Evidence for another generation of changes in the landscape associated with the post-1825 reform era is mostly negative. The privies and midden were abandoned. The main fence separating the inner and outer yard was maintained, its posts replaced as required. No new fences define animal enclosures. No new privies were dug, nor deep trash pits for food waste or other domestic refuse. A new concentration of ceramic, bone and shell appears as sheet refuse later disturbed by plowing just west of the northern outbuilding. Thus its use by the later nineteenth century as a kitchen seems certain. Whether the other early nineteenth century outbuilding survived through this period, and if so, its use, remain uncertain. In general, these latest residents of the old Darrach Store had a minimal impact on the landscape.

Historical records indicate the Mason family rented the property, perhaps between circa 1840 and 1860, although the documentation is incomplete. The 1840 census lists Mason as employed in commerce, and his teenage wife has recently had their first child. In one way, however, this fragmentary documentation is congruent with the archaeological record. Evidence is lacking of farm buildings, farm implements, livestock raising and butchering dating to this time period, supporting the conclusion that the tenants engaged in pursuits other than agriculture.

In the early 1860s, John and Jane Darrach's descendants, now scattered across the United States, finally disposed of their remaining holdings in Duck Creek Hundred. Among the properties sold were the old house and store so proudly constructed by William White almost a century before. The new owners decided the store was not worth maintaining, and they reworked the landscape once again, plowing under and planting over all vestiges of the buildings, work yards, gardens, and dumps.

COMPARATIVE ANALYSIS

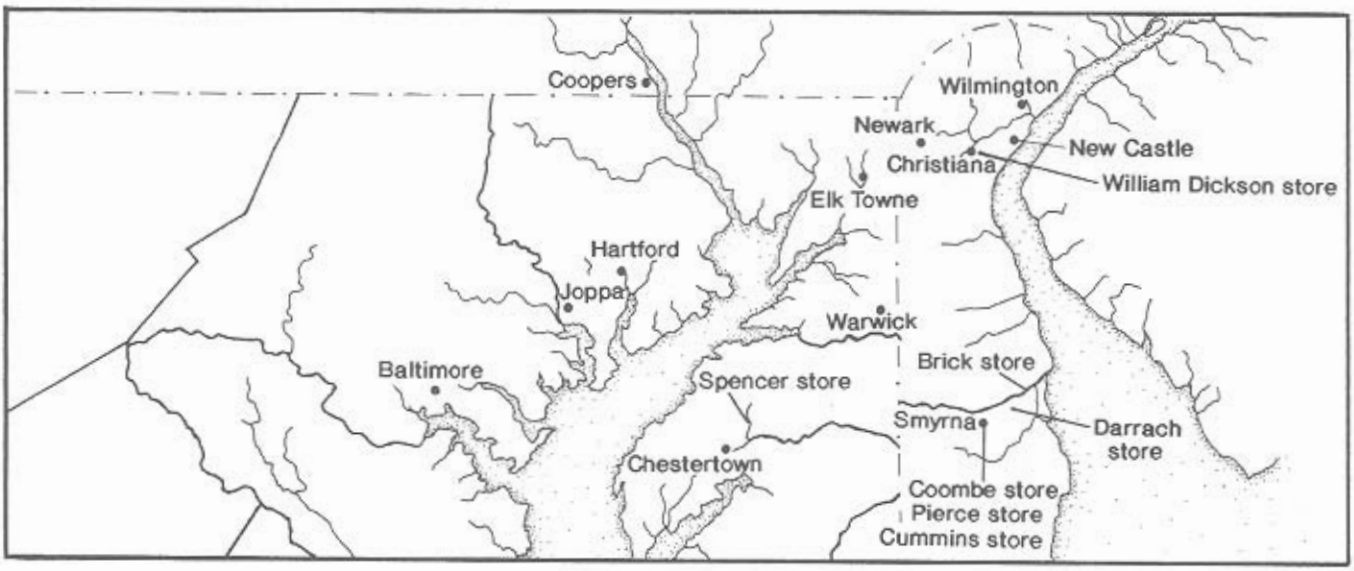
The documentary and archaeological records have each contributed to our understanding of the brick store and tenancy constructed by William White, probably in the 1770s, yet the picture remains incomplete. Surviving examples from the time period and region offer the best opportunity to fill in the details, but these are few, and have survived the century through their ability to be adapted to changing circumstances. Neither is it only that few have survived. In 1800 fewer than 10% of the structures standing on the Duck Creek Hundred landscape were constructed of brick, and the great majority of those were residences.

One eighteenth century brick storehouse from central Delaware, however, does survive. Located along Duck Creek also, east of the landing and store Darrach owned (later Smyrna Landing), Brick Store stands on the creek's north bank in Blackbird Hundred, New Castle County (Figure 93). Built into the creek bank, Brick Store has a full cellar (which is an exposed ground floor on the downhill side), a main floor, and second story loft (Figure 94). Constructed of brick laid in Flemish bond on a stone and brick foundation, the builder set the date 1767 in glazed brick near the gable walls' peak. Its three bay facades feature central doors flanked on either side by a symmetrically placed window. Three small windows also light the second floor through each facade. In addition, three large openings into the cellar storage areas break the brick foundation wall on the downhill elevation.

Unlike the White-Darrach Store, Brick Store was built one bay deep and three bays in length, its exterior dimensions 23' x 46'. The first floor was originally divided into three whitewashed rooms, and the second floor loft partitioned with rough board walls into grain bins (Herman 1987:79). Its original purpose as well as design differed somewhat from the White-Darrach Store. Architectural analysis has demonstrated that it originally had no chimneys or fireplaces, and thus did not serve also as a residence. Neither did it function as a retail store, but as a warehouse for waterside storage of grain, corn, hides, and lumber awaiting upfreighting to Philadelphia (Caley 1978:142; Herman 1987:79), and for downfreighted goods awaiting distribution to retailers or directly to their buyers. By 1810, within a few years of the renovation of the White-Darrach Store, Brick Store too was converted for residential use (Herman 1987:79).

FIGURE 93

Map of Delaware and Maryland Showing the Location of Comparative Sites



A corpus of brick stores survive in Smyrna as well, contemporary with or slightly newer than John Darrach's new house and store constructed at the end of the eighteenth century. Unlike Darrach's, since replaced by a later nineteenth century commercial structure, the Cummins, Coombe, and Pierce stores still stand. John Cummins, considered by some "the greatest grain dealer in Delaware" in the early nineteenth century (Caley 1978:41), built a large brick federal style addition to his eighteenth century house on Main Street early in the nineteenth century. He then converted the original house, now a small ell on one end of the new house, into his office and counting house. Cummins' father Daniel had constructed a brick house and tavern on the corner of North Main Street and West Mount Vernon Street in the 1770s or 1780s; this too was converted into a store, but not until the latter 1830s (Caley 1978:41, 47).

Benjamin Coombe's brick house and store still stands as well, at the corner of West Commerce and North Delaware Streets. Two stories tall, the double pile three-bay structure had interior end chimneys and, in the urban style, a rear brick ell. Abraham Pierce, a merchant, hatter and attorney who attended John Darrach's estate sale, had built a one and one-half story brick, gambrel-roofed structure in the Crossroads about 1770. The three bay structure was single pile, with interior end chimneys, and featured a large 15-over-15 light shop window in the front facade. Like Darrach, he too replaced it in the early nineteenth century. Sometime between 1802 and 1815, Pierce constructed a two story, two bay brick store a few doors down from Darrach's new complex on East Commerce Street near Main. It too featured a large shop window, this one 12-over-15 lights, near the center of the facade (Caley 1978:68, 91-2).

Continuing on through the Crossroads on the Maryland Road, crossing the state line and traveling on toward the Chesapeake, one encounters another surviving eighteenth century brick store, perhaps the closest surviving example to the White-Darrach store. Known as the Isaac Spencer store, it stands at the intersection of the main road from Chestertown to Duck Creek and the road from Crumpton's Landing on the Chester River to Georgetown on the Sassafras River, in Chesterville (historically New Market) (Catts, personal communication 1990).

FIGURE 94

View of Brick Store

Spencer's store's present owner dates the building to circa 1770-1773, and although the source of this attribution is uncertain, architecturally the building supports a date at least in the last quarter of the eighteenth century. Like the White-Darrach store, Spencer's was originally constructed as a store cum residence. A full two and one-half stories in height over a full cellar, Spencer's store measures approximately 32' x 16' (Plate 16). Thus it stands a single bay in depth as Brick Store, rather than the double pile square of the White-Darrach store. Its walls are laid up in Flemish bond, with a stringer course marking the second floor, and jack arched windows and doors. Originally built with only a single internal end chimney on the inhabited side (to the left in Plate 16), the other represents a later addition. The dormers piercing the gable roof are likely original, as no windows light the garret through the gable brick walls (Plate 17).

Evidenced in the slightly asymmetrical fenestration of the facade, the structure was divided into two rooms of unequal size on the first and second floors (Figure 95). On the first floor, the larger room, that on the right, housed the store. Entered through one of two large doors in the facade and gable wall, the space was undivided. Two windows lit the store room, flanking each door. Neither doors nor windows broke the rear brick wall of the room. A single interior door provided access to the other first floor room. Evidence in the plaster uncovered during restoration marks the location of horizontal shelving units. Every available wall area held shelves, most spaced 6"-8" apart. Although not arranged in exactly this way, the shelving in the country store pictured in Willard's 1826 Geography for Beginners (Carson 1954) portrays the general idea of walls lined with merchandise (Figure 96). An early twentieth century tenant also remembers the store counter running parallel to and near the rear wall of this room (Catts, personal communication 1990).

PLATE 16

Facade of Spencer's Store Prior to Restoration

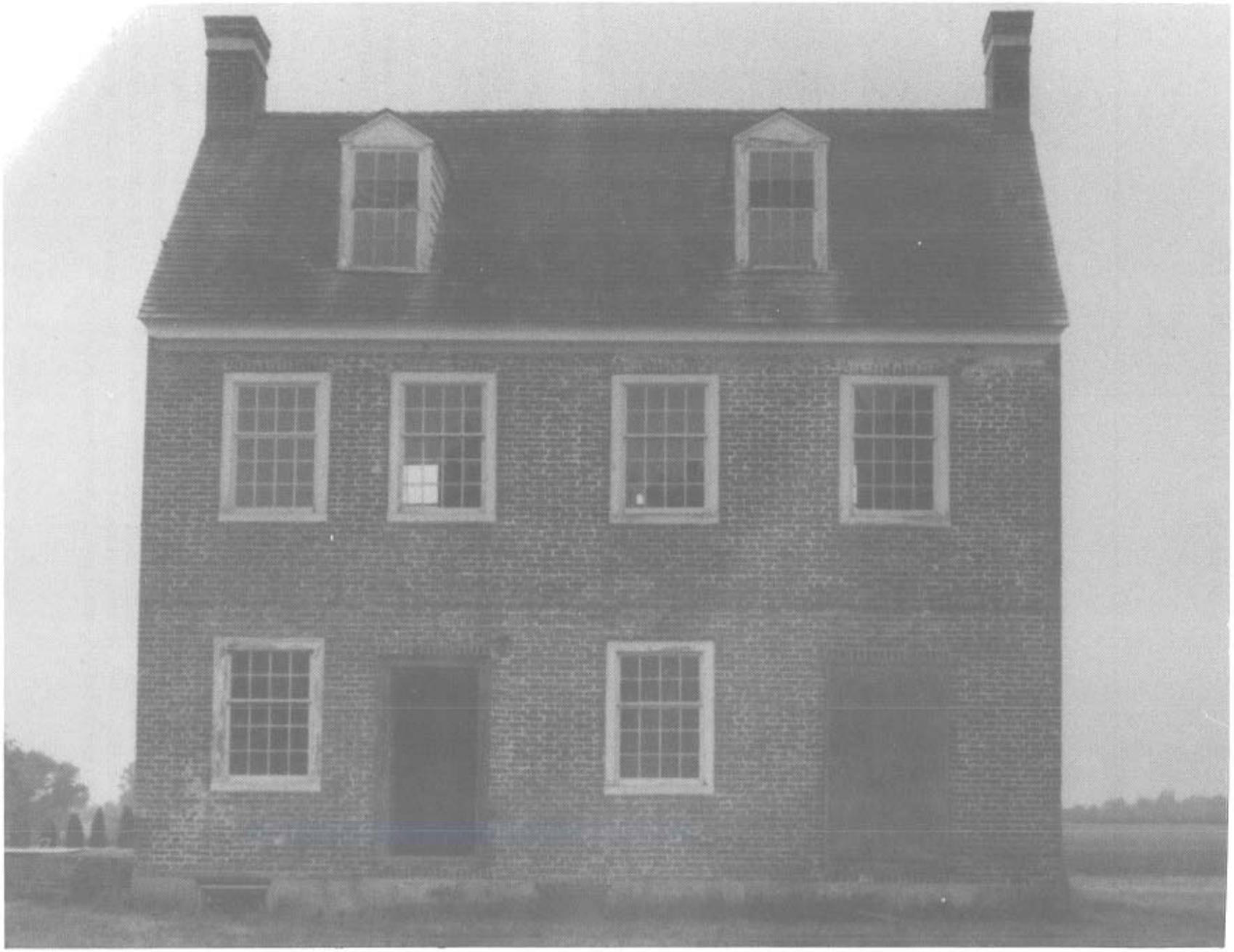


PLATE 17

Gable end of Spencer's Store, Prior to Restoration

FIGURE 95

Original Plans, Spencer Store, First and Second Floors

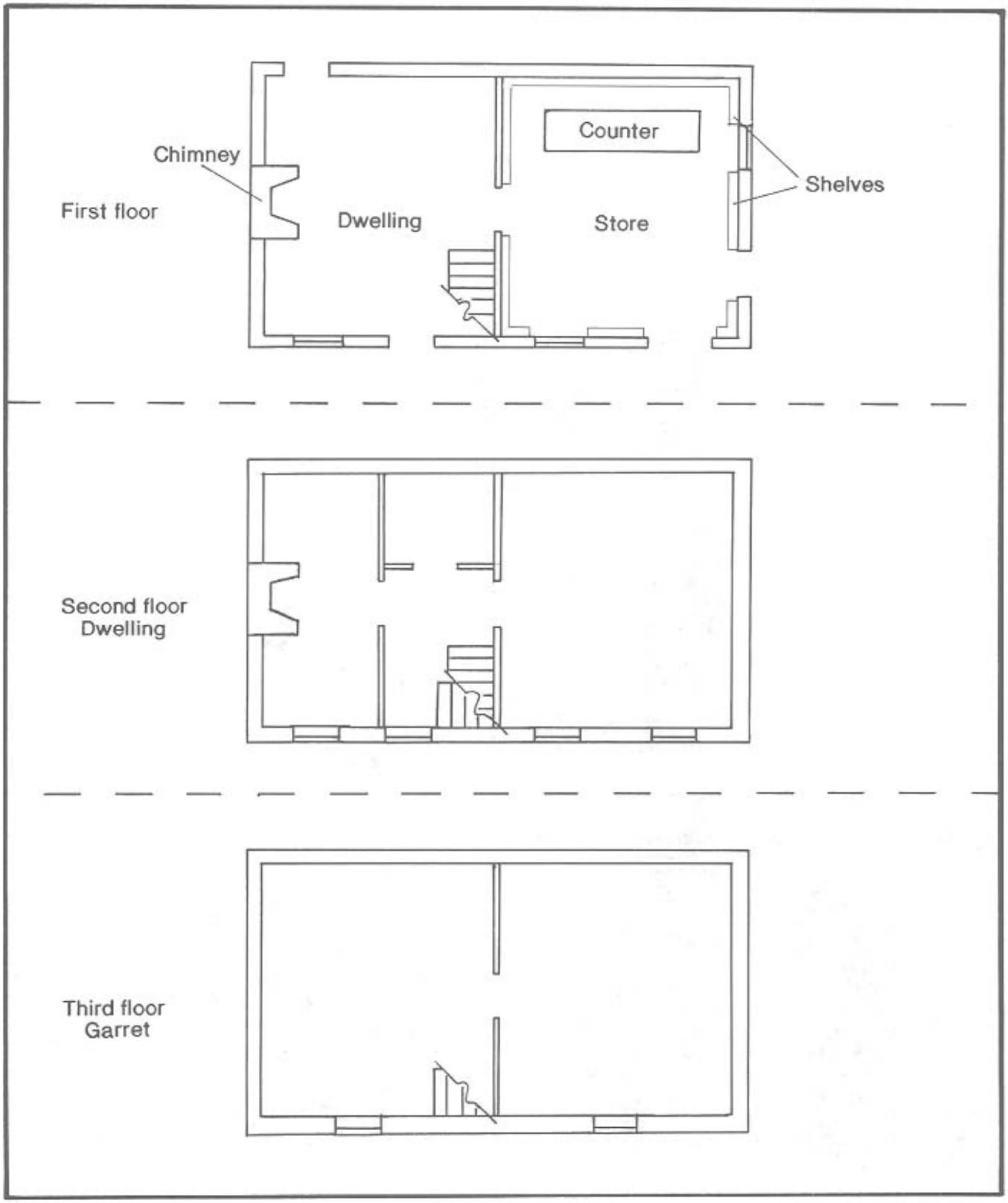
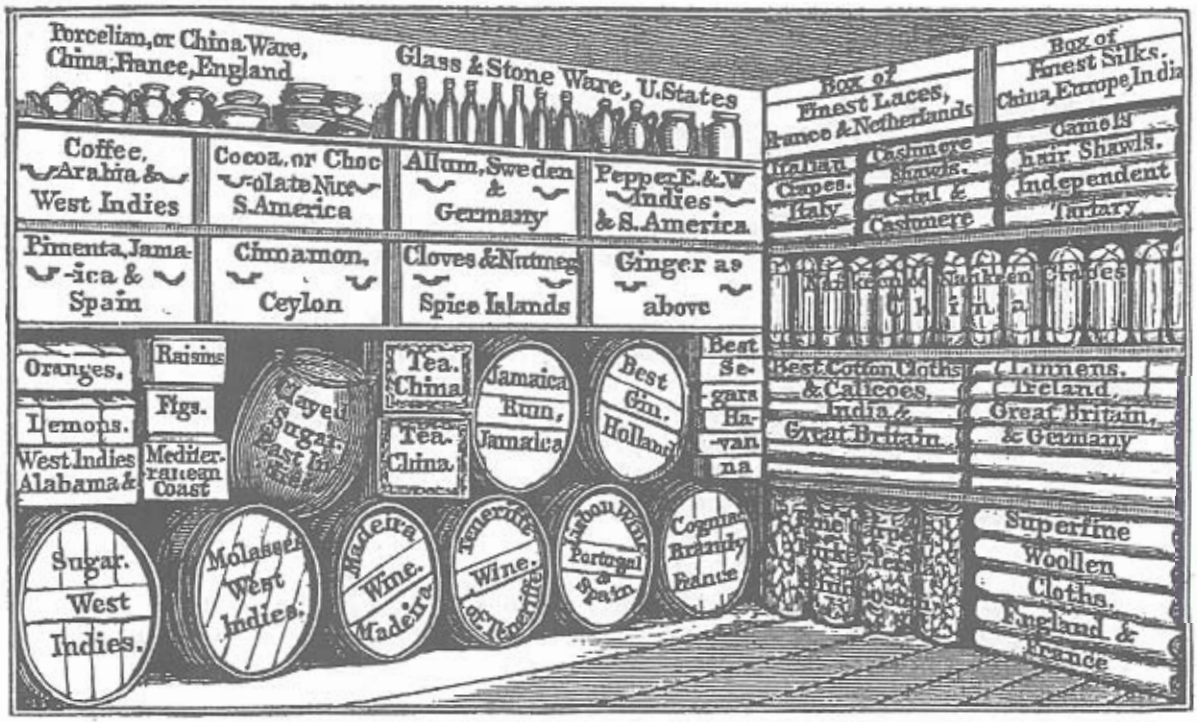


FIGURE 96

The County Store, 1826, Rpt. from G. Carson, 1956



Woodcut Showing the Places of Origin of Country Store Merchandise
From Emma Willard's Geography for Beginners, *Hartford, 1826*

The room adjoining the store room probably housed the storekeeper and his family. A separate exterior door in the facade accessed this space (Figure 95; Plate 17). Stairs tucked behind this door against the interior wall led to the second floor, divided into two chambers as the lower floor. Thus no direct communication linked the store room and the upper floors, suggesting that unlike at Brick Store, they housed not grain but tenants. The garret may originally have been finished. The cellar and possibly outbuildings would have supplemented the commercial storage space Spencer needed.

This plan is applicable to the White-Darrach store with few modifications. The remnant of a brick partition preserved in the cellar floor suggests that it too was divided into two rooms of unequal size. In this case, however, the larger room lay on the opposite side of the building, or to the left as one faced the structure. No evidence indicates a chimney ever served this side of the structure. On the first floor, a similar plan would have produced a store room approximately 15' x 28'. The other, western room, thus served as a kitchen/common room for the tenant. The use of the upper floors remains unclear, as does, for example, the location of the original stairs. Perhaps the upper floors were reserved exclusively for the tenant family's use; however, given the large size of the

structure compared to Spencer's store, a portion of the upper floors may have provided to storage space, perhaps even grain storage as at Brick Store.

Moving beyond just architecture to the larger mercantile and commercial context of White's and Darrach's Store, the most important comparison to be made is with the only other store subjected to archaeological investigation in Delaware to date, Dickson's Store in Christiana Bridge, New Castle County. The following discussion of the Dickson's Store project is based on Catts et al. 1989. As early as 1750, Christiana Bridge already bustled as a transshipment center, the site of at least a score of houses, shops, taverns, a church, the Christiana Mills, and clustered along the Christina River downstream of the village, several wharves, storehouses, and landings. This was almost twenty years before Duck Creek Crossroads was even laid out, and John Darrach and his brothers had not yet left Ireland. Duck Creek Village (Salisbury) and the landings were already thriving, though, as central Maryland and Delaware farmers ship their grain and lumber out of Duck Creek just as Christiana Bridge served northern Maryland and Delaware farmers.

From the commercial center of the Bridge and from their several landings along the River and White Clay Creek, Christiana merchants such as John Read and William Patterson rose to form an elite mercantile and landed gentry comparable to that of Duck Creek. Also as at Duck Creek, these merchants were not true merchants, at least not as defined by one scholar as "one who imported and who characteristically sold at wholesale" (Main 1973:86). Rather, like Darrach and perhaps White (his commercial operations not being very well documented), the Christiana traders-shopkeepers did not engage directly in trade with England, the Indies and other ports around the world. Instead they shipped and received their goods primarily to and from Philadelphia, and in the case of Christiana, to a lesser extent to and from Wilmington as well.

In 1750, however, Christiana Bridge's greatest commercial development still lay 30 to 50 years in the future.

> The years between 1780 and 1820 were the town's most prosperous, as packet boats, shallops, and sloops plied the river from the town to the Brandywine mills, shipping from this portion of the region 20,000 bushels of flour, 250,000 bushels of wheat, 1000 hogsheads of meal, 150 tons of iron, and 2000 hogsheads of tobacco (Weslager 1947; Cooper 1983:108)... By 1800, Christiana Bridge could boast a population of 289 inhabitants and between 50 and 60 buildings, including 33 dwelling houses, wharves, storehouses, shops and taverns, and a Presbyterian Church (Rogers and Easter 1960:47; Moore and Jones 1804:46; Scott 1807:180) (Catts, Hodny, and Custer 1989:34).

At a spot just east of town, two of Christiana's most successful merchants (using the vernacular rather than Main's 'technical' definition of the word), John Read and William Patterson, operated their competing commercial businesses out of landings on opposite banks of the Christina River. Nearby, the Ogle family owned another small lot with a wharf and storehouse at least as early as 1768. Not operated by members of the Ogle family, however, instead they rented them to other community trader-storekeeper-shippers. Between circa 1783 and 1795, William Dickson leased the property. The store's tenants after his death in the latter year are undocumented, but the property probably continued in use as a store until circa 1820, when channelization projects along the Christina left the site landlocked on a by-passed meander.

By 1787, William Dickson had entered a partnership, and a few years' shipping records, Dickson's personal and store inventory from probate, and other documentary information allowed the researchers to understand something of Dickson's commercial, social, and economic position and ties within the local community. The partners upfreighted mostly flour and flaxseed to Philadelphia, acquiring in return for sale in the store lemons, tobacco, sugar, salt, rum, wine, hats, tack, shoes, soap, paper, earthenware, cedarware and other "sundry" items between 1788 and 1791. Like Darrach ten years later, Dickson too had creditors anxious for payment, and thus his estate was sold at auction in July 1795. At the time of the sale, almost 70% of the value of his store inventory was invested in fabric and clothing. The array of textiles, the range of grades stocked, and the

comparatively limited number of different clothing items sold is very reminiscent of Darrach's store inventory, of which textiles, sewing equipment and clothing also accounted for 70% of the value. Alcohol, carpentry supplies and tools, agricultural produce, ceramics and other kitchen and tablewares, tack and hunting supplies, and sundry sewing supplies comprised the balance of the Darrach's inventory.

Not including the little real property he owned, Dickson's estate was valued at £935, compared to Darrach's £2998, based on the actual amount for which his personal property and store inventory sold at auction. In addition, Darrach owned several valuable properties around Duck Creek Hundred, while Dickson rented both his store and his home. Nevertheless, Dickson ranked among the social and economic elite of the Christiana community. Like Darrach, he married a daughter of the local gentry, in Dickson's case William Patterson's daughter Deborah. They lived in a fine brick house with a separate kitchen, a stable, storehouse, shed and garden rented from another local merchant Robert Montgomery. Had Dickson not died at the age of 42, he too may have been able to consolidate his position at the top, and chosen to express his station through landholding and the commissioning of a fine new brick house and store.

But such was not the case in 1795. The store Dickson rented was small, 16' x 20', of frame construction, with sills set on limestone piers and with no cellar. A single story, one room building with perhaps additional storage space in the loft (Figure 97), it certainly did not express the same message of social and economic prominence and permanence embodied in its contemporary in Duck Creek Hundred, the brick store owned and operated by William White and then John Darrach.

The 3,584 artifacts recovered from the principal artifact-bearing deposits in the crawlspace beneath Dickson's store support the conclusion that the structure served only a commercial, and not also residential, function. The small collections of bone and of redware vessels evidencing cooking apparently represent the remains of meals taken by the storekeeper during the course of his day at the shop. Thus, unlike at the White-Darrach Store, where virtually none of the store inventory entered the archaeological record, the Dickson Store assemblage consists almost exclusively of items lost between the floor boards, or broken, discarded and dragged under the store by scavengers.

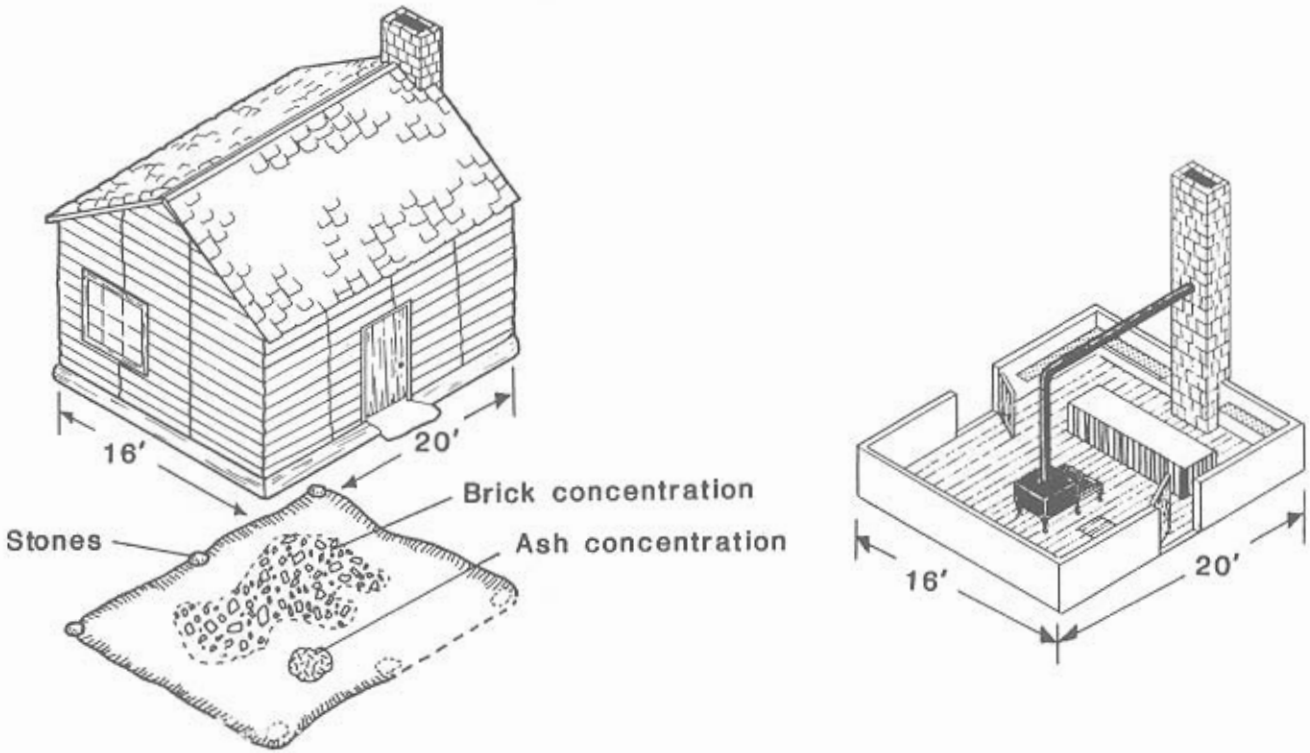
A minimum of 241 ceramic vessels represented by 1520 sherds formed the single largest component of the assemblage (39%). Thirty-one redware bowls, dishes, milkpans, pitchers, mugs and plates comprised 13% of the collection. By far the largest portion of the collection, however, consisted of pearlware plates, dishes, bowls, and tea cups and saucers (138 vessels, or 58% of the collection). Most numerous were plain and polychrome hand-painted vessels, with several edged plates also present. Creamware plates, dishes, saucers, cups, tea pots, pitchers and bowls formed another 12% of the vessels (29). Seventeen porcelain tea vessels (7%), and a small assortment of stoneware, Staffordshire, whitewares, delft and yellowwares completed the collection. In Dickson's store inventory from probate, "A lot of China, Glass and Queensware" and a lot of "Earthen ware," together valued at £12.15, encompassed all these wares. In his own home at this time, the accouterments of the tea ceremony numbered among his more valuable items, in both social and economic contexts. However, they were exclusively of porcelain and silver plate, not the pearlware he sold to his neighbors. The only other possible reference to ceramics is "A Lot of tableware" in the kitchen.

A few wine and pharmaceutical bottles, plain and etched glass tumblers, glass stemware, and a total of nine eating utensils complete the assemblage of foodways items recovered from Dickson's store (excluding the faunal remains, which represent the storekeeper's own meals and scavengers, not foodstuffs sold in the store). Only 112 buttons, thimbles, straight pins, shoe buckles, and scissors represented the category of wares most important to Dickson's (and to Darrach's) business - textiles and clothing. Some clay marbles and tobacco pipe fragments (probably both sold in the store and used by customers and the storekeeper) form the balance of the store's wares which never brought Dickson or his successors any profit.

The similarities and differences discovered between William Dickson and John Darrach, each first placed in the social and economic contexts of their local communities, have further illuminated the careers, goals, and

FIGURE 97

Dickson Store, Artist's Reconstruction



lives of both merchants. Attention must now turn to the early nineteenth century tenancy which represents such a substantial portion of the archaeological record at the White-Darrach store site. To begin again with architecture, in many ways outbuildings such as those constructed for the new tenants following Darrach's vacancy of the store are even more sketchily understood than the brick store itself. Historical records, particularly tax assessment lists and Orphan's Court records, do help identify the structures' likely functions. At least they can enumerate the most common outbuildings on contemporary properties in the vicinity. In Duck Creek Hundred between 1797 and 1803, these are store houses, sheds, artisan shops, carriage/wagon/cart houses, milk houses, cribs/granaries, smokehouses, stables, barns, and kitchens, listed in descending order of frequency based on the tax and court records (Grettler 1990). Herman utilized a sample of 48 Orphans Court valuations from St. George's Hundred, New Castle County for the period 1760-1820 to evaluate outbuilding type and frequency on agricultural properties. Farms had an average six to seven outbuildings. Kitchens (83% of the properties), corn cribs (79%), stables (69%), smokehouses (66%), and barns (56%) were most common, with somewhat fewer farms also reporting granaries and storehouses (Herman 1987:62). Tenant farms often contained fewer, more multipurpose outbuildings (Herman 1987:64). The differences noted between the two sets of data reflect either the nature of the data or cultural differences in agricultural practice between Duck Creek and hundreds to the north in New Castle County. The functions proposed for the White-Darrach outbuildings number among those at least commonly found in both areas - kitchen, granary, store house. Most likely they too were multifunctional, serving as storage facilities and workrooms as needed.

Few late eighteenth and early nineteenth century outbuildings survive on Delaware farms (Herman 1987:61), and few have been investigated archaeologically. Typically, they were constructed on ephemeral post or pier foundations (Herman, personal communication 1990). The earliest post-in-ground or earthfast structures excavated in northern Delaware date to the mid-eighteenth century, sometime prior to 1768. Three such structures composed a farm (known as the Whitten Road site, 7NC-D-100) along the Christina River in White Clay Creek Hundred, owner-occupied until 1807, and then tenanted as a smallholding until the early 1850s when the structures were demolished (Shaffer et al. 1988). University of Delaware Center for Archaeological Research archaeologists excavated the structures' post holes in 1985-1986. The three structures, interpreted based on documentary and archaeological evidence as a dwelling/kitchen, stable, and barn, measured respectively 8' x 16', 10' x 20', and 10' x 28'. Except for the larger English style barn, the structures fall within the range of those discovered at the Darrach site, which measured approximately 10' x 17' and 15' x 20'. Less consistent between the two sites is the structural evidence itself. Paired post holes, indicative of reverse bent assembly, in which pairs of tie beams are raised together, defined all three of the Whitten Road structures. The post holes' size and depth exhibited a fair degree of consistency within each building, although differences existed between the buildings. Most holes preserved evidence of the original posts or wooden blocks (Shaffer et al. 1988). At the Darrach site, alternatively, variability in post hole size, shape, and location characterized each building. Neither building could have been constructed utilizing the reverse bent assembly method, as paired post holes were not present (partially for Outbuilding II). Rather the archaeological evidence of the Darrach outbuildings resembled that from a series of mid-nineteenth century post-in-ground agricultural outbuildings discovered at the Temple and Williams sites in Ogletown and Glasgow, New Castle County (Hoseth et al. 1990; Catts and Custer 1990). At both sites, variability characterized the size, shape, depth, and placement of post holes, and delineating probable outbuildings from the welter of postlike features discovered in the domestic and farm yards proved difficult.

The builders of the Whitten Road site's three structures laid them out around an open courtyard, thus pointing to a different system of organizing living and work spaces at this eighteenth century farmstead in the northern portion of the state. Excessive phosphate levels in the soils defined the barnyard associated with the stable (Shaffer et al. 1988); the absence of similar findings at the Darrach site formed one piece of evidence suggesting neither post-in-ground outbuilding served as animal stabling. A midden not dissimilar in form to that at the Darrach site also existed at the Whitten Road site. However, it lay immediately adjacent to the dwelling/kitchen, and dated to the original mid-eighteenth century occupation of the complex (Shaffer et al. 1988), decades earlier than the midden at the Darrach site.

The Whitten Road site continued as a smallholding agricultural tenancy of 20 acres from 1807 through the early 1850s after the landowners constructed a larger brick residence nearby. The dates several documented tenant families occupied the site coincide closely with the Darrach Store's occupancy exclusively as a tenancy following its conversion in the first decade of the nineteenth century. Comparing the material culture assemblages from the two occupations, however, is problematic. All the collections from the Whitten Road site derived from shallow middens or sheet refuse deposits subsequently disturbed by plowing. Thus identifying discrete subassemblages associated with individual households or even with the tenant versus the owner-occupied periods proved impossible. The entire collection was treated as one assemblage during analysis, representing almost 100 years of occupation. To a certain extent, the situation is similar at the Darrach site. Here, however, deep features existed, and artifact analysis focussed on the assemblages from these, with the exception of the plow zone distribution analyses. In addition, a few features together accounting for a substantial portion of the features' assemblage can specifically be associated with the tenants in the newly converted property between c. 1805 and c. 1825. In fact much of the site's archaeological record, both landscape features and material culture collections, date to this occupation.

One can nevertheless qualitatively compare the two site's material culture, and identify potentially significant differences and similarities as subjects for further investigation at other sites. At the Whitten Road site as at the Darrach site, glass drinking vessels and containers are virtually absent, suggesting a reliance on containers of other materials and careful curation of glassware. Both sites were abandoned before innovations in the glass and food industries in the last third of the nineteenth century revolutionized American consumption patterns and foodways. Unfortunately, bone did not fare well in the acidic soils of the Whitten Road site, and thus even qualitative comparisons of the faunal assemblages would not be meaningful. The dearth of oyster shell at the site, in striking contrast to the Darrach site, however, does warrant mention.

Fragments of a minimum of 383 ceramic vessels were recovered from the Whitten Road site (Shaffer et al. 1988:157-195). This compares to a minimum vessel count at the Darrach site of 251 vessels (Table 80). Redwares predominate at the Whitten Road site as at the Darrach site, accounting for 61 percent of the identifiable vessels at the former and 58 percent at the latter. Furthermore, the archaeologists believed redwares continued as an important ceramic ware for the Whitten Road households up to the mid-nineteenth century. Coarse crocks, basins, bowls, dishes, and chamberpots, refined redware bowls and mugs, and slip-decorated plates, bowls and mugs comprise the collection. The Darrach Store tenants utilized a very similar range of forms to prepare, cook, serve, consume, and store foods. These ceramics likely performed similar functions for the Whitten Road site families, even though the eighteenth century owner-occupants numbered among the wealthiest 10% of the hundred's taxable families. Thus, their economic position does not seem at all comparable to that of the Darrach Store tenants.

An assortment of mostly refined eighteenth and nineteenth century wares comprised the remaining 40 percent of the Whitten Road ceramic vessel assemblage. The types and their relative prevalence also parallel in many ways the Darrach Store assemblage. Most numerous are creamware plates, painted pearlware teawares, and edged pearlware plates. Those types represented by only a few vessels include tin-glazed earthenwares, Jackfield wares, white and scratch blue salt-glazed stonewares, Whieldon wares, annular wares, porcelain, yellowware, and undecorated and transfer printed whitewares. Despite the apparent difference between the two sites' occupants and their economic positions, at least during the eighteenth and early nineteenth centuries, their ceramic consumption patterns appear more similar than divergent. Multipurpose locally produced and inexpensive wares, perhaps even available through barter with the local potter, performed numerous functions in the kitchen, in the larder, and on the table. The several occupants of both sites, however, set aside a little bit of precious cash to purchase more expensive imported wares. Almost exclusively they selected dinner and teawares, on which they served meals and tea to family and guests, and which they could display in the cupboard as a symbol of sociability and perhaps only secondarily of economic attainment or at least aspirations. This certainly suggests the use of ceramics as meaningful symbols by eighteenth century Delawareans of diverse backgrounds and circumstances should form a topic for further research.

Ceramics have received more attention from historical archaeologists than any other artifact type, and this study of the Darrach Store site offers no exception. To this point, the comparisons between the ceramic assemblages of the Darrach tenants, the Dickson Store and the farmers of Whitten Road have emphasized the roles and meanings of the ceramics in the households' economy and social life. This is as it should be. They have also however been impressionistic, based on visual comparisons of presence/absence and the percentages of different types and forms. In order to correctly assess the similarities and differences between the ceramic assemblages and ultimately the households owning them, the comparisons must be systematic and statistically valid.

In this study, a difference-of-proportion test will test the similarities and differences in the ceramic vessel type and form frequencies among four sites - 1) the John Darrach Store site, 2) the Dickson Store site, 3) the eighteenth and early nineteenth century component of the Whitten Road site, and 4) the early nineteenth century component of the Williams site. Although not a residential site, the Dickson Store is included in part to test the validity of the interpretation of the Darrach site assemblage as representing principally the store's tenants and not the store's commercial use. As noted above, the bulk of the assemblage from the Dickson Store (Dickson I) has been interpreted as broken and discarded or lost store merchandise. Furthermore, in general the Dickson Store of Christiana Bridge forms an excellent comparative study for the White-Darrach Store of Duck Creek Crossroads/Smyrna. The Whitten Road site in comparison represents a farmstead, occupied from sometime prior to 1768 until the early 1850s, overlapping well the Darrach Store's occupation. Finally, the 1792-1846 series of tenant farmer cum craftsman (at least one identified tenant was a farmer-shoemaker) households occupying a 14' x 22' log house on the one acre lot of the Williams site, in Glasgow, Pencader Hundred, New Castle County (Catts and Custer 1990) has also been selected for comparison.

Other sites utilized in previous comparative studies by the University of Delaware Center for Archaeological Research have specifically been excluded here. The c. 1780 assemblage from the John Ruth Inn site (actually from Thomas Ogle's tavern) predates that of the Darrach site and represents a different type of "household" (Coleman et al. 1990). Merely determining that the ceramics of Darrach's nineteenth century tenants and Ogle's eighteenth century tavern were similar or different will not go very far toward achieving an understanding of either site in its cultural context, the objective of this project and of this analysis. For similar reasons, the later nineteenth century agricultural tenant households of the Heisler tenancy, Dickson II (Catts, Hodny, and Custer 1989), the Temple site (Hoseth et al. 1990), and Williams II (Catts and Custer 1990) have not been considered in this study.

By controlling for variability in time and site function, explanations are sought for the variability in household strategies and adaptations based on social, economic, occupational, and geographic variables. Socially and economically, indeed culturally, Delaware was a very different place in the later nineteenth century than in the late eighteenth and early nineteenth centuries. Ceramic pot counts alone cannot explain or illuminate these differences, and the broader cultural contexts which must be considered extend far beyond the scope of this study.

Three sets of tests have been performed. In the first, the ceramics were categorized as flatwares or hollowwares (or excluded when indeterminate). The second test compares the frequencies of redware, creamware, pearlware, and porcelain vessels. Finally, the teaware assemblages from the four sites were considered.

Despite the attempt to gain tight control over the analysis by carefully selecting the sites, in certain ways this analysis remains problematic. For one thing, the nature of the archaeological sample differs among the four sites. The Darrach sample consists of a minimum ceramic vessel count derived using all the sherds from the excavated features. The Whitten Road sample is a minimum ceramic vessel count derived from the sherds both from the features and the plow zone test excavations. The Dickson Store sample's minimum vessel count derives from the sherds from the single sealed stratum associated with the store structure itself and its immediate vicinity. The Williams I sample's minimum vessel count derives from the sherds from a single feature, one of the late eighteenth century structures which stood on the property (which contained the bulk of the artifacts associated with the early nineteenth century tenancy).

Secondly, the temporal spans of the four site occupations differ, ranging between 55 and 95 years. The objective throughout this study, in accordance with the state historical archaeological management plan (De Cunzo and Catts 1990) and the Route 1 Corridor Research Plan (Custer and Bachman 1986; Custer, Bachman, and Grettler 1986, 1987), has been to look at household social and economic strategies and then to place the households into their communities and cultures. Not one of these four assemblages, however, represents the ceramics owned by a single household. Rather, they agglomerate portions of the ceramic collections owned by several households occupying the sites consecutively (or in the case of Dickson Store, several merchants' stores). In many cases, the historical record has offered no information about the households - their structure, point in the life course, ethnic origin, wealth, even whether farming or something else provided the basic means of earning a living (this is particularly true of the Darrach Store tenants and the Williams tenants). In many ways, for example, one of the Darrach site tenant households and one of the Williams site tenant households may have been more similar than two of the households consecutively occupying either site.

Limitations of both the archaeological and historical records prevent the resolution of these problems. Nevertheless, their implications for these comparisons must be recognized. One step has been taken to further limit the time spans and hence potentially the number of households represented at each site. Whiteware and yellowwares, the principal post c. 1825 ware types recovered at all four sites, have been excluded from the analyses. This refines the date ranges of the four assemblages as follows: 1) Darrach Store site, pre-1775 to c. 1825, 2) Dickson Store, c. 1770 to c. 1825, 3) Whitten Road site, pre-1768 to c. 1825, and 4) Williams I occupation, c. 1792 to c. 1825. Even this, however, poses potential interpretive problems. Some of the redwares, pearlwares, porcelains and other eighteenth and early nineteenth century ceramic ware types recovered from these sites may in fact have been owned and discarded by later nineteenth century occupants along with their whitewares and yellowwares.

Hollowware versus Flatware

Archaeologists have interpreted differences in the proportions of households' ceramic flatwares and hollowwares as indicating differences in those households' foodways. Flatwares include plates, platters, and saucers, forms utilized in serving and consuming foods, and much less versatile than many hollowware forms. The hollowwares represented at these four test sites include bowls, pots, pans, jugs, jars, mugs, tea cups, pots, tureens, sugar bowls, and creamers. Some hollowware vessels, such as the teawares and specialized serving vessels like tureens, suggest an expendable surplus dedicated to the purchase of "luxury goods." Many, however, such as the redwares discussed at length earlier in this report, are multipurpose, utilitarian vessels which probably saw use in the kitchen, the larder and on the table. In general, then, higher proportions of flatware point to a greater household investment in tablewares and a diet which included substantial quantities of steaks and roasts compared to less expensive soups and stews. Since large numbers of teaware vessels in the hollowware counts would invalidate such an interpretation, the teawares have also been compared separately.

TABLE 86

PERCENTAGE VALUES AND VESSEL FREQUENCIES

	Darrach	Dickson	Whitten Rd.	Williams
Flatware	45(20%)	46(17%)	96(35%)	65(41%)
Hollowware	117(51%)	111(40%)	178(48%)	93(59%)
Total	228	276	374	159

Table 86 lists the total minimum number of ceramic vessels from the four test sites, the number of identifiable flatware and hollowware vessels, and their percentage (of the total for the site). These figures form the basis for the difference-of-proportion tests outlined in Tables 87-91. Table 87 presents the difference-of-proportion test for individual pairs of sites. Starred statistics indicate a statistically significant (greater than 1.96, significant at the .001 level) difference in the proportion of hollowwares or flatwares between the two sites being compared.

TABLE 87

TEST STATISTICS FOR PAIRED SITE COMPARISONS

	Darrach Dickson	Whitten Rd.	Williams
Flatware	.89	1.67	4.54*
Hollowware	2.49*	.89	1.39

	Dickson Whitten Rd.	Williams
Flatware	2.75*	5.58*
Hollowware	1.87	3.68*

	Whitten Rd. Williams
Flatware	3.50*
Hollowware	2.30*

* - Statistically significant difference < 1.96 at .001 level

Table 88 charts the number of statistically significant differences (the maximum being 2, a difference in both the flatware and hollowware proportions) between the sites. Thus, the Williams tenant farmers cum craftsmen's assemblage differs from the Dickson Store and Whitten Road farmers' assemblages in the proportions of both flatwares and hollowwares. On the other hand, Williams differs from Darrach and Whitten differs from Dickson only in the flatware proportions, while Dickson differs from Darrach only in the hollowware proportions.

TABLE 88

FREQUENCY OF SIGNIFICANT DIFFERENCES AMONG SITE PAIRS

	Darrach	Dickson	Whitten Road	Williams
Darrach	---			
Dickson	1	---		
Whitten Road	0	1	---	
Williams	1	2	2	---

The analysis then pairs the sites based on similarities in the flatware and hollowware assemblages (Table 89). The Darrach Store tenants discarded a proportion of flatwares similar to that of the Dickson Store and Whitten Road farm families. The Darrach tenants' hollowware assemblage was also proportionately similar to that of the Whitten Road farm households, but not to the Dickson Store. In addition, the Darrach hollowware assemblage is similar to that of the William's tenants, and Dickson Store and the Whitten farm households also discarded similar proportions of hollowwares.

TABLE 89

SUMMARY OF VESSEL CATEGORIES WHICH SHOWED SIMILARITIES AMONG PAIRED SITES

Flatware	Hollowware
Darrach/Dickson	Darrach/Whitten Road
Darrach/Whitten Road	Darrach/Williams
	Dickson/Whitten Road

The next step of the test (Table 90) first listed the four sites in rank order from highest to lowest percentages of flatware and hollowware. Then a statistical test which considers both the percentage ranking and the proportions identifies those sites most similar in their flatware and hollowware assemblages. This measure has identified similarities in the flatware assemblages only between the Darrach tenants and Whitten Road farm households, while the hollowware assemblages of the Williams and Darrach tenants and the Whitten Road farmers and Dickson Store are similar.

TABLE 90

RANKING OF SITES BY CATEGORIES

Flatware	Hollowware
Williams (40%)	Williams (59%)
	Darrach (51%)
Whitten Road (35%)	
Darrach (20%)	Whitten (48%)
	Dickson (40%)
Dickson (17%)	

Table 91 charts the number of similarities between the site pairs as presented in Table 90. Again, the maximum is two, indicating a similarity in the proportions and percentages of both flatwares and hollowwares. Table 91 thus shows that the Darrach Store tenants' assemblages and the broken and discarded inventory of the Dickson (and other merchants') Store differ both in their flatware and hollowware proportions, as does the Dickson Store assemblage and that of the Williams tenants.

TABLE 91

RANKED PAIR FREQUENCIES OF PAIRED SITES
BASED ON SIMILARITIES (max. value = 2)

	Darrach	Dickson	Whitten Road	Williams
Darrach	---			
Dickson	0	---		
Whitten Road	1	1	---	
Williams	1	0	0	---

Creamware, Pearlware, Redware and Porcelain

Comparing the proportions of these four ware types among the four test sites provides another view of the households and Dickson storekeepers' investments in ceramics of different costs and functions. Only the redwares were produced in quantity in America during the study time period and were lower in cost than the imported wares. Although they served principally in the kitchen and in the larder in food storage, processing, and preparation for both home consumption and market distribution, redwares also had a place on the dining table. The other three ware types, by comparison, functioned exclusively on the dining and tea tables and perhaps as decoration and social symbol on the table and displayed in the cupboard. They increase in cost from creamware through pearlware to porcelain (Miller 1980).

Table 92 lists the total minimum number of ceramic vessels from the four sites, the number of creamware, pearlware, redware, and porcelain vessels, and the percentage each forms of the total number of vessels. These figures form the basis for the difference-of-proportion tests summarized in Tables 93-97. The results of the difference-of-proportion test on the individual pairs of sites, comparing all four ware types, appear in Table 93. The starred statistics indicate a significant difference in the proportionate number of vessels of that ware type between the compared sites. Table 94 charts these results as the number of statistically significant differences between each site pair. The maximum value is 4, indicating differences in the proportions of all four ware types. The greatest number of differences, in the proportions of redware, pearlware, and porcelain, exist between the Dickson Store assemblage and the assemblages of the Darrach Store tenants and the Whitten Road farm households. In addition, the Darrach and Williams tenants and the Whitten Road farmers and Williams tenants differed in the proportions of redware and pearlware, and the Dickson Store and Williams sites differed in the proportions of redware and porcelain.

TABLE 92

CERAMIC FREQUENCIES AT FOUR SITES

Variable	Site: Darrach	Dickson	Whitten Road	Williams
Creamware	22(10%)	31(11%)	42(11%)	14(9%)
Pearlware	32(14%)	162(59%)	40(11%)	86(54%)
Redware	147(65%)	34(12%)	234(63%)	40(25%)
Porcelain	10(4%)	25(9%)	14(4%)	4(3%)
TOTAL	228	276	374	159

TABLE 93

SUMMARY OF DIFFERENCE-OF-PROPORTION TESTS

	Darrach Dickson	Whitten Rd.	Williams
Creamware	.58	.61	.28
Pearlware	10.26*	1.22	8.42*
Redware	12.15*	.47	7.61*
Porcelain	2.05*	.39	.97

	Dickson Whitten Rd.	Williams
Creamware	0.00	.80
Pearlware	13.07*	.93
Redware	12.86*	3.43*
Porcelain	2.82*	2.63*

	Whitten Rd. Williams
Creamware	.84
Pearlware	10.79*
Redware	7.91*
Porcelain	.72

* - Statistically significant difference
< 1.96 at .001 level

TABLE 94

FREQUENCY OF SIGNIFICANT DIFFERENCES AMONG SITE PAIRS

	Darrach	Dickson	Whitten Road	Williams
Darrach	---			
Dickson	3	---		
Whitten Road	---	3	---	
Williams	2	2	2	---

TABLE 95

SUMMARY OF VESSEL CATEGORIES WHICH SHOWED SIMILARITIES AMONG PAIRED SITES

Creamware	Pearlware	Redware	Porcelain
Darrach/Whitten	Darrach/Whitten	Darrach/Whitten	Darrach/Whitten
Darrach/Williams	Dickson/Williams		Darrach/Williams
Darrach/Dickson			Whitten/Williams
Whitten/Williams			
Dickson/Whitten			
Dickson/Williams			

Table 95 pairs the four sites according to similarities in the proportions of each ware type. All four sites exhibit similarities in the proportions of creamware, the least expensive imported tableware of the study period. Only Darrach and Whitten Road, however, yielded similar proportions of redware vessels, in both cases accounting for over 60% of the vessels. In fact, the Darrach and Whitten Road sites had similar proportions of all four ware types. The Darrach Store site and the Williams site, the other small tenant farmers cum craftsmen-occupied site, were similar only in the proportions of creamwares and porcelains.

TABLE 96

RANKING OF SITES BY CATEGORIES

Creamware	Pearlware	Redware	Porcelain
Dickson (11%)	Dickson (80%)	Darrach (65%)	Dickson (9%)
Whitten (11%)		Whitten (63%)	
Darraach (10%)	Williams (54%)		Darrach (4%)
Williams (9%)		Williams (25%)	Whitten (4%)
	Darrach (14%)		Williams (3%)
	Whitten (11%)	Dickson (0%)	

As with Table 90, in Table 96 the sites have first been rank ordered according to the percentages of the four ware types, and then tested for statistically significant differences and similarities. The test confirms the similarities among all four sites' creamware proportions, suggesting this ware served as a sort of "baseline," perhaps everyday, tableware during this time period for tenants, owners, farmers, and craftsmen alike in northern and central Delaware. The three domestic sites were similar also in their proportions of porcelain, suggesting perhaps another "baseline," this one relating to the desire to own a few pieces of the most expensive imported ceramic teaware available. Thus porcelain seems to connote shared ideas and values regarding sociability and status and its display in the home. The Dickson Store, which catered to the upper middle class residents of Christiana Bridge, produced the most pearlware and porcelain, and the difference-of-proportion test confirms the statistical validity of this conclusion. The Williams tenants differed from the others in the proportions of both the flatwares and pearlwares they discarded. Williams yielded the highest percentage of flatware forms of the four

TABLE 97

RANKED PAIR FREQUENCIES OF PAIRED SITES
BASED ON SIMILARITIES (max. value = 4)

	Darrach	Dickson	Whitten Road	Williams
Darrach	---			
Dickson	1	---		
Whitten Road	4	1	---	
Williams	2	1	2	---

sites, and a significantly higher percentage of pearlware than either of the other two contemporary domestic sites. This high percentage results both from the pearlware assemblage's large size in absolute numbers, and from the low absolute number of redware vessels compared to Whitten Road and Darrach.

Finally, Table 97 charts the Table 96 results as the number of similarities exhibited among each site pair. The maximum number is 4, indicating similar proportions of all four ware types. Only the Darrach tenants and Whitten Road farm households discarded proportions of all four ware types suggesting overall similarities in their acquisition and use of ceramics. Before concluding finally on the similarities and differences among the ceramic consumption patterns of the four site's households, consideration will be given to the teawares.

Teawares

Table 98 presents the total minimum number of ceramic vessels (excluding whitewares and yellowwares) and the number and percentage of teaware vessels for each site. Teaware vessels include tea bowls and cups, saucers, teapots, and sugar bowls and cream pots. The figures in Table 98 form the basis of the difference of proportion tests summarized in Tables 99-103.

TABLE 98

TEAWARE FREQUENCIES AT FOUR SITES

Variable	Site			
	Darrach	Dickson	Whitten Road	Williams
Teaware	26(11%)	79(29%)	22(6%)	9(6%)
TOTAL	228	276	374	159

*Note: "Total" is total number of vessels from the site excluding whiteware and yellowware.

Table 99 presents the results of the difference-of-proportion tests by site pairs (Table 100). Starred statistics indicate significant differences in the proportions of teaware vessels discarded. Identifying similarities rather than differences, Table 101 indicates that the Darrach and Williams sites' tenants discarded similar

TABLE 99

SUMMARY OF DIFFERENCE-OF-PROPORTION TESTS

	Darrach Dickson	Whitten Rd.	Williams
Teaware	4.74*	2.43*	1.94

	Dickson Whitten Rd.	Williams
Teaware	7.91*	5.74*

	Whitten Rd. Williams
Teaware	.10

* - Statistically significant difference < 1.96 at .001 level

TABLE 100

FREQUENCY OF SIGNIFICANT DIFFERENCES AMONG SITE PAIRS
(max. value = 1)

	Darrach	Dickson	Whitten Road	Williams
Darrach	---			
Dickson	1	---		
Whitten Road	1	1	---	
Williams	---	1	---	---

TABLE 101

SUMMARY OF VESSEL CATEGORIES WHICH SHOWED SIMILARITIES
AMONG PAIRED SITES

Teaware

Darrach/Williams
Whitten Rd./Williams

TABLE 102

RANKING OF SITES BY CATEGORIES

Teaware

Dickson (29%)

Darrach (11%)

Whitten Rd. (6%)
Williams (6%)

TABLE 103

RANKED PAIR FREQUENCIES OF PAIRED SITES
BASED ON SIMILARITIES (max. value = 1)

	Darrach	Dickson	Whitten Road	Williams
Darrach	---			
Dickson	---	---		
Whitten Road	---	---	---	
Williams	---	---	1	---

proportions of teaware vessels, as did the Whitten Road farmers and Williams tenants. Ranking the sites first in order by the percentage of teaware vessels and then statistically comparing the proportions produces a slightly different result (Table 102). Only the Whitten Road farmers and Williams tenants discarded similar percentages of teawares according to this measure (Table 103). These limited data suggest teawares had more importance in the social life of more urbane centers like Christiana Bridge and Duck Creek Crossroads/Smyrna than in the rural location of the Whitten Road farm and the small crossroads village of Glasgow.

This statistical exercise can yield only tentative conclusions. The small sample size is inadequate for valid generalizations, but few late eighteenth and nineteenth century domestic sites in Delaware have yet been excavated extensively enough to produce comparative collections. The lack of complete comparability in the contexts from which the collections were drawn potentially introduces biases into the samples, and the problems resulting from the long site occupations, and the multiple, often undocumented households occupying the sites further thwart attempts at interpretation.

The difference-of-proportion test has clearly distinguished the "differentness" of the commercial Dickson Store assemblage. Thus, although the White-Darrach Store site and the Dickson Store site remain eminently comparable, their artifact assemblages are not. The similarities in the flatware/hollowware proportions and in the proportions of redwares, creamwares, pearlwares, and porcelains between the Whitten Road and Darrach sites suggest shared aspects of the foodways systems, and domestic economic strategies, and consumer behavior of central and northern Delaware farmers and craftsmen in the latter eighteenth and early nineteenth centuries. The Williams tenant site remains problematic, and the lack of a substantial kitchenware assemblage suggests perhaps an incomplete sample of the total ceramic assemblage from the site's farmer-craftsmen households. Whether this is the