commonwealth of Pennsylvania to serve as missionaries to the Seneca. Remnants of the palisades surrounding traditional Five Nations Iroquois villages were still to be seen in New York, and those native lifestyles, or cultures, were quite vigorous. In fact, the goals of these missionaries included teaching plow agriculture to these low level horticultural societies (women practicing digging stick horticulture) in which the men were principally hunter-warriors. On returning home these missionaries, often waiting 25 years or more, published works describing the "Indians" among whom they had lived. This view of village "Indians" became transferred, in the period after 1830, to the Lenape foragers of Pennsylvania who had relocated to the west a century or more before. What I call the Iroquoian Model "informed" the image of the Lenape settlement pattern for more than 125 years (e.g., Withthoff 1984)! Only C. Barnes (1968), using original sources, had recognized the reality of the Lenape as a foraging society.

The failure of academics to read the colonial documents, or to read scholarly works based on these documents, reflects their use of a default mode based on dated and generally popular works. This failing led Custer (1989:333-334) to cite Withthoff's (1984) use of what I call the "Iroquoian" model for the "Delaware." Custer even ignored the evidence of alternative strategies that were published in a volume that he himself edited (see Becker 1986b), and also ignored other relevant studies (Becker 1980, 1983b, 1984a, etc.). Custer (1989:299) preferred to use data regarding settlement changes in Maryland ca. 1000 CE (Stewart 1980:394-395; 1984) to infer that there was a similar reduced use of upland environments in the Delaware Valley during the LW. In Maryland, these changes probably were associated with increased sedentism and agriculture. The evidence now reveals that similar changes in land use at the beginning of the LW in the Lenape zone of the
"LATE WOODLAND" (CA. 1000-1740 CE) FORAGING PATTERNS OF THE LENAPE AND THEIR NEIGHBORS IN THE DELAWARE VALLEY

Delaware Valley relates to shifts in the use of anadromous fish resources and not to the introduction of horticulture. Confusion in the interpretation of the archaeological evidence results from ignoring the past 25 years of ethnohistorical evidence, a problem that continues to this day (cf., Becker 2006b).

Not only archaeologists ignore the evidence now available. Reflecting the dated perspective of historians, or perhaps a disinterest in the rich and diverse stories of each Native American culture in the historic period, is Gary Nash's (2007) impressive summary of 25 years of historical scholarship relating to Philadelphia. The single paragraph afforded the "Lenape/Delaware" (Nash 2007:362) lists several works of history that relate to the Lenopi of New Jersey or to a synthetic cluster of tribes identified as Lenape (see Becker 1989b, 2010b). Nash derived his description of the Lenape as "a sedentary, politically decentralized [people] dependent on a hunting and fishing economy" on a synthesis that I "edited" for a volume by Cotter et al. (1993). The key word here is "sedentary," reflecting the 19th century view of these fishing-foragers as resident in villages.

An earlier factor in the confusion between Lenape and Five Nations settlement patterns was the importance of matrilineal descent among both populations, although for different reasons. For the Five Nations people, low-level maize horticulture provided the supplemental resources essential to surviving extended winter food shortages. Working cleared ground, and the ownership of the maize plots and their yields, was in the hands of the women. This created the economic basis by which the Five Nations peoples sustained a matrilineal system. As B. Powell recently pointed out to me (personal communication 2009), the matrilineal Lenape were, by analogy, considered by many scholars to have had a similar economic base as the Five Nations and thus the same kind of settlement pattern. Matrilineality may relate to any of several different economic strategies.

"SETTLEMENT" PATTERNS, ECONOMICS, AND POPULATION SIZE

Foraging populations described in the ethnographic record tend to have populations of around 500 individuals (cf., Becker 1989a). My experience has been that historians generally cannot conceptualize populations ("cultures") of such low numbers. Note also may be made that until the past two decades, most anthropologists, or should I say archaeologists, persisted in the idea that the populations of each of the villages of the Five Nations of the Iroquois had populations far exceeding one or two thousand. Each Haudenosaunee culture may have included as many as 5,000 individuals living in several villages (cf. Casselberry 1974), or an order of magnitude larger than any of the foraging peoples such as the Lenape (Becker 1989a). Although the horticultural productivity of these several Iroquoian peoples may have been low, it enabled populations of hundreds to aggregate in defended communities. Not studied at this time is the population density of these village dwelling peoples of Iroquoia (or in the homelands of the Susquehannock or the Monongahela) as compared with those of the foraging Lenape.

Lenape Neighbors: Munsee (Minsi), Lenopi (Unalachtigo), and Sekonese (Ciconicin)

The Munsee of the Upper Delaware Valley (Fig. 1) (Becker 1983a) had a very different cultural tradition; one that focused on an ecological zone requiring a mixed foraging economy with relatively little use of fresh or salt water resources. The evidence from land sales and other documents suggest band organization and a dispersed settlement pattern. Only four species of anadromous fish spawn in the upper Delaware River (Becker 2006a), precluding a Lenape-like focus on fish resources. The archaeological evidence suggests possible clusters of structures, if not hamlets, and a foraging pattern in some ways similar to that of the Five Nations.

The Lenopi, living south of the Raritan River drainage in New Jersey (Fig. 1) (see Brinton 1885:33, n2), balanced the use of marine resources with those of the interior of that peninsula (Becker 2008). Various bands and individual Lenopi have been particularly well documented in a number of recent studies. For example, the story of the migration into Pennsylvania of some, if not all of the Toms River band of Lenopi, including the famous Teedyuscung (ca. 1708 - 16 April 1763) has been documented at length (Becker 1987a, 1987b, 1988a, 1992b, 2004a, 2007; cf., Wallace 1949). Long ago Brinton (1885) identified "Lenopi" as the specific name that Teedyuscung and his kin used for their own culture, and others had followed his lead. After much study I now can confirm
his important observation (Becker 2008). A great deal of information about Teedyuscung, an interesting Lenopi individual, has become available since Wallace (1949) wrote his pioneering work. While the name "Unalachtigo" has frequently been associated with these people (cf. Becker 1992b), the specific term that Teedyuscung used to identify his own people was "Lenopi." This term, and other findings regarding Teedyuscung’s very well documented life, had long been missed or ignored.

A biography of MehOxy of the Cohansy band of Lenopi (Becker 1998) reveals a great deal about the activities of an entrepreneurial Lenopi who lived before Teedyuscung, and about those who never left their homeland. Of considerable importance at this time is reconciling the impressive documentary record that we have for Mehoxy, whose band held territory adjacent to the Cohansy River, and the spectacular Contact period materials found in burials at the Abbott Farm Site, located near the confluence of Crosswicks Creek and the Delaware River (see Cross 1941). The size of Lenopi bands now appears to have been uniformly greater than that of Lenape bands (Becker 2010a).

The Sekonese, consistently identified as the “Bay Indians” in early documents, have been well delineated as the aboriginal residents in the center of the state of Delaware (Fig. 1, shown as Ciconicin) (Becker 1990b, 2004b, 2005a; Kent 1979). I originally used the term “Ciconicin” for these people as that is the form by which they are identified in the earliest known reference to them. I now recognize that this term is an Algonkian locative, probably derived from “Ciconisink,” meaning “place of the Sekonese.” The Sekonese people used a mixed horticultural-foraging economy similar to that of the Susquehannock and Five Nations Iroquois, but they had a vastly different political system. They had a true chiefdom similar in structure and possibly in settlement pattern to the chiefdoms of Maryland and Virginia. Sekonese leadership was inherited, regardless of the age of the heir, and the chief held true power over his people. No culture north of the Sekonese on Delaware Bay had such a complex political system. Custer (1989:334, fig. 93) ignored their separate identity and referred to them as “Lenape.”

As the culture history of each of the neighbors of the Lenape becomes better known, similar forms of cultural persistence will be revealed among them. The persistence of some groups of Lenopi will be found to have lasted beyond 1740, while other cultures may have morphed into a “native” ethnic group among the Colonials at an earlier date. In the middle Atlantic region, as in New England, focused studies are enabling us to recognize the considerable continuity in cultural tradition that each of these peoples may have had (cf., Silliman 2009). The inexorable processes of language loss and cultural transformation have left the descendants of these peoples, like the grandchildren of immigrants, detached and separated from their rich cultural heritage.

The settlement patterns, socio-political organization, and descent system specific to the Lenape have been well documented over the years (Becker 1988b, 1992c, 2006a). The complete extent of what is known about their shelters, including William Penn’s description, is available (Becker 1993b). Correlated with settlement pattern are data revealing Lenape population distribution (Becker 1989a, 1993c), and economy (Becker 1995, 1999, 2006a). In short, we now recognize the distinct patterns used by the Lenape in a very specific set, or array, of cultural situations (ecology). These are adaptations that were made to a highly localized environment. Each of the very different responses made by the Lenopi, Munsee, and Sekonese is equally specific to a local environment, reflecting the variety of Late Woodland adaptive patterns. These patterns have been inferred for decades, but only recently have been documented in detail (Becker 2006a, 2008, 2009c). Demonstrating the specific pattern used by the Lenape, and the area-specific patterns used by each of their near neighbors, has not been a simple task. Convincing colleagues of the validity of these findings has been even more difficult. Archaeologists, linguists, and others need to become more familiar with the literature, and need to devise means to test these cultural models. Without formulating questions and testing models we risk being lumped together with those historians whose goals include the telling of a good story rather than providing a verifiable depiction of cultures, culture histories, and the social processes involved.

CONCLUSION

Much has been learned about the lifestyles of the Lenape and their neighbors over the last 40 years. The primary source of this new understanding has been colonial records; an impressively large
"LATE WOODLAND" (CA. 1000-1740 CE) FORAGING PATTERNS OF THE LENAPE AND THEIR NEIGHBORS IN THE DELAWARE VALLEY

body of documentary evidence just waiting to be explored (see Becker 1989b). There is no doubt that much more information on the lifeways of other tribes in nearby areas can be found in these old documentary records. In effect, the paradigm shift needed to understand the culture and history of each native tribe, such as the Lenape, requires a change in the way they are studied as well as in the way the evidence is interpreted (cf., Kuhn 1962). In describing the people of the Delaware Valley, researchers must resist the temptation to use simplistic labels and settlement models prevalent in the literature. Each of these tribes retained a unique "Late Woodland" lifeway well into the 18th century. Intense study of the colonial records, together with archaeology, will enable us to best understand these people.

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REFERENCES

Anderson, David, and Robert Mainfort (editors)
Barnes, Carol
Becker, Marshall Joseph
Becker, Marshall Joseph (continued)
1990b The Ciconicin [Sekonese]: Evidence for a Chiefdom to the South of the Foraging Lenape. Paper presented at the Middle Atlantic Archaeological Conference. Ocean City, Maryland, 1 April 1990.
1993a A New Jersey Haven for Some Acculturated Lenape of Pennsylvania During the 1760s. Pennsylvania History 60:322-344.
1993b Lenape Shelters: Possible Examples from the Contact Period. Pennsylvania Archaeologist 63(2):64-76.
“LATE WOODLAND” (CA. 1000-1740 CE) FORAGING PATTERNS OF THE LENAPE AND THEIR NEIGHBORS IN THE DELAWARE VALLEY

Becker, Marshall Joseph (continued)


2004a Native Americans from Toms River: Teedyuscung and his Lenopi Kin. *Newsletter of the Archaeological Society of New Jersey* 204 (Jan.):1-4.


2009b The Lenape, 1660-1730: Complex Native Cultural Interactions at the End of the Late Woodland Period as Seen through Historical Records and Archaeology. Paper presented at the Middle Atlantic Archaeological Conference, Ocean City, Maryland, 21 March, 2009.


Binford, Lewis R.


Brinton, Daniel Garrison

1885 *The Lenape and Their Legends: With the complete text and symbols of the Walam Olum*, etc. D. G. Brinton, Philadelphia.
Casselberry, Samuel Emerson  


Cotter, John L., Daniel G. Roberts, and Michael Parrington  

Cross, Dorothy  

Curry, Dennis C., and Maureen Kavanagh  

Custer, Jay F.  

Goddard, Ives  

Griffin, James B.  


Kent, Donald  

Kuhn, Thomas S.  

MacNeish, Richard S.  

McKern, W. C.  

Moore, Jerry D.  
1966 *Visions of Culture: An Introduction to Anthropological Theories and Theorists.* AltaMira Press, Walnut Creek, California.

Morgan, Lewis Henry  
1870 *Systems of Consanguinity and Affinity of the Human Family.* Smithsonian Contributions to Knowledge, Volume 17, article 2. Washington, D.C.

Murdock, George Peter  
1949 *Social Structure.* Macmillan, New York City.


Nash, Gary B.  
“LATE WOODLAND” (CA. 1000-1740 CE) FORAGING PATTERNS OF THE LENAPE AND THEIR NEIGHBORS IN THE DELAWARE VALLEY

Raber, Paul

Ritchie, William A.
1965 Archaeology of New York State. Published for the American Museum of Natural History [by] the Natural History Press, Garden City, New York.

Schmitt, Karl

Silliman, Stephen W.

Stewart, R. Michael

Swartz, B. K.

Thompson, Victor D., and John A. Turck

Wallace, Anthony F. C.

Weslager, Clinton A.

Willey, Gordon R.

Witthoft, John

MARSHALL JOSEPH BECKER
SENIOR FELLOW IN ANTHROPOLOGY
THE UNIVERSITY OF PENNSYLVANIA
19 WEST BARNARD STREET
WEST CHESTER, PA 19382-3207
E-mail: Mbecker@wcupa.edu