VII. INTERPRETATIONS

A. THE HISTORY OF THE FARM

The excavation of the Appoquinimink North Site uncovered the remains of the McKean/Cochran Farm, which was occupied between 1750 and 1830. The first occupants of the farm were probably tenants of Veronica Birmingham, an heiress who seems to have lived at her husband's home in Middletown. It is possible, however, that she lived at the farm herself for at least a few years. The property then descended to her grandchildren Thomas and Letitia McKean, and it was certainly leased while they were children. A tax record from 1797 indicates that the farm was still leased to tenants at that time, but by 1810 Letitia McKean Clark, a widow, was residing at the farm with her two children and a single slave. After her death in 1814, the farm was sold to Robert Cochran. Both the McKeans and the Cochrans were well-to-do families with Scots-Irish roots.

During the excavation of the site, more than 38,000 artifacts were recovered, and the remains of farm buildings from two periods were discovered and excavated. These finds allow us to reconstruct the history of the farm and relate that history to broader changes taking place in the culture and economy of Delaware, the Middle Atlantic region, and the British-American world in general.

The reconstruction of the physical layout of a farm depends on many techniques. Several of the buildings on the McKean/Cochran Farm left foundations in the ground for the excavators to find and measure, but other buildings left no easily recognizable traces. For example, neither the smokehouse listed in the 1797 tax return nor the log stable referred to in the 1816 tax return was found. Eighteenth- and nineteenth-century builders constructed many different kinds of foundations. Some buildings were erected on deep-set, easily recognizable stone or brick foundations, but this was by no means the most common technique. Some buildings were framed around posts set in the ground, like modern pole barns. The holes that were dug to hold these posts usually survive, so these "earthfast" buildings are also easy for archaeologists to recognize. Other construction techniques left little for archaeologists to find. Log buildings, in particular, were often set on very thin brick foundations, no more than a course or two deep, that have usually been destroyed by the plow. The Cochrans' log stable was probably built this way, which explains why no foundations were found. Another common technique was the use of brick piers, small foundations 2 to 4 feet square placed beneath the corners and other vital points of the structure. Such foundations, which can still be seen on older farms all over the Middle Atlantic region and the South, left the building largely open underneath, providing a crawl space sometimes used for the storage of tools and other items. These piers were usually only dug one or two courses into the ground, and sometimes they were built right on the surface, so they have also usually been destroyed by the plow. The McKean/Cochran Farm is actually unusual for an eighteenth-century farm, not in the number of buildings that have been obliterated, but in the number that have left clear traces for the archaeologist. At the William Strickland Plantation in Kent County, which dated to the middle of the eighteenth century, the only structure to leave clear foundations was a small smokehouse (Catts et al. 1995). The main house and

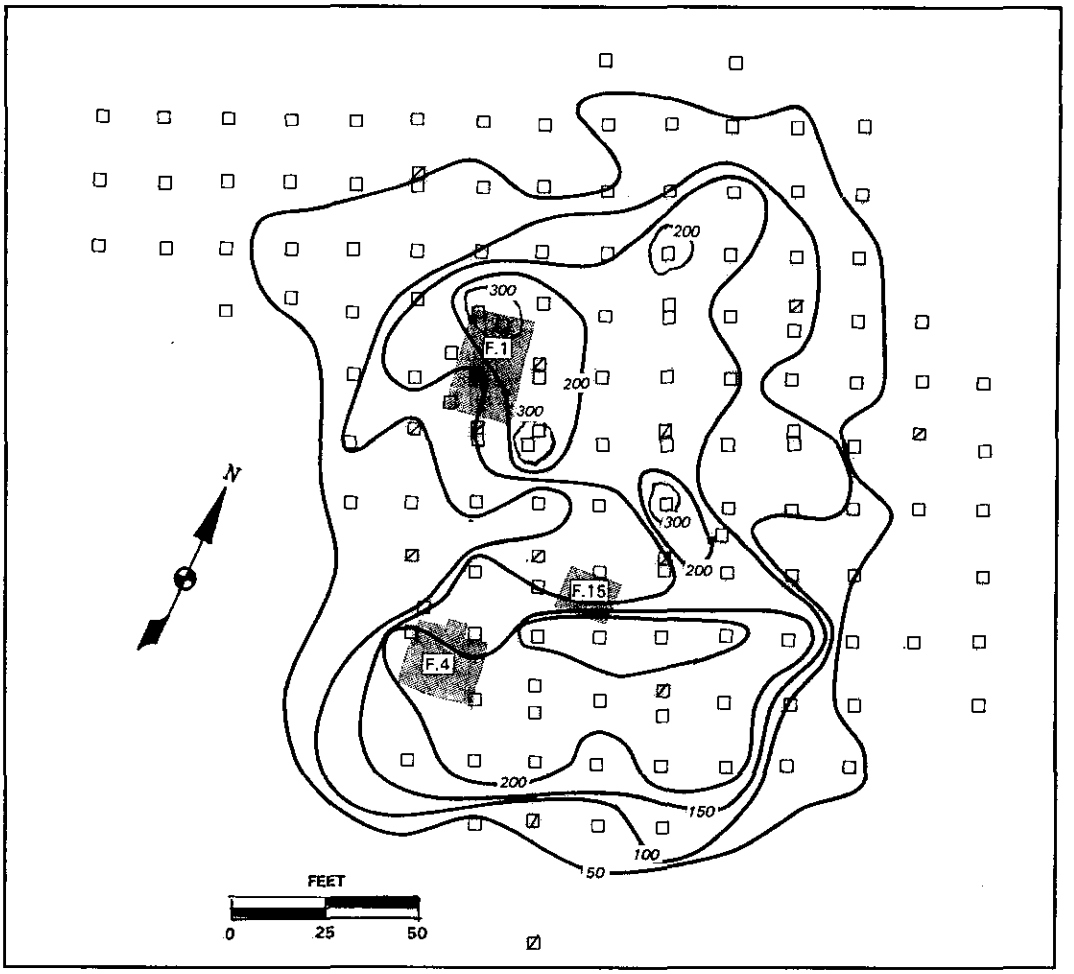

FIGURE 28: Distribution of Brick Fragments in the Plowzone

all the other outbuildings had to be reconstructed from partial cellars and partially preserved posthole patterns (Catts et al. 1995).

Two techniques allow us to at least guess at the locations of structures erected on flimsy foundations that have not survived. One is mapping the distribution of architectural remains, especially brick bits, in the plowzone, and the other is the mapping of fence lines. If a brick pier or shallow brick foundation was plowed up and destroyed, many pieces of brick would become incorporated into the plowzone nearby, and the location of the structure should be identifiable from the counts of brick bits in the plowzone test units. The correlation is not simple, because many factors can influence the brick distribution. If the bricks were made on the site, as they often were in the eighteenth century, the sites of the brick kilns would yield very high totals. Bricks could also be stockpiled, and a large brick pile that was forgotten and had decayed might be misinterpreted as a foundation. On the other hand, if the bricks from a structure were reused, there might not be enough brick pieces left for the structure to be detected. Still, this technique has some merit, especially when archaeologists have little else to go on. Figure 28 shows the distribution of brick bits from the plowzone of the McKean/Cochran Farm. (Brick from Phase II test units was not counted, so they are not included

in the diagram.) Some of the peaks in the distribution are easily explainable in terms of the known buildings. For example, 357 fragments were recovered from a unit at the north end of Feature 1, near the chimney of the later house. However, other brick concentrations are not obviously related to the surviving foundations. One peak is visible 30 feet northeast of the later house, and another is visible 40 feet to the southeast. The highest totals on the site were actually recorded from units just south and east of the dairy, Feature 15, a structure that incorporated very little brick. We have interpreted these concentrations as evidence of structures that are now missing, as explained below.

The technique of identifying buildings by mapping fence lines is even easier to understand: people rarely build fences through standing buildings. Fence posts were generally set deep enough into the ground to survive plowing, so fences can often be followed archaeologically. A fence that ends mysteriously may have run up against a now obliterated building, or, more realistically, its builders may have started work next to the building. If the fence begins again 30 feet away, the building was probably 30 feet wide. Many fences were identified at the McKean/Cochran Farm, but only one could be followed for an extended stretch in a regular way (Fence A), and that fence was probably not built until after the farm had been abandoned. The others resembled pieces of fences. The gaps in these fences may represent standing buildings, and some of them have been interpreted in this way.

1. The Early Farm

The archaeological evidence shows that the McKean/Cochran Farm was first occupied some time around 1750. The earliest deposits included white salt-glazed stoneware, which was introduced around 1720 and was very common in the 1740s and 1750s, but very little creamware, introduced in 1762. At that time the property belonged to Veronica Birmingham, who probably lived with her husband at Middletown, and the farm was most likely leased to tenants. A tax record from 1797 provides a thumbnail sketch of the farm, which included a house, barn, crib, kitchen, and smokehouse. The investigators at first thought it odd that a tenant farm would have such a rich assortment of outbuildings, since there would be little incentive for tenants to invest in improvements on property they did not own. However, a perusal of the detailed 1797 tax records for Newcastle County reveals several other well-appointed tenant farms, so the McKean/Cochran was not particularly unusual.

The first house on the site was small. Its cellar, Feature 4, measured about 18 by 15 feet. Partial cellars were common in the eighteenth century, but it seems unlikely that the McKean house was ever larger than its cellar. The house was located on a moderately steep slope leading down to the river south of the site, so it probably did not extend any further in the north-south direction. A well was located only 7 feet to the east. As the area west of the house had been destroyed by erosion, it is possible that the house once extended further to the west, but there is no evidence of this. In Figure 29, a reconstruction of what the farm may have looked like in its early stage, the house is shown as measuring 18 by 15 feet. A house of this size probably had only one room on the main floor. Such one-room houses were the most common type in the Chesapeake area in the eighteenth century, and probably in Delaware as well (Carson 1974; Herman 1987:15).

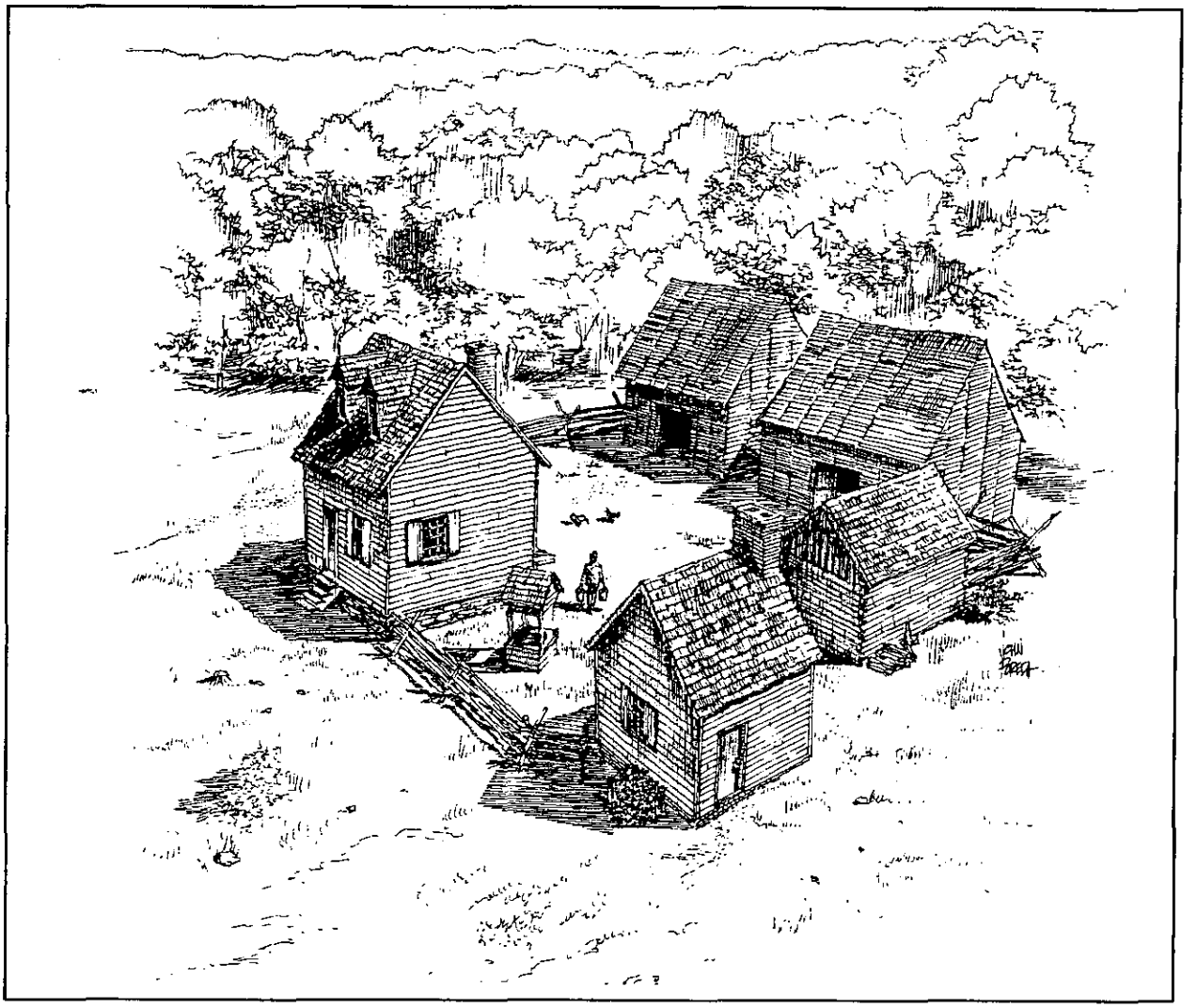

FIGURE 29: Reconstruction of Farm, circa 1797, Showing House (Feature 4), Well (Feature 29), Barns (Structures A and B), Kitchen Listed in 1797 Tax Return, and Shed (Conjectural)

The typical dimensions of such a house were 16 to 20 feet square, roughly the size of the McKean house. A single chimney, revealed in the plowzone brick distribution, provided warmth. The reconstruction shows the house with dormer windows on a garret floor. Houses with only a crude loft were also common, but since the McKean house was built with a full cellar, we have assumed that it was fully extended in the vertical dimension. The upstairs may have also been a single room, but it was probably divided into three smaller chambers like that of the Dilworth House, a single-room house built near Port Penn in 1714 (Herman 1987:17). The cellar was entered from outside, through a bulkhead, and there were probably no interior stairs to the cellar.

The only other structures from the early period for which direct evidence survived were the two earthfast barns, Structures A and B. The appearance of these structures is based on the reconstructed tobacco barns at St. Mary's City, Maryland. Earthfast construction, the use of wooden posts set directly in the ground as foundations for a barn or house, was very common in medieval

England. However, by 1600 it had largely been abandoned, because the main timbers were often attacked by termites, and they tended to rot quickly in any case; wood was simply too expensive in the Old World to be wasted in this way. In fact, until archaeologists in North America began uncovering earthfast buildings on seventeenth-century sites, most English architectural historians thought the technique had completely died out by about 1500 (Carson et al. 1981). In the seventeenth-century Chesapeake, where wood was practically free and labor could be more profitably used growing tobacco than building permanent houses, earthfast building had a great resurgence. Most buildings of all kinds constructed in the region before 1725 were probably of this type (Carson et al. 1981; Kelso 1984; Outlaw 1990). Earthfast building was less common in New England and rare in Pennsylvania. The Swedish and German immigrants who helped populate the Pennsylvania region had their own tradition of easy-to-erect wooden buildings, using rough-hewn logs. In the long run, it was the Continental traditional of building with logs that won over most Americans, giving us the log cabin tradition of the American frontier. The earthfast building tradition nearly died out again in the nineteenth century, only to be revived by the invention of creosote and other wood preservatives in the twentieth century.

The McKeans' tenants chose to build their barns in the Chesapeake style, and they followed the English barn tradition in their form as well. The barns were rectangular, built on a level site, and their entrances were almost certainly in the long sides, facing the house. Such barns could be used for both sheltering animals and storing hay and grain. However, the 1797 tax return specifies that the farm included a separate "crib." The word is ambiguous, and could refer to a small storage structure, a large, barn-like building, or a shed attached to a barn (Herman 1987:205; Sloane 1950). In the reconstruction, the crib has been interpreted as one of the earthfast barns.

Postholes around the early well, located just 7 feet east of the house, show that it was covered with some form of structure. The other buildings shown in Figure 29 are not based on direct archaeological data. A kitchen is indicated in the 1797 tax record, but no foundations of such a structure were found. The kitchen is shown in Figure 29 east of the well, near a concentration of brick pieces in the plowzone. Numerous brick pieces were also found nearby, in a small pit (Feature 34). The count of brick pieces seems too high for just a few piers, so it is likely that a chimney once stood in the near vicinity. A shed is shown nearby. The smokehouse probably also stood in this vicinity, but it is not shown in the reconstruction. No fence lines dating to the early period were found, so the fences are shown as worm fences, which leave no trace below the ground. A critic might argue that showing these hypothetical buildings in the reconstruction is unscientific and misleading, and that Figure 29 shows more of the archaeologists' imagination than the site in the eighteenth century. But the tax record indicates clearly that a kitchen and other buildings stood somewhere on the property, and if they were not exactly where and exactly like those depicted, they were not far away and were something like them. Crude sheds were also very common, and it seems highly likely that the farm possessed at least one. Herman (1987:61) calculated that the average New Castle County farm in the 1760 to 1820 period had six to seven outbuildings. To reconstruct the farm without additional buildings would therefore be more misleading. Figure 29 at least has some chance of being an accurate reconstruction, while an illustration that shows only buildings for which foundations survive has no chance of being correct.

2. *The Later Farm*

The early house and farm buildings at the McKean/Cochran Farm were fairly soon abandoned in favor of an entirely new set of structures. The move to the new buildings can be roughly dated by the artifacts recovered from the early house and well. No nineteenth-century artifacts were found in these deposits. The new buildings were probably built, and the old ones abandoned, before 1810. Figure 30 is a reconstruction of how the farm might have looked in the later stage. The rebuilding of the farm may coincide with a change from tenant to owner occupancy, which took place some time between 1797 and 1810. However, the rebuilding of the farm need not correspond to any particular event in the ownership history, since the years around 1800 saw a major rebuilding of houses and farm buildings all over the eastern United States (Chappell 1994; De Cunzo et al. 1992:41).

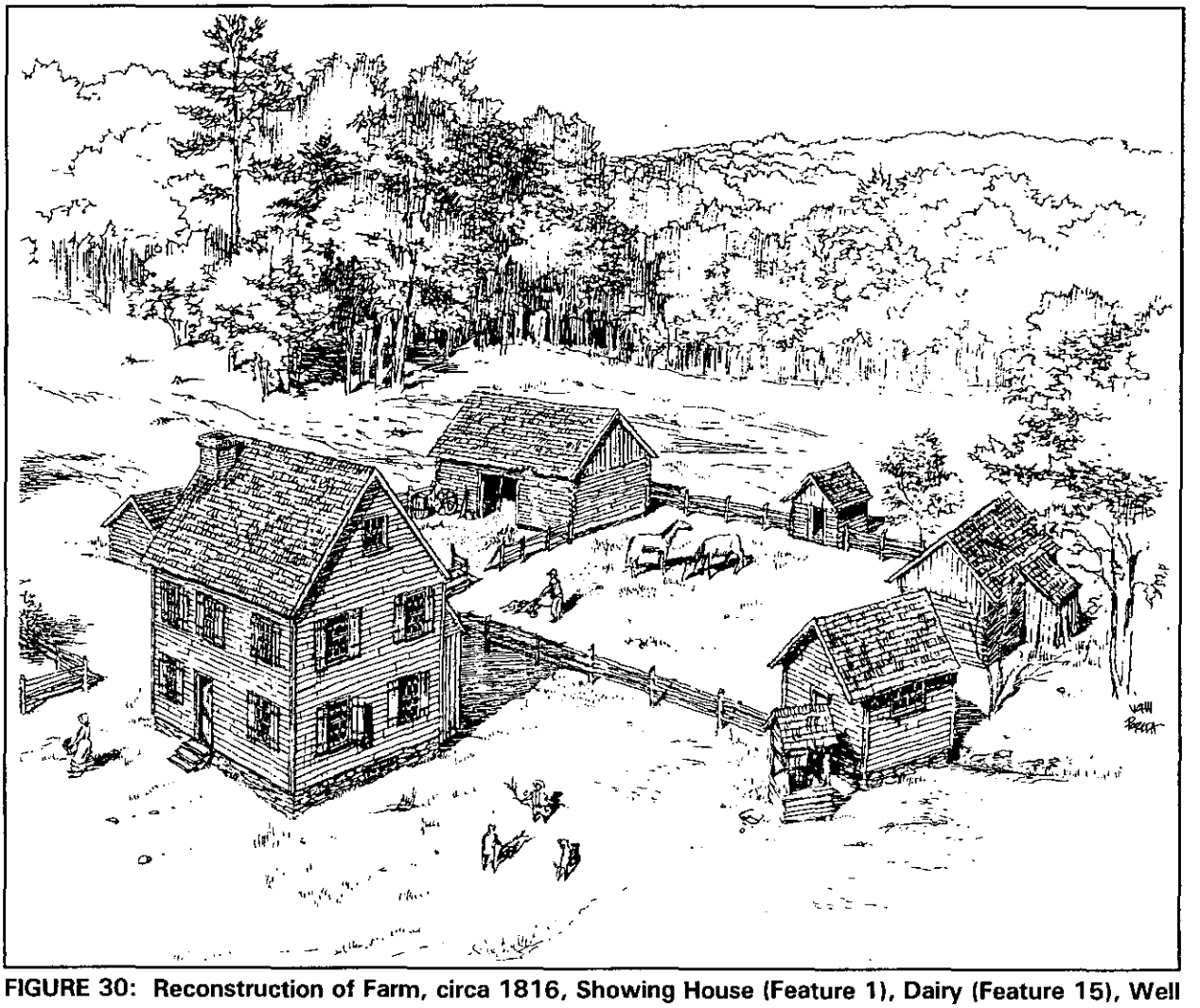

FIGURE 30: Reconstruction of Farm, circa 1816, Showing House (Feature 1), Dairy (Feature 15), Well (Feature 27), Log Stable Listed in 1816 Tax Return, and Sheds (Conjectural)

None of the buildings known to have been used during the early history of the site was used during the later period. The farm also moved slightly north, onto a more level area. The old house, at least, seems to have been abandoned fairly soon after the new structures were built, perhaps before. Most of the stones in the foundation were robbed for use in some new building project. The cellar was partially filled in with clay that must have been excavated from somewhere else on the farm, probably from the new cellar or well. The burned steps show that the early house burned, but the lack of artifacts in the very bottom of the cellar seems to show that it had been abandoned before it burned. It may even have been burned intentionally to make the recovery of foundation stones and nails easier.

PLATE 28: Balanced, Traditional House (Mount Jones, Odessa, built about 1750)

The new house measured 18 by 26 feet, 70 percent larger than the first house but still not large. In his work on tenant houses in central Delaware, Bernard Herman (1987) discovered that 450 square feet was a good dividing line between small houses, most of which were occupied by tenants, and large houses, most of which were occupied by owners. The McKean/Cochran house measured 468 square feet. Like the first house on the site, it was constructed on stone foundations and had a full basement. It faced west, not south toward the river like the first house. A westward orientation was not the first choice of colonial builders, who generally liked their front door to open east or south. The McKeans must have had some reason for choosing a westward orientation, and the most likely one is that they faced their door toward a lane that ran across their farm from Middletown Road to

the river. Attached to the rear of the house was a narrow cellar that was provided with a well-drained sand and oyster shell floor and was probably used for storing root vegetables. There is no evidence of what was above this cellar, but it has been reconstructed as a single-story shed. Some time later, a set of bulkhead steps was built across the storage cellar, providing access to the cellar from the outside for the first time. (Other examples of bulkheads added to eighteenth-century houses built without outside cellar access are known [Carson 1994:560].)

PLATE 29: Symmetrical Georgian House (Wilson-Warner House, Odessa, built 1757)

The cellar of the house was divided into two rooms, one of them 1 foot 8 inches deeper than the other. If the first floor of the house matched the cellar, it also had two rooms, which would make it what architectural historians call a "hall and parlor" plan. The facade of such a house was asymmetrical, as Figure 30 shows, since a door in the center of the facade would have opened onto the wall between the two rooms. There is no inherent reason why the cellar floor plan should be reflected in the upper floors, but the two-room, hall and parlor plan was one of the oldest and most common European forms, and the house was probably built in this way (Plate 28). The question is important, because in the period from 1760 to 1820 the traditional hall and parlor plan was gradually being replaced by new designs with a central passage and a symmetrical facade, and some historians see this change as a reflection of a major shift in European and American culture (Deetz 1977; Glassie 1976, 1982). The new symmetrical designs, often called Georgian, were based on Renaissance and ultimately classical notions of geometric proportion (Plate 29). The replacement

of traditional forms, which carpenters had learned from other carpenters for centuries, with new forms derived from academic concepts of beauty, seems to some people to reflect the demise of traditional, folk culture and its replacement by our modern culture of mass consumption. At least in terms of their houses, the McKeans seem not to have entered that world. In the new house, only one room, the hall, had a hearth. Builders in the Georgian tradition almost always used chimneys in matched pairs, both to heat the larger houses and to preserve the symmetry. Along with the two-room cellar, the absence of a chimney on the south end of the house argues strongly that it was a traditional hall and parlor design.

The rest of the later farm appears to have been arrayed behind the house in a courtyard plan. The courtyard plan had been in use in all parts of Europe, and it was one of the most common farm plans in the Middle Atlantic region (Glassie 1972). Although most of the numerous fence posts are difficult to resolve into fence lines, they clearly surround an area behind the house measuring about 80 by 100 feet. Experience with other farms organized on the courtyard plan suggests that the concentration of household activity in the work yard would have led to the loss of many objects there, so plowzone test units excavated in the courtyard area should contain relatively high densities of artifacts (Bedell and Luccketti 1988; De Cunzo et al. 1992; Grettler et al. 1995:81). Figure 23 (see Chapter V) shows that this was true at the McKean/Cochran Farm for both the early and late periods. The numerous gaps in the fences around this courtyard suggest that it was largely ringed by outbuildings. A large gap in the northeast corner of the yard is interpreted in Figure 30 as the location of the log stable mentioned in the 1816 tax return, with log and frame sheds around the other sides. No kitchen was mentioned in the 1816 tax return, so none is shown, although it is possible that one was present but did not seem to the assessor to be worth mentioning. If so, a likely place for the kitchen would have been immediately behind the house, where high brick concentrations were noted in some test units.

Both Letitia McKean and Robert Cochran owned slaves. In 1810 Letitia McKean owned at least one. Robert Cochran's 1816 tax return lists three, a lame man named Moses and two women named Hannah and Susan, and in his 1843 will he freed all of them. Neither documentary research nor excavation has provided information on where these slaves lived. Research on slavery in the border states, including Maryland and Delaware, has shown that on farms with small numbers of slaves, the slaves sometimes lived in a separate "quarter" and sometimes lived in the main house or even the barn (Fields 1985). No slave residence is shown in Figure 30, but one may have stood somewhere on the farm. In Chapter IV we noted that the dairy seems to have remained in use after the rest of the farm had been abandoned, and it is possible that it served as a slave residence. The dairy artifacts came from washed-in soil resembling the plowzone, and they include several objects from early in the history of the site. This mixed assemblage of mostly very fragmentary items cannot tell us much about the site's last occupants. However, the later artifacts from the dairy include a range of decorated ceramic plates and teawares, datable to after 1820, that are not noticeably poorer in quality than those from earlier in the site's history. Animal bones from the dairy include good cuts of both pork and beef, also not poorer than the collection from the earlier features.

B. CULTURE AND ENVIRONMENT

One of the most compelling questions about the history of eighteenth-century Delaware concerns the relationship between culture and environment in the American colonies. To what extent did European colonists in America retain the culture of their homelands, and to what extent did they change their ways to adapt to the new environments in which they found themselves? The question is one of the oldest in American history, and the debate that began over the issue more than a hundred years ago continues today (Bailyn 1986; Carson 1994; Fischer 1989; Greene 1988). A related question concerns the relationships between the cultures of the various European and African immigrant groups: to what extent did they maintain their distinctiveness, and how much did each contribute to the developing American culture?

Southern New Castle County makes a particularly interesting place to study these questions of cultural history. The region is topographically very much like the Chesapeake tidewater region of Maryland and Virginia, but culturally it was much closer to Pennsylvania (Glassie 1968). The relationship between cultural continuity and environmental adaptation should, therefore, stand out starkly. (The part of Maryland from which the Cochran family had recently come, the Susquehanna Valley, also belonged to the Pennsylvania or Delaware Valley cultural region.) The Delaware Valley cultural region as a whole also had more diverse European roots than the Chesapeake or New England regions. The population included large numbers of Germans, Scotch-Irish, and English Quakers, as well as smaller groups of Swedes, Dutch, and Moravians. Although at first these groups tended to keep their own, separate traditions, by 1750 they had begun to borrow from one another and to create a distinctive regional culture which took elements from several different immigrant traditions.

The obvious starting point for the discussion of the cultural and environmental history of the McKean/Cochran Farm is the dairy. The dairy, a springhouse in a land without springs, is a stunning example of a traditional technology maintained in an environment for which it was completely unsuited. Although the springhouse was a traditional part of many northern European cultures, including Scotch and German, its use in Pennsylvania and Maryland was particularly associated with German immigrants. Pennsylvania German farmers regarded the springhouse as one of the practical and symbolic hearts of the farm, and the presence of a suitable spring or stream was one

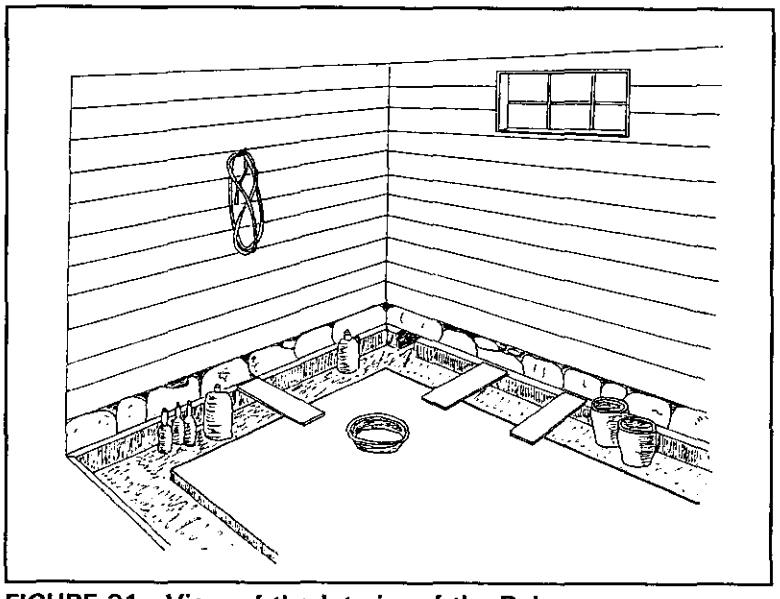

FIGURE 31: View of the Interior of the Dairy

of the main criteria they considered in choosing a site for their houses. They used springhouses for many purposes, not only for cooling milk, but for preserving fresh fruits and vegetables and for storing preserved foods such as vinegar and cider (Figure 31). The springhouse also protected the water supply of the farm from contamination, and the spring was also usually deepened inside the house to help preserve its flow in dry times. The amount of care invested in constructing springhouses was proportional to their importance. They were usually stone and were often massively built, with very thick walls and deep-set foundations. Sometimes they were also quite large, as large as a small cottage. Some of these structures were built so strongly that many stories are told in Pennsylvania, most untrue, about springhouses used as forts during Indian attacks. The result of this overbuilding is that one often sees old farms in Pennsylvania and Maryland on which the springhouse is the only surviving outbuilding (Long 1972:107-121).

The McKean/Cochran dairy was very much in this tradition. The site of the dairy was dug out about 3 feet into the ground, and the bottom filled with a foot of clay, probably to make the floor waterproof. The foundations were stone, and for the size of the structure, massive. (They were thicker than the foundations of the first house on the site.) A brick and plaster sill was installed all the way around the interior walls, and this sill was kept in repair. A drain to carry away the excess water was dug and lined with wood. The result of all this effort, however, was a structure completely unsuited to its location, because it had no spring. The water to fill the cooling channel had to be hauled up out of the adjacent well one bucket at a time. Proof that the dairy was used in this way is provided by the sand that eventually clogged the channels, which came up from the well with the water. The system must have worked to some degree, since the dairy was maintained for so long. The water from the well would have been cool, and the water channel was set 2 feet into the ground and shadowed by the thick stone walls. This system may have been enough to keep the milk cool for the 36 hours needed for the cream to separate, at least for most of the year, although it seems unlikely that it would have functioned in the heat of the summer.

Long before the McKean/Cochran dairy was built, English immigrants to the Chesapeake had already developed a dairying system that worked quite well in the tidewater environment. They simply dug holes in the ground and carried or lowered the milk into them to cool. In some dairy buildings the hole was only 3 feet deep, and would probably not have functioned well during the heat of the Chesapeake summer (Linebaugh 1994; Pogue 1990). However, storage pits up to 12 feet deep have been found on some sites (Bedell and Luccketti 1988). These pits are sometimes called ice houses by the archaeologists who discover them, but they were not necessarily used to hold ice and may have functioned as coolers. At Littletown Plantation, on the James River, the builders of a brick-lined well installed a cooling chamber off one side of the well about 12 feet below the surface (Kelso 1984:155). The builders of the McKean/Cochran dairy either did not know this technology or rejected it in favor of something more familiar.

Yet the builders of the dairy were not immigrants fresh off the ship from the German palatinate, nor were they Pennsylvania Dutch farmers isolated from English culture. The building of the dairy cannot be precisely dated, but its builders, whether McKeans or Cochrans, were well-to-do, well-connected, American-born farmers of Scots-Irish background. Their notions of what a dairy should

look like derived, not from memories of the old country, but from the developing culture of the Pennsylvania region. Another constituent of that regional culture was the bank barn or Sweitzer barn. The bank barn was derived from south German and Swiss prototypes, but by 1800 it had developed a distinctive American form (Long 1972; Noble 1984; Sloane 1950). These barns had two levels, a lower level for the animals to live in and an upper level for hay storage, and they were built into a slope. The sloping location allowed the farmer to drive a cart directly into the upstairs portion, and because the lower level was partially buried, it was warmer for the cows in winter and cooler in summer. These barns were also usually much larger than barns built in the English tradition, and visitors to eighteenth-century Pennsylvania often commented that the German farmers showed off their wealth by building bigger barns rather than bigger houses. One of the more interesting sights in the flat areas of Delaware and eastern Maryland is a large bank barn built on a completely level site, with a massive earthen ramp leading up to the second level (Plate 30) (Herman 1987:207-220). Several examples in southern New Castle County have been carefully documented by the Center for Historic Architecture and Design at the University of Delaware (HABS DE Nos. 217, 220, 227). At Retirement, a mid-nineteenth-century Cochran farm on the same property as Site 7NC-F-13, a Pennsylvania-style bank barn stood until only a few years ago, testimony to the builders' cultural associations.

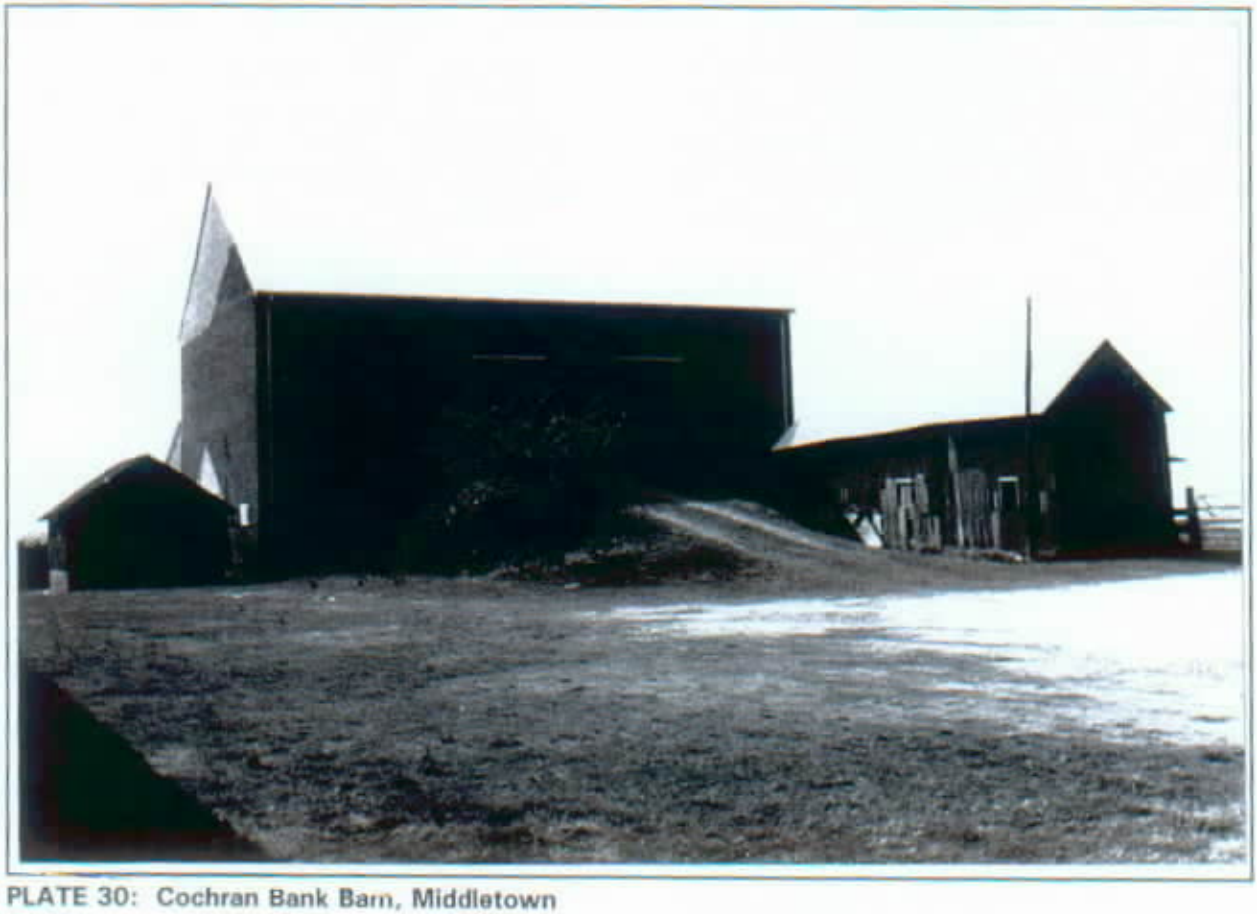

PLATE 30: Cochran Bank Barn, Middletown

These barns represent the same mismatch of form and environment as the McKean/Cochran dairy. In both cases a building form, originally from Germany, was taken up by the Pennsylvania regional culture and then used by people of British background in an area for which it was not at all suited. A bank barn was a much-admired design in the nineteenth century, and its use in flat country was not absurd in the same way as a springhouse with no spring. Bank barns were promoted by agricultural reformers who advocated the use of "scientific" agricultural techniques to reclaim Delaware's exhausted soils, and they were built from 1809, the date of the earliest standing example, until at least 1880. The design did have some real advantages. Yet these barns were not as "scientific" as their advocates claimed, and there is no evidence that the large amount of labor needed to build the ramp was ever repaid by the convenience of the design. The form was never widely adopted in either the South or the Midwest, and in Delaware it began to fall out of favor after the Civil War. The bank barn fashion in Delaware shows that although the agricultural reformers of the early nineteenth century did have some genuinely improved techniques, such as liming and fertilizing with guano, they were also advocating a cultural model of the "efficient" farm based primarily on the German farms of Pennsylvania. Indeed, some of their books devoted as much attention to moral improvement as to farming technique (Adams 1990; Herman 1994). The building of bank barns in flat areas shows again that the people of the region preferred to impose their culture on the landscape rather than adapt to their surroundings.

Other features of the McKean/Cochran Farm can also be related, although with less certainty than the dairy, to these cultural developments. The first barns on the site, Structures A and B, were earthfast post structures of a kind that originated in England and flourished in the Chesapeake region. At least one of the later barns, and probably more, were built of logs, a technique with Continental antecedents that flourished in Pennsylvania and on the Appalachian frontier. The McKeans did not, however, adopt the bank barn form, and the Cochrans did not do so until after they abandoned the McKean/Cochran Farm. Another and even more fundamental change, at least within the Cochran family, was in the labor supply used on the farm. In 1800 John Cochran had owned 13 slaves. At his death in 1843 Robert Cochran freed most of his remaining slaves, and the census records show that he also employed white servants. By turning away from slave labor toward free labor, the Cochrans were again turning away from the Chesapeake model toward the Pennsylvania or Middle Atlantic way of doing things.

C. ARCHITECTURE, LANDSCAPE, AND MODERNIZATION

In the eighteenth century, leading thinkers in England and America decided that the traditional European ways of building houses and laying out farms were disorderly, irrational, unattractive, and generally unsuitable for the new, enlightened age. A traditional English house had only one or two rooms on the first floor, and all kinds of activities took place in these rooms: sleeping, eating, cooking, entertaining, and business. The furniture in these rooms reflected their diverse functions, and we find accounts of rooms that contained two or three beds, a table for eating, chairs, a spinning wheel, cooking equipment, and chests full of clothing and dishes. The outside doors opened directly into the main room, with no entryway for formal greeting or wiping muddy boots. Even the houses of kings were built in this unspecialized way; at Louis XIV's Versailles, for example, important

business was often conducted in the king's bedroom. The other buildings on a traditional farm were arranged very roughly in one of several patterns, of which one of the most common, and the one that seems to have been used at the McKean/Cochran Farm, was the courtyard plan. On such a farm, the barns, sheds, and other outbuildings were arranged around a courtyard behind the house, but not in any uniform way; for example, the buildings might be oriented in a variety of different directions, and sometimes buildings were put right in the middle of the court.

Beginning in Renaissance Italy, architects began to reject this medieval disorder in favor of regular, structured, symmetrical plans influenced by Greek and Roman buildings. This movement, usually called Georgian in England and America, began with the houses and gardens of the great aristocrats and slowly spread to the upper and middle classes. The new, Renaissance standards for houses required that rooms be provided for each common activity in the house, so that a house would have separate living, dining, and bedrooms, and a separate kitchen. Sometimes a separate office was provided for business. Entrance was into a hallway, which provided a sort of buffer between the domestic space within the walls and the world outside. The building's face had to be symmetrical, with the windows arrayed around a central door in proportions copied from classical models. This facade presented the world with an image of order and control suitable for a great family in the Age of Reason. The yard was shaped into a setting for the house, with approaches designed to impress visitors with the grandeur, or at least the respectability, of the owners. Formal courts were created in front of some houses by using matching pairs of smaller buildings on either side of the entrance. Activities that created a mess or caused unpleasant odors, such as butchering, were moved away from the house, as were untidy creatures, such as pigs, and field workers. The famous American houses of this type include Thomas Jefferson's Monticello and George Washington's Mount Vernon, which both served as stages where great men of the new age could act out their lives in suitably grand and rationally apportioned settings. The fashion was not only for the grand, however. Hundreds of less wealthy people also built houses in the new style, and it was widely proclaimed as a model for all to follow (Herman 1987).

In both its architecture and its layout, the McKean/Cochran Farm was a traditional place. The first house was of a traditional one-room design, the most common type in eighteenth-century America. The second house appears to have been of a traditional two-room hall and parlor design. It was certainly not a fashionable Georgian house, since it had only one chimney and would therefore have presented an asymmetrical facade, unpleasing to the classically trained eye. Nor was it particularly large; some tenants in Delaware lived in larger places, and some wealthy farmers had houses more than twice as big. The house was well built, with a full basement and strong stone foundations, much more permanent than the houses of William Strickland and John Powell from earlier in the century. It also had many windows, and it was probably reasonably comfortable to live in. But by the standards of enlightened taste, it was hopelessly out of date before it had even been finished.

It is worth pausing at this point to reflect on the economic and social background of the McKean household. Letitia McKean Clark was a wealthy woman, raised in an environment of affluence and social grace. One of her uncles, Thomas McKean, was the governor of Pennsylvania, and her cousin Sally had married into the Spanish nobility. Her estate papers show that she owned a marvelous

wardrobe of clothes. Her first husband was a prominent Presbyterian minister with estates of his own and a pair of fine horses to pull his carriage. Little is known about her second husband, but he is unlikely to have been poor. At the time when she and her husband were building their new house, more and more wealthy Americans were indulging in the construction of grand houses that gave physical embodiment to their social aspirations. One historian has recently commented that "Delaware eighteenth-century rural society divided itself between people who lived in five-bay, two-story brick houses and those who could not" (Heite 1997). The McKean/Cochran house shows that while the grand, symmetrical, Georgian brick house may have been established as the ideal for wealthy people by 1800, construction of houses in this style was by no means universal in practice. Letitia McKean, who had attended balls in Philadelphia with the American elite and the European nobility, did not feel that she needed such a house for her country residence. Similarly, Robert Cochran, a wealthy man from a wealthy and prominent family, lived in the McKean house after he purchased the farm in 1814. He and his sons later built grander houses, but he had been satisfied with the 18-by-26-foot frame house he had purchased for at least his first decade on the Appoquinimink. A grand house was still not seen as a necessity for a wealthy family, and other factors could override the increasing social pressure to build or buy one (Chappell 1994; King and Miller 1984). Any desire Letitia McKean may have had for a large, impressive house was probably lessened by the strong connections she kept up with her relatives in Pennsylvania and New Jersey, where, her estate papers show, she maintained a separate household. If she never thought of the farm on the Appoquinimink as truly her home, she may not have felt any need to invest heavily in a stylish house there. In the case of Robert Cochran, it was probably economic considerations that limited his ambitions, and the construction of a large, new house had to wait until he had invested sufficient time and capital in his new farm.

The layout of the farm also appears to have been traditional. It probably followed the courtyard plan in both periods. In neither period, however, was the arrangement perfect or symmetrical. Structures A and B, the barns of the early period, did not align exactly with Feature 4, the house. The dairy, Feature 15, was more than 5 degrees out of line with Feature 1, the second house, and none of the fences exactly aligned with either building. The farming practices of the residents also seem to have been rather traditional, although the large number of milk pans found on the site suggests that the residents may have run a commercial dairy. The barns on the site were in the old style, and the Cochrans did not build a new-style bank barn until after they moved from the site. Certainly the nineteenth-century residents did not employ contour farming, a technique promoted by George Washington and other agricultural reformers; the plow scars across the site run straight up and down the slope, and as a result, two to three feet of soil seems to have eroded away. Neither scientific agriculture nor Renaissance architecture had reached this spot on the banks of the Appoquinimink River.

D. MATERIAL THINGS AND CULTURAL CHANGES

Scholars who study objects from the past, whether dug out of the ground or preserved in museum collections, often speak of their field as "material culture." The material culture of a farm, such as the McKean/Cochran Site, includes things made on the farm as well as those bought by the residents.

However, the things eighteenth-century farmers could fashion for themselves were mostly made of wood or other perishable materials. Most of the things that endure are made of ceramic, glass, or metal, which ordinary farmers could not make. For the most part, the objects that historical archaeologists dig up are things that people bought, and many of these were made in factories in England. Nevertheless, they can tell us a great deal about the people who bought them.

When historians and sociologists want to describe modern society, and distinguish it from the society of other times, they often point to the importance of consumption. We are consumers, defined to a great extent by what we buy. We think we can identify the different groups in our society by the things they have bought, whether we are discussing economic groups such as the rich, the poor, and the middle class, or cultural groups such as punk rockers, preppies, Dead Heads, gang toughs, and the horsey set. Consider these three lists of possessions:

1. *Condominium, BMW, laptop computer, skis, coffee press;*

2. *Mobile home, used Ford pickup, shotgun, denim jacket with fleece collar;*

3. *Volkswagen microbus, Peruvian wool sweater, beads, box full of bootleg tapes.*

We look at these lists of objects and believe we know a great deal about the people who own them. We may recognize in principle that the distinctions suggested by the lists fit certain stereotypes, and that all people are in fact different, but we still form notions about others based on the things they own and are surprised when the equation falls through. In our world, the things people own are related to social factors such as their class, their level of education, and the kind of work they do, as well as to whether they are young or old, male or female. But our possessions may be related to our notions of beauty, our feelings about new technology, our conceptions of order and harmony, and our understanding of our society and our place in it; in short, to our personal philosophies and values (Ferguson 1977; Meltzer 1981).

Historians spend much of their time considering the past and the ways in which it was like, and unlike, the present, so when they note the importance of consumer choice in our world they immediately wonder how important it was in past societies. Most people have at least a vague idea that consumer choice was less important in the past, if for no other reason than that there were fewer consumer goods to choose among. If this is true, when did consumerism, in the way we know it, arise? Was it a revolutionary change, or a very long and slow process? What impact did it have on other areas of life? These questions have inspired much debate and a large body of scholarship, but we are nowhere near being able to answer them. Historians have placed the origins of modern consumer society in the sixteenth century, the eighteenth century, at the end of the nineteenth century, and in the 1920s, and beyond this basic disagreement about the date lies more profound disagreement about the meaning and importance of these changes (Shammas 1989).

In the eighteenth century several important changes took place in Europe and European America that definitely influenced what people bought and how they used consumer goods to define themselves.

From the archaeological point of view, two of the most important eighteenth-century social changes were in dining habits. A medieval banquet had been a display of hierarchy, with the participants seated in rank order from the head of the table to the foot (a theme that figured in many legends, because heroes fought duels over the right to the best seat or the best cut of meat). In the eighteenth century, however, a new fashion in dining emerged among the aristocracy in which people sat around oval tables in a way that encouraged them to think of each other as equals. Their class superiority was maintained, not by seating order in a great banquet, but by their knowledge of a new set of table manners. Dinner was held in a separate dining room, part of a trend in which houses were divided into specialized rooms. Each diner was presented with a fork (introduced into western Europe in the seventeenth century), a separate plate, and a variety of other dishes that, at least at first, only aristocrats knew how to use. At about the same time the drinking of tea spread widely in Europe, along with a ceremony for its proper use and a special set of dishes. The tea ceremony, as it was called, required the possession of a teapot, a set of teacups or bowls, a set of saucers, the tea itself, along with sugar, and, what was most important, the knowledge of how to use all these things. For a while, from about 1680 to 1720, possession of the requisite dining and tea-drinking equipment and skill in its use defined a member of the upper class. These changes can be seen as a symbol of a new definition of social status, in which a high position depended not only on ownership of land and jewels, but on the possession of a superior education, which for upper-class men came to mean taking a university degree.

After 1720, however, this dining equipment and the knowledge of how to use it spread rapidly among the middle and even the lower orders. Tea drinking, in particular, was taken up by millions of ordinary people, thanks in part to the falling prices of tea, sugar, and porcelain brought about by improvements in shipping and the growth of world trade. Studies of probate inventories (lists of the possessions of people who died without wills, made for tax and estate purposes) have shown that by 1800 at least half of households in the British colonies owned tea-drinking equipment, and archaeological results suggest that the number was even higher. All of the eighteenth-century sites mentioned in this report, even slave quarters, yielded sherds of teacups. It seems that people spent as much as they could afford on their tea sets. Their teacups were often much finer dishes than their plates or bowls, and the better dishes archaeologists find on the average late eighteenth-century farm site are almost always parts of tea sets. Tea drinking was, as Lorena Walsh (1992:239) has written, "the primary way the poor could participate in the rising culture of respectability." The wealthy responded to the spread of refined dining by developing ever more elaborate sets of dishes and protocols for their use, leading in the later nineteenth century to grandiose table settings with pickle forks, shrimp forks, cream soup bowls, sugar tongs, and dozens of other specialized implements.

With this background, it is hardly surprising that the excavation of the McKean/Cochran Farm produced a full set of dishes and dining implements. Fragments of teacups and saucers were found in every major feature, and the teawares were, as one would expect, generally the nicest and most expensive dishes from the site. Most of the oriental porcelain found on the site was from tea sets, and all of the matched sets of dishes identified were tea sets. Five forks were found, and a large number of knives and spoons, as well as stemmed glass goblets and glass tumblers. However, archaeological data do not suggest that the introduction of refined dining happened in a revolutionary

way. Comparison of the table and teawares from eighteenth-century sites in Delaware shows that tea-drinking equipment first appeared around 1730 and became increasingly common from then on. The earliest fork found in Delaware, at the John Powell Plantation Site, probably dates to the 1720s (Grettler et al. 1995). Stemmed glass goblets, however, had been introduced more than a hundred years before, and are common on sites from the seventeenth century. Houses suitable for this new kind of entertaining, with separate dining rooms and parlors for taking tea, were built in the eighteenth century only by the wealthiest Americans, and not even by all of them. Letitia McKean and Robert Cochran were people of considerable wealth, but at the McKean/Cochran Farm they lived in a traditional house with just two rooms on the ground floor and a single chimney. The findings from excavations at the McKean/Cochran Farm and other sites in Delaware suggest that changes in eighteenth-century consumer habits were gradual, not rapid or revolutionary.

Did eighteenth-century people use their buying habits to define their identities? Archaeological data suggest that broad cultural and economic patterns may have had more impact on what people bought than individual eccentricities. At first glance, what is most striking about archaeological assemblages from eighteenth- and early nineteenth-century sites is how much alike they are. The artifacts change a good deal over time, but the sites from any given decade are all very much the same. For example, the ceramics and glass from the home of Charles Robinson, a well-to-do farmer and holder of public office (Thomas et al. 1994), were very similar to those owned by William Strickland, another well-to-do farmer (Catts et al. 1995), by Samuel and Henrietta Mahoe, less well-off property owners (Bedell 1997), and the tenants at the McKean/Cochran Farm. The biggest differences divide the homes of the rich from those of the poor, and these differences are largely in the amount of material recovered; the rich had more of the same things. All eighteenth-century sites in both the Delaware Valley and the Chesapeake region produce coarse and refined ceramics, bottle glass, cow, pig, and chicken bones (no vegetarians), iron tools, and tobacco pipes (no non-smokers, either). The introduction of the tea ceremony may have divided people for a while, but before long almost everyone had some tea-drinking equipment, so the change tended to unify the society more than to divide it. Further analysis of the assemblages does, of course, point up differences, but one should never forget how similar the collections really are.

Wealth did divide people, but archaeologists can almost always recognize the wealthier people by the same list of items: matched sets of teawares and tablewares in expensive patterns, fancy dishes such as punch bowls and jelly molds, gold buttons and jewelry, elaborate horse harnesses, carriage parts, and big houses. This study has confirmed the suggestion made by other archaeologists (Fithian 1994; Catts et al. 1995), that people living in the Delaware Valley owned somewhat different items from people in the Chesapeake region, particularly in ceramics and glass. The most obvious differences among sites are those of wealth, culture, and region, not individual choice. We see very little evidence of personal style. Wealthy people certainly did have some choices, and some of these are visible archaeologically. For example, not everyone who could afford a big brick house chose to build one. Studies of probate inventories have shown that wealthy people were much more likely to own luxury goods like clocks, carpets, silver plate, and carriages, but these same studies show that no level of wealth guaranteed that anyone would possess all of these things (Carr and Walsh 1994; Shackel 1993; Walsh 1992). It is true that some of the items people may have used to

express their taste, such as clothing and jewelry, are very poorly represented in the archaeological record, but the large amount of data we do have emphasizes similarities, not differences. At the McKean/Cochran Farm, we see the residents mostly as members of their social class and regional culture, not as consumers with individual tastes in the twentieth-century style.

E. CULTURE HISTORY

Another theme considered as part of the research at the McKean/Cochran Farm concerns the distinctions we use to divide people of the past into groups. The most common distinctions used are race, class, ethnicity, and gender, but many other distinctions are possible. In the past 20 years historians have been very interested in these divisions of American society, and they have now been incorporated into the National Park Service criteria for evaluating historic sites. More and more, historians are asking whether we can describe an "American culture" at all in a society so deeply divided into different groups. How important are these distinctions archaeologically?

Within historical archaeology, it must be said that the most important and easily visible division is not race, class, ethnicity, or gender, but time. From some points of view it may make sense to call John Kennedy and Captain John Smith upper-class white men, but it makes no sense archaeologically. They lived in different kinds of buildings, constructed according to different notions of space; they ate different foods, using different kinds of dishes and utensils; they traveled by different modes of transportation; they used almost no artifacts that we could not confidently assign to one or the other at a glance. The great social, economic, and technological changes of the past 300 years, especially those brought about by the industrial revolution, have so greatly remade the world that we who live after them belong to a completely different culture, in archaeological terms, from those who lived before.

Beyond the division of time, and the basic cultural division that separated Europeans and Africans from the Indians they displaced, distinctions are more subtle. The data from the McKean/Cochran Farm highlight one possible way to divide the past—according to cultural regions. In the eastern United States, historians have identified five important cultural regions: the North, the Middle Atlantic, the Midwest, the Upland South (Appalachia), and the Lowland South, which includes the Chesapeake (Fischer 1989; Glassie 1968). The differences among these regions include the forms of houses and barns, music and the instruments used to make it, marriage practices, speech patterns, clothes, and the usual way of making everything from fences to chairs. Central Delaware belongs firmly to the culture of the Middle Atlantic region, which developed in the Delaware Valley and is distinguished by a mixture of British and German cultural traits. The McKean/Cochran Farm provided much evidence that its residents belonged to this culture, including their springhouse and their use of slip-decorated pans and pie plates. In Chapter V we compared the artifacts from several sites in the Delaware Valley to those from several sites in the Chesapeake region, and we found broad similarities in the kinds of artifacts recovered. Tea drinking spread in both regions at about the same time, as did the use of forks and ceramic plates, showing that these people all belonged in some sense to a single Atlantic world. However, we also saw consistent differences. Several types of coarse earthenware kitchen vessels, such as pans, dishes, and large bowls, were much more

common in the Delaware Valley, which suggests differences in how people in the two regions cooked, and glass wine bottles were much more common in the Chesapeake region. These differences were found for all types of sites, including those occupied by wealthy farmers, poor tenants, great planters such as Thomas Jefferson, and slaves. The artifacts show that these regional cultures did have a real impact on how people lived, and that these cultural divisions cut across lines of race and class. The sites we examined suggest that these cultural differences developed in the course of the eighteenth century and were more pronounced at its end than at its beginning.

The differences between the Delaware Valley and the Chesapeake ought to be related to the other ways of dividing people we have discussed, especially gender and race. Historians think that women's lives were quite different in the Delaware Valley than they were in the South (Fischer 1989; Jensen 1986), and the lives of Delaware's mostly free blacks must have been quite different from the lives of the slaves on plantations in the Chesapeake region. However, both gender and race are hard to envision archaeologically. Women are less visible archaeologically because they almost always lived in the same households as men. We feel lucky when we locate an artifact deposit that we can associate with a particular household, and it is almost unheard-of to find a deposit that can be associated with a single person (Deetz 1982). Except in cultures which buried their dead with numbers of artifacts, very little information has been produced by attempts to learn about differences between men and women using the archaeological record. James Gibb and Julia King (1991) tried to identify separate areas of men's and women's activity in the yards of seventeenth-century Chesapeake sites, but they had little success. Diana diZerega Wall wrote a book titled *The Archaeology of Gender* (1994), but insofar as her argument actually deals with differences between women and men, it depends entirely on documentary history. Less than a quarter of her book actually treats archaeological data, and that section is called "The Ritualization of the Family Meal." Archaeologists can study families, but individual people, whether male or female, are rarely visible.

The archaeology of race is a large and contentious topic, for the most part beyond the scope of this report, but it does seem appropriate to make a few comments on how race differences relate to regional differences. Race was a very important division in eighteenth-century society, but it is hard to identify archaeologically, at least in Delaware. Archaeologically, cultural distinctions according to race are not as hard to recognize as those associated with gender, since black and white people did live in separate households, and black sites have been identified. Some Africans did bring with them their own distinctive ways of building and making things and did maintain them in the New World (Vlach 1978). Buildings have been identified in the South and even in New England that were built according to African designs (Deetz 1977; Vlach 1986). However, no sites occupied by blacks in the eighteenth century have been identified in Delaware. The identification of the known black sites, all dating to the nineteenth century, has depended on written records (Catts and Custer 1990; Hoseth et al. 1994). Without documents telling us that the occupants of the site were black, we would have no way of making that determination, since no researcher working in the Middle Atlantic region has developed rigorous criteria for distinguishing sites occupied by African-Americans from sites occupied by European-Americans. Because the kind of documentation that has been used to identify black tenant farmers in the nineteenth century is rare for the eighteenth century, the problem of identifying black eighteenth-century sites remains difficult. We have considered the possibility that

the dairy at the McKean/Cochran Farm was occupied by slaves, or recently freed blacks, but the artifacts do not provide any clear evidence. Blacks in eighteenth- and nineteenth-century Delaware were almost all poor, much poorer, on average, than whites, and their poverty should be visible archaeologically. From our present knowledge, however, it seems that the material lives of poor blacks were quite similar to those of poor whites. These groups lived in similar houses, ate similar foods, and used similar tools and dishes (Bedell et al. 1997; Catts and Custer 1990; Hoseth et al. 1994). Many blacks also lived in the households of whites, as the slaves of Letitia McKean and the Cochrans probably did, and the identification of these people presents the same problems as the identification of women; we know that some of the objects we find were used by the slaves, but do not know which ones. Perhaps recognition of the difficulty of identifying black sites in Delaware is an important discovery, since many slave-quarter sites have been identified in the Deep South, and some differences have been noted between the artifacts from slave and white sites (Otto 1984).

One final, and very specific, point to make about regional culture concerns the eating of muskrats. Today, the only Americans who eat much muskrat are the residents of Delaware and the eastern shore of Maryland; most other people find the notion somewhere between amusing and disgusting. Archaeological data suggest that this distinction dates back to the eighteenth century (Catts et al. 1995; LeeDecker et al. 1990). Muskrat bones have been found on several Delaware sites, including the McKean/Cochran Farm, but they have not been identified on any site in Virginia or on the western shore of Maryland. The large amount of very careful faunal analysis carried out on the collections from Kingsmill in Virginia and St. Marys County, Maryland, failed to identify a single muskrat bone (Kelso 1984; Miller 1984). People on the western shore ate raccoon, opossum, squirrel, and a wide variety of fish, frogs, and turtles, but never muskrats. If a regional culture can make people eat muskrats, it is a very real thing, not an invention of historians.

F. DIRECTIONS FOR FUTURE RESEARCH

At the end of every major project comes the question, what next? From our excavation of the McKean/Cochran Farm we have learned much about life in eighteenth-century Delaware, but we have also identified areas where we know little and would like to learn more. We also tested a number of archaeological techniques, some of which worked very well and some of which did not.

1. Regulatory Issues

The excavation of the McKean/Cochran Farm was carried out within the historic preservation plans of the federal government and the state of Delaware, and it showed those programs to be working well. The site was identified and evaluated well in advance of construction, so that adequate time was available for the excavations; and a good deal has been learned about eighteenth-century Delaware from this work. One problem raised by the excavations at the McKean/Cochran Farm is the lack of a well-developed historic context for eighteenth-century sites in Delaware. The federal guidelines emphasize that sites should be evaluated in context, and that decisions must be based on a firm understanding of the cultural and historical background. Existing historic contexts for rural life in New Castle and Kent counties in the 1830 to 1940 period (De Cunzo and Garcia 1992) and

Sussex County in the 1770 to 1940 period (De Cunzo and Garcia 1993) were useful, but a context specifically designed for the time period of the site would have been very helpful, and the development of such a context is recommended.

2. Archaeological Techniques

A number of field and laboratory techniques were employed during the McKean/Cochran Farm project, and the effectiveness of these techniques varied. The fieldwork began with the excavation of a 5 percent plowzone sample across the site. This testing identified patterns in the distribution of artifacts across the site, especially a clustering of coarse earthenwares and tobacco pipe fragments around and south of the dairy, which may indicate a work area. The function of the dairy could not have been guessed from the artifacts found within the structure itself, but many pieces of milk pans were found in the surrounding plowzone, indicating that it may be possible to identify dairy buildings on other sites from plowzone data. Brick concentrations that were probably the remains of buildings were also found. Although the physical layout of the farm changed a great deal over the course of the site's occupation, our attempt to chart that change using the plowzone artifact distribution was not successful. It does not appear that excavation of a larger plowzone sample would have provided more information. The patterns identified were on a large enough scale that the sample probably showed most measurable variations.

Feature excavation began with sampling of the features to determine which ones would repay intensive effort, and this technique appears to have been generally successful. Feature 4, the cellar of the first house, which was nearly sterile at its south end but contained artifact-rich deposits at its north end, showed that this sampling technique must be used with caution. Much of the upper fill in Feature 1, the later cellar, was removed with a backhoe, and this technique also seems to have worked well. The artifacts in this cellar were concentrated in a dense rubble layer, which was easily distinguishable from the washed-in soil above it, so the backhoe removed none of the artifact-rich deposits. With the assistance of heavy equipment, it was possible to excavate all of the rubble fill and expose all the foundations, without excessive cost. This technique might be expanded. For example, Feature 2 at the McKean/Cochran Farm, which appeared to be a cellar that was never completed, was only partly excavated, and on reflection it might have been simple and inexpensive to remove the remainder of the fill with a backhoe, making sure that valuable architectural information was not missed somewhere beneath the sterile fill. Because few eighteenth-century houses and even fewer eighteenth-century outbuildings are still standing (Herman 1987), architectural information remains one of the most critical needs for historical archaeology in Delaware.

The excavation of the wells on the site was not entirely successful. The technique employed was to excavate the upper 4 to 5 feet of the well by hand, without shoring. In the case of Feature 29, the earlier well, substantial numbers of artifacts were still being recovered at that depth, so a backhoe was employed to enlarge the excavation in order to continue it to a greater depth. By a depth of 6 feet the fill had become sterile, and augering showed that it was still sterile at 12 feet, so excavation of the well was abandoned. However, 12 feet was probably nowhere near the bottom of the well;

pits excavated a few yards from the site for geological testing reached a depth of 30 feet without filling with water. Eighteenth-century wells at Kingsmill in Virginia were as much as 60 feet deep (Kelso 1984). Therefore, artifact-rich deposits may have been present deeper in either well. Properly shoring a well for hand digging to that depth, however, is technically demanding and very expensive (Dent et al. 1997). To excavate fill from wells, it might be worth exploring the use of heavy equipment, such as the Gradall we watched dig the 30-foot-deep geological test pits in less than an hour each. This method would not be gentle, but it might recover some data.

The analytical techniques most useful for understanding the history of the site were the ceramic Minimum Number of Vessel determinations and the study of the bones. The Minimum Number of Vessel determinations allowed a much better understanding of the ceramic and glass collections than just counts of sherds, telling us, for example, the proportions of vessels devoted to different functions. Minimum vessel counts also made it easier to compare the ceramic collection from the site with those from other sites. Minimum vessel counts have been made at all major eighteenth-century Delaware sites and the practice should be continued. Persistent variations in the way different archaeologists name and classify ceramic vessels make these comparisons difficult, but they should still be pursued. The use of flotation to recover plant material was not very successful at the McKean/Cochran Farm. Although 35 liters of soil from contexts with good organic preservation was floated, only a few seeds from eighteenth- and nineteenth-century contexts were found. Small bones, fish scales, and small artifacts such as pins were recovered during the flotation, so the technique did have some value in other areas. Since interesting plant material has been recovered from other historic sites using flotation (Catts et al. 1995; Kelso and Most 1990), the technique should not be abandoned because it failed on this one site.

3. Research Issues

Work on the McKean/Cochran Farm Site has led to the identification of several research themes that could be carried further in the future, and has brought to mind some additional questions that could not be addressed at this site. One small point raised but not answered by excavations at the McKean/Cochran Farm is the relationship between cellar floor plans and the layout of the houses above them. We assumed, as did the excavators of the Darrach Store Site (De Cunzo et al. 1992), that the division of a cellar into two rooms, with a central wall, was probably reflected in the layout of the first floor of the house. However, we are familiar with no actual data on the question. Architectural historians do not seem to be interested in cellars, and their books rarely mention them. A study of the cellars of standing houses in the Delaware Valley region would be a great help in interpreting eighteenth- and nineteenth-century sites excavated in the future.

Our work at the McKean/Cochran Farm was focused on the cultural history of Delaware, and it has supported the identification of a regional archaeological culture in the Delaware Valley. The rather limited comparative study of artifacts carried out as part of this project showed that this culture can be distinguished in some ways from the culture of the Chesapeake region, and suggested that these regional cultures were not clearly defined in 1700 but developed in the course of the eighteenth century. However, the comparative work undertaken here has been very limited and needs to be

expanded. More sites have to be considered, and other variables, such as diet and housing, have to be brought into the comparison. Comparisons also need to be made with other regions, such as New York and New England. The definition of cultural regions in the United States depends heavily on standing buildings and barns, most built in the nineteenth century, and archaeology can supply important additional data on house and farm plans in the eighteenth century, when these regional cultures seem to have developed. This question again underscores the importance of architectural information, which is one of the most significant categories of data that can be recovered from eighteenth-century archaeological sites. Research on cultural regions could also be extended into documentary history, employing, for example, probate inventories and tax lists to investigate other differences in the material culture of the regions.

One issue we pursued in some detail for this project was the relationship between the culture the residents of the McKean/Cochran Farm brought with them to the region and the environment in which they lived. The dairy building at the site suggested that the occupants preferred to impose their culture on the environment rather than adapt themselves to their surroundings. Certain other practices of the time, including the building of bank barns on perfectly flat sites, also lead toward this conclusion. Historians have long studied the relationship between American settlers and their environment, and the study of how people relate to the natural surroundings is also central to many anthropological studies. Historical archaeologists should continue to examine these issues. For example, are variations in available wild foods reflected in faunal remains? Did environmental considerations influence the kinds of domestic animals raised and the ways they were exploited? Were building styles influenced by environmental factors? Were sites placed to have access to important resources, such as fresh water, or to avoid environmental hazards, such as malarial swamps? Detailed analyses of how sites were situated, their water supplies, regional variations in architectural styles, and animal and plant remains might help us understand these issues better.

Historians and archaeologists have been focusing a great deal of attention on the modernizing developments of the eighteenth century, but more remains to be learned about them. We would like to know, in much greater detail, to what extent the lives of people in different social, economic, and ethnic groups were changed by the global economic developments of the time, and how much impact the new aesthetic ideas and intellectual systems had on the society as a whole. In this report we have argued against a "consumer revolution" in the eighteenth century, but much more could be done on the question of how much choice eighteenth-century consumers had, and how they used it. Rather few tightly dated eighteenth-century artifact deposits have been investigated in Delaware, not enough for real insight into questions such as when forks and teaware first became common in the state. Priority should be given to sites that contain such deposits, and to extracting all the available data from them when they are found. Plowzone and other generalized midden deposits that were laid down over decades are much less useful for research into rapid social changes. Most of the research historians have done on eighteenth-century material culture has been based on probate inventories, and more needs to be done to integrate archaeological data with this material. Probate inventories list many objects that do not survive in the ground, such as clothing and wooden furniture, but they also seem to omit many objects; for example, Lorena Walsh (1992) has found that by 1800 about

half of the probate inventories in Maryland list tea-making equipment, but archaeologists have found teacups on almost every site from this period that they have examined.

Our study of consumer choice has raised one of the questions most fundamental in the study of human behavior: how much freedom do people have, or choose to use, and how much are their actions determined by their cultures and physical environments? Archaeological study of how individual families made their way through the thickets of culture change, racial division, economic growth and dislocation, and the political upheavals that brought the nation into being, can help us approach this most difficult of questions. Archaeologists have experimented with ways to quantify difference and similarity among sites (De Cunzo et al. 1992; Grettler et al. 1995; South 1977), and these experiments should be continued. We should compare differences based on race and social class with differences among people within groups, attempting to sort out the various influences on what people bought and, more generally, how they lived. We should not, however, lose sight of the unique aspects of the sites we excavate, since every site reflects a family's particular history, and many components of human behavior cannot be expressed in numbers.

G. SUMMING UP

As this report was being written, highway construction crews were busy cutting a trench 30 feet deep and 300 feet wide across the McKean/Cochran Farm. The site is gone, but the record of the past that it contained has been preserved. Through this report, through the newspaper accounts, through the artifact collections from the site, and in the memories of the people, both professionals and students, who worked on it, the McKean/Cochran Farm can still shape our understanding of the past. We can build our future without destroying our history.