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Cash Cropping by Lenape Foragers: Preliminary Notes on Native Maize Sales to Swedish Colonists and Cultural Stability During the Early Colonial Period

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Abstract

Interactions between the Lenape bands and Swedish colonists from ca. 1640 to 1660 reflect a new strategy for securing desired European goods. Lenape history during this period is well known from land deeds and other recorded interactions with the colonists. These records document details of their band organization and their dispersed residence pattern. However, for nearly 20 years the two Schuylkil River bands, and perhaps others, established their summer stations in the Passyunk region, where they amplified their maize gardening to produce a "crop" for sale to the colonists. By 1660, due to the combined effects of a decline in maize prices and the greater attractiveness of fur trapping as a resource base, the Lenape bands aggregated at Passyunk returned to traditional summer fishing stations and abandoned large-scale maize gardening. During the entire period from ca. 1640-1660 all of the Lenape bands maintained normal foraging patterns. Their temporary economic adjustment as a means for gaining access to trade goods lasted nearly twenty years, generating only a minimal alteration in the residence pattern of some bands, but *no* changes in social structure or political organization.

This unusual summer aggregation pattern of some of these foraging bands in order to grow maize as a cash crop from ca. 1640-1660 had led several scholars to conclude that these Lenape foragers were sedentary horticulturalists, or that contact with Europeans stimulated a transition to agriculture. Neither of these inferences is supported by the evidence. We can demonstrate now that the Lenape bands retained their traditional culture long after the 1730s, the decade during which the traditionalists still foraging in the Delaware Valley had relocated their foraging range to the west. Lenape lifestyle, or variations on its foraging focus, remained intact until the middle of the 19th century, or for over 100 years after their departure from the Delaware Valley.

Introduction

The enormous volume of research directed toward specific cultures in the northeastern woodlands area of the United States has vastly sharpened our perceptions of many of these distinct groups of Native American people. A number of our "assumptions and myths" (Shipek 1981:293-4) regarding these peoples have been dispelled in recent years through the review of a vast amount of previously untouched data. Among the myths and assumptions dispelled are those relating to Native Americans as "ecologists," as well as fantasies about the supposed large size of aboriginal populations.

A major conundrum related to the idea that many of the native cultures of the northeast appear to have become *more* sedentary ca. 1400-1500 CE (Christian Era), at a time when the weather was becoming colder! The alithermal of ca. 1100 CE was past, and the Little Ice Age of ca. 1600 CE was placing greater restrictions on the growing season in the northeast. Yet these same chilling factors were producing stress on the entire ecological situation, generating a Late Woodland period food stress that was met in two ways. First, specializations developed in resource extraction in localized areas. Second, the peoples (women?) in ecologically precarious resource areas, such as central New York and western Pennsylvania, began maize production to provide a buffer against recurrent food stresses resulting from fluctuating environmental conditions.

Models of "rapid" culture change based on supposed modes of maize production postulate that the inception (or presence of) "agriculture" among the native populations uniformly resulted from changes in global temperatures and/or variations in social relationships (cf. Beaugregard 1986). This is quite different than the model that assumes continuity of native culture through time, and well into the colonial period. James A. Brown (personal communication) notes that research in the area of the Great Lakes focused on the role that maize cultivation had in stabilizing a wild food foraging system. Maize, as one of the "crops" intensively harvested, acted as a stabilizing element because of its ability to be stored. Prof. Brown also points out that this altered economic system did not lead to the development of chieftancies among the Great Lakes groups who developed such stabilized systems.

Various *ideas* about uniformity among native cultures of the "Eastern Woodlands" had led to archaeologists treating all native peoples as if they were alike. We now recognize that even the New York State Iroquois were "shifting cultivators" with relatively low population densities (Engelbrecht 1987, Snow 1995). Other groups north of the Chesapeake also have been found to lack extensive use of maize, although they may have gardened other plants (cf. Strong 1983:34-5). None of these groups have been found to have had the large populations which were once suggested for them.

Detailed studies of the foraging systems of the several nations called "Delaware" by Europeans have had similar results. The cultural boundaries of the Lenape, the Munsee (Becker 1983) and the "Jerseys" (Becker 1987b, 1988a) are now known, and each culture had a very distinct set of economic strategies. We now know that Lenape food getting strategies were based on foraging, with the focus strongly on fishing. Lenape "villages" were no more than scattered and temporary encampments (Becker 1986c, 1988b; also Early 1985). However, Lenape economic and settlement patterns altered in several interesting ways during the decades from 1640 to 1660, and these alterations gave rise to the myth of Lenape "agriculture" (cf. Ford 1985, who offers no data from the Lenape area). As James A. Brown has pointed out (personal communication), the assumption that maize cultivation automatically indicates the presence of socio-political complexity, and that members of any culture "intuitively" prefer intensive food production systems to less intensive systems, is not supported by the Lenape data. Although those aspects of Lenape culture involved in the use of European material goods changed greatly in the early 17th century, and for a brief period they did intensify maize production, their social organization and general lifestyle remained almost entirely unaltered for centuries.

Examination of the pattern of increased maize production among the Lenape demonstrates intensification of one set of behaviors—gardening—that had nothing to do with a direct attempt to increase or to stabilize food resources. Rather, this increase in maize production was a means by which resources could be secured in trade at the time of harvest. The alcohol received enabled these Lenape to amplify ritual behavior at their annual "renewal" ceremonies (cf. Witthoft 1949; also Wallace 1956). In addition to usual food consumption, alcohol provided an added "kick" at these festivities. A secondary result of this maize trade was the creation by the Lenape of an indirect food storage system by placing the crop in the hands of the European colonists. These foragers then could draw on the stored crop, using the social obligations created by the trade itself.

The Maize Trade

Ceci (1982:7-8, 28) notes that at best maize "farming" had a minor role in the subsistence strategies in the New York and New England coastal areas until after Contact. Others (Lavin 1988, McBride and Dewar 1987) also recognized the role for aboriginal maize cultivation in this region (see also Bourque and Krueger 1994). Not only has Ceci (1980) provided evidence for the lack of a totally sedentary life style based on horticulture in coastal New

York, on the basis of the archaeological evidence, but similar findings appear to characterize the entire region (see also Dunnell 1984:498). In fact, horticulture (not agriculture) was a Terminal Woodland innovation in Iroquoia, and did not exist among the Lenape or any of their coastal neighbors to the north (see Custer 1988). This is supported by the studies of ancient diet that indicate a relatively low maize consumption among these peoples.

McBride (1994:39) notes that prior to ca. 1625 the English colonists spent a great deal in buying maize from the Indians. Capt. John Smith's (1932 [1624]:52) exchange of copper kettles and blue beads for 200 to 300 bushels of maize enabled his colony to survive. The Dutch in the New Amsterdam area bought maize from local Indians, and also took maize as "taxes" (Van der Donck 1968 [1654]:96; De Vries 1909:209; see also Janowitz 1993). Also of interest is Tooker's note (1960:67) that the Huron confederacy was known for their export of maize to other Algonkian peoples.

As the English stabilized their maize production they spent less for maize and invested in better quality trade goods to compete with the Dutch. De Rasiere's report of 1628 (in McBride 1994:48) notes that both the Siwanoy and the Shinnecock of eastern Long Island could "support themselves by planting maize [for sale] and making sewan..." for Europeans.

How long during this colonial period native-grown maize was important in New England is unclear, but in Maryland "corne" as well as beaver were important Indian products bought as late as 1637, and a licence to trade was required for dealers (Arch. of Md. III:63, 66, 68). The native producers to the south of the Delaware River were horticulturalists who had a maize-based economy, while from the area of the Lenape and up along the coast maize production involved an amplification of gardening technology. Whether some of the native peoples associated with the forts on Long Island shifted their economies to a sedentary style is not clear.

The limited production of maize by the Lenape, among others (Becker 1983), appears to have had only a minor influence on their economy. Although extended fish runs may have enabled some members of a Lenape band to occupy their summer station throughout the entire year (cf. Gwynne 1982), the norm was for each band to disperse for winter foraging. The economic picture in the Delaware Valley changed gradually after European contact. Fur resources in the area of the lower Delaware valley were insufficient to attract great interest.

By 1550 the fur trade throughout the Pennsylvania region was controlled by the Susquehannock, who had their major settlement along the Susquehanna River and outposts at least as far west as the upper Potomac in West Virginia (Becker Ms. L). The Susquehannock acted as brokers for furs coming from more westerly regions (Kent 1984; see also Fausz 1984). The position of the Susquehannock in Pennsylvania was analogous to that of the Five Nations to the north, who controlled the fur trade across what now is New York State and out along the Great Lakes and beyond.

Lenape Foragers

Aboriginal Lenape food getting strategies, based on foraging, remained unchanged for hundreds of years after the first major direct contacts with Europeans in the 1620s (Becker 1988b). Although Lenape technology rapidly adopted many categories of European material culture, Lenape social organization and lifestyle remained almost entirely unaltered for more than two centuries. However, recent popular conceptions of the Colonial period Lenape often portray them as village dwelling horticulturalists. This view largely derives from inferences based on evidence for horticulture among the Five Nations Iroquois and the Susquehannock, and public inability to understand that all Indians are not alike.

Evidence for the production and sale of maize by the Lenape during two decades in the middle of the 17th century is often cited as demonstrating that these people were horticulturalists. Here I

demonstrate that extensive maize gardening was a Lenape response to an unusual economic opportunity rather than as part of a shift from foraging to an agricultural economic system.

Lenape interactions with Europeans during the middle of the 17th century demonstrate Native ability to maintain flexibility in the face of rapidly changing circumstances while sustaining their culture (cf. Mithen 1990). There is a great deal of evidence regarding the commensal relationships between foraging and food producing cultures (see Peterson 1978, Keegan and Butler 1987). Headland and Reid suggest that foragers practised have "desultory food production" for hundreds if not thousands of years (see Gardner 1989). Considering all the evidence regarding commensalism, it is not surprising that the Lenape, who traditionally gardened maize at their summer fishing stations, were easily able to *increase* maize production to trade with the Swedes. The Lenape received European trade goods without being burdened with the difficult task of storing this "crop." This simple increase in the production of maize did not lead to the alteration of any other aspect of their culture.

Gardening—Horticulture—Agriculture: What's In A Name?

A great number of anthropological archaeologists, perhaps those who have never grown and stored any vegetable or animal product, use terms such as "agriculture" and "horticulture" quite loosely (see Harris and Hillman 1989). Often they apply the term "agriculture" to basic gardening, or to the way I grow vegetables each summer. The term "gardening" describes a process familiar to contemporary suburbanites, with small crops grown for immediate consumption. This is distinct from horticultural or agricultural systems which require storage of crops for consumption over a period of a year or more. Maize may have been the principal food produced at the summer settlements, but the Lenape did not store maize or any other grain.

Lenape "fields" in which maize and other plants were grown, as well as the open areas frequently fire-cleared by the Lenape, also yielded large quantities of *Chenopodium* ("goose foot"). *Chenopodium* generally was gathered by all the native peoples of this region (Smith and Cowan 1987) and may have been the principal "crop" in caloric value, although it was entirely "gathered" by the women. Wild millet (*Panicum*: Hitchcock and Chase 1910) and other grains provided most of the carbohydrate needs during the warmer seasons. These gathered grains may have been of caloric value equal in importance to whatever maize crops was produced.

Almost nothing is known of specific food growing patterns among the Lenape and several other Native American populations. Tobacco, possibly grown for ritual or ceremonial use only, was not a major "crop" and was never produced in quantities by the Lenape for sale, as suggested by the fact that none appears to have been sold to the Swedes. The intensive labor needed to produce a tobacco "crop" for sale was too troublesome to be worth the effort, or perhaps tobacco cultivation was men's work. Of considerable interest is that part of the ancient Huron confederacy that, after being dispersed by the Five Nations in 1635, is said to have gone to the Georgian Bay area of Lake Huron and became known as the Petun or "Tobacco Nation" (Hale 1897:225, citing Parkman). The name derives from the supposed growing of tobacco for market by these people, perhaps as a means by which they retained the ability to purchase European goods.

Lindström (1925:179-180) provides a brief description of the way in which maize was grown in 1654, a procedure similar to modern garden techniques. In 1654, 6 or 7 grains of maize were planted in each hill. These grew quite tall shoots (over 2 meters), and bore 6 or 7 ears per stalk [hill?]. Differential survival rates of these various grains may relate to the ways in which Native Americans used each one (parching, boiling, etc.).

When I "garden" I dig up a bit of land, plant seeds bought at a store, and eat the crop as it matures. No processing nor storage of that crop is involved. This "gardening" is vastly removed from

“agriculture,” which implies a system involving complex long-term storage and protection of seed, special processing of seed to maximize germination, all followed the next year by planting, weeding, and timely recovery of the crop and a repetition of that cycle. In between these two extremes are an impressive array of variations on these processes (see Scarry 1993). For clarification and ease of presentation I will use some terms and define them in order to differentiate among the kinds of processes too often glossed in the archaeological literature.

Gardening: The simple production of a “crop,” generally of small size, for immediate consumption. “Storage,” if any, is short term and involves a minimum of effort. Very small populations, and clusters of wickiups into small hamlets are the maximal residential complex.

The Lenape were gardeners. Lenape generated small gardens wherever they set up their warm weather fishing stations, growing a bit of maize and possibly some tobacco. “Peas” and/or “beans” are mentioned in colonial documents, but whether these were gardened or gathered by the Lenape remains unclear.

Shifting Horticulture: Crops are produced as a supplement to hunting and gathering, volumes are limited but require true storage. Gathering of wild plants still a major part of the diet. Commonly associated with matrilineal descent as the production and storage systems are in the hands of the women. Villages shift when wild resources in an area are depleted.

Shifting horticulture is what was practised by the historic Susquehannock and Six Nations Iroquois (cf. Trigger 1990, for Huron data). Horticulture enabled them to operate effectively in relatively harsh regions away from coastal and other water resources (cf. Halstead and O’Shea 1989). The precarious nature of this low population density economy is easily seen by Zeisberger’s account of a visit among the Onondaga. On 28 June 1753 Zeisberger (Beauchamp 1916:174) noted in his journal that an Indian woman asked him and his party to cut down trees in their maize plantations (fields). This “men’s work” may have been in reciprocity for the hospitality shown the visitors, particularly since the men of the settlement were away at that time.

What is interesting about the Zeisberger account of June 1753 is that during this long visit he found that famine prevailed among the Onondaga. From his record we also may infer that the men were out hunting. Maize production was never sufficient among these peoples to guarantee a solid year of this crop, or what we would call a “staple.” Other factors in this maize famine may have been involved. To the south on the river Zeisberger noted the arrival on 3 June 1753 of 28 canoes of Nanticoke at a point three miles below Zeniinge. This is at the second fork in the Susquehanna above Shamokin, not counting the divide at Hazirok. This relocation (Ibid.:165), brought a large number of Nanticoke into an area already suffering food stress. These Nanticoke had come to settle, perhaps from a location just downriver, but at a time when maize stores were running out and the new crop was far from ready for harvest. Zeisberger notes that a Shawnee woman in that region, one of a group that also was newly arrived, had refused 100 black wampum for a half-bushel of maize.

Sedentary Horticulturalists: Crops provide the primary food resource. Villages are relatively permanent. Matrilineal descent (see Dunnell 1984:498).

Agriculture: Permanent villages with permanent structures. Patrilineal descent associated with male involvement in the food production system. Fertilizing systems and/or crop rotation enable same fields to be used repeatedly. With maize agriculture, extensive integration on a local level (ceremonial complex) and long distance trade may be used to buffer localized risks of crop failure (see Halstead and O’Shea 1989).

Cultures with varying food production systems may exist quite effectively side by side, and even provide reciprocal resources in

a trading system. The belief that all systems grow more complex, or that there is a teleological progression toward complex agriculture, is an ethnocentric view that should be eliminated in a good introduction to cultural anthropology. In fact, in the face of contact with complex economic systems foragers continue to do what they do not only because that is what they have learned to do, but because it also provides a means of preserving cultural identity. To “change” would mean that foragers would have to *give up* their culture, and not adapt to a more complex system as some ethnocentric observers would believe. Certainly individual Lenape left their culture and become participants in another culture (colonial society), but the norm was the conservative maintenance of cultural tradition and the technology on which it was based.

Lenape Life Before 1623

Ethnohistorical (Becker 1984a, 1986a, 1988b, 1989, 1992b, 1993b, 1993c, 1995) and archaeological research (Custer 1982:33) demonstrates that Lenape subsistence systems during the Late and Terminal Woodland and the Early Historic Periods were based on foraging. Lenape summer encampments along the shores of the Delaware River were used for gathering anadromous and catadromous fish resources (cf. Schalk 1977, Brumbach 1986), as well as carbohydrates such as maize and chenopodium. The absence of storage pits at these sites reflects the absence of horticulture.

The presence of maize gardens at summer encampments of the coastal peoples of the Eastern Woodlands has led some scholars to infer horticultural activities, an error discussed by Ceci (1979, 1980, 1990). Ceci provides evidence for the lack of horticulture and a sedentary life style in coastal New York using archaeological evidence similar to that which characterizes the entire region. Although horticulture may have been a Terminal Woodland (ca. 1400 CE) innovation in Iroquoia and other interior areas, the Lenape and their coastal neighbors to the north continued to use foraging as their economic base.

After European contact the foraging peoples of the middle Delaware Valley found that local production of furs provided only limited quantities of desired trade goods. By 1550 the Ohio River fur trade had come to be controlled by the Susquehannock of central Pennsylvania, who had outposts as far west as the upper Potomac in West Virginia (Becker 1987c). The Susquehannock acted as brokers for pelts coming from more westerly regions (Kent 1984; see also Fausz 1984), and after 1622 shifted their outlets for these pelts coming from the Chesapeake Bay to the Delaware (South) River. This shift in trade routes was made through Lenape territory and at the expense of the Lenape, whose limited fur resources were reduced by Susquehannock incursions.

Note should be made that the west side of the Delaware Bay was the home of the Ciconicin (see Becker 1998a, Ms. A). The Ciconicin were politically organized as a small chiefdom, with horticulture as an important part of their life. What is most interesting is how they remained apart from events to their immediate north and west, perhaps because the region that they occupied was of marginal agricultural value from a European point of view.

Lenape Matrilineality

Foraging societies normally have patrilineal or bilateral descent systems. Since the Lenape were known to have been matrilineal from accounts in the 1860s, and documents from the 1600s support that evaluation, I assumed (Becker 1976) that the Lenape were horticulturalists. I also assumed that they lived in big villages and otherwise were very much like the Five Nations Iroquois and the Susquehannock. Even after the evidence for Lenape foraging became overwhelming the problem of their matrilineality plagued me. Only after the realization, ca. 1990, that anadromous fish were *the* major Lenape resource, providing huge quantities of food for as much as 9 to 10 months of the year, did I have the basis for re-evaluating their descent system. Inferring

that the main food resources of the Lenape were gathered by women, and their warm weather fishing stations were organized and held by the women as is common among the complex foragers of the North Pacific coast, then one can understand why matrilineality existed among these people (see esp. Testart 1982).

Lenape-European Early Direct Contacts, 1623-1640

The Lenape remained peripheral to the lucrative fur trade until Susquehannock power began to wane in the 1650s (see Tooker 1984). Although the Lenape could not gain vast quantities of European goods, they developed alternative strategies to secure desired manufactured products available from the colonists. These strategies included providing farm labor and other tasks, land clearing, carrying mail, wolf and crow bounty hunting, and provisioning (see Becker 1986b, 1990a, 1998a, Ms. E; see Salisbury 1987 for parallels in southern New England).

Bounty Hunting

Less frequently cited as a native employment opportunity is the colonial use of natives as bounty hunters. Risingh reported that about the time that he arrived in New Sweden, in July of 1654, thirteen colonists had deserted and headed for Virginia. Perhaps they expected that the change in governors would afford them an opportunity to escape and that they would gain better opportunities among the English. Risingh sent some "Vilde" (natives, literally wild ones) in pursuit. These bounty hunters killed two and returned with their heads (Dahlgren and Norman 1988:157, also 171). The other eleven presumably were successful in their escape from New Sweden. These escapees were among a great many "Swedish" colonists who sought refuge in nearby colonies.

In the 1630s and 1640s Dutch and Swedish settlers had difficulties in developing effective farming strategies, perhaps because they found it cheaper and more efficient to purchase food from the local people. The problematical weather during the waning of the Little Ice Age (see Kupperman 1985, Winthrop 1937) was not helpful, leaving the economic survival of the Swedish colonists dependant upon native food sales (see also Gibson 1978). This was not a problem unique to the Swedish colonists. Maize purchases were critical to the survival of the Virginia colony from its very beginning (Smith 1986). After the Powhatan uprising of 1622 the English shifted their native maize purchases from their hostile neighbors to more reliable native suppliers (Rountree and Davidson 1997:52), thus protecting themselves while rewarding allies and economically punishing the Powhatan. For the English big money was to be made in the tobacco trade (Ibid.:59-60).

Note also should be made of the relative success that the Marylanders had in producing grain. In 1634 some 1,000 bushels of maize was exported from Maryland to New England (Hall 1910:75). Van Laer (1908:34-35, 78) notes purchases of 1637, but by 1638 in Maryland a law was enacted forbidding the export of maize bought from the Indians if the price within the colony rose above a set limit (Arch. Md. I, 42). In 1640 purchases were made by both Maryland and Virginia of maize from the Susquehannock (Browne 1887a:180, 184, 186-7). Possibly the success of the Susquehannock in the maize trade is what got the Lenape interested in extending their gardening activities as a means of gaining access to European goods.

Even before the Swedish colony was established (1638), the Dutch traders on the South River relied on native produced maize for some part of their diet. De Vries (1912:26) noted in his report for 1633 that the war between the Susquehannock and Lenape prevented the Dutch from buying native maize. To some extent the more stable Dutch colony at New Amsterdam on the North (Hudson) River made up for these food deficits, but even on the North River maize was an important commodity bought from the Indians. As late as 1644 the Dutch at New Amsterdam still were buying:

grain, flour, peas, pork beef and other necessaries, which now must be had from the English at the North at a great expense (O'Callaghan 1856, I: 206).

After 1640 purchases of Lenape maize became increasingly vital to the economics of the newly founded Swedish settlement. Although the numbers of Swedish colonists were few, their needs for grain were significant relative to food availability in their new territory. The size of the gardens at the summer fishing stations of several Lenape bands were increased in size after the drought of 1640 (Hall 1910:132), specifically to provide a cash crop. The products most in demand from the colonists were guns, tools, cloth, and decorative glass beads. However, Lenape demand for these products rapidly leveled off since their population was small (Becker 1988b, 1991) and they buried few trade goods with their dead (Becker Ms. K).

When the saturation point in trade goods was reached by the Lenape, the commodity preferred became alcohol. The intensification of maize production to exchange for liquor became part of the fall banqueting activities, justifying expansion of native fields during the summer. This also led to the summer aggregation of several Lenape bands in the Passyunk region rather than at stations scattered along the Delaware River. Printz summarized the Swedish point of view when he noted that "the River Indians were poor and had nothing but maize to sell" (Johnson 1917:279), but this simple commodity was a critical component in the survival of the European colonists. Although from a commercial viewpoint furs were the desired articles of native trade, foodstuffs such as maize, fish, beans and venison were essential to the well-being of the early colonists. By the early 1640s shortly after the Swedish colony was established, Lenape maize production was on the increase.

The precariously situated Swedish settlement around Fortress Christina (now Wilmington, Delaware) dates from 1638. This Swedish colony in the New World (Becker 1999) was established primarily as a money making scheme designed to tap into the very profitable pelt trade. The problems at home, with the collapse of "the evil empire of the Swedes," left this venture underfunded for such an endeavor. In an effective shift to make a successful venture of this small Swedish station on the South River the Swedish immigrants shifted to growing tobacco—an extremely addictive narcotic that then was adding one to two million new addicts each year in Europe. By 1641 this trade had become extremely important to the survival of the Swedish colony (Dahlgren and Norman 1988:6). The lack of Swedish ships to transport the crop to the mother land remained a problem, and very little tobacco was sent directly from New Sweden even as late as 1649 (Ibid.:24).

The third Swedish colonial governor, Johan Printz, arrived in 1643 with the intent of developing the potential of this distant outpost of Swedish empire. Governor Printz' instructions from the Crown directed him to plant tobacco as an export crop in order that the Swedes could avoid purchasing this drug from the English. Ridder, however, advised the governor to plant corn in large quantities, noting the "one man's planting would produce enough corn for nine men's yearly food" (Johnson 1911:308-9). Printz later noted that the reverse was true; that nine men produced food for one (Johnson 1930:111).

In 1643 Printz established his household (trading station) on Tinicum Island (Becker 1979), close to the Dutch trading post, and to the Lenape summer station at Passyunk. When he arrived in New Sweden Printz (1912:99) followed Ridder's advise, planting corn on most available plots, and relatively little tobacco. However, Printz needed food to last until the harvest, and in May of 1643 he traded "sewant [wampum] valued at 607 fl. [unclear] for 972 bushels of Indian corn" (Johnson 1911:309). The values noted in this document help to determine costs for grain in the Spring, when stocks were depleted. The following year, 1644, Printz bought from Richard Malbon of New Haven some 102.5

bushels of corn for 164 florins, a rate half that previously paid by Printz. The lower price suggests that the purchase was made closer to harvest time (Ibid.:318, n. 63). Another important note is that Malbon also sold sewant to the Swedes, exchanging 1,059.5 “yards” (?) for 4,564 florins. This reflects the center of wampum production was in New England, and that natives in the Delaware Valley were not involved in the production of this commodity.

The Swedes lacked sufficient trade goods to make large purchases of furs, but diligence in growing tobacco provided them with a cash crop. During the fall of 1643 Printz had bought 75 bushels of winter rye and sowed it, but he noted that “maize can be bought cheaply from the savages here in the river ...” (Johnson 1911:319, 1930:111). This observation led Printz to make an important decision regarding economic strategies in his colony. By the spring of 1644, the Swedes did not bother to plant maize at all, counting on buying it cheaply from the Lenape (Printz 1912:99). On 11 June 1644 Printz’s report to the Crown, sent on the *Fama*, notes the inclusion of 2,142 pieces of beaver along with 20,467 pounds of tobacco (Johnson 1930). Despite complaints about difficulties with the pelt trade, Printz and his people had managed to secure a few thousand pieces. More significantly, the volume of tobacco shipped reflects that important decision by Printz to concentrate on growing tobacco for export. This economic focus would not have been possible by 1644 if the Lenape had not amplified maize gardening to a level sufficient to meet Swedish needs. The maize trade between the Swedes and the Lenape was, however, not without its problems.

By the 1640s Susquehannock hegemony was severely threatened by military losses. The consequent independence of the Lenape, their growing power in the fur trade, and their value as suppliers of maize created new problems for the Swedish colonists. Printz’s report for 1644 (1912:103) noted that “Our savages also become very proud here in the river.” He continued with the observation that five people had been killed by these natives (probably by the “Jerseys”) and that representatives of these people had gathered and presented the Swedes with twenty beaver and some sewant as wergild. The mutual understanding that wergild was an appropriate payment for deaths is only one of the many shared traditions reflecting congruencies in Lenape and Swedish traditions which made their interactions, on the whole, generally productive.

Printz referred to the Lenape and the Jerseys (see Becker 1987a, 2000) in his report of 11 June 1644 as sources of grain. While lamenting his own failure to produce enough grain, he enviously notes that he wished that he could break “the necks of all of them in the river, especially since we have no beaver trade with them but only the maize trade” (Johnson 1930:117). Printz reasoned that if the Swedes killed these people and took their cleared tracts of land, that each Swede could:

feed and nourish himself unmolested with their maize, and also we could take possession of the places (which are the most fruitful) that the savages now possess; ...” [which also would give the Swedes the] “beaver trade with the black and white Minquas alone (Printz 1912:103).

Printz’s hostile comment suggests that by 1644 the Lenape not only were important producers of maize but also that they had become at least partially involved in the fur trade. This may be ancillary to, or apart from the big fur trade to the west that was controlled by the Susquehannock, but it also may reflect that by 1644 the power of the Susquehannock had already begun its decline and that they were encouraging the Lenape to become allied with them.

Obviously, the Swedish colonists were having difficulty in growing crops, even using small plots of land which previously had been cleared by the Lenape. Printz’s own house and trading post, begun in 1643, was situated at the site of a former Lenape summer station (Becker 1979, 1999), and other colonists must

have purchased similar small patches of ground. Swedish difficulties in feeding themselves were accentuated by the failure of all their crops in 1646. By this time at least three bands of Lenape, previously summering at scattered stations along the Delaware River, were aggregating at Passyunk. Passyunk continues to refer to the area in the forks where the Schuylkil enters the Delaware, but the location of “Passajungh” on the Lindeström map (1925: facing p. 82) is less clear. This large, level area provided them with rich soils as well as proximity to the Swedes who were buying their maize.

The difficulties that the Swedes had in getting trade goods and provisions directly from Sweden reduced the viability of the colony of New Sweden, and the colonists increasingly turned their attentions to subsistence farming. Swedish efforts to feed themselves continued and in 1647 Printz had to send to New Amsterdam to buy more maize; 300 bushels of Taru (*tarw* = maize) purchased for 100 beavers [pieces/ pounds?] (Johnson 1911:333, from Acct. B:1643-8). In August of that year he bought maize from the River Indians, probably the Lenape, and other grains from the English (Ibid.).

Another Swedish purchase of beaver and maize, probably from the Minquas (Susquehannock) was made early in 1647 (see Printz Account B, 1643-8; Printz Report 1647; Johnson 1911:329). In 1647 Printz had reported that food was expensive, but plentiful (Johnson 1930:125-126), reflecting the capacities of the natives to supply maize when needed. Johnson (1911:332) misinterpreted this statement to suggest that by 1647 grains had become the major Swedish crops and that tobacco wasn’t being shipped from New Sweden. This was not the case. Low tobacco exports were a function of the lack of ships coming from the homeland, but there are records to indicate that the Swedish tobacco crop was being shipped out on Dutch vessels.

The arrival of the *Swan* in January of 1648 marked one of the few times when a Swedish ship actually came to supply this farthest colony and to take home the goods produced there. Of note on the list of arriving cargo was the first large brewing kettle to reach New Sweden (Ibid.:334). A beer brewing kettle would suggest that a regular supply of grain was available to be converted for this use. Since Printz had an ale house at his home on Tinicum Island (Becker 1979, 1999), this suggests the kettle was for brewing. Printz also may have imported this kettle for sprouting grain as part of the baking process (see Printz 1912:98) as both activities within a household were in the women’s sphere.

By April of 1648 the Swedish-Dutch competition for furs led the Swedes to construct some kind of building or trading post near the Lenape summer encampments at Passyunk (Johnson 1911:420). This construction may have been only a farm house, but it gave the Swedes better access to the Susquehannock fur trade on the Schuylkill, and also provided a station at which maize could be purchased. The Swedes took advantage of the cleared space around this new structure to plant corn (Ibid.:335).

However, the continuing problems suffered by the Swedes in getting trade goods led the Lenape “Sachems of Passajonck” (on 14[24] April 1648) to ask the Dutch to build a trading house, similar to that of the Swedish building or buildings, near to these Lenape settlements at Passyunk (Gehring 1981:9; Johnson 1911:419). This request to the Dutch reflects the Lenape desire to bring their European allies into a defensive network around their more dense, and therefore more vulnerable, summer settlements at Passyunk. As will be noted below, this request by the Lenape was repeated at a later date, reflecting the continuing vulnerability of these Lenape bands and any maize gardens that they produced.

The Dutch, who until 1648 operated exclusively from Fort Nassau on the east shore of the South River, responded immediately. In April of 1648 the Dutch built Fort Bevers reede (Beaver road), a simple log or blockhouse surrounded by a palisade, close to the Lenape summer encampments at Passyunk (Linn and Egle

1890:258, also Johnson 1911:420). The intent may have been to secure better access to the fur trade, but it also provided a station from which maize could be purchased. Although Johnson (Ibid.:419-420) does not note it, a "Secret" deed in the Dutch archives appears among the many papers translated by Linn and Egle (1890, Ser. II, 5:257-258). This undated and peculiar document is tentatively dated to the early part of the period from Sept. 1648 to Sept. 1650, but may be a few months earlier. I suspect that in April of 1648 the Dutch build Fort Beversreede without a formal purchase of the land on which it stood, but perhaps only with a payment to the local Lenape. The fort then was built and at that fort, between April and Sept. of 1648, the following was negotiated:

We, the undersigned, namely: Amattehooren, Alibakinne, [and] Sinques, Sachems over the district of country called Armenveruis, situate around and on the Schuykill, declare well and truly to have sold to Arent Corsen, the Schuykill [sic] and adjoining lands for some goods, which were not fully paid us, but as we are now fully satisfied therein, therefore we, the above named Sachems, do hereby fully and irrevocably convey and cede the same, confirming the aforesaid sale, ...

Done in fort Bevers reede in the South river of New Netherland. Signed, marked in this manner, thereby written: (Linn and Egle 1890:257-8; also Kent 1979:16-17).

The "deed" then has the marks of seven sachems, each followed with the note "the mark of" and the sachem's name. Linn and Egle (1890:257-258) provide the marks of these seven signatories, and additional text noting that the document was witnessed by five named Dutchmen who were "all cognizant of the first contract" and then below their signatures were two witnesses to this document plus other data suggesting that there was no formal deed to the "original" sale, but that this was an *ex post facto* arrangement.

Of particular importance here are the names and the ordering of the native signatories, all presumed to have been Lenape, to this "deed." They are, as presented by Linn and Egle (and D. Kent):

Mattehooren (written as "Amattehooren" in the text)
 Sinquees
 Alebackinne (written as "Alibakinne" in the text;
 cf. the Susquehannock who has a similar name)
 Mechecksouivebe
 Quironkehouck
 Kauke
 Wacpacvack

Linn and Egle (Ibid.:256-267) provide a number of documents and deeds relating to this period of confrontation between the Swedish and Dutch outposts, and their important dealings with the Lenape as well as people from the east side of the South River. Of importance here is the action of the Swedes, in the spring of 1648, in countering the building of Fort Beversreede by building a house only a few paces in front of the Dutch fort, and in that spring of 1648 planted maize in the cleared space around the fort (Ibid.:258; Johnson 1911:335). Beversreede was abandoned in the summer of 1650 (Ibid.:433) for reasons still unclear, and the Lenape at Passyunk continued to feel exposed, but continued to garden large fields of maize. Also of note is the information that indicates by 1650 alcohol seems to have become the primary item which the Lenape wanted for in exchange for their maize. This suggests that the need of the Lenape for functional material goods had reached a saturation point and that they could afford to indulge themselves at that season just before the individual families in each band separated for winter hunting.

Note should be made that the Dutch living on the South River had similar food deficits to those of the Swedish colonists. However, these Dutch settlers could count on provisions from their home bases at New Amsterdam and elsewhere. For example, on

26 May 1649 Peter Stuyvesant wrote to Andreas Hudde with the promise that he "shall deliver 30 to 36 schepels of wheat to you" (Gehring 1981:28-29). Stuyvesant also noted that a boat from the West Indies would bring more supplies of salt and wood (boards). In 1650 the Dutch noted that maize could always be had, in season, from the local Indians "at a reasonable price. The skepel cost ordinarily 10 [or] 15 stivers when bought from the Indians" (O'Callaghan 1856, I:369, see also 366-367).

Although Johnson (1911:338) notes that in 1650 the freemen in New Sweden sold over 100 barrels of surplus grain, probably rye and barley, Swedish maize and meat purchases from the Lenape continued to be important as late as 1654. Durable trade goods had reached a saturation point among these foragers, since Lenape funeral rituals involved the redistribution of goods among the living, rather than burying them with the deceased (Becker 1992a, Ms. K). Additional material goods would have burdened the living with more tangible resources than foragers can manage. Burial of more goods with the dead was not the Lenape way, as it was among the Susquehannock. The exchange of most of the Lenape maize crop for alcohol provided an ideal resource to enhance the fall celebrations preceding the later dispersal for winter hunting.

Increasing trade in durable goods could only have dampened Lenape desire for additional items, as a saturation level would quickly be reached. Alcohol, a cross-culturally common product of interest to peoples of the New World, could be consumed with ease. The timing of the maize harvest, and an exchange of most of the crop for alcohol, provided an ideal resource to the fall celebrations preceding the later dispersal for winter hunting. A documented parallel event, recording the use of spirits in feasts among a native population in South Carolina (Catawba?), is found in the Trade Regulations (No. 32) of that colony for 1750 (McDowell 1958:88). Despite a considerable desire to restrict the pernicious effects of alcohol use among their trading partners, all the Colonial governments recognized how important rum had become in native rituals. While totally banning sales of spirits, traders were allowed to give two kegs per year (gratis) at the Green Corn Dance (late summer or fall) and another one in the spring when these people returned home from the winter hunt.

European political events reverberated throughout the New World during this period, rapidly reducing the power of the Swedes to hold on to lands along the South River. The few land transactions of this period (1651-54) reflect not only attempts by each European power to legitimize their respective claims, but also efforts by the Lenape to profit from the political situation. On 29 June (9 July) 1651, three Lenape sachems claiming lands on the west side of the river met with some Dutch traders regarding lands that had been settled by Swedes. Peminacka, Mattahorn (Johnson 1911:436-7), and Sinquesz (O'Callaghan 1856:597-8) met with the Dutch, who wished to purchase all of the land on the west side of the river from the Schuykill down to the Delaware Bay. Peminacka, as speaker for the owners, was evasive in his replies concerning previous sales, but ultimately offered the land from Minquas Kill to the Bay as a free gift. In return, however, he requested repair of his gun, and also that he be given some maize whenever he came empty handed among the Dutch. This request for maize reflects the consistently low, if any, supplies held by the Lenape after they had completed their fall sales and banqueting.

During the same period in 1651 Printz called together the heirs of Mitatsimint, who had "sold" Quinamkot (Sandhoek) to the Swedes (Risingh 1653, Johnson 1911:438, 757). These Lenape claimed that Peminacka had held hunting rights only, not free title to this land. On 3 July 1651 Printz had drafted a document (N.S.I:Royal Archives, Stockholm) which was then signed by Notike, the widow of Mitatsimint, and her son Kiapes (as first signatory; two other children also are mentioned). This document alleges that the deceased had sold to the Swedes all lands below Appachaihackingh down river to Mettocksinowousingh, but that

Peminacka had reserved out hunting rights at Quinamkot. None of these locations can be precisely located at this time. We now know that this is one of the earliest land scams perpetrated by Jerseys who came to the west side of the River to carry out such scams (see Becker 1998a).

What is of note is that this document was signed at Elfsborgh, in Jersey territory (Becker 1987a). Probably Notike was a Jersey, as would have been her children through matrilineal descent. By Jersey inheritance rules (and also Lenape, see Becker Ms. B) these four would have had no claim on the lands belonging to her husband and his kin. More probable, however, is that Mitatsimint was a Jersey and his "sale" of land a specious transaction, as is suggested by subsequent documents. During the period of the Susquehannock intrusion (ca. 1623-1640) land rights in this region often are difficult to decode since some Lenape owners may have taken refuge across the Delaware River among the "Jerseys." Various "Jerseys," such as Siscohoka (Linn and Egle 1890:264) often made specious sales of lands on the west side of the river, to which they held no valid claims. A list of these specious sales is now being compiled

The last years of Printz' activities in New Sweden are less clearly known. In 1652 heavy rains damaged the Swedish grain crops (Johnson 1911:341), but on the whole the colonists' grain production continued to increase. The Swedes, numbering about 200 at this time, found the native population increasingly independent, probably due to increased Lenape power. Susquehannock hegemony was being reduced as Seneca incursions in central Pennsylvania were becoming increasingly devastating. This problem of "unruly" behavior among the Lenape clearly was not related to alcohol consumption, for the Swedes found no reason to limit the flow of this useful commodity. In March of 1653 Printz was able to buy much needed trade material from the Dutchman, Evert Cornelisen, including six ankers of Spanish wine and three ankers of brandy (one anker of 1653 = 8.64 U.S. Gallons in 1986).

Governor Rising Arrives

The last of the colonial governors of New Sweden, Johan Rising, kept a journal that bracketed the years of his New World experiences: 1653-1656. Various notes regarding the native peoples, their relations with the Swedes, as well as land purchases by, and grants to various Swedish colonists provide clues to the nature of the commensal relationships that had developed on the South River. Rising records that the territory of Passyunk, where the foremost "Renapapper" live (abide), had been granted by the Queen on 20 August 1653 to Captain Skute (variously spelled as Skute, Shute). This would have been an important Swedish concession, particularly as we cannot be sure that the Crown owned this land since no clear record of a purchase exists. We do have grants of some type being made of tracts of land called Makor Hitting [sic] and Kinsessing (Dahlgren and Norman 1988:171), but to whom remains unclear. More important, we have no idea if this was meant to be a huge grant of land or if it referred to a specific and restricted plot of ground within the large area identified as Passyunk.

Readers should note that Swedish interest in this region does not appear to have had great foresight as the entire continent appeared to be a limitless forest! The small summer stations of the Lenape foragers, and the limited populations of the various native peoples throughout this region, had limited effect on the forest. The Swedish colony, including Finns and others, was not particularly large in 1653, and even with their many farmsteads along the river the Swedes and the natives collectively had minimal impact on the land. Thus land purchase seem to have been for very small tracts, and could be made on a relatively informal basis. The vast purchases made by English land speculators in New Jersey (Becker 1998a) and then by Penn himself in Pennsylvania reflect a very different view of how the land could be developed.

Not only were the Swedish colonists comfortably commensal regarding the natives, but many marriages with natives appeared

to have been common in this frontier zone. The common presence of Lenape kin and neighbors among the Swedish settlers would not have been something extraordinary to the Swedes, but the reactions of various English visitors to the region was worth noting. Rising wrote that the English were phobic regarding the free movement granted to natives within Fortress Christina by the Swedes. We may be certain that Lenape were among these natives, but the Susquehannock also may have been equally at home inside the fort. After the Pohatan uprisings of 1622 and 1644, and probably before, the English generally distrusted all natives. Various native groups employed the English as allies in their conflicts with other natives (see Hantman 1990:685), but this may have exaggerated the English feelings that these peoples were not to be trusted. In short, English visitors to Fortress Christina told the Swedish Governor that the practise of allowing natives within the fort could be dangerous (Dahlgren and Norman 1988:173). However, the Swedes had a very different relationship with the Lenape, and their perceptions of the native peoples in the area of their "colony" were benign. As can be seen in the history of the colony, the danger for the Swedes lay not with the native peoples but with other European colonists.

The End of the Swedish Colony

Johan Rising had little opportunity to develop the colony that he took over from Printz, but he did leave important records regarding native life. Rising's report for 1654 notes that little grain had been sown that year (In Myers 139, 149). In Rising's report for 1654 (1912:142) he notes not only problems in securing food, but the lack of specialists to produce pottery, bricks, lime, and even furniture. Several notes from these final years of independence indicate that Passyunk continued to be the summer area used by several bands of Lenape even though most continued to use traditional summer stations.

On 5 June 1654, the Swedish governor Johan Rising and engineer Per Lindeström sailed up the Delaware to inspect tracts of land awarded by the Queen to Sven Schute, as well as many other locations. On the 5th of June 1654 Gov. Rising passed Fort Korsholm, [the palisade of] which some Indians are said to have burned after Printz had abandoned it. Rising then continued up to Kingsessing where most of the Swedish freemen were said to live, and Capt. Skute showed Rising a letter from Queen Christina granting Skute the area of Passjungh. For our interest in maize production we should be particularly concerned with one area,

namely: Passajungh (where the principal Sachems, i.e., chiefs or rulers of the savages, *now* live), Kingsessing, Mochorhuttingh and the land on both sides of the Schuykill, all the way [down] to the [Delaware] River (Lindeström 1925:126-132, emphasis added).

On 6 June [1654?] four sachems of the Minquas (Susquehannock Confederacy: Becker Ms. L) came to Fortress Christina to seek allies among the Swedes. Of interest here is that the term "Minquas" was a derogatory term used by the Lenape for the Susquehannock and adopted by the Swedish. These sachems came to offer the Swedes all the land from Chakakitque Fall (the Elk River) up to Amisackan fall [the Schuykill? or perhaps a location on the Susquehanna River]. If the Swedes took up this offer the Minquas promised to provide [the settlers?] with maize and deer for a year. The agreement reached between the Susquehannock and the Swedes was signed by the four visiting native representatives of the various parts of the Susquehannock Confederacy: two signing for the "true" Minquas, one for the Tehaque, one for the people of the Minquas lower quarter. A fifth native signatory was the representative sent by the Serosqvacke, but how the Serosqvacke relate to the Susquehannock Confederacy is not known.

Dahlgren and Norman (1988:106, 175, 186) note that on 16 June 1654 Rising sent the large yacht down to the "Hornekijlen" to treaty with "Hvivan," the chief of the Ciconicin (Becker Ms. A). More germane to our discussion, on this same day Rising

and Papegoya went to Tinicum, where they had requested a meeting with the local (Lenape) Indian elders or overseers (“Indianiske Sakimän eller Överstar”).

What is not stated is that usually the natives were referred to as *vilde* (wild persons), and that this is an unusual use of the term “Indians” by any European colonists in this region. Dahlgren and Norman (Ibid.:175) state that on 17 June 1654 some twelve “Sakimän eller Överstar av de Renappi” the indigenous people “... living on our River, on the West Shore,...” assembled at Tenna-konck (Tinicum Island) where the Printzhof was located (see Becker 1999). Note the specificity of these peoples as from the *west* bank, clearly indicating that only Lenape were present, and that only natives from “our” river were present, indicating that the Susquehannock were also excluded. These slight details demonstrate that even by 1654 the power of the Susquehannock was waning. Each of these Lenape elders was given the following:

1 *famn friiss* (a fathom of fries cloth)

1 kettle

1 hoe (*hacka*)

1 knife

1 *lispund* of powder (6.8 kg.?)

bly (lead), listed as 1 *stav* and 3 *lispund* (since a *stav* is a unit of length, the lead may have been in bars rather than shot, with the weight following)

6 awls (see Dahlgren and Norman 1988:106, n. 145).

The document used by Dahlgren and Norman (Ibid.:175) states that at this 17 June 1654 meeting there were sixteen to twenty other Lenape [males?] attending, each being given only one of these gifts (only one item each?). However, the Lenape elders would have redistributed the gifts given to them so that all had an equal share. Johnson’s translation of these events (see Lindeström 1925:126) is completely inadequate.

Note that Risingh specifies that these people are only from the Swedes “own” river (the South or Delaware), and therefore the meeting did not include any of the Susquehannock. Regardless of the numbers, as would be expected each of these natives received various gifts. The speaker for these *vilde* was Nachaman (Hakeman, Naaman) whom Risingh saw as the leader of the native contingent. Also an important note is that the Printzhof, which may not have been inhabited at the time, was half-way between Fortress Christina and the Passyunk area where many of the Lenape were living. Thus Risingh was specifically meeting these people “half way” in arranging this treaty. The status of the Printzhof complex, now that former Governor Printz had left, was marginal to Swedish society. Printz’s daughter inherited the property, but had moved downriver in order to be among other Swedish settlers rather than isolated on Tinicum Island. Toward the end of July in 1654 “de vilde” appear to have been visiting the island to steal boards from the Printzhof buildings, leading Risingh to note that the property should be guarded (Dahlgren and Norman 1988:189, 193).

The listing of the twelve natives at the 17 June 1654 meeting on Tinicum Island is according to their area of their respective summer stations. I suspect that Johnson may have been using a separate document recounting this meeting. Regardless of these details, the gathering had two principal purposes. First, the meeting was to establish a mutual non-aggression treaty between the Swedish colony and the native bands. Second, this gathering was, in effect, one of the earliest “confirmation treaties” held—that is, it reaffirmed the validity of *previous* land sales, on the part of the natives, by having the deeds read aloud. The acceptance of gifts by the assembled natives was an act of acknowledging the validity of these sales as read at this meeting (Lindeström 1925:126, 127, 130).

The full listing of the natives, after the name of the location of their respective summer station, is as follows:

Passajung: Ahopamen [also Ahopameck, Reahopameck, Asopameck] and his brother Quirocus, plus four others who may be cousins: Peminacka, Speck, Weymotto and Juncker.

Nittabokonck: Mattawirarcka and Skalitz.

Sipaessingh: Minangene [Winangene, and] Naamen [whom Risingh calls Hackaman] (cf. Lindeström 1925:126-132).

Dahlgren and Norman (1988:178-9) note that all twelve names of these Renappi are listed elsewhere; they provide the following references and *not* the originals, stating that the names listed are “identical” to those names found in Lindeström Å, 75 (74-77) and in Lindeström’s *Geographia Americae* [1925] J, 128 (126-132). Johnson (in a footnote to Lindeström 1925:128) says that Risingh calls this last named person (Naamen) by the name “Hackaman,” reinforcing my belief that Johnson was using a different document in his review of these activities, perhaps the earlier Risingh journal noted by Dahlgren and Norman (1988:175) or perhaps one written by Papegoya or some other observer. Johnson says that each of these “ten” individuals were given gifts, but notes that fourteen or fifteen other [males?] are noted as present as well, close to the numbers “sixteen to twenty” in the Risingh report. In any event these people represented a good number of Lenape families.

Of particular importance in the Risingh report of 1654 is note that Nachaman invited the Swedes to build a fort and houses at “Passjung” which was the major *ort* (place) where most of the natives live.

They invited us to build a fort and houses at Passyunk (which is their main settlement and where most of them live) and Stated that they would recognize all of our Land Purchases ... (Risingh 1653, translated by Becker).

Passayunk was then the summer station for one of the Schuykill River bands, which were the largest of the Lenape bands (see Becker 1997a). Dahlgren and Norman (1988:175) make the error of translating the term *ort* as “village,” thus perpetuating the myth of Lenape having large villages.

Although most of these visiting Lenape in June of 1654 came from the Passyunk area, at least two other summer stations were obviously in use by other Lenape bands at that time. This is perfectly consistent with the internal diversity of behaviors found among the Lenape throughout the historic period and also indicated from the prehistoric period (Becker 1986a; for the numbers of separate Lenape bands see Weslager 1954, Dunlap and Weslager 1958, Goddard 1978:215; and also Lindeström 1925:170-171).

Note should be made that this Lenape offer was made after Mr. Ringold, a commissioner from Virginia (?) had advised the Swedes to build a fort at Cakakitque (falls of the Elk River?) and to conduct their trade with the English. The Susquehannock also promoted this idea, and the following year made their own offer to the Swedes. Inasmuch as Fort Beversreede had been abandoned four years previously, Lenape were concerned about their security and were constantly hoping that their European allies would provide some defense.

On the 18th of June 1654 the Minqua (Susquehannock) known as Agaliquanes arrived among the Swedes, but whether at Tinicum or at Fortress Christina is unclear (Dahlgren and Norman 1988:179). Agaliquanes does not seem to be the same person as the Lenape known as Alibakinne, a signatory to the “Secret” deed to “the Schuykill and adjoining lands” that was “received” [in Holland?] on 28 January 1656, but dated to the period 1648-1650 (see above). Agaliquanes is described by Risingh as the brother of the *former* war chief of the Susquehannock. The date of his arrival, and all of the dates in the Dahlgren and Norman (Ibid.:192, n. 69) version of the Risingh journal, may vary from the earlier version for various reasons. One is simple error, but more significantly a ten day calendric adjustment was in process and two different parties to an event may have been using two different systems of dating. The variance will be noted below.

Shortly after Agaliquanes came from the Susquehanna River area note is made that Taques, whom I believe to have been a Lenape, had returned from Manhattan bearing a letter (Dahlgren and Norman Ibid.:107-8). Lenape were commonly employed as bearers of letters, frequently making a round trip from the lower Delaware to Manhattan in three days (Becker Ms. E). These details are important in understanding the various means by which Lenape had access to European goods in *addition* to land sales. On 6 July 1654 Risingh recorded that 30 “stoffer” of rye was harvested in New Sweden (Risingh 1643), an amount that may have made a modest contribution to the food needs of the colonists. The volume or weight of a “stoffer” does not appear in Gehring (1981:365).

On 8 July of 1654 two of the “Principaliske Sakimän” of the Lenape came to make land sales to Risingh. They were accompanied, of course, by a small contingent of their kin. The related documents are noted by Johnson (1911:566) as being the “confirmation” deed of 8 July 1654 (see below). These principal Lenape are listed as Reahoppameck and Peminacka (Priminacka: see Dahlgren and Norman 1988:186-188). “Ahopameck” is the way the name of the first Lenape who is noted is spelled on the deed of 8 July 1654. Both has come to Fortress Christina to make formal sales of lands to the Swedes. These two Lenape also may have been the elders who sold the land for Fort Casimir to Peter Stuyvesant. Included in this confirmation are the lands sold by Mitatsimint, who had died ca. 1651 (Johnson 1911:564, 566, 755-6). Although the two named Lenape were noted only few days earlier as being from Passyunk, the lands which they sold included tracts all along the river, reflecting my thesis that the summer aggregation of some of these bands during this period had shifted from their home range (river valleys) to an area that had better soils for gardening maize, probably without fertilizing (cf Ceci 1975). Reahoppameck and Peminacka came to Fortress Christina.:

and each presented us with tracts of land. Peminacka gave us the Sandhook as far as Christina Kill and then everything from Naaman’s Hook to Marikis Hook. As a token he also gave us two ells of *sevan* and caused two guns to be fired (Dahlgren and Norman 1988:189).

The original text says “famnar Sevan”, which is translated as “ells of sevan.” The Dahlgren and Norman translation, which they state (note 65) also depends on a letter preserved in “Handel och Sjöfart, Vol. 194, in the Riksarkivet in Stockholm, inserts a number of errors due to misunderstandings regarding native lifestyles that are critical to understanding what was taking place. In addition, by changing the original text to modern Swedish forms Dahlgren and Norman (e.g., p. 128) distort the original meanings. In order to rectify these problematical perceptions I have translated the original record of 9 July 1654 and offer it here. On 9 July 1654 Rising noted that the two:

Principal Sachems [named] Reahopameck [Ahopameck?] and [together with] Peminacka came to us at Fortress Christina, and then each presented to us a Tract of Land, Viz. Priminacka gave us Sandhook, near Christina Kill, and from there from Naamans Hook to Manekis [Marikis, now Marcus] Hook, and as a token he gave in addition two fathoms Sevan; he also caused to be fired two Muskets. Now, though we had [previously] bought this Land all the way from Sandhook from one Methatzement [Metatsimint], who was now dead, this Peminacka had nevertheless sold it to the Dutch, which we confronted him with, to which he answered that he had not Sold this Land to the Dutch, but for the gifts they might give him [he] had permitted them to build houses and the fort there. But he now Retracted this and so gave us the Land; I therefore drew up a deed to this and let him put his mark after it, and the rest of us [signed] our names as witnesses and sent him home by the ship. Then Asopameck presented all the Land from Marikishock [present Marikens Point?] along the River up to half the Schuykijl. The other half he said [that] he still wanted to keep, and then [he] gave me two fathoms of Sevan and had two shots fired

in token and confirmation. A deed was similarly drawn regarding this [land sale], and at their request a couple of cannon were Fired (Risingh 1653-56 (cf. Deed of 29 June/9, July 1651 in Becker Ms D).

An important note is provided by Johnson (1911:566, From the 8 July 1654 “Confirmation” in Risingh’s journal in the Riksarkivet, N.S., I) to the effect that three Lenape witnesses to this land sale to Risingh were Ahopameck, Sinques, and Pinnan. If they signed as witnesses, suggesting that there is name confusion between Reahopameck and Ahopameck, and that these may have been two very different people. Pinnan (Pinnar) becomes an important figure during the period around 1660 when there were several disturbances in this area (see Becker Ms. A).

Dahlgren and Norman (1988:106, n. 147, also p. 191:fig. 25) suggest that the deed of 9 July is actually dated 8 July, a Saturday, and is located in the Riksarkivet in Stockholm. Presumably these lands sold included Tennakonck, and other lands not identified. Still other lands, presumably including Passyunk, were reserved for Lenape use. Johnson (1911, fac. p. 565) suggests that lands sold to Rising may have included “Tennakonck, Kingsässingh, Arunameck, Mochorhuttingh and Kokarakungh,” but that Passyunk was excepted out—clearly reflecting Lenape use of that region. Also of interest is the fact that Peminacka later sold these same lands to the Dutch, who claimed that he had sold them rights to build on the land (leasehold), and that some thirty years later these same natives or their heirs sold similar tracts to William Penn, in particular selling portions of the Schuylkil River band holdings that were closer to the Delaware River while reserving out their lands further up the river.

Lindeström’s (1925:170) description of the greater Passyunk area in 1654 repeats the observation that it the *primary* place along the river “where Lenape cluster.”

From Wickquakonick all the way to Nittabakonck, which is situated at the falls of the River Menejackse, the land is very fine This is occupied in greatest force by the most intelligent savages of several nations [bands] of savages, who own the River and dwell here. There they have their dwellings side by side one another, wherefore also this land is thereby being cleared and cultivated with great power. And six different places are settled, under six sachems or chiefs, each one commanding his tribe or people....

Lindeström also notes that in 1654 these “nations” (bands) actually came from [at least] four separate places located further up the river. Since Passyunk and Nittabakonck are two locations along the Menejackse (Schuylkil River), both of which may have been traditional summering stations for two of the six bands observed (see Becker 1997a), this suggests that the other four bands noted came from locations elsewhere along the Delaware. These would have been only the local bands of Lenape, with the more distant bands to the north and south not participating. This unusual clustering of several Lenape bands in the area of Passyunk, into what some believe to have been a village-like settlement rather than a dispersed summer fishing station, is solely associated with this period of cash cropping corn.

Lindeström then observed that in July of 1654 the land at Passyunk is “being cleared,” as if the work of field preparation (or expansion) were still in process. This may refer to Swedish activity, as a continued expansion of old fields, although it simply may have been a normal relocation of a summer station at Passyunk. The clustering, land clearing, and maize gardening of these Lenape bands, so similar to European styles of agriculture in *only* their superficial aspects, was the reason why Lindeström identified these people [those at Passyunk?] as the “most intelligent” of all those living along the river.

On 21 July 1654 Jakob Svensson returned in the sloop from Hartford (on the Fresh or Connecticut River) bringing grain and other foodstuffs (Dahlgren and Norman 1988:195). This provisioning from another colonial region may have made the local

Lenape nervous about the price they could secure for their grain. On 1 August 1654 several sachems (sakimän) of the River visited with Risingh, most likely at Fortress Christina, and they were given gifts (Risingh 1653-56; also Dahlgren and Norman 1988:197). Unfortunately the names of these individuals are not provided, but this date would be close to the time when an estimate of the ripening Lenape maize crop would be important to both groups. Alternately, these Lenape may have come to notify the Swedes that several important Susquehannock were now among them and were planning a visit to Fortress Christina. This scenario would fit with the events that Risingh recorded for 3-4 August of 1654.

On 3 August Risingh sent Svensson upriver (from Christina) with gifts to the Minquas (Susquehannock), whom I presume to have been staying with the Lenape on the way to visit with the Swedes. On the following day Ondoliasnekii, the war chief of the [White] Minquas, arrived at Fortress Christina with several of his men.

Johnson (1911:565, 756) identifies this war chief as Ondokiasnaky, and specifies that he is of the White Minquas (of the Susquehannock Confederacy, see Becker Ms. L). Risingh notes that on 4 August 1654 that Ahopameck came to Fortress Christina and asked for gifts. Risingh notes that Ahopameck was given gifts:

... as their friendship was greatly esteemed by us because of the danger of attack and because of our trade with them and our need for foodstuffs (in Dahlgren and Norman 1988:205) .

A Very Small Fraud by MANTES Indians from South Jersey

On 11 August 1654, during a period of negotiations between the Lenape and the Swedish colonial government (see below), a group of elders and “common” *Manteser*, from the east side of the River (see Becker 1998a), came to visit the Swedes. These Mantes, as they are more commonly known today, promised to keep available for the Swedes land in New Jersey that the Swedes had formerly purchased from them. One of these Mantes, by the name of “Mister,” promised to gather all the hops growing by the river for the Swedes. These visitors were, as was the custom, given various gifts, and Mister was given a sack for the hops. No hops were delivered, nor was the sack returned (Risingh 1653-56; Dahlgren and Norman 1988:107, 199).

During this visit by the Mantes on 11 August 1654 no mention was made of maize, as is suggested by Johnson (1911). The Mantes do not appear to have been involved in cash cropping maize. On 23 August 1654 the Swedes sent a yacht up the river for hops, possibly to the Mantes to collect the promised hops, but returned with only a small quantity (2 *lispund*: Risingh 1653-66) despite the many gifts that had been given to these Indians (see also Dahlgren and Norman 1988:201). This may have been the same trip that is noted by the return of the yacht on 2 September 1654, some nine days later. On 2 September the yacht brought only two *lispund* of hops (one *lispund* = 6.8 kg), and the Swedes complained of the deceitfulness of the Indians (Dahlgren and Norman Ibid.:205). The nine-day interval suggests a trip from Fortress Christina two days longer than the journey to Passyunk, which corresponds with the distance to location of the Mantes in New Jersey (see Becker 1998). However, considering the tides extending up past the mouth of the Schuylkil, this appears to be an unusually long period for such a trip—unless extensive negotiations were involved.

Lenape Maize Cultivation and Swedish Purchases

The most complete record that we have now regarding Swedish purchases of maize from the Lenape comes from the Risingh account. Information regarding the seasonal agricultural round as it applies to maize comes from several sources. The planting of maize generally takes place after 15 May, a date which to this day remains the point after which no hard freeze is expected. Green corn, which is a special treat, can be eaten in August, but the full maturation of the ear takes until late August or even early Sep-

tember. Properly treated the ears of maize can dry on the stalk and become hard by late September. At a peace treaty held 3-5 August 1682 the Onondaga said that they would return with war reparations “next summer when the Indian corn begins to grow hard, ...” (Brodhead 1853, 3:325).

Perhaps the best account of native maize production from this general period was written by John Winthrop, Jr. in 1662. Although this is a recounting of native maize production, possibly low level horticulture, in New England, some of the details are relevant to what was happening in the Delaware Valley. Winthrop (in Mood 1937:126-127) notes that some Indians planted maize when the “Aloofes” [alewives] came upriver to spawn, while other Indians planted when certain trees began to leaf. These differences may reflect locations on the coast as distinct from inland, where the temperature remained cooler for a longer period. Both alewives and a fish called “Moose” were used as fertilizer (Ibid.:128), but this may be a European concept adopted by the natives (see Ceci 1975). Alewives also are one of the anadromous fish that spawn in the Delaware drainage, but the seasons of their runs in New England as well as in the Delaware are not known to me. Winthrop also noted the later planting of “Mowhawkes Come,” in June, suggesting that it had a shorter growing season. Winthrop states that this variety has a short stalk, that the ears sprout near the bottom of the stalk, and that the kernels are of diverse colors.

Of note is Winthrop’s (Mood 1937:127) observation that maize was mounded gradually [?], as with “hopp hills.” When harvested the natives removed the kernels immediately and stored the crop in holes in the ground, probably of a type specifically designed for wintering the grain. Threshing, or removing the grain from the cob, would reduce the volume of the pits needed for storage. Winthrop appears to have correlated the eating of maize with the observation that it was “rare that any were troubled with the Stone” (Ibid.:131; cf. Becker 1978). An important inclusion in Winthrop’s account are the recipes for maize beer, which he notes is difficult to make (Mood 1937:132).

Other crops noted by Winthrop were “summer wheate,” identified as a type of pea that was different from French beans. French beans, perhaps what we call stringbeans, were also called Turkey [Turkish] beans. The Indians in Winthrop’s area also made baskets out of maize husks (Ibid.:129), but this may have been a local product and not common elsewhere.

How Does This Relate to Lenape Maize Sales

The ripening of maize must have taken place about the end of August. For the Lenape this was well in advance of their dispersal for winter hunting, and somewhat before their annual renewal ceremonies in late October. The dried and easily shelled maize crop would thus be available for easy transport by the end of September. This would correlate with the maximum abundance of natural products (mast, fat animals, etc.) that were needed by the Lenape foragers for their own fall fattening. Thus it is not surprising that on 4 September 1654, at Fortress Christina, the Lenape elder named Asapanek (perhaps the person confused with Asopamek/Ahopamek: see Johnson 1911:566) paid a visit to his Swedish neighbors. Asapanek is described as one of the foremost sachems of the “savages,” and was regaled with the gifts that he had requested for his loyalty. He also was told that the Swedes needed to buy food [maize] from him and his people (Dahlgren and Norman 1988:205; they put the date as 2 Sept.). This apparently successful negotiation was followed, on 9 September, by sending “Jacob Swensson, who could best trade with the savages” in the sloop up river to negotiate the maize purchase. Risingh also notes that the yacht was sent as well, perhaps in anticipation of a bountiful crop.

We may assume that Asapanek (Asopameck) was a Lenape then living at Passyunk, since the sloop is noted as having returned from Passyunk on 16 September (seven days later) with only a small amount of maize and the observation that the “sav-

ages at Passyunk had been very Unaccommodating to ours” (Risingh 1653-56; also (Dahlgren and Norman 1988:205-206). Johnson (1911:568) misconstrues these events. Perhaps the reluctance was a function of unavailability of the maize crop, or a clever strategy to bargain the price in favor of the Lenape. On 27 September Jacob Swensson returned in the large sloop from another trip upriver, presumably to Passyunk, with 400 *skeppar* of maize. Swensson appears to have wanted to try again to return to Passyunk to seek maize for sale. Apparently Swensson realized that there was more to be had, or that more was being harvested, an observation confirmed by Ahopameck a few days later.

The bargaining with the Lenape between 9 and 27 September probably was not influenced by the arrival, on 24 September 1654, of a galleon carrying Mr. Richard Lord from Hartford (Dahlgren and Norman 1988:205-206). Lord brought both food and other essential goods, but the date of his arrival was probably after Mr. Svensson had concluded his negotiations with the Lenape. Lord also may have brought the news that the Swedish supply ship, the *Golden Shark* which was bringing essential goods to the Swedish colony, had been impounded by Peter Stuyvesant in Manhattan. This disaster caused the loss of trade goods as well as food rations for a year. Risingh mentions the desire of soldiers to desert and other problems that were exacerbated by problems with provisioning the people in his colony.

Of note is that the bargaining with Mr. Lord for his food and supplies lasted more than a week. It was not until 2 October that the Swedes and Mr. Lord agreed upon prices to be paid for the desired goods (Ibid.:209). This reflects an interesting and typical interplay on this early colonial frontier, with the Swedes negotiating for resources from two separate suppliers at the same time, thus keeping prices relatively low; or at least lower than they would have been with a single vendor, English or Lenape. On 8 October, Risingh (1653-56) notes that”

Asopameck had been with us for two days and [had] insisted that [we] should send up there [to Passyunk] once more, [and] he would get us plenty of Corn.

At this point in the fall season the Lenape were anticipating their imminent dispersal for winter hunting, and the simple task of guarding the large volume of maize that they had produced has become a major problem. Risingh’s delay may have been a counter ploy to get the price of the maize down, or reflected the fact that they now had grain from New England and were less interested in the Lenape product. The provisions from New England may have been the beginning of the end of Lenape cash cropping of maize. The point at which it was no longer worth the effort was coming closer.

Apparently both the yacht and the sloop were dispatched from the Swedish colony to collect what maize could be bought. The yacht returned on 12 October with 80 *skeppar* of purchased maize for the Company plus another 20 sent as a gift to Governor Risingh; or at least as a gift that Risingh claimed for himself. The sloop arrived later with 880 *skeppar* of maize, 20 of beans and some elk (moose?) hides (Risingh 1653-56; see also Dahlgren and Norman 1988:215, Johnson 1911:568). Forty *skeppar* of maize were subsequently sent down to Fort Trinity (see Becker 1995).

Maize Consumption: Estimating Needs

The “beans” noted as coming to the Swedes probably had been gathered by the Lenape, rather than having been cultivated by them. These 1,400 bushels of grain purchased that fall would have been sufficient to provide the carbohydrate requirements of over 200 colonists for the entire year. The actual amount of maize purchased by the Swedish colonists may have been somewhat lower than indicated in some accounts, depending on modern translations of old Swedish measures. The 17th-century Swedish term “skeppel” (or “skiepper”) generally translated as “bushel”, may have been closer to the modern South African “scheffel”, which is one-fourth of a muid or .77 bushels (U.S. Winchester bushel, which is 35.2361 liters). The Dutch “scheffel” equals 0.764 U. S.

bushels of wheat, or 1.29 bushels of salt (Gehring 1981:365). The modern Winchester bushel of maize weighs 56 pounds, while the equivalent volume of peas or wheat weighs 60 pounds.

Benedict and Steggerda (1936) estimated that Yucatecan Maya were consuming about 1.2 pounds (.54 kg.) of corn per day, which represented 75 to 85% of the caloric value of their diet (also Steggerda 1941:89, 123). This may be above the maize needs of the Swedish colonists, who also had milk products as well as domestic and wild animals to supplement their diet. The foraging Lenape, and even the Five Nation horticulturalists (see Becker 1991, cf. 1987c), ate an even higher proportion of meat than did the Swedes. Calculating a bushel of maize at 56 lbs. (25.5 kg.), and 1.6 lbs. (0.73 kg.) per day as 100% of caloric needs (1 lb. = 1,579 calories; Watt and Merrill 1963:84-85), the Swedish purchase of 1380 bushels could feed at least 130 people for a year and perhaps as many as 260, depending on other foods consumed. We do not know if the Lenape or the colonials used lime or lime water to process maize in ways which would have increased the nutritive value of the grain.

In historic Mexico maize provided 80% of the dietary staple (Williams 1989:720), with an estimated loss of 10 to 20% of the total crop due to problems of the harvest and storage. This estimate of consumption includes needs for seed. The international Food and Agricultural Organization (FAO) has figures adjusted by body weight etc. and provides good references. The FAO assumes an average need of 1,593 calories per day (581,445 /year /person). Males require more (up to 2,500 calories per day) and children fewer (Ibid.:722). Thus Williams (Ibid.:724, Table 3) assumes adult males (age 14 and older) in Mexico required 2,400 to 2,500 calories per day, or 206.59 kg. maize per year. Heat and labor requirements in 17th-century Pennsylvania may have required greater caloric input.

Grain Production by Swedes in New Sweden

The most direct evidence for food production by the Swedish colonists, and the problems involved, comes from the writings of J. Rising, Printz’ successor as Swedish governor. In his report of 1654 Rising noted problems in securing sufficient food, as well as of producing the entire array of goods essential to operating a successful colony. Included among the many requests which Rising (1912:142) made of the home country was his note that “we have need of pottery-makers, brick-makers, lime-burners, cabinet-makers, ...” etc. Without the essential products of these specialists the Swedes had to make purchases of goods from the Dutch and the English, at outrageous rates. But these needs, essential to the long-term success of the colony, were secondary to the need for foodstuffs.

On 25 November 1654 Rising notes that the Swedes had done some serious plowing and were sowing winter wheat (Dahlgren and Norman 1988:225). Whether this was part of their stores from the previous year, bought from Mr. Lord during his visit a few months earlier, or came from another source remains unknown. Regardless of the results of this planting, Swedish grain production remained insufficient to meet the needs of the New Sweden colony. All the newly arrived freemen were ordered to clear land and to plant wheat and maize (Johnson 1911:524). However, Johnson’s (Ibid.:523) belief that by October of 1654 agriculture and cattle production had become the primary activity of the Swedish colonists is clearly in error. At the end of the year, on 3 Dec. 1654, Jacob Swensson sailed down the river to negotiate the purchase of deer meat from the *vilder* at Appoquenema (Dahlgren and Norman 1988:227; also Johnson 1911:568). This band was one of the southernmost of the Lenape groups, living on the Appoquenemink River close to the buffer zone that separated Lenape territory from that of the Ciconicin. This sale of meat, providing the Swedes with an inexpensive protein source, reinforces the belief that only a few of the Lenape bands were engaged in the maize trade, while others found different ways to negotiate for trade goods.

Johan Risingh's reports (Ms. A; 1912:162-163) to the Swedish Crown indicate that in 1654 the colonists would have lacked bread and provisions were it not for an English merchant (Richard Lord) from Hartford (now Connecticut) who sold goods on the South River. In this relation the natives are hardly mentioned. Risingh (1912:158) stated that, in general, the New Englanders "bring us our provisions, but we have had the disadvantage in this trade." The more densely settled and productive English outposts were gaining economic power through both agriculture and trade. English agricultural productivity was of importance in the survival of the Swedish colony, and reflected events in Europe. The establishment of an English-Swedish alliance in 1654 (Dahlgren and Norman 1988:17, 33) was part of the inexorable growth of British power in this region. The English squeezed the Dutch out of most of New England and now an alliance with the Swedes threatened the Dutch on the South River. This led to the Dutch decision to formally "capture" New Sweden.

Risingh's report for 1655 indicated that more land had been cleared by the Swedes along the Delaware, possibly by slash and burn techniques. This new land seems to have been planted in maize, and that the crops were expected to be good. The exact amounts of maize planted in 1654 and 1655 remain unclear (Ibid.:112-113), but a late frost in the spring of 1655 spoiled all the Swedish crops Ibid.:100, 103; also Johnson 1911:529). Risingh reports that on 21 May 1655 Richard Lord again arrived from Hartford, bringing grain, foodstuffs, fish, salt, clothing, etc., and that Lord sold them at high prices (Dahlgren and Norman 1988:231). Why the Swedish colonists were not harvesting anadromous fish in the Lenape fashion remains an interesting question; one that may reflect cultural biases that in this case were extremely expensive.

Myers (1912:156-157) notes that Risingh called the "Renappi" shrewd and belligerent traders, taking advantage of their equality with the Swedes in arms to make beneficial exchanges. Problems with the natives continued for the Swedes, but they were not only people in extreme difficulty during these turbulent years of the 1650s. Beaver pelts were available in fluctuating numbers during the period from ca. 1650 to 1660, perhaps due to increasingly lethal pressure put upon the Susquehannock by the Five Nations. The introduction of flintlocks made native warfare even more lethal than it had been, and the Five Nations had destroyed or forced the relocation of Mohegans, Huron, and Erie even before flintlocks entered the area. The dispersal of the Erie in 1654 allowed the Five Nations to turn their full force on the members of the Susquehannock confederacy.

Even after the Dutch had taken control of the tiny Swedish colony in 1655, the colonists on the South River could not provide for their own food needs. The Dutch on the South River in 1658 were short of food (O'Callaghan 1856, II:49-52). Maize remained so vital in the region that as late as 1662 the Dutch required an export licence be granted for shipping 25 to 30 barrels of corn from the area (Browne 1885:455-456). Thus maize and other grains produced in New England continued to be important to the economy of those varied Europeans living on the South River and South Bay.

The Beginning of the End

Over 100 years of warfare between the Seneca and the Susquehannock (White Minquas) were creating innumerable problems for both nations. Susquehannock power over the Lenape had long since petered out, and a tacit alliance had emerged by 1650. Lenape increasingly traded with the Susquehannock, and later even joined in their defense. On 5 July 1652, a peace treaty was signed between the Maryland colonists and the Susquehannock, with Iafer Peter as a witness for the Swedish governor (Ibid.:277-8). Each nation in this region had vital interests in alliances being forged by the people around them, as became evident only a few years later.

In his report of 1654, Rising (1912:140, 159) indicated to the Crown that he had a desire to purchase all the lands which were in the area of New Sweden. This idea, ultimately the basis for Penn's relations with the native peoples, reflects the sporadic and probably poorly described boundaries of the land purchases made by the Swedes prior to 1654. One of the restraining factors in making these purchases was the considerable cost that would be involved. William Penn's implementation of this idea, that of buying all the native held lands, began some 27 years after 1654 and was the first step in bankrupting him and leading to the failure of his personal goals.

The Susquehannock Confederacy

In 1654 Rising accurately noted that "... the savages [Susquehannock] now at this time and before this have often requested this [aid] of us." The Susquehannock peoples were suffering significant losses from raids conducted by the Five Nations Iroquois. The recently introduced flintlock firing mechanisms made weaponry increasingly lethal, and the Susquehannock seemed particularly vulnerable. Continuing encroachment by English colonists on native lands in the entire Chesapeake region, none of the sanctioned by any colonial governments. These plus Susquehannock problems with the Five Nations stimulated the Susquehannock to seek aid against the English settlers, who were expanding their many outlying farmsteads as well as frontier hostilities into the Susquehanna Valley.

On the 6th of June in 1655 the trader Jakob Svensson arrived at Fort Trinity in the company of four *Mingueser* (Susquehannock). These four elders, whose names were noted (see below) had been sent as representatives of the entire *Mingueserådets* (Minquas Council) and their United Federation to give the Swedish colony a gift of all the lands that they held on the east side of Elk River. This tract extended from Chakakitque Falls over to Amisacken Falls. Unfortunately the exact length and breadth of this tract is not clear, but it was a substantial piece of territory and occupied the buffer region that lay between Susquehannock territory and their neighbors to the south and east. Not only was this to be a free and clear grant of land to the Swedes, but the Susquehannock promised to supply all the Swedes [who settled there?] with venison and maize for a year (Dahlgren and Norman 1988:237). The catch, however, was that the Susquehannock wanted gunsmiths and shotmakers to be established in this tract—skilled crafters who could provide technical support to the Susquehannock war effort now that their hostilities with the Five Nations were entering a critical phase.

These Susquehannock sachems, or elders, had been sent to Fort Trinity (the Sandhook, now New Castle, Del.) as representatives of the White Minquas (Susquehannock proper) "and their united nations, the Tehaque, the Skonedidehoga, the Serasquacke, the true Minquas and the Lower Quarter of the Minquas" (Rising 1653; see also Rising 1912:140, 143, 159-60; Johnson 1911:570, 1917:278). This offer of trade and affirmation of their traditional alliance was the result of other problems. The military pressures against these members of the Susquehannock confederacy were mounting, and they wished to bring Swedish settlers into their periphery to act as a buffer against the encroachments of the English and Dutch. More significantly, these Minquas also wished the Swedes to serve as allies in their wars against the Seneca. Unfortunately the Swedish colonists were having their own problems. The "evil empire of the Swedes," as I am fond of calling their expansionist state that had conquered so much territory in Eastern Europe, had been collapsing since the end of the 16th century. Now this tiny outpost on the New World frontier was about to be snuffed out by the Dutch, who themselves were fighting a last ditch effort against the English who surrounded them with the Virginia and New England colonies.

The first records of the Lenape, dating to ca. 1623, indicated that the powerful Susquehannock were mistreating these poor foragers. The decline in Susquehannock power ended their domina-

tion of the Lenape. With the limited power of the Lenape recovered by 1655, and their appetites for trade goods whetted, and Lenape skills in the fur trade honed, these resilient Lenape became a problem for the Swedish colonists. Rising's report of 1655 (1912:156-7) notes that:

Our neighbors the Renappi threaten not only to kill our people...but also to destroy even the trade, both with the Minquas and the other savage nations.

Rising continued with the note that the now hostile Lenape would buy Swedish goods:

half on credit, and then pay with difficulty. They [then] run to the Minques, and there they buy beavers and elkskins, etc., for our goods, and they proceed before our eyes to Manathas, [Manhattan] where the traders can pay more for them than we do, because more ships and more goods arrive there.

Clearly the Lenape had learned how to operate very effectively in the fur trade, and to profit from a new position of strength relative to the Swedish colonists. The precariously balanced economy of the Swedish settlement could not support military resistance to their Dutch neighbors. Dutch toleration of the Swedes ended when the fear of a Swedish-English alliance grew. As the English power in the region grew the Dutch felt the need to absorb New Sweden. In 1655 The Dutch on the South River, backed by their compatriots at Fort Amsterdam, formally "conquered" the small Swedish colony.

The Dutch conquest of the hapless Swedish colony did not slow the success of English expansion, which related in part to their greater agricultural productivity. English agricultural skills brought down maize prices, and the decline in grain price reduced the value of the Lenape maize crop. With the value of their maize crop reduced the Lenape turned to other economic opportunities, and these were now available in the pelt trade. Using skills of travel in the forest honed in their foraging lifestyle, the Lenape soon became important players in the pelt trade, positioning themselves perfectly for events that were just over the horizon.

With the Dutch "conquest" of New Sweden, the various elements of the Susquehannock confederacy were left with only the support of the perfidious Maryland colonists. As the Susquehannock correctly feared, the Marylanders later deserted them, and by 1675 the "Susquehannock nation" had dispersed in the face of constant attacks by the Five Nations Iroquois.

By 1655, however, the Lenape had regained total autonomy and also military strength after years of being dominated by these Susquehannock. Lenape food needs were adequately met in the traditional way, by foraging. The increasing ability of the colonists to feed themselves, and the loss of the maize trade to entrepreneurs from New England, meant little to the basic economy of the Lenape. Although the Lenape economy was not dependent on volumes of European resources, trade goods provided luxuries which had become necessities to all native peoples. By 1650 stone tools for arrow tips, knives, and scrapers rarely were made. Even after the loss of the maize market the Lenape continued to secure basic items of need (cloth, metal) and ornament (beads) through low-level trade in those resources which they produced in limited but sufficient volume (meat, carved wooden objects, possibly also baskets, and perhaps wampum).

Lenape lifestyle and settlement pattern during these years of cash cropping remained unchanged. We have no evidence to indicate that their population increased in this period, but we now have some indication that during this period traditional shelters continued in use (Becker Ms. F). We have no reason to assume that Lenape use of a more dense (relatively) summer settlement pattern generated any alterations in their lifestyle during this interlude.

The Lenape Return to Dispersed Settlement; Ca. 1660

By 1660 the power of the Lenape people collectively had re-emerged. This was largely due to pressure exerted on the Susque-

hannock by the Five Nations. The Five Nations, having dispersed the Erie nation in 1654, turned all of their raiding expeditions against the Susquehannock. These raids in the late 1650s led the Susquehannock to seek allies among the Swedes and the Lenape, as noted above. But the faltering Swedish colony was soon to be absorbed by the Dutch, in 1655, leaving the Lenape as the only neighbors who could offer some support to the Susquehannock.

The several Lenape bands whose use of Passyunk for summer encampments returned to their traditional territories. The bands using the Schuylkil River drainage as their foraging zone also had abandoned Passyunk as a summer station by 1661, but these two traditional bands owning the north and south sides of the Schuylkil Valley continued to use their old territory (see Becker 1997a). The years 1660-1661 were particularly difficult for the colonists because raiding bands of Indians caused all kinds of problems in this area (Becker Ms. A; Gehring 1981:231). The Dutch at Fort Altena in 1661 were still seeking information regarding the murders in the South River area during the period 1660-1661. Prior to May of 1661 John Nordon had been killed and the "Passagonke Indians" were considered primary suspects (Browne 1885, 3:415-418). In September of 1661:

Mr. d'Hinojosse invited the Indian chiefs at Passajongh and elsewhere to come down,

to Fort Altena in order to meet with English magistrates, ca. 22-23 September. Only one native came, and he was from the *east* side of the river, or from the Jersey bands (Becker 1998a). Why others did not come remains unclear, but on 27th September this unnamed elder and d'Hinojossa went to Apoquenemigh to meet with Governor Calvert and his commissioners. Much of their discussion had to do with using English ships to carry tobacco to Europe. The subject of recent murders was ignored, and later the murderer of Nordon was noted as unknown (Browne 1885, 3:426). But when a young Dutch lad was killed near the Dutch fort (17 November 1662) Willem Beekman "summoned the chief from Passajongh under whose command those who are hunting here fall." This "chief" must have been Rennoswewigh, described in other documents as the "king" at Passajongh in 1663 (see Becker Ms. D).

The records indicate that after 1655 there was but one Lenape band located at Passyunk. Most likely the motivation for several bands to aggregate in this relatively limited region seems to have declined about that time. The slow rather than rapid spread in the 1660s of smallpox from group to group down the river also suggests that a dispersed settlement pattern had re-emerged by that time. A large concentration of people in any one location provides an excellent situation for the rapid spread of such diseases, and this pattern of slow transmission suggests that dispersed groups were again operating along the river.

The Lenape summer settlement in the Passyunk area, a swampy zone of rich silts and wetland resources, continued after 1660, but certainly on a much smaller scale than during the previous two decades. Most of the Lenape bands which had been gathering at Passyunk during previous years appear to have returned to their traditional summer stations up and down the Delaware river leaving only the two traditional bands that fished in that region (Becker 1997a). Lenape activities upstream after 1660 were cause for note (Gehring 1981:201). On 12 May of 1660 several colonial families indicated that they "intend to settle at Passajonck" but within two weeks these Swedes reversed their decision because there was insufficient pasturage available (Gehring 1981:199-201).

In 1661 we have the first known record that documents the presence of a Lenape living among the Susquehannock. Lenape could make much more in the pelt trade than from producing grain for sale, and after this date we have not a single record of Lenape selling maize to the colonists. The end of this phase of Lenape warm weather aggregation to produce maize is reflected in the colonial grain shortage of 1663. The problems of grain pro-

duction in 1663 seem to be part of the continuing difficulties with maize and other cereal production in this part of the New World. We have a letter written by Jacob Alrichs in the spring of 1659, to Petrus Stuyvesant, to note that those Dutch settled at New Amstel on the South River had not previously produced *any* grain. Whether this refers to their poor production record or their backgrounds as merchants rather than farmers is not clear, but these Dutch managed to buy a bit of grain from the local Swedes whom Alrichs notes could ill afford to spare it (Ibid.:136-138). A note from 14 June of 1659, before the first new crops could be harvested, indicates that on the South River “corn” [grain] was scarce and brought 6 guilders a skipple (Ibid.:145).

In nearby Maryland the colonists bought large amounts of maize from the sedentary (horticultural) Indians up until the 1660's (Thomas Davidson, pers. communication 23 April 1985). But even in the Chesapeake, grain surpluses remained elusive and imports were important to the colonial economy.

In a letter dated 1 February 1663, Willem Beekman noted that the Dutch on the South River had run out of grain. Since they had stocks of other food the colonists were not desperate, but Beekman wrote to New Amsterdam requesting a shipment of Osnaburg linen for trade:

as soon as possible for the purchase of grain, because salt does not trade well for grain in the spring as it does in the fall (Gehring 1981:316-317).

Beekman's letter of 25 July 1663 (Ibid.:325) repeats this request for linen needed to purchase grain. However, lack of grain was only a temporary problem for the Dutch. The increasing hostility between the Dutch and the English, paralleled by the ever present conflict between the Susquehannock confederacy and the Seneca, disrupted trade and created instability in general. English military expansion led to the fall of the Dutch power in the mid-Atlantic region in 1664, and the beginning of uninterrupted expansion of the English colonies.

Craig and Yocom (1983:259) suggest that in the late 1660s some English attempted to settle in the area of Passyunk, but were unsuccessful. These English settlers may have been attracted to the area because of the presence of fields cleared by the previous Lenape occupation. The reasons for their lack of success in this attempt at settlement are not known, but probably reflect European political difficulties rather than economic problems.

By the summer of 1671, with the English firmly in charge on the South River, attempts were made to bring trade under control of the Crown. Captain Carr, who administered the area from his base at New Castle (now in Delaware), attempted to block illicit trade from being conducted further up the river. The sale of maize continued to be an important element in this trade, reflecting the importance of grain production into the 1670s.

those that goe up receiving ready payment in Peltry or Corne for Thier Lique^{rs} w^{ch} they sell by Retaile with y^e small Measure or for their petty Wares (Linn and Egle 1896, Ser. II, VII:785).

Although the purchasers may have been colonists, it is not clear in this context is whether the buyers were Colonists, Lenape or both. Carr then took steps to appoint a “Corne Meeter” to measure grain, and an appointment was made on 14 June 1671. Also passed was an order,

That no Quantities of Lique^{rs} be sold to y^e Indyans under a quarter of an Ancher, halfe, or a whole ancher (Linn and Egle 1896, Ser. II, VII:786, 788).

This requirement that alcoholic beverages be sold only in large, wholesale amounts insured that purchases would be made only by large groups of natives for large scale celebrations when the liquor would be divided among many revelers. The sale of small amounts of alcohol, at retail rates would allow individuals and problem drinkers to get drunk and cause a disturbance.

We also have a record of a licence being issued on 14 March 1672 to Edward Fitzherbert, of St. Marys County in Maryland in the middle of tobacco raising country, to trade with the Indians for maize. This permit was good only for six months, or through the growing season, and the purchases could be used only for his own family. Also stipulated in this permit was that Fitzherbert could not sell powder, arms, or ammunition to the Indians (Browne 1887:120). All the local governments were very concerned with regulating the trade in maize produced by Indians, but Lenape production of maize appears to have ended some ten years before. The restrictions against selling munitions to the Indians in Maryland presages the Maryland colony's betrayal of their Susquehannock allies in 1674 with the decision to withhold all armaments from them. Without support from the Marylanders the Susquehannock confederacy was helpless against Five Nations Iroquois raids conducted during the winter of 1674/75, leading to the dispersal and complete destruction of this once powerful nation.

Lenape Commensualism: An Indirect Food Storage System

In one sense the development of maize gardening specifically for trade between Lenape and various colonists, from ca. 1640 to 1660, had created an indirect technique of food storage for these natives. The establishment of these economic bonds provided the colonials with the ability to purchase maize in the fall, and meat (primarily deer) throughout the year. Reciprocally, maize stored by colonial farmers (whether grown or purchased) became available to the Lenape at all times, at prices which fluctuated according to laws of supply and demand. These grain purchases not only assured the colonists of food resources, but created for the Swedes a minor market profit when and if the natives later repurchased this commodity. Although the cost to the Lenape of the repurchase of maize may have been high, this technique insured a stable source of grain. Quite probably these supplements purchased by the Lenape were used primarily for elderly and infirm individuals, and thus prolonged life rather than stimulating population growth by supporting larger numbers of children. This supposition is based on cross-cultural studies of family size. Nevertheless, the net result was that the total population of Lenape may have increased to levels in excess of those which had existed under traditional foraging strategies (cf. Ceci 1979; see also Ramenofsky 1982, 1985; Janzen 1985).

Not only did the presence of colonial settlers augment food supplies that were available to the natives, by making the results of their storage techniques available to the Lenape, but European farming and protoindustrial activities (such as dam building and millpond construction) created larger browsing areas for deer within the vast tracts of uncut forest. These positive effects, in terms of increasing available resources, applied only to the early colonial period, or up to about 1700. By the beginning of the 18th century, the dams built by Colonials to provide water power were becoming larger and more numerous. These constructions disrupted the runs of anadromous fish, which spawned in streams feeding the Delaware River. These fish previously had been a major food resource for the Lenape during the period from the early spring into the fall (Schalk 1977). The benefits to the Lenape of a European presence declined significantly after 1700. By 1740 all of the traditional (conservative) Lenape bands had left the Delaware Valley and shifted their foraging activities into the Susquehanna drainage, or even further west. Only a few Lenape individuals who had already made personal adjustments to colonial society remained behind as remnants of a lifestyle now gone from southeastern Pennsylvania (see Becker 1986b).

Parallels with Proximal Areas in the New World

The evidence for cash cropping at Passyunk provides us with an indication of how changing land clearance and planting systems as well as augmented trade between the Lenape and the Swedes, set the stage for a population increase among these indigenous people. The evidence from the lower Delaware Valley is paralleled by data from the same period at other points along the east

coast. A general model for this population increase is suggested by R.J. Dent (1981:80), who presents additional, if indirect, evidence for increasing population density in his discussion of the "traditional view" of northeastern culture history. This view is incompatible with the data from the Upper Delaware Valley, where he believes there is evidence for a population increase in the post contact period. Dent's concerns are of general interest to ethnohistoric interpretations of the Lower Delaware River Valley as well.

Dent's (Ibid.:83) research is important to Lenape studies because he notes that the evidence from the upper Delaware valley parallels that which Ceci (1979) has for coastal New York, suggesting that horticulture was never a major subsistence component of these Woodland Period groups. The data noted by Dent are supported by the implications for Lenape culture history in the period 1600-1700, and by inference for the periods prior to 1600. Only after the European alteration of the natural environment, through forest clearing and stream damming were changes needed in the economic aspects of native lifestyle. At first these changes wrought by colonial activity may have led to increases in the deer population (browsers) and other game animals, but the gradual expansion of the amount of land used for colonial agriculture slowly reduced the foraging potential of the native peoples. The Colonial occupation of native summer station areas and the construction of dams which inhibited fish runs may have been more problematical to native foragers than the later expansion of the colonists' agricultural lands.

Comparative Data from New York

The now discredited idea that the Lenape had been sedentary agriculturalists at the time of European Contact derived primarily from historic evidence concerning non-Lenape groups to the north and to the south. Lynn Ceci's (1980:46) careful examination of the evidence for the theory of sedentism based on maize agriculture in the area of present New York City. She found that the archaeological evidence suggests that in this area maize agriculture did not develop in the Woodland Period, but probably began after European contact as a response to historic economic activities such as wampum manufacture and European trade. The evidence strongly suggests that these native people never relied on maize as a staple, although it may have been grown as a supplementary "crop" before 1500 and in increasing amounts after contact. The reasons for increased maize production in the New York coastal area may have been the same or at least paralleled those which motivated the Lenape. Silver's (1980) suggestion that Ceci's data are equivocal reflects a basic problem general to archaeology, but one which in this case can be resolved by ethno-historic examination and inferences regarding culture history in this area as well as by archaeological studies which are now in progress (L. Ceci, personal communication).

Ceci (1980:46) reviews the thesis that the prehistoric Algonkian speakers of coastal New York were culturally similar to nearby Iroquoian people. She demonstrates that this hypothesis is based on circumstance rather than empirical evidence. These same ideas about daily life among the Five Nations formerly also had been extended to include the Lenape, without examination of actual Lenape data. Although maize may have been grown at summer stations along the New York coast, large quantities were not seen by Hudson (1909) during his voyage at the beginning of the 17th century until he was well up the Hudson River, possible into the area on the fringe of "Iroquoia," where horticulture is better known during the historic period.

More significantly, assumptions regarding relationships between maize cultivation and socio-political complexity may lead some of us to draw unwarranted conclusions from the very presence of maize at an archaeological site. As noted earlier, intensive food production systems are not necessarily seen as preferable by members of any given culture (see Brown 1985).

De Rasieres provides the first known account of maize cultiva-

tion in coastal New York (Ceci 1980:62). He observed maize being grown on Staten Island as well as Long Island, where wampum also was being made. De Rasieres noted that wampum was used by the natives to buy food during shortages, reflecting an absence of native food storage capabilities. Ceci (1979:63) also points out that European sales of maize to the native people as early as 1640 shows the inability "of natives [in the area of Manhattan] to satisfy their own needs." I believe that these native people easily could have grown enough maize, but that they lacked interest in *storing* sufficient quantities to last the winter, and this absence is clear evidence that they lacked a true agrarian economy. All of the accounts from Iroquoia from the early 1750s and into the 1760s indicate that each spring most of the Five Nations people were suffering extreme maize shortages, which seems to have been traditional in the area (Beauchamp 1816:83-91, 133-144).

Investigation of the maize production systems of the Five Nations Iroquois led Richter (1983:552-553) to conclude that the starvation winters of this period were not a legacy of the much earlier French invasions (1684-96). Richter indicates that "The Grand Settlement of 1701" brought peace, well defined trade rights, and "a more stable economy based on guaranteed western hunting territories ..." Yet these people consistently failed to produce or store enough maize to last the year. Available resources among the Five Nations generally were traded for alcohol, leading to considerable difficulties and leading to circumstances which produced later attempts at cultural revitalization. However, cultural tradition in this region included low food production/storage, and this cognitive orientation led members of the Five Nations to perceive food shortages as a normal aspect of the seasonal cycle and not a peculiarity which needed to be altered by adjusting any specific aspects of the culture (see Engelbrecht 1987).

Comparative Data from South of the Lenape Realm

Of considerable interest in food production systems are the findings from the area immediately south of the Lenape realm (Becker Ms. A). The Lenape territory extended south to Old Duck Creek, now the Leipsig River, where the vast Bombay Hook area of swamps and marshes begins. This zone served as a buffer region between the Lenape and the Ciconicin (Becker 1998), whose territory occupied most of central Delaware. The Ciconicin had a true chiefdom, and a principal village in the area that is now Lewes, Delaware. Although their numbers were small, probably about 300 people, the Ciconicin produced maize as a crop and supplemented that crop with whaling, hunting and fishing over the extent of their realm.

The Ciconicin had the most northern true chiefdom along the Atlantic coast. While all the native cultures in the area to the south of the Lenape realm produced maize, the levels of production generally had been considered to have been at higher levels, capable of supporting larger populations and more complex political structures (Turner 1986; Becker Ms. E). Throughout the Chesapeake region sales of maize to Europeans were common. Laws passed to regulate trade with the Native people (Feb. 1638 - March 1639: Browne 1887a, Vol. 1:44) were designed both to control maize sales and to restrict the export of Indian grown maize in order to maintain stable and low prices.

Despite the Virginia government's attempts to prevent the theft of native crops by colonists, these illegal acts by settlers remained a constant problem well into the seventeenth century. On 11 March 1667/68 Katakcuweiticks of Manoakin Town accused Alexander King, John Richards and John Johnson of the theft of corn. From the time of year during which charges were filed this stolen maize must have been maize held in storage by the plaintiff through the winter. On 30 June 1668 the records of Summersett County, Md. show that these three defendants were convicted of "corne theft" and ordered to make restitution (Pleasants 1937:707, 712).

Another problem with increasing grain production by 1675 was the conversion of the surplus into alcohol, for sale to colonials and natives alike. In northern New Jersey the death of a native named Peeques during the winter of 1674/75, led to an investigation that involved Governor Andros, then resident in New York. The conclusion was that this was a case of:

an Indyan drinking himselfe dead, at a House near *Raritans* River [,] there being three more [Indians] with him, very rude, which frightened very the women [sic], her children and a man (her husband being absent at Woodbridge) (Linn and Egle 1896:816-817).

Peeques, the Indian involved, later was found dead in the woods. This event appears to have taken place in an interesting area north of the territory held by the Lenopi of south Jersey (Becker 1998a), and the cultural affiliation of the deceased remains unknown. In the same letter where Gov. Andros mentions these findings, note is made that Cantwell had said nothing:

of an Indyan, who I heare had lately his ribs broke by an Inhabitant of the [South] River, of w^{ch} hee dyed.

The conversion of locally produced grain into alcohol, mostly evident by drunken brawls and occasional deaths, is an interesting demonstration that grain production had stabilized and that the local economy was approaching a new phase. The English colonies were soon to become the center of wheat production for the British Empire. Yet while the British were prospering, local native peoples were drifting into the margins and becoming part of an underclass that, by the middle of the 19th century, had become all but invisible.

Increasing difficulties in food production among the *native* peoples of the Potomac may be reflected in a 1677 petition to the Maryland colony. On 17 August 1676, Choticke represented his people, the Piscatoway, in their dealings with the Maryland government. In 1676, the Piscatoway were concerned with the disturbances wrought by Bacon's rebellion and by the impending treaty between their enemy, the Susquehannocks, and the Maryland colony (Browne 1896:126). Quite possible these concerns, just before the fall harvest of 1676, led to problems suggested by an award made on 19 April 1677 to Chotike (sic) and his family, described as being "in much want of Corne." They were given three barrels of maize, paid for by the public treasury (Browne 1896:149).

A Changing Market and Return to Normal Among the Lenape

Once the bottom dropped out of the Lenape maize market, and political stability increased under English rule (post 1664), the few Lenape bands that had aggregated at Passyunk returned to the fishing station system that had prevailed prior to 1640. This reversion to the former dispersed summer settlement pattern reflects the persistence of traditional band organization despite a prolonged episode of altered summer encampment patterns. William Penn's description of the Lenape (In Myers 1912:232-3) summarizes their economic situation in 1683. His observations that "...the Woods and Rivers are their Larder..." and that "they want but little" in the way of food reflect their continuing foraging tradition.

Given the extensive resource base available in the form of rivers and forests one can understand why these Lenape wondered why the Europeans worked so hard to store so much food against the winter season. The abundance of resources in the Delaware Valley combined with a low population density and the minimal needs of the Lenape did not encourage the kinds of productivity envisioned by Europeans as essential to survival. In this rich land the English quickly became prosperous exporters of foodstuff of every description, and by 1775 wheat had become the primary export from the area (Rappaport 1983). By 1740, however, those Lenape bands wishing to maintain a foraging strategy had left the Delaware Valley for the Susquehanna drainage, which at that time was still beyond the colonial frontier (see Becker 1993a, 1996).

The Lenape continued to operate as foragers in their traditional territorial range for nearly 60 years after Penn began a massive program of colonization. Several factors enabled the Lenape to continue their traditional lifeways, including the always low Lenape population densities. The Lenape population began to expand after contact with Europeans due to several factors. One was the ability to get food from settled colonists during periods of winter stress. After 1661 Lenape populations grew because various members of these bands shifted their foraging pattern into the Susquehanna Valley. The disruptions of Bacon's Rebellion to the south and King Philip's War to the north (Webb 1984), which led to the relocation of numbers of other native peoples, had no direct effect on the Lenape. The development of English political control throughout the region, of which these events were symptoms, ultimately altered the landscape in ways which led to Lenape withdrawal from the Delaware Valley.

During this entire period we find no evidence for any shift in Lenape political organization, nor were there any indications of changes in any aspects of Lenape socio-political structure for nearly another 100 years. Not until the period after 1750, after the Lenape had left the Delaware Valley and begun to form "towns" to the west do we find the beginnings of status ranking and the presence of "elders" in these groups. These elders or sachems may have been able to exert some influence over other members of their communities, but this has yet to be demonstrated.

Feest (1978:254) suggests that European contacts with native people living on the lower Potomac river encouraged the growth of chiefdoms. Although Turner (1986) does not believe this to be the case, I believe that the considerable, if indirect contacts on this region since at least 1550 had extensive influence on local populations. The rate of political change may have been more rapid than Turner believes, but if that is the case, the basis for this change must have been embedded within the cultures of the tide-water area. Contacts between Lenape and Europeans were as long and as intensive, but in no way did these interactions lead to the kinds of politics clearly identified to the south. The reasons for changes in both areas must be sought within the cultural systems as they existed prior to contact, and that information will be revealed only through the methods of archaeology.

Linguistic Evidence

That the Lenape did not shift to agriculture for nearly 200 years after this episode in the 1600s can be documented by records of their later history. In addition to the historic evidence regarding Lenape maize gardening, an examination was made of the Lenape linguistic data relating to maize cultivation. The results suggest an absence of horticulture among the Lenape. A. C. Mahr (1955) reviewed the two major "Delaware" word lists known from the 18th century (Brinton 1888; Zeisberger 1887) seeking Lenape equivalents for English or German agricultural terms. No "Delaware" terms were identified for "storage" nor for other activities related to the processing of crops, nor for tools such as the pestle (pounder), except via the words used by Onondaga. Although these absences may be no more than a coincidental series of minor omissions, they may be a significant piece of evidence.

Reichel (1871:196-198) provides extracts from the Diary at the Moravian Mission at Friedenshutzen from the 1760s wherein important events in native histories are noted, particularly the movements of various bands. The Munsee, Tutelo, Nanticoke, Forks (Jersey), Tuscarora, Sopus, and other groups are mentioned. The 18th century was a period of significant movement among many of these peoples, but one theme is repeated: the need for corn to feed them on journeys to new homelands. The Moravian farmers provided considerable resources to these several peoples, none of whom had sufficient resources to call upon during their movements. To a great extent the wars among these native people further debilitated their reserves, but for many of these people foraging provided much, if not almost all of their food. Any disruption in their foraging pattern created hardships which were life-

threatening. Their movements and relocations during these years were one means by which they sought open lands in which to forage and thereby attempted to secure a better life. Away from predatory neighbors and multiplying European immigrants these people preserved their cultural traditions remarkably intact right into the 20th century. The end of a foraging lifestyle among the Lenape bands, somewhere in the midwest at some time during the late 19th or early 20th century, has yet to be described. However, we now know that these people maintained their culture for much longer than had previously been believed.

Discussion

The evidence reviewed here suggest that the Lenape as well as their neighbors were capable of generating and maintaining a wider range of cultural variations within their subsistence activities than is commonly believed. Such variations are always culture specific, and each must be understood as a very localized adaptation to specific stimulæ.

Stable isotope analysis (Elizabeth Little, pers. communication) indicates that coastal New England people ca. 1000 CE ate more maize than later populations in that area, with the decline in maize consumption correlating with the advance of the Little Ice Age—which hit a maximum ca. 1500 CE. Thus had maize ever been important in the diet of the peoples of the Delaware Valley, by 1500 CE we might expect that it had declines, and that fish resources came to replace these food needs.

The temporary amplification of maize gardening among the Lenape does not appear to have begun until ca. 1640 CE, but by 1660 this cash cropping of maize by the Lenape had ended. Never again in the vast ethnohistoric record do we see any mention of the Lenape producing maize *despite* the fact that most of the Lenape bands continued their traditional cultural patterns in the Delaware Valley for another 75 years.

The short-lived (1640-1660) intensification of maize production was not an attempt to increase or to stabilize food resources, but simply a means by which European goods could be secured by a people who had few furs to trade. The Lenape evidence, however, indicates that a population may amplify food production, but for reasons unrelated to storage or sedentism. Halstead and O'Shea (1989) indicate that the transformation from foraging to agriculture is a response to risk and uncertainty (cf. Harris and Hillman 1989, Gebauer and Price 1992). Food resources were much less certain among Native Americans in central areas of Pennsylvania and New York, where horticulture did develop as a response to these needs, but restricted food resources were rarely the case among the Lenape. Riverine resources provided abundant food supplies for these people throughout the Late Woodland and early Contact period, up to the 1730s.

Lenape purchases of alcoholic beverages in the fall allowed them to amplify ritual behavior at the annual "renewal" ceremonies (cf. Witthoft 1949; also Wallace 1956). Rum and wampum were desired by the Lenape, but are largely absent from the Penn purchase prices, perhaps due to religious reasons.

A secondary result of the Lenape maize trade was the creation of an indirect food storage system, in the hands of the colonists, upon which the Lenape could draw during times of famine, using the social obligations created by the trade itself. By 1660 the cash cropping of maize by the Lenape had ended due to increased grain production by the colonists.

By that time the Lenape had become more active in the pelt trade, largely due to the declining power of the Susquehannock. The pelt trade provided the Lenape with a more efficient means to secure desired goods after 1660. Lenape success in the pelt trade was inversely proportional to the power of the Susquehannock. When, in 1675, the Lenape became the *de facto* inheritors of central Pennsylvania and all of the pelt trade to the west of this region.

What About Disease?

The theory of disease decimation of Native American populations is an idea that is best suited to the needs of lazy researchers than to any search for the truth. While there are several examples of significant disease episodes along the eastern coast, all take place rather long after European contacts, and only in situations where the specific population had suffered stresses of various other types. For the vast majority of Native peoples, such as the Five Nations Iroquois (Snow 1995) and the Susquehannock (Becker Ms. L) as well as the Lenape, their complex history has no "need" for disease theory as an explanatory model (cf. also McGrath 1991).

The Maize Trade

Lenape cash cropping of maize provides us with an important example of cultural adaptation that is of interest to general theories of agricultural intensification. James Eder (1984), examining the transition from foraging to agriculture, discusses the "mistaken idea" that there exists a correlation between increasing reliance on food production (and storage) and increasing sedentism. The belief that mobile foragers become increasingly sedentary as agricultural technology develops is contradicted by evidence gathered by Eder, who suggests that as a population perfects agricultural skills of food production and food storage they actually may become increasingly mobile. The social values of giving and sharing among the Lenape, as among all foragers, was particularly supported within the "giving" environment of the Delaware Valley (cf. Bird-David 1990). The concept of sharing could be sustained even with the production of maize for sale.

The cash cropping of maize among the Lenape also explains an unusual, and temporary, settlement pattern found among several of the Lenape bands during the period 1640-1660. These bands specifically relocated their summer fishing stations to an area where they could maximize this peculiar food production activity. The efficient cash cropping of maize that engendered this unusual behavior resolves the problem noted by Goddard (1978:215). Goddard correctly observed:

Somewhat puzzling is a 1654 account that names only six village bands for both banks [of the Delaware River], all of them within or very near to the present city limits of Philadelphia.

In 1654 Lindeström also noted that the natives resident at the Falls of Delaware (Trenton) cultivated maize until the soil was exhausted. This unspecified group of natives must have been from New Jersey, perhaps only the Sankikan band or the Mantes. The possibility that several groups of Jerseys were aggregating at the Falls in a manner parallel to the Lenape bands then gathered at Passyunk might be considered. They, too, may have been growing maize as a cash crop. If these people were intensifying maize production without developing fertilizing strategies (see Ceci 1975), they may have exhausted the soil at their summer stations more rapidly than in prior years when only small amounts of maize were being produced for consumption at the time of harvest.

Parallel Examples of Food-Vending Foragers

The idea that foraging societies can produce food "surpluses" strikes many people as strange, but ignores the basis of a foraging economy. Foragers can support sparse populations on available resources by effective gathering techniques, but do not normally involve themselves in storage. There are some complex foragers, such as the cultures of America's North Pacific coast, but that involves an interesting combination of resource availability that can be "gathered" combined with impressive storage techniques. Many foragers have the *potential* for surplus available, but do not do storage as a part of their culture.

A remarkably similar culture history to that of the Lenape has been produced for the Yahgan (Rosfeld 1985). The earliest recorded contact between Europeans and the Yahgan took place in 1520. After 300 years of continual contact no significant changes could be seen in Yahgan culture. As with the Lenape and the "Jerseys," Rosfeld (Ibid.) found only the slightest differences between

the cultures of the Yahgan and Alacaluf, aside from clear spacial distinctions. Their aggregation and dispersion patterns, competition for European goods, and alliances parallel those found among the Lenape and their neighbors.

Several other examples of food vending foragers are known from the literature. Those that follow were found through general reading and not a deliberate search, which might turn up a great number of examples. Foraging peoples doing cultivation or animal husbandry in an episodic fashion has been documented from a wide variety of cultural situations (Bird-Davis 1988, Schrire 1984) and only a few will be noted here. Paul Minnis (1985) provides excellent data from the Western Apache, a well-known foraging society. Yet the Western Apache, in some cases, gained prestige goods through the exchange of surplus maize produced by their own gardening (Minnis uses the term "agriculture").

Data from South West Africa suggests that under certain conditions when ecological factors permit, Bushman foragers shift to cattle herding, and are identified as Hottentots. These short term (one or more years) ecological changes enable these people to maximize certain resources. The process is reversed when ecological variables again favor a foraging strategy. These fluctuations seem to parallel what has been described above for the Lenape. Only an extended period of consistent change, probably greater than 100 years, could lead to more lasting and significant alterations in normative lifestyle (cf. Brown 1985).

An interesting model regarding the use of foraged food has been posited by Patty Jo Watson (1985) from an archaeological context. In midwestern North America during the Late Archaic to Early Woodland period (ca. 1000-500 BCE) Watson believes that maize entered the diet of peoples throughout the Mississippi Valley. Yet Watson believes that these various peoples, each with a regionally distinctive cultural and economic pattern, combined maize that they produced with traditionally foraged foods. Thus the fact that they *could* cultivate maize did not lead them to a settled lifestyle nor to the creation of permanent villages or other behaviors that would suggest increased cultural complexity. Watson's models may, to some extent, be based on what is known regarding ethnographically known foraging societies.

Although not involved in food production, another interesting example of cultural adaptation to residence pattern among foragers comes from coastal Labrador during the early contact period. These Labrador Inuit used a highly dispersed "settlement" pattern to gather sparse resources, as one would expect. However, after contact they concentrated their "settlements" to maximize trade in local products. These local Inuit and other populations became involved in the baleen market, leading to "cultural elaboration" (Kaplan 1991). When the baleen market collapsed, the local peoples returned to their traditional foraging strategies and dispersed residence pattern that presumably, as in the Lenape case, had provided the basis for their food resources all along.

Cash Cropping of Maize Among the Lenape

That the Lenape gardened a bit of maize in the 16th and early 17th century, and then for twenty years in the middle of the 17th century amplified this production as a cash crop, does not mean that they were "agriculturalists" or that they in any way tried to store even the smallest quantities of food. Even Witthoft (1949:84) noted that the "Delaware" and various coastal Algonkians up through New England may have had "first fruit rites," but pointed out that these rituals, related to "Green Corn" ceremonialism, were *not* concerned with agriculture. We also have no idea if the Lenape used lime or lye to process maize to increase its nutritional value, as is common elsewhere in the New World where maize is a major foodstuff. In all probability the minimal importance of Lenape gardened maize in their diet makes it unlikely that lye was used.

The evidence reviewed demonstrates that the Lenape, and others, were capable of generating and maintaining a wider range of

variations within their "subsistence" activities than often is believed. Such variations, however, need have no influence on overall cultural patterns. The naive and the ethnocentric, who believe that "agriculture" is "superior" to foraging, have difficulty in understanding why the Lenape did not become agriculturalists when they had abundant and rich land and European models for food production and storage techniques. Such views fail to understand the importance of "culture." Even cultures under long-term stress resist change, and the Lenape were never afflicted with the kinds of problems which were common among other coastal peoples to the south.

Equally important to what documents tell us regarding continuities in Lenape lifestyles is what the ethnohistoric records reveal about archaeological theory. Only through detailed study of the long "contact period" documents have we been able to see cultural continuities among native peoples for hundreds of years. The resolution of what Lenape life was like had been greatly distorted through both the biased lenses of historians and the early theories of anthropologists that may derive from 19th-century historians, to whom all the peoples in the Eastern Woodlands looked alike. Yet most archaeologists, with their "hard" evidence in hand, continued to interpret the Lenape evidence to conform with the muddled views of 19th-century historians—that the Contact Period Lenape lived in longhouses within large palisaded villages, or in a single village now buried beneath Philadelphia. All the evidence to the contrary was disregarded in order for the archaeological conclusions to conform to the ideas of 19th-century historians.

Fortunately, archaeologists investigating prehistory in the Delaware Valley do not have the biased views of historians to muddle their view of prehistory. However, we must wonder what results derive from reconstructing the past only on the basis of native made stone tools and their distributions, and very little else. The Lenape adapted their lives in a number of ways in order to gain access to European produced goods, but none of these adaptations created any immediate significant changes in the lives of most of these people. Their adaptations were less significant to daily life than the changes being made by many individuals entering the job markets in 21st century America.

Interesting changes made by the Lenape are parallel to processes used today to enter into the modern economy. First, the Lenape *modified* their technology—doing what they had always done but now doing it more extensively (gardening larger plots of maize). The Lenape also *moved* to where the "jobs" were. That is, during these decades of cash cropping corn several of the traditional Lenape bands aggregated, during the "fishing" season, in an area more suitable to the production of large quantities of maize. Thus by making relatively simple adjustments the Lenape could satisfy their felt needs for European products through maize production and sale. Of interest would be further research with the Ciconicin (Becker Ms. A), a low level chiefdom living along the Delaware Bay to the south of Lenape territory. These people appear to have had a central village, in the Lewes area, and used maize as a significant element in their diet. Their relationships with Dutch and other settlers after 1629, when we have the first recorded purchase of Ciconicin lands by Europeans, may be revealing of a completely different cultural pattern that appears to have led to a relatively rapid cultural convergence. By 1700 the Ciconicin are nearly indistinguishable from the back woods colonists in what was to become the state of Delaware.

Conclusions

Lenape lifestyle and settlement pattern remained unchanged during and after these two decades of cash cropping maize. Traditional Lenape shelters (wigwams) continued in use, and winter hunting followed summer fishing in a pattern unaltered by their trade with Europeans. Maize production was intensified not in order to increase their own food resources, but to provide access to desired luxury goods. The relative clustering of a few Lenape summer settlements, so critical to the Swedish colonists, gener-

ated no significant alterations in native lifestyle during or after this interlude. That this 20 year long shift in food production (but not food storage) had no “enduring consequences for Lenape social or political structure” (J. F. Eder, personal communication) is demonstrated by the complete absence of such activities over the next 200 years of Lenape culture history.

Although fall banquetting may have been merrier and desired trade goods easier to come by during those years, Lenape socio-political organization and foraging patterns remained unchanged for more than 250 years after European contact. The Lenape continued to maintain their traditional lifestyle and language despite relocations which took them over a circuitous route throughout the heartland of the American continent.

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