The 17th Century

The first historic settlement in what is now Delaware was a whaling station established by the Dutch West India Company in 1650 near the present town of Lewes. However, this post was destroyed by Indians in 1631 and no settlement in that area was attempted again until 1659. A Swedish colony was established in 1638 at Fort Christina, near the present site of Wilmington, by the New Sweden Company. Although the land was claimed by the Dutch, it was litle used and was unsettled when the Swedes arrived. By 1654 a small village, Christinahamm, existed behind the fort, and approximately 400 Swedish, Finnish, and Dutch settlers resided in the area.

In 1655, the uneasy coexistence between the Swedes and Dutch was abruptly ended when the Dutch seized control of New Sweden. Dutch Fort Casimir, established in 1651, and the town of New Amstel (modern New Castle) became the economic and commerical center for the lower Delaware Valley. Ownership of the

Delaware region changed hands again in 1664, when the English took control of all Dutch possessions in the New World. In 1682, the granting of proprietary rights to William Penn and his representatives by the Duke of York essentially gave economic and political control of the Delaware region to Philadelphia, the new seat of government (Munroe 1978).

The settlement pattern for this early period was one of dispersed farmsteads located along the Delaware and its tributaries, such as the Christiana, Appoquinimink, Brandywine, White Clay and Red Clay, where the land possessed good agricultural qualities (Hoffecker 1977). The Swedish and Dutch settlers had pushed their settlement far up the valley of the Christiana toward the Elk River. The town of Christiana Bridge, so named because it was the crossing place of that river, was established by about 1660 at the head of navigation of the Christiana.

With the arrival of Penn in the 1680's, an individualistic system of land settlement, the granting by the proprietors of tracts or parcels of land to settlers, was pursued. Penn usually granted land to families, the standard size tract being about 500 acres (Myers 1912:263). A study of the deed records for the White Clay Creek area in the seventeenth century indicates that generally property sizes ranged between 100 and 500 acres, but there were some tracts of over 1000 acres granted. These larger grants usually went to land speculation companies, such as the London Company, who by 1687 possessed a tract of over 1300 acres north of White Clay Creek. The price of land was inexpensive, in the province of Pennsylvania selling for £ 5 to £ 15 for 100 acres, or about one to three shilling per acre. Unlike colonies to the south, the quality and cheapness of the land discouraged the establishment of large estates and land tenancy (Bidwell and Falconer 1941).

By 1683 the cultivated areas of the region consisted of the three lower counties, New Castle, Kent, and Sussex, and three Pennsylvania counties,

Philadelphia, Buckingham (Bucks), and Chester. The total population of all six of these counties in 1683 has been estimated to have been about four thousand people (Myers 1912:239). In New Castle County five tax districts, called Hundreds, had already been established by 1687. With the growth of the population, four more hundreds were created in 1710, and White Clay Creek Hundred was one of these hundreds (Conrad 1908:287).

With the exception of the port towns of Philadelphia and New Castle, there were no other major commerical or social centers in the area. The small hamlets that were established were situated on the major transportation routes of the period, almost always on a navigable river or stream. Few were located inland, for the road network was almost nonexistent. An exception to this was "Ogle's Town", which was located along the road to the Elk River as early as 1679. The villages of Christiana Bridge and Cantwell's Bridge were the only hamlets of any size in the area and both were located on major rivers and roads; Christiana was located on the road from New Castle to Upland, and Appoquinmink was on the Bohenia Manor cart road to the Chesapeake. The village of Christinahamm, at the mouth of the Christiana was slowly being eclipsed by the rise of New Castle, and as early as 1690 was a village of only minor importance (Klein and Garrow 1982).

In the New Castle County region, water transportation was the major mode of travel and commerce in the late seventeenth century. Most of the farmstead tracts and land grants had frontage on a stream or water course to ensure that communication and the moving of produce to local markets could be accomplished (Hoffecker 1977). In a country that was heavily wooded with a mixture of oaks, walnut, hickory, chestnut, and maple, water travel was the easiest, safest, and most effective means of transport. Overland travel was extremely difficult, because the roads were few and very poor. Even the road from New Castle to Christiana Bridge, probably the area's major overland transportation route, was in

horrible condition. Generally, the roads in the area were simply intra-regional connectors to the coastal towns.

Swedish settlers to the region grew rye and barley on their farms, but these grains were quickly replaced by wheat when it was found that wheat could be grown more easily. More importantly, it was realized that it was a marketable commodity, and the farmers and settlers in the area soon shifted from a subsistence-oriented to market-oriented agriculture. Wheat, and to a lesser extent corn, were grown and then shipped by water to local milling sites. The transportation of grains to milling sites supported an extensive coastwise trade employing shallops or other similar boats. These milling sites were among the earliest manufacturing complexes in the region. There was a mill in New Castle by 1658, and one on Red Clay Creek by 1679 (Pursell 1958). Villages such as Christiana Bridge, Newport, and Appoquinimink grew larger because of this shipping trade, and became market places for the surrounding country. The amount of this flour that was exported in the 17th Century is not known, but it is expected that much was consumed locally. By the start of the 18th Century, regional specialization was discernible; the area was beginning to be recognized as a wheat and grain producing region, just as the south was emerging as a tobacco and rice center (Hanna 1917; Loehr 1952; Purcell 1958; Hoffecker 1977).

Another 17th Century export from the state was lumber. The English settlers faced with rapidly diminishing forests in England were the primary exploiters of the forests. A sawmill was located on Bread and Cheese Island in New Castle County by 1679. However, lumber was a more important export from Sussex County, and the lumber from mills in New Castle County was probably used for building materials by the growing urban populations. In order to lessen a chronic shortage of building materials and the necessity of importation from abroad, brickyards were another 17th Century industry. The first commercial brickyard in

Delaware was established as early as 1657 by the Dutch at New Amstel (DHCA 1976).

The mining and smelting of iron ore should also be noted as an important 17th Century manufacture. The development of this industry was part of the initial colonization plans of all the colonies and the growth of the industry in Delaware parallels that of all Middle Atlantic colonies. In Delaware, the Iron Hill area in northern New Castle County was a known iron producing region by 1661, the date of publication of Augustine Herman's map which labels the spot as "Iron Hill". No information is available on these early mining activities. If the assumption of 17th Century mining is correct, Delaware would rank as one of the earliest iron producer in the Middle Atlantic. It is evident that there was sufficient trust and interest in the deposits to draw a group of Welsh miner/settlers to the area early in the next century. From this event was established a longtime ironmaking and forging tradition in northern New Castle County, and more specifically in the Iron Hill area.

White Clay Creek Hundred and New Castle County were part of a broader regional economy that was centered in Philadelphia. This city, in the last quarter of the seventeenth century, quickly began to dominate the economic scene in the lower Delaware Valley. New Castle County was part of Philadelphia's agricultural and commercial hinterland, along with western New Jersey, northeast Maryland, southeastern and northeastern Pennsylvania, and Kent and Sussex Counties in Delaware (Lindstrom 1978; Walzer 1972). Farmers in the region sent their grains to the local milling centers, where the wheat flour and bread were then shipped to Philadelphia for export to the West Indies, other North American colonies, and Southern European countries (Lindstrom 1978; Hanna 1917; Walzer 1972). The farmers in New Castle County quickly adapted to this market system of agriculture; it is estimated that over one-half of the farmers in the area were

situated within eight miles (or a half-day's journey) of a mill or shipping wharf (Walzer 1972:163).

In the specific vicinity of the project area, no 17th century modifications to the landscape are known. By the middle of the century a road transportation network had been established and a road from Christiana Bridge to Head of Elk passed directly in front of what was to become the Wilson-Slack Site. Other than this road, it is probable that the site was fallow ground.

The 18th Century

Settlement in New Castle County continued much as it had in the previous century. In the Philadelphia region, there was a large influx of immigrants between 1725 and 1755, particularly Scotch-Irish, most of whom were indentured servants (Munroe 1978:160). As the transportation network improved, colonists began to move inland away from the navigable rivers and streams. Good, productive land was settled first, but as the population began to grow, marginal property was also occupied. Land was still inexpensive, in 1795 selling for L3 to L4 per acre near Christiana Bridge, or about $300 an acre (Strickland 1801:19 La Rouchefoucault 1797). The size of farms in New Castle County ranged between 100 and 200 acres, indicating a decline in size from the seventeenth century. This was due to a tendency for the large grants and tracts to be divided and subdivided by sale and inheritance (Munroe 1954:19). If Chester County Pennsylvania, can be used as a comparison, farm sizes dropped from about 500 acres in 1693 to less than 130 acres by 1791 (Ball and Walton 1976:105). By 1750 it appears that the density of rural settlement in southeast Pennsylvania and New Castle County was approximately five households per square mile (Ball 1976:628; Lemon 1972). Further comparative data and the population of the United States was compiled by S. Seybert (1818). Table 1 presents data on the number of inhabitants per square mile in the 17 states. Delaware is seen to rank 3rd behind Rhode Island and Connecticut in 1790, 1800, and 1810.

TABLE 1

POPULATION DENSITY OF THE U.S. BY STATE, 1790-1810

STATES	Number of persons to a square mile in 1790.	Number of persons to a square mile in 1800.	Number of persons to a square mile in 1810.
New-Hampshire	14.94	19.37	21.54
Vermont	8.35	15.09	21.28
Massachusetts	10.25	12.42	15.15
Rhode Island	43.56	43.74	48.69
Connecticut	50.90	53.70	56.04
New York	7.56	13.02	21.31
New Jersey	22.13	25.37	29.51
Pennsylvania	9.28	12.87	17.30
Delaware	27.87	30.31	34.28
Maryland	22.84	24.97	27.18
Virginia	10.68	12.65	13.92
North Carolina	8.20	9.96	11.57
South Carolina	9.96	14.35	17.23
Kentucky	1.47	4.40	8.18
Ohio	-0-	-0-	5.89
Georgia	1.33	2.62	4.07
Tennessee	-0-	2.64	6.54

In regards to urbanization, Lemon (1967) has divided the eighteenth century in the Philadelphia region into three periods of growth. The first period, from 1700 to 1729, was one of urban stagnancy after the initial rapid growth of the seventeenth century. However hamlets - unplanned towns that sprang up at crossroads and around taverns, ferries and mills - did begin to appear at this time. Ogletown is a fine example of the eighteenth century hamlet in New Castle County. It certainly did not deserve the appelation of town "... there being but one Brickhouse & a Few Wooden ones all the property of Thomas Ogle, no tavern in the place..." (Paltsits 1935:7). But Ogletown was, like Red Lion, Middletown, and Aiken's Tavern, located at a crossroads, or on a major transportation and shipping route.

The second period of urbanization that Lemon recognizes, 1730 to 1765, saw a renewal of town growth based on internal trade. In the Pennsylvania region,

Lancaster, York, Carlisle, Reading, and Wilmington were examples of this period of urban growth. On a more local scale, towns such as Newport, Cuckoldstown (modern Stanton), and Newark were chartered and prospered during this period. Christiana Bridge, stagnating since the 1680's, saw growth and prosperity as a major grain transhipment port for produce coming from the upper Chesapeak Bay area. Having only about ten houses in 1737, Christiana blossomed under the trading and shipping industries into a burgeoning town with several large mills, between fifty and sixty houses, and several taverns by the end of the century (Acomb 1958:124; Padelford 1939:11; Conrad 1908.2:495).

Newport, established about 1735, rivaled Wilmington and Christiana Bridge as a grain-shipping and flour-milling center during the eighteenth century. Grain was transported to Newport overland from the Lancaster and York areas of Pennsylvania, it being cheaper to ship the resulting flour by water to Philadelphia from Newport than to transport the grain overland directly from Lancaster to Philadelphia. Contemporary travel maps of Newport show it to have been laid out in a regular town plan, consisting of parallel streets extending from the Christiana River, and intersected by others at right angles (Auston 1961:170; Moore and Jones 1804:170; Scott 1807:180). It was described by travelers as being the size of New Castle, with about forty well-built houses, three or four stores and as many taverns (Padelford 1939:11; Scudder 1877:264; Penn 1879:295).

The crossroads town of Newark, chartered in 1758, represented a shift from a water-oriented shipping town to an inland market town. It was located on the two major overland transportation routes, the road from Dover to southeast Pennsylvania and the road from Christiana to Nottingham. Eighteenth century maps show it to have been at the center of no fewer than six roads (Cooch 1946). Newark was established as a market town that supplied the local population with commodities brought from Phiadelphia and the surrounding region. While not quite

as large as Newport, it was "...the most considerable collection of houses... since Lancaster" (Penn 1879:295). Several mills for local produce were found along White Clay Creek in the town's vicinity, and the Newark Academy was established in the town by the early 1760's.

The town of Stanton, originally called Cuckoldstown, became an important milling and grain center in the late eighteenth century. A grist mill was known to be in the vicinity of Stanton as early as 1679, and by 1800 Cuckoldstown rivaled Newport. Ships of moderate draft were able to navigate up Red Clay Creek and take on local as well as southeastern Pennsylvania farm produce. Located at the confluence of Red Clay Creek with White Clay Creek, Stanton was never a large town. A map of the area in 1789 (Colles 1789:170) shows only a mill and ten dwellings in the vicinity of the town. It was described at the end of the eighteenth century as a "... place of little note ... in its vicinity were some good flour mills" (Moore and Jones 1804:6). A map of the New Castle County region, drawn in 1777, does not even show the location of Stanton (Cooch 1946).

Wilmington was by far the largest urban center in New Castle County that developed in this period. Chartered in 1739, the city's location was considered by one visitor to be "one of the pleasantest and most favorable on the whole continent" (Acomb 1958:123). Wilmington soon became a port of entry and a post town, and was an important link in the Philadelphia trading network. Of special significance to the city's location was its proximity to the Brandywine mills. Located one-half mile north of Wilmington, Brandywine Village was a small town "... chiefly consisting in mills and taverns, eight or ten being within 100 yards of each other" (Chilton 1777:288). Wilmington thus was a receiving center for local and regional farm produce, brought by water from Christiana, Stanton, and Newport, and shipped up the Delaware to Philadelphia (Lindstorm 1978; Walzer 1972).

Lemon's third period of urban development, 1766-1800, was marked by less noticeable town growth which paralleled a more erratic economic pattern. Little growth in the towns of New Castle County took place during this period. However, an increase in population and land tenancy was noted (Lemon 1972:216).

The condition of roads in New Castle County improved considerably over the course of the eighteenth century, but in some locations they were unsatisfactory even by contemporary standards (Munroe 1954:137; Gray 1961:309). In 1775 the road from Middletown to 'Christeen' was considered good, but from Christiana north "the roads are, in many places, extremely bad and the appearance of the country the same" (Padelford 1939:12). The road from Christiana to Philadelphia, by way of Newport, Wilmington, and Chester, was the post road, but it was described as a "hilly and rocky road; a better and more pleasant is by New Castle" (Schoepf 1911:376).

The road network in north-central New Castle County also improved due to both population growth and interregional trade. A road known as the "New Munster Road" passed through Newark on it's way to Lancaster and was laid out in 1765. A road from Ogletown to the Elk River was surveyed in 1774 (Conrad 1908:2:490). From Wilmington, a nexus of roads radiated west, south, and north, connecting the Delaware river with the head of the Chesapeake Bay (Head of Elk), Kent and Sussex Counties, and southeastern Pennsylvania. Christiana was a major crossroads town on the road to Head of Elk, and also on the route from Red Lion to New Castle. Newport was the terminus of the Lancaster Road, and a route from Newport westward to Newark was laid out in 1750. By mid-century, the roadbeds of many of the area's present-day state roads (Route 4, 7, and 273; portions of Pennsylvania's Route 896), were already established.

Farming in the eighteenth century in New Castle County continued to be a system of mixed husbandry, combining the cultivation of grains with the raising of

livestock (Bidwell and Falconer 1941:84). Farming was the most important occupation for between 80 and 90 percent of the area's population (Egnal 1975:201). Wheat remained as the primary grain produced, followed by rye, corn, barley, oats, and garden vegetables. In many areas, generations of repeated tillage had begun to exhaust the soil, and in general, even judged by contemporary standards, "... the business of the inland farmers at the end of the eighteenth century was ineffectively and even carelessly managed. Only in a few particulars had any noticeable improvements been made over the primitive methods employed by the earliest settlers" (Bidwell and Falconer 1941:84). A French traveler in Delaware at the end of the eighteenth century, reflecting European views of American agriculture, wrote "the farms are in general small and ill-cultivated; they receive little or no manure and are in every respect badly managed. Some English farmers have recently settled in this neighborhood ... they will doubtless make considerable improvements in agriculture" (La Rouchefaucault 1800:511).

Agricultural practices in New Castle County followed an extensive, rather than an intensive, use of the land (Lemon 1967, 1972:169). Not until the 1750's did three-field or four-field rotational patterns of planting, and only occasionally six-field rotation, become prevalent and widespread. Contemporaries reported that, through the use of these rotational patterns, a yield ranging between six and twenty bushels of wheat per acre could be harvested (Tilton 1788; Strickland 1801). The extensive use of the land was based on this wheat production, the most valuable and important trading commodity that the region could export. It has been suggested that this pattern of land use was the result of a lack of adequate labor supply, the availability of inexpensive land, household consumption, the market, and the attitudes of the people of the region (Lemon 1972:179).

Research in southeast Pennsylvania for this time period indicates that on an average farm of 125 acres, twenty-six acres would be in grain; thirteen in meadow

for hay; twenty for pasture; eight of nine in flax or hemp, roots, other vegetables, fruits, and tobacco; three for the farmstead; and the remaining sixty acres would be fallow and woodland (Lemon 1972:167; Ball 1976:628).

Studies of the economic development of the region through the eighteenth century (Sachs 1953; Lemon and Nash 1968; Egnal 1975; Ball 1976; Ball and Walton 1976) have found the period to be one of modest changes in agricultural productivity. These changes, based on population growth and the rise in per capita income, can be seen in two distinct periods; 1720 to 1745, and 1745 to 1760. Minor fluctuations throughout the century were caused by King George's War, the French and Indian War, and the nonimportation agreements of 1766 and 1769-1770. In addition, colonists were affected by alternating periods of prosperity and depression. Philadlephia continued to be the major urban center in the region, and from about 1750 until the end of the century was the dominant commercial and social center of the eastern seaboard, with a population that was second only to London.

Main (1973) categorizes the New Castle County area as a commerical farm community, or a community that sold a high proportion of its agricultural produce. For this type of community to exist, good farmland and accessibility to markets were necessary. Main's research found that these communities were characterized by high percentages of wealth, rich men, artisans, professionals and merchants, and a high proportion of large vs. small farmers.

Delaware's manufacturing capacity in this century became fully realized. During the 18th century the iron industry, lumber products, and grain milling enterprises continued to grow and prosper. New industries were started that engaged in the preparation of snuff from tobacco, the production of salt from brines in lower Delaware, and the rudimentary beginnings of the textile industry. By the end of the century Delaware was one of the leading manufacturing states

and Wilmington was one of America's leading industrial cities. It is evident from research that much of the century was one of the stagnated growth of industry due to the effects of first English trade policies, then the Revoluntionary War, and finally by the economic uncertainties that followed the War. However, "Locally from 1790 to 1810, commerce prospered as it never had nor would again" (Welsh:1956-7). This period of increased growth correspond with the implementation of more sophisticated record-keeping by the Federal Government and thus much more substantial research can be attempted.

A report on the industries of the City of Wilmington in 1791 reported the presence of 12 flour mills, 6 saw mills, 1 paper mill, 1 slitting mill, 1 barley mill, and 1 snuff mill. A turn of the century observer commented: "No less than 265,000 barrels of flour, 300,000 barrels of wheat, 170,000 bushels of Indian corn, besides barley, oats, flaxseed, paper, slit iron, snuff, salted provisions and etc. are annually sent from the waters of the Delaware state; of which the Christiana is by far the most productive and probably many times as much so as any other creek or river of like magnitude in the union" (Hancock in Reed 1947). Another observer in 1799 recorded the presence of additional mills devoted to the manufacture of linseed oil, a calico printing house, a manufactury of silk bolting-cloth, a hat-making factory, and numerous ship building facilities.

The development of manufactories that processed iron products has a direct bearing on the present research. The construction of a forge by Samuel James within the Welsh Tract in 1723 was the earliest successful forge in the Middle Atlantic. In Maryland, the Principio Furnace Company, which was to become the largest iron producing company in the Middle Atlantic did not begin production until 1734 (Whitely 1887). In Virginia a successful iron works was not established until 1724 (Swank 1884). While Colonel Lewis Morris had operated a bog ore mine at Shrewsburg in New Jersey as early as 1676, it was not until the second decade of

the 18th century that a truly commercial works was established (Bining 1938). In many of these 18th century ironworks there was an organization into a sort of plantation system with a main ironmaster's house overlooking the forge areas, workshops, storehouses, and worker's housing. While this system was present in Pennsylvania and New Jersey throughout the 18th century, little is known about the Delaware system. Two of the early ironworks in Delaware, one established by William Keith in 1722 near Cooch's Bridge and a rolling mill set up by Alan Wood on Red Clay Creek seem both to have been organized under the plantation system. The ethnic ties of the Iron Hill Welsh miners seem to have allowed for a less strict plan of settlement. Outside of the immediate area of the blast furnace and forge, the ironworks in all situations encourged blacksmiths and other artificers to settle in the immediate region. The bar iron produced by the forges was used by these persons to make tools, implements, and ironware of different sorts. In a largely agricultural area such as New Castle County there was a close connection between ironmaking and agriculture during the eighteenth and part of the nineteenth centuries. In these areas the combination of a readily available raw product and a constant market for their products created the need for a large population of blacksmiths and machinists. As stated earlier, this formed the basis for this area to be in the forefront of economic development, during the first 75 years of the 19th century.

The project area was included in a 30,000 acre land patent granted in 1701 to a group of Welsh miners (Hoffecker 1977:79). This grant included the northern section of Pencader Hundred and the eastern part of Cecil County, Maryland. This was but one of several "Welsh Tracts" set up by William Penn to accomodate this group trying to escape religious persecution. The Welsh, either Presbyterian or Baptist, organized churches immediately, and places of worship were found at Aiken's Tavern by 1711 and at Iron Hill by 1706. While miners

and forgers at first, during the 18th century, other types of settlers purchased Welsh Tract holdings and established farms along with wool, grist, and saw mills on the Christiana River and White Clay Creek. Communities developed around these mills, and iron industries near Iron Hill, Welsh Tract Church, Cooch's Bridge, and within Newark.

The 19th and 20th Centuries

In the northern Delaware area, the mid-nineteenth century was marked by rapid industrial and urban growth, population expansion, and was accompanied by a noticeable decline in the number of people engaged in agriculture. The rapid growth of the population during the early decades of the century forced many new farmers in the Middle Atlantic area to clear and farm lands of poor or marginal quality. Many of these farmers were hard-pressed to turn a profit from their farmsteads, and this resulted in an outmigration of a large portion of the population during the 1820s and 1830s to better lands to the west particularly in the Ohio River Valley. It has been noted by one author that between 1810 and 1820 the population of Delaware remained stationary and only increased after 1840 (Hancock 1947:374) (See Table 2). The loss of jobs related to agriculture was partly offset by the development of new sources of income and employment, particularly in urban and industrial contexts (Taylor 1964:441; Lilndstrom 1979:300). Thus much of the surplus population that had in previous centuries been farm laborers, tenants, or unemployed, moved into urban and industrial centers where jobs were more plentiful. These trends occurred over the first half of the nineteenth century, and by 1860 were well established.

Urbanization in New Castle County during the first quarter of the century was closely tied to transportation routes and agricultural and industrial production. However, most of the towns of importance in the eighteenth century - Christiana Bridge, Newport, Stanton, Cantwell's Bridge, and Newark originally settled because

TABLE 2

Population of the State, Counties and Wilmington

Census Year	Total	New Castle	Kent	Sussex	Wilmington
1790	59,096	19,688	18,920	20,488	-
1800	64,273	25,361	19,554	19,358	-
1810	72,674	24,429	20,495	27,750	-
1820	72,749	27,899	20,793	24,057	-
1830	76,748	29,720	19,913	27,115	-
1840	78,085	33,120	19,872	25,093	8,367
1850	91,532	42,780	22,816	25,936	13,979
1860	112,216	54,797	27,804	29,615	21,258
1870	125,015	63,515	29,804	31,696	30,841
1880	146,608	77,716	32,874	36,018	42,478
1890	168,493	97,182	32,664	38,674	61,431
1900	184,735	109,697	32,762	42,276	76,508

of their location on major transportation arteries - remained major marketing, milling and shipping centers for only a brief period into the nineteenth century. As early as 1808, it was reported that Christiana Bridge "was formerly the greatest of all the waters across the peninsula," and that its decline was caused by the numerous mills on the Elk River and its tributaries, the rise of Baltimore and the inexpensive cost of shipping produce to that city, and the development of other transportation routes (water and overland) more convenient than the one through the town (American State Papers 1808, Misc. 1: 758). In a more favorable review in 1815 however, it was recorded that Christiana Bridge "is an important place as a depot for goods transporting east or south, as it offers the shortest land carriage between the bays" (Niles' Weekly Register IV, 6:93). Clearly, Christiana remained a major crossroads town, but by the late 1820s was no longer the commercial center it had been in the eighteenth century (Cooch 1976).

The fate of Newport in the early 19th century was similar to Christiana's. Transportation costs from southeast Pennsylvania to Philadelphia and even Baltimore (by way of the Susquehanna River), became less expense, reducing the amount of traffic through the town. By 1809 the village was described as "a small village falling into decay. It once contained five taverns and seven stores, which are now reduced to two of each kind" (Scudder 1877:265).

By mid-century, spurred first by the construction of the Chesapeake and Delaware Canal, and then by railroad construction, several of the local towns were experiencing a rebirth as transportation and manufacturing centers. Newport retained some of its importance as a transshipment and milling center because of the construction of the Philadelphia, Wilmington, and Baltimore Railroad, completed in 1837 (Strickland 1835:225-234; Dare 1856:80). By the end of the century, Newport was a "thriving village of 750 inhabitants ... now as prosperous and progressive as ever" and was fast becoming industrialized as a textile milling center (Delaware State and Peninsula Directory (DSPD) 1898:169).

Stanton, like Newport, was saved from total decline by the railroad, and by 1900 was also a manufacturing center of woolen mills, flour mills, and fertilizer works. Its population at this time was two hundred and seventy-nine (DSPD 1898:198). By 1898, "Ogleton" was a tiny village of only eighty inhabitants, and was strictly an agricultural town. Railroads, canals, and turnpikes had passed it by, and Ogletown did not even possess a bank (DSPD 1898:174). Newark was fortunate to be the home of Delaware State College, later the University of Delaware, and to have two railroads constructed nearby. The town was a manufacturing center like Newport and Stanton, and was located on major transportation routes.

In the first half of the ninteenth century, methods and routes of transportation underwent substantial changes in New Castle County, as first turnpikes, then canals, and finally railroads were introduced. Throughout the century, improved transportation was the key to urban, agricultural, and industrial development.

The first successful turnpike in Delaware was the Newport and Gap turnpike, begun in 1808. It was noted in 1809 that the economic situation of Newport was failing and that "the inhabitants hope something from a turnpike road now progressing" (Scudder 1877:264). The Newport and Gap turnpike did slow this process of decay, but it could not halt it.

By 1815, eight more turnpikes, all with roads in New Castle County, had been chartered: the Wilmington Turnpike Company, incorporated 1808; the New Castle and Frenchtown Turnpike Company, 1809; the New Castle Turnpike Company, 1811; the Kennet Turnpike Company, 1811; the Wilmington and Great Valley Turnpike Company, 1813; the Wilmington and Philadelphia Turnpike Company, 1813; the Elk and Christiana Turnpike Company, 1813; and the Wilmington and Christiana Turnpike Company, 1815. It should be noted that economic decline like that suffered by Christiana was often an impetus for the construction of a

turnpike. This can be seen in the two turnpikes that were built through Christiana in 1813 and 1815 - which were attempts to get Christiana 'back on the map', and to provide a viable Baltimore-Philadelphia overland connection. Despite the improved transportation routes listed above, it was found that water travel was still the cheapest, fastest, safest, and most dependable means of transport available (Gray 1963:311).

The most significant canal built in Delaware was the Chesapeake and Delaware Canal, completed in 1829. Originally planned to connect the Elk and Christiana Rivers, it was later constructed across the peninsula below New Castle, just north of Reedy Island. The canal was expected to bring wealth and prosperity to the communities of northern Delaware, and in fact, two new towns were constructed, Delaware City and Chesapeake City, at the termini of the Canal. Instead of widespread prosperity, however, the canal contributed to the economic decline of Christiana, Newport, Stanton, and New Castle, as goods previously shipped overland across the peninsula could now be sent more cheaply by water. Even Chesapeake City and Delaware City were disappointed in their expected economic boom, and growth in these towns was slow. Only Wilmington, fast becoming an important regional industrial town, benefited from the Canal. Although not an original purpose of its construction, the Canal also came to serve as a border between two distinct socio-cultural sections of Delaware: the industrial/commercial area of northern New Castle County, and the agrarian communities of southern New Castle, Kent, and Sussex Counties. The Canal would continue to serve in this borderline function throughout the remainder of the century, and does so today.

Railroads came into New Castle County in the 1830's. The first line, the New Castle and Frenchtown Railroad, was constructed in 1832 as a direct result of the opening of the Chesapeake and Delaware Canal, and was an effort to compete with

that transportation route (Hoffecker 1977:43). In 1838, the Philadelphia, Wilmington, and Baltimore Railroad was completed, and quickly became the major transportation route across the peninsula (Dare 1856). Throughout the remainder of the century, rail lines continued to be built in northern New Castle County, such as the Baltimore and Ohio, the Wilmington and New Castle, and the Wilmington and Western railroads. As noted previously, the towns of Newark, Stanton, and Newport benefited from their proximity to these railroads, staving off the economic stagnation and decline that were experienced by Christiana, Ogletown, and Glasgow.

New Castle County continued to be predominantly agricultural throughout much of the nineteenth century. In 1815 it was reported that "the greater part of the inhabitants of this state are devoted to agricultural pursuits, and they have rendered it very productive. The principal produce is wheat, rye, indian corn, barley, oats, and flax. Grasses are abundant, and thrive very luxuriantly, furnishing food for many cattle - and every sort of vegetable ... thrives well here. The staple produce is wheat, of which a great quantity of flour is made for export" (Melish 1815:181). At the start of the nineteenth century, however, agriculture in New Castle County was in a dismal situation. Farming practices continued much as they had during the previous century with the use of the four field system of cropping, wheat still the dominant crop, the infrequent use of fertilizers, and the large number of tenant farmers working the land. Production was, on the whole, quite low during the first quarter of the century. It was estimated that the average return of crops for all of Delaware was five bushels of wheat per acre, ten of corn, and fifteen of oats, despite the knowledge that the use of fertilizers could increase crop yields to forty bushels of wheat per acre and eighty of corn (Allmond 1820:77).

Demand for American agricultural products was high until about 1815, when the end of the Napoleonic Wars removed the European war market, and by 1819 the country was in an economic depression. The outmigration of the population that took place at this time, mentioned earlier, can be seen in the tax assessment data for the nineteenth century for White Clay Creek Hundred (Coleman et al. 1984). A steady rise in the number of taxables was observed from 1800 to 1818, with a sudden drop in 1819. The assessments also list many of the taxables as no longer being in the Hundred, and often found is a notation of "gone to Ohio" or "Moved to Indiana".

Contributing to these difficulties were the problems presented by the Hessian Fly and Black stem-rust, both of which did severe damage to wheat crops. However, it has been suggested that indirectly the Hessian Fly was helpful to wheat cultivation, because it caused increased attention to be given to fertilization and crop tillage, which increased agricultural productivity (Bidwell and Falconer 1941:96).

The revival of the New Castle County Agricultural Society, one of the first such organizations in the nation, in 1818, encouraged farmers in the use by farmers of improved drainage techniques, fertilizers, and machinery with these developments. New Castle County was on its way to becoming one of the finest agricultural counties in the United States by 1860. Indeed, between 1830 and 1860, when judged by contemporary agriculturalists, the county was considered to be "far superior to other sections of the state" (Hancock 1947:375), and one newspaper observed that "it will satisfactorily compare, in every respect, with the crack counties in the large neighboring states, or indeed with any of the states" (Delaware State Journal, June 12, 1846). Fertilization, farm machinery, and improved drainage were helpful in this agricultural success, but the county's rich natural resources, its fine transportation network, and the proximity of cities,

were advantages with which other areas, particularly Kent and Sussex Counties, found difficult to compete. A traveler through the region summed this up well when he wrote "the northern portion of this little state is generally a fine tract of country, being highly and skillfully cultivated, and well adapted to the growth of wheat and other grains of superior quality. In a word, this portion of the state presents all that is delightful in agriculture" (Myers 1849:39).

Average farm size remained much as it had been during the eighteenth century, about 200 acres. However, farms of 300 to 400 acres were not uncommon (Bausman 1933:64). By 1900, real estate values for agricultural property ranged from $50 to $125 an acre in the Christiana-Ogletown-Stanton area (DSPD 1896). The system of farming employed in northern Delaware was similar to that used in neighboring Chester County, and was either a cropping system, a mixed system, or a grazing system (Bidwell and Falconer 1941:261). Documentary evidence of the W. M. Hawthorn farmstead (Coleman et al., 1984) indicates that the mixed system of farming was used by the occupants of the farm. In this method, a well-watered portion of the farm was kept as permanent pasture and was frequently manured, with the remainder of the farm cropped in a rotation of corn, oats, barley, wheat, and clover. The Chester County system of farming was widely held in high esteem, and Hawthorn's farm, following this pattern, probably was a clean and well-arranged farm, with well-built fences dividing the farmstead into seven to twelve enclosures, and neatly-constructed farm buildings located near a spring (Bidwell and Falconer 1941:262). As will be seen later, this description is quite accurate.

Livestock production in New Castle County continued to be a major farm occupation in the first half of the nineteenth century (Bidwell and Falconer 1941:394). Prior to 1850, the area of eastern Pennsylvania, New Jersey, and northern Delaware had been known for its cattle-feeding industry. However, it was dairy-farming that began to predominate in New Castle County, particularly

because of the need for fresh butter and milk in the urban centers of Philadelphia and Wilmington. By 1847, dairies of from fifteen to 100 cows were common in northern New Castle County (Bidwell and Falconer 1941:427).

The rise in the production of dairy goods for consumption in urban markets was also attended by a rise in the production of perishable fruits and vegetables, also for urban consumption. Many farmers had begun to diversify their farm production from strictly cereals to market garden produce. This trend occurred because of the difficulty that regional farmers experienced in attempting to compete with grain production from the western states, such as Indiana, Ohio, Illinios, and Michigan. By 1850, the production of corn in Maryland, Delaware, and eastern Pennsylvania, which had been leading producers of that crop in 1840, had decreased in relation to the production of the western states. The Middle Atlantic States in 1840 had only grown enough wheat to supply its own needs, and by 1860 had a deficit of nearly 15,000,000 bushels, which was made up of wheat imported from the west (Bidwell and Falconer 1941:311). Clearly, the dominance of the Middle Atlantic States in grain production, a tradition which they had enjoyed since the early eighteenth century, had been usurped by the larger grain producing regions west of the Appalachians by 1860.

Between approximately 1840 and 1860, southern New Castle County and Kent and Sussex Counties were large producers of peaches, which were shipped by rail and water to Philadelphia, Wilmington, and Baltimore. This "peach boom" was short-lived, however, when a disease called "the Yellows" devastated the orchards. Some northern New Castle County farmers did grow peaches, but the area did not pattern its agricultural production around the fruit. Thus farmers in this area were less effected by the peach blight than areas further south. Other fruits, particularly apples, were grown for profit in the study area (U.S. Agricultural Censuses, 1850-1880; Myers 1849:39; Hoffecker 1977).

From 1860 until the end of the century, truck or market gardening and the orchard industry began to predominate in much of Delaware. This trend saw its largest percentage increase in the state between 1889 and 1899, with an increase of 457.2% (Shannon 1945:260). Northern New Castle County did join this agricultural trend, but still grew a large amount of cereal crops. These grains were no longer for export or widespread consumption, but were for local use in the urban centers, and for cattle-feeding.

Tenant farming, which had been quite common in the eighteenth century, became even more prevailent during the nineteenth century. Large land owners, having acquired much of their holdings during the hard times of the 1820s and 1830s, leased their lands to tenants. Most land owners were white farmers, while the tenants and farm laborers, particularly in Kent and Sussex Counties, were predominantly black. In other cases, the tenant was a member of the land owner's family, as was the situation with the Robert Ferguson farm (Coleman et al. 1983). One author has likened the farm situation in Delaware in the second half of the nineteenth century to that of the antebellum southern aristocracy: "there developed a class of farm owners who not only did little labor themselves, but required that the hired labor render personal services...They lived on their farms and personally directed their farm businesses. Some of them owned additional farms which they either 'carried on' or rented to tenants" (Bausaman 1933:165). By 1900 over 50% of all the farmers in Delaware were tenants or share croppers. Over the period between 1880 and 1900 this figure represents almost an 8% increase in farm tenancy (Shannon 1945:418). Tenancy remained a dominant farming practice into the twentieth century.

The growth of non-agricultural businesses coincided with the decline in agricultural pursuits, which was caused by population expansion and outmigration, poor agricultural production in the early years of the nineteenth century, and urban

and industrial expansion (Taylor 1964; Linstrom 1978, 1979). Lindstrom (1978:123) found that in 1820 over 76% of the population in the Philadelphia hinterland were farmers by occupation, and by 1840 this number had declined to about 70%. In addition, the income per agricultural worker fell well below that of the non-agricultural worker. At the same time the income of farmers in the region who were able to remain productive was higher when compared with other areas of the nation. Thus, while many farmers were forced to migrate west or into the cities, or become tenants, many farmers who were successful enjoyed a substantial income and prosperity.

In New Castle County,these changes had brought an end to export crop production, and areal specialization began to occur. New Castle County became an area that specialized in the production of corn, dairy products, fruits and vegetables, and lumber, while producing much less wheat and livestock (Lindstrom 1978:125). By the middle of the century, the county produced goods that were desired by the urban communities it was in close proximity to, supplying perishables such as milk, butter, fruits, and vegetables. This shift from cereal farming to market gardening would continue into the next century, and industrialization and urbanization would continue.

Regional development during the nineteenth century was much more complex than in the previous decades, primarily due to the great strides in industrialization, urbanization, and transportation that were caused by the Industrial Revolution (Taylor 1964; Walzer 1972; Lindstrom 1978, 1979). The first half of the century witnessed a noticeable decline in Philadelphia's economic influence over the region, caused by Baltimore's rise, the competition for markets between the two cities, and a drop in the consumption by foreign markets of Philadelphia's agricultural produce. The area responded by diversifying its agricultural production, but primarily it devoted increasingly more of its resources to manufacturing (Lindstrom 1978:122).

While milling continued to be an important occupation in New Castle County, manufacturing of all sorts became common as the century wore on. The variety of manufacturing and milling establishments in northern New Castle County was astounding. In 1815, Niles' Weekly Register observed that the White Clay Creek, Red Clay Creek, and Christiana River drainages within Delaware were the power sources for forty-six different mills or manufactories: twenty-four grist mills, ten saw mills, five cotton mills, two woolen manufactories, one paper mill, one slitting mill, one snuff mill, one glazing mill, and one oil and saw mill. Less than thirty-five years later, the number of woolen and cotton manufactories had doubled to fourteen, all steam or water powered, and it was recorded that "the manufactures of Delaware are more extensive than its commerce" (Myers 1849:40). Although Beers' Atlas of the State of Delaware shows only a slight increase since 1815 in the total number of mills and factories in the hundreds of White Clay Creek, Mill Creek, Christiana, and Pencader, the diversification of mill types in 1868 reveals a shift in the number of agriculturally-oriented establishments and a rise in the number of manufactories based on an industrially-oriented economy. As noted above, in 1815 there were twenty-four grist mills and, excluding saw mills, only half as many mills of other types. By 1868, there were nineteen grist mills and, again excluding saw mills, fifteen mills of all other types - iron, cotton, woolen, paper, snuff, spice, bark, and phosphate.

The first official report on the state of manufacturing in the U.S. was compiled by Tench Coxe for the Year 1810 (Coxe 1814). The report not only provides the first statewide census for manufacturers, but also a breakdown by county for this data (Table 3). The dominance of New Castle County in most aspects of manufacturing was clearly shown. Of the 27 categories of manufactures, 16 were unique to New Castle County. Sussex County in 1810 contained the only forges and saltworks in the state. No manufacturers were

TABLE 3

STATE OF DELAWARE - MANUFACTURES - 1810

		New Castle	Kent	Sussex	Total Amount
Cotton in Families & C.	Yards	661	-	-	661
	Value in Dollars	661	-	-	661
Cotton Manufacturing Establishments	Number	3	-	-	3
Flaxen Goods in Families & C.	Yard Made	75,440	38,427	166,502	280,369
	Value in Dollars	30,176	19,213½	83,251	132,640
Mixed Cloth and Hempen Chiefly Mixed	Yards Made	17,820	-	-	17,820
	Value in Dollars	10,578	-	-	10,578
Woollen Goods In Families & C.	Yards Made	11,524	4,269	48,150	63,943
	Value in Dollars	11,524	4,269	48,150	63,943
Woollen Manufacturing Establishments	Number	2	-	-	2
	Yards Made	20,500	-	-	20,500
	Value in Dollars	41,000	-	-	41,000
Cotton and Wool Spun in Mills	Pounds	130,000	-	-	130,000
	Value in Dollars	91,000	-	-	91,000
Stockings	Pieces	6,563	-	-	6,563
	Value in Dollars	4,759	-	-	4,759
Looms	Number	167	200	1,638	2,005
Carding Machines	Number	10	1	-	11
Fulling Mill	Number	6	1	1	8
Hatteries	Fur Hats	7,267	-	-	7,267
	Wool and Mixed Hats	500	0	0	500
	Value in Dollars	29,795	-	-	29,795
Spindles	Number	1,822	-	-	1,822
Forges	Number	-	-	5	5
	Tons	-	-	215	215
	Value in Dollars	-	-	23,220	23,220
Rolling and Slitting Mills	Number	3	-	-	3
	Tons	1,200	-	-	1,200
	Value in Dollars	15,600	-	-	15,600

TABLE 3 (Con't)

STATE OF DELAWARE - MANUFACTURES - 1810

		New Castle	Kent	Sussex	Total Amount
Nails	Naileries	1	-	-	1
	Pounds	201,600	-	-	201,600
	Value in Dollars	16,200	-	-	16,200
Tanneries	Number	10	12	3	25
	Hides and Skins Tanned	16,180	16,000	-	32,180
	Pounds Tanned	-	-	14,330	14,330
	Value in Dollars	56,405	52,000	2,866	111,271
Shoes and Boots	Pairs	34,898	-	-	34,898
	Value in Dollars	53,748	-	-	53,748
Paper Mills	Number	2	-	-	2
	Value in Dollars	75,000	-	-	75,000
Gun Powder	Mills	1	-	-	1
	Pounds	250,000	-	-	250,000
	Value in Dollars	125,000	-	-	125,000
Grist Mills	Number	27	15	-	42
	Barrels of Flour	80,000	12,400	-	92,400
	Barrels of Corn Meal	30,000	-	-	30,000
	Value in Dollars	905,000	99,200	-	1004,200
Barley Mills	Number	2	-	-	2
	Pounds	150,000	-	-	150,000
	Value in Dollars	10,000	-	-	10,000
Distilleries	Number	19	12	20	51
	Gallons	10,800	4,800	1,200	17,800
	Value in Dollars	5,400	2,880	7,200	15,480
Breweries	Number	2	-	-	2
	Barrels	476	-	-	476
	Value in Dollars	7,616	-	-	7,616
Snuff Mills	Number	2	-	-	2
	Pounds	71,800	-	-	71,800
	Value in Dollars	17,950	-	-	17,950

TABLE 3 (Con't.)

STATE OF DELAWARE - MANUFACTURES - 1810

		New Castle	Kent	Sussex	Total Amount
Rope-Walks	Number	2	-	-	2
	Tons	250	-	-	250
	Value in Dollars	12,800	-	-	12,800
Salt	Works	-	-	7	7
	Barrels	-	-	4,100	4,100
	Value in Dollars	-	-	2,050	2,050

specific only to Kent County. Manufacturers present statewide included woolen and flaxen goods made at home, fulling mills and looms, tanneries, and distilleries. At this time grist mills produced the greatest value of goods with iron manufactures second in rank.

While the statistics for Delaware might at first be interpreted positively, Table 4 shows that in the first decade of the 19th century Delaware was still dependent on agricultural production for the support of the general production. This was partially evidenced by its last place ranking in the value of the manufactures. The importance of shipping and the vigor of Delaware's ports were noted by the 8th place position in the re-export business. Much of this trade after the Revolution involved trade with Cuba and the West Indies. A system existed whereby foodstuffs and cooperage supplies were traded for rum, sugar, molasses, or hard currency.

Delaware was not to remain industrially backward for long as the War of 1812 and the Embargo Acts that preceeded it proved a great stimulus to manufacturing in Delaware, especially in textiles (Munroe 1978). Much of the reemergence and success of both industry and agriculture in Delaware can be attributed to improved transportation facilities beginning in the 1830's. The linking of Wilmington by railroad with Baltimore and Philadelphia in 1837 provided not only Wilmington, but also its hinterland, with excellent markets both for the purchase of raw materials and the sale of finished products. Contained within this hinterland was also a sizable population of skilled mechanics and machinists who were able to perform the skilled technologies. This combination of good transportation, a large labor pool, and a ready supply of raw materials allowed industry in northern New Castle County to grow and diversify very rapidly. It has been pointed out that, "a notable aspect of the industrial pattern in Wilmington was the interrelationship among the local industries" (Hoffecker 1974:27). This pattern benefited greatly not only

TABLE 4

STATE RANKINGS BASED ON DATA FOR 1810

Rk	Extent in square miles	Population	Number of the Representatives in Congress	Value of the foreign domestic exports	Value of the merchandize re-exported	Registered tonnage employed in the foreign trade	Net revenue derived from the customs	Value of the manufactures
1	Virginia	New York	New York	New York	Massachusetts	Massachusetts	New York	Pennsylvania
2	Georgia	Virginia	Virginia	Massachusetts	New York	New York	Massachusetts	Massachusetts
3	Kentucky	Pennsylvania	Pennsylvania	South Carolina	Pennsylvania	Pennsylvania	Pennsylvania	New York
4	North Carolina	Massachusetts	Massachusetts	Pennsylvania	Maryland	Maryland	Maryland	Virginia
5	Pennsylvania	North Carolina	North Carolina	Virginia	South Carolina	South Carolina	South Carolina	Maryland
6	Massachusetts	South Carolina	Kentucky	Maryland	Rhode Island	Virginia	Virginia	Connecticut
7	New York	Kentucky	Maryland	Georgia	Virginia	Connecticut	Rhode Island	North Carolina
8	Tennessee	Maryland	South Carolina	Connecticut	Delaware	North Carolina	Connecticut	New Jersey
9	Ohio	Connecticut	Connecticut	Rhode Island	New Hampshire	New Hampshire	Georgia	Vermont
10	South Carolina	Tennessee	Tennessee	North Carolina	Connecticut	Rhode Island	North Carolina	Kentucky
11	Maryland	Georgia	Georgia	New Hampshire	Vermont	Georgia	New Hampshire	New Hampshire
12	Vermont	New Jersey	New Jersey	Vermont	Georgia	New Jersey	Delaware	Rhode Island
13	New Hampshire	Ohio	Ohio	Delaware	New Jersey	Delaware	New Jersey	Georgia
14	New Jersey	Vermont	Vermont	New Jersey	North Carolina	Kentucky	Ohio	Tennessee
15	Connecticut	New Hampshire	New Hampshire	Ohio	Ohio	Vermont	Vermont	South Carolina
16	Delaware	Rhode Island	Rhode Island	Kentucky	Kentucky	Ohio	Kentucky	Ohio
17	Rhode Island	Delaware	Delaware	Tennessee	Tennessee	Tennessee	Tennessee	Delaware

manufacturers in Wilmington, but also the small businesses that were established surrounding the city. With good railroad facilities, requested goods could be delivered within the same day, even from Philadelphia. The carriage manufacturing business represents the process well with leather tanners, foundaries, and wheel shops providing the necessary parts that then only needed assembly. Subsequent sale was usually via railroad to Southern markets or to the government during the Civil War when lucrative contracts for wagons and gun carriages were received (Hoffecker 1974). Other successful businesses also followed this pattern of the shipping of their products for out of state sale. Favorable conditions allowed Wilmington to become a leading manufacturer of transportation related equipment such as carriages, railroad cars, and iron ships. In 1853 the majority of workers in Wilmington were employed in cotton manufacturing, iron-casting, wheel making, railroad-car manufacture, shipbuilding, carriage making, leather tanning, and coopery.

By 1860, 380 manufacturers in New Castle County were producing a total of 53 different products (Table 5). The relative lack of large-scale manufacturing in the counties of Sussex and Kent was seen in the value of their annual product, only 1/10 of the total value of annual product statewide. Also note that the total value of annual product for Delaware doubled between 1850 and 1860. Hancock states that "by 1869 the foundations of manufacturing that were to develop so rapidly after the Civil War were well laid" (Hancock 1947:425). This quote applies to the well established industries of New Castle County and not to undeveloped lower counties. At this time the only manufacturers in Sussex and Kent counties were saw and grist mills which operated mostly for local needs. Other manufacturers though numerous, existed with small capital investments and showed only fractional returns, compared to New Castle County. These downstate counties did not develop new industries until the completion of the Delaware Railroad in 1856

TABLE 5

NEW CASTLE COUNTY MANUFACTURES - 1860

Manufactures	No. of Establishments	Capital Invested	Cost of Raw Material	Male Hands	Female Hands	Value of Annual Product
Agricultural Implements	7	$ 38,500	$ 20,878	62		$ 63,571
Axles	2	10,500	5,855	17		15,650
Bolts, Nuts, & c.	1	8,000	20,100	17		30,650
Bone Dust	1	3,000	3,950	3		5,713
Boots, Shoes	42	79,975	5,853	223	54	196,241
Brass-founding	3	12,000	7,235	7		10,225
Bread, Crackers	4	19,500	56,780	26	4	80,360
Brick	4	59,000	17,650	210		73,000
Cabinet Furniture	13	50,100	21,707	53	4	49,347
Cars	1	50,000	54,500	100		100,000
Car Springs	1	8,000	15,775	18		24,750
Carriages	16	204,850	236,260	522	1	553,250
Cigars	8	10,000	20,410	52		44,030
Clothing	19	68,675	100,708	62	167	177,340
Confectionary	2	11,000	16,130	9	4	27,460
Cotton Goods	11	582,500	590,102	520	589	941,703
Drain Tile	1	5,000	1,625	8		6,300
Fire Brick	1	4,000	1,500	8		15,000
Flour, Meal	30	471,762	1,297,061	92		1,537,265
Gunpowder	1	500,000	358,640	225		600,000
Horse-Shoe Nails	1	100	935	3		2,496
Hoop-Skirts	1	2,000	809	2	3	4,125
Iron-founding	5	312,000	436,000	264		658,750
Iron, Rolled	4	190,000	112,354	83		192,600
Leather	5	122,900	168,065	51		237,080
Leather, Patent	1	95,000	111,400	100		190,750
Leather Hose and Belting	1	100	4,500	1		5,500
Machinery, Steam Engines, & c.	5	237,000	136,650	325		348,500
Machinists' Tools	1	30,850	7,119	22		33,142
Malt	1	7,000	11,650	3		15,000
Masts, Spars	1	1,000	2,000	3		4,175
Metallic Kegs	1	5,000	8,000	12		15,000
Moroocco	7	160,000	329,952	204	32	461,650
Paper	2	280,000	283,439	66	27	385,000
Plaster, Ground	2	4,800	4,945	6		7,500
Pottery-ware	3	7,300	2,615	12		12,187
Quercitron Bark	1	2,000	4,800	2		8,100
Sails	1	1,000	4,130	3		6,530
Saddlery and Harness	7	32,225	22,078	40		48,245
Sashes, Doors, Blinds	4	34,000	11,886	27		29,436
Sewing-machines	1	10,000	2,875	15		15,000

Ship-building	6	293,500	327,300	558		574,650
Ship-smithing	3	5,000	5,300	12		13,925
Shirts	1	2,000	1,295	1	8	4,250
Snuff	2	25,000	11,600	12		47,200
Soap, Candles	1	25,000	24,730	8		41,500
Spokes, Felloes	1	16,000	7,000	14		12,000
Spices, Ground	1	60,000	40,000	8	2	60,000
Stone and Marbel-cutting	3	17,700	14,755	18		25,990
Tin, Sheet-iron, & Copper-ware	10	39,500	40,069	61		79,795
Turning	3	3,500	9,850	12		16,068
Wool-carding	2	1,000	3,000	3		3,600
Woolen Goods	4	117,000	75,807	76	38	153,035
Totals, inc. Misc. Mfgs. not above specified	380	$4,863,472	$5,513,058	4,809	948	$8,963,440
Total for Delaware, 1860	615	$5,452,887	$6,028,918	5,465	956	$9,892,902
Total for Delaware, 1850	531	$2,978,945	$2,864,607	3,237	651	$4,649,296

created significant incentives for the expansion of agricultural production and for the introduction of new market crops such as peas and strawberries. Prior to this "boom", the population growth had been very slow. The population of Sussex had increased by only 2,500 and the population of Kent by 8,000 while New Castle was enjoying an increase of 25,000 (Table 2). The development of new industries was related to the processing of the numerous agricultural products and to providing service products to the established and newly created farms. Thus, the increase in wealth in Kent and Sussex counties was not related to manufacturing per se, but to truck and fruit farming, canneries, basket manufacturing and fertilizer factories.

Even with this growth related to the railroad, Kent and Sussex counties combined remained far behind New Castle County in the value of manufacturing products. In 1880 the statistics between the two downstate counties and New Castle had not changed from 1860, with Kent and Sussex Counties still producing goods valued at 1/10 that of New Castle alone (Table 6).

TABLE 6

DELAWARE MANUFACTURERS - 1880

County	Number of Establishments	Capital	Employees	Wages	Products
New Castle	399	$14,144,683	10,044	$3,862,501	$17,805,608
Kent	204	$ 982,839	1,711	$ 257,352	$ 1,731,032
Sussex	143	$ 528,300	880	$ 147,496	$ 977,798
Total	746	$15,655,822	12,635	$4,267,349	$20,514,438

The economic growth of the state in the late 19th and early 20th centuries is documented by Table 7 which presents occupational statistics and by Table 8 which compares agricultural and manufacturing production. The re-emergence of agriculture in 1900 is seen by the similar percentages of persons employed, compared to before 1870, when manufacturing was at a high point. After 1870 the percentage of people engaged in agriculture declined due to mechanization. For

TABLE 7

OCCUPATIONAL STATISTICS, 1870-1930

(FROM REED 1939)

	1930	1900	1870
Total number of persons 10 years old or over, gainfully occupied	28,104	72,966	40,313
Per cent engaged in:			
Agriculture	17.6	26.0	39.5
Manufacturing and mechanical industries	34.7	31.1	23.5
Transportation and communication	9.2		
Trade	10.9	13.8	8.5
Professional service	6.2	3.8	
Domestic and personal service	10.5	23.3	28.3
Public service	2.4		
Clerical occupations	8.5		

Forestry or lumbering, fishing, and mining, employing in 1930 total of only 495 persons, are included under manufacturing. In the censuses of 1900 and 1870 separate classifications of public service and clerical occupations were not made, those employed therein being counted under other headings. In 1900 and 1870 trade and transportation were counted together.

-Computed from United States census reports.

TABLE 8

MANUFACTURING AND AGRICULTURE*

(FROM REED 1939)

Note. Values are given in millions of dollars. Other figures represent thousands. For example, the value of manufactures in 1870 was $16,300,000, and the number of wage earners was 9,700.

	1870	1899	1929	
MANUFACTURES:				
Value of products	16.8	41.3	149.6	
Value added by manufacture	5.6	16.6	69.2	
Wages paid	3.7	8.5	29.1	
Numbe rof wage earners[1]	9.7	20.6	23.6	
Total horsepower	8.6	39.2	115.0	
AGRICULTURE:				
Value of farm products	8.2	9.3	21.2	
Wages paid to hired labor [2]	1.7	1.1	2.5	
Value of implements and machinery	1.2	2.2	7.3	(for 1930)

[1] The figure for 1870 ils for "all hands;" the others represent the "average number."

[2] The figure for 1870 includes value of board.

* Figures in this table are from United States census reports of 1870, 1900, and 1930.

this period, the value of manufacturing versus agricultural production became increasingly disproportionate due to the greater return of manufacturing. The growth in the value of manufacturing products from 1870 to 1929 was significant, but was overshadowed by a general economic decline. At the turn of the century, while America's industrial economy had become truly national in scope, Delaware was falling behind the rest of the nation (Hoffecker 1977). Many of the successful firms in Wilmington were bought by large, national companies and the others went bankrupt due mainly to competition from the Midwest. Still, in 1907, Wilmington stood seventh in manufacturing in the United States according to population, and had a greater diversity of industries than any other city in the United States. This was just prior to a severe decline, and by the second decade of the century the Dupont Company had taken over the industrial base of the city and also of the state.

Archival research indicates that 1843 is the earliest possible occupation date for the Wilson/Slack site. On this date a small parcel of land was sold by Thomas Armstrong to John R. Hill (Table 9). This land was part of a larger parcel that Armstrong had bought from John R. Evans in 1803 (A-5-265), which is assumed to have been in agricultural production since that time. According to the tax assessment return for the year 1845, a frame dwelling and shop were present on the property at that time. The architecture of these two structures has been the subject of a separate study and is included as Appendix II, and any comments on the architecture of the structures are drawn from this study.

The 1849 Rea and Price map of Delaware shows three buildings labelled shops within the project area (Figure 4). These buildings correspond to the main residence, the blacksmith shop, and the barn structure that was not extant at the time of the initiation of the archaeological fieldwork. The location of this complex was ideal to take advantage of the heavily travelled road from Christiana Bridge to

TABLE 9

PROPERTY TRANSFERS

DATE:	3/19/1843	Thomas B. Armstrong	2 Acres &
DEED:	Volume G-6, page 27	to	7 sq. perches
		John R. Hill	$112.40

NOTE: Both Armstrong and Hill are residents of Pencader HD.

DATE:	3/1/1853	John R. Hill & Wife	2 Acres &
DEED:	Volume L-6, page 458	to	7 sq. perches
		Alexander Wilson	$1,400.00

DATE:	/ / 1896	Alexander Wilson
WILL:	S-2-376	to
		Sara J. Wilson (Wife)
DATE:	/ /1913	Sarah J. Wilson
		to
		John T. Wilson (Son)
DATE:	5/22/1930	John T. Wilson
WILL:	L-5-495	to
		Ida Leak Wilson (Wife)
DATE:	/ /1948	Ida Leak Wilson
WILL:	P-7-186	to
		Sarah Wilson Slack (Daughter)

NOTE: Bought by DelDOT 1983

Head of Elk that passed along the southern boundary of the property (Figure 5). At the time of the beginning of Hill's business, this was a very strategically located address, although the rapid acceleration of the use of the railroads then recently constructed must have eliminated some of the business prospects. It seems that the particular location was not solely oriented to the railroad, as prior to the late 19th century a small hamlet (Henry 1981) was present at the intersection of Route 4 and Route 72. At the time of the publication of the Rea and Price Map, Schoolhouse #54 was located across the road from Hill's residence. This type of crossroads settlement such as the one described above is very common in 19th century Delaware and each settlement can be reliably predicted to contain a blacksmith's or wheelwright's shop, usually a schoolhouse, and other small commerical structures.

Alexander A. Wilson, the next occupant of the site, was probably an apprentice to Hill. He was born in Cecil County in 1829 and came to the Hill business shortly after it began. The U.S. census of 1850 (Table 10) lists Alexander Wilson, William Rankin, and Henry Clarke as residing with the Hill family. This situation changed in 1852 when A. Wilson and Sara Clendenin were married (Figure 6). In 1851 Wilson took over Hill's business, possibly through a lease arrangement as he did not purchase the property until 1853 (Table 9). The purchase at this time was made possible by a generous inheritance from Wilson's grandfather in the Spring of 1853 (Cecil Co. Will Book B-9-493). The deed indicates that, for a little over two acres with buildings, Wilson paid $1,500 to Hill who was at that time living in Cecil County, Maryland (New Castle County Deed Record Q, Volume 6, Page 27). Mrs. Sarah Slack, Alexander's granddaughter, states that the Hill and Wilson families had shared the house, with the Hills occupying the western half and the Wilsons the eastern half. Cooking facilities in the basement were apparently shared (Del Sordo 1981:3).

TABLE 10
U.S. CENSUS OF POPULATION
1850-1900 - WILSON-SLACK OCCUPANTS

Pencader Hundred

1850

Name	Age	Sex	Occupation	Place of Birth
John R. Hill	38	M	Wheelright	Maryland
Catharine A. Hill	36	F		Maryland
Sarah I. Hill	10	F		Delaware
John H. Hill	6	M		Delaware
James R. Hill	4	M		Delaware
William Rankin	48	M	Blacksmith	Pennna.
Alexander Wilson	21	M	Wheelwright	Maryland
Henry Clarke	17	M	Wheelwright	Delaware

1860

Alexander Wilson				
Sara Jane Wilson				
3 Children 6 Years Old				
John Robins	25		Wheelwright	
Margaret Clendenin	19			

1870

A. Wilson				
Sarah J. Wilson				
John Wilson				
Eliza. Wilson				
William Wilson				
Mia Townsend	6			
_____ Holland	16	F	Domestic Servant	
_____ Chambers			Blacksmith	
William Kelly			Blacksmith	
James Jones			Wheelwright	
William Worrell			Wheelwright	

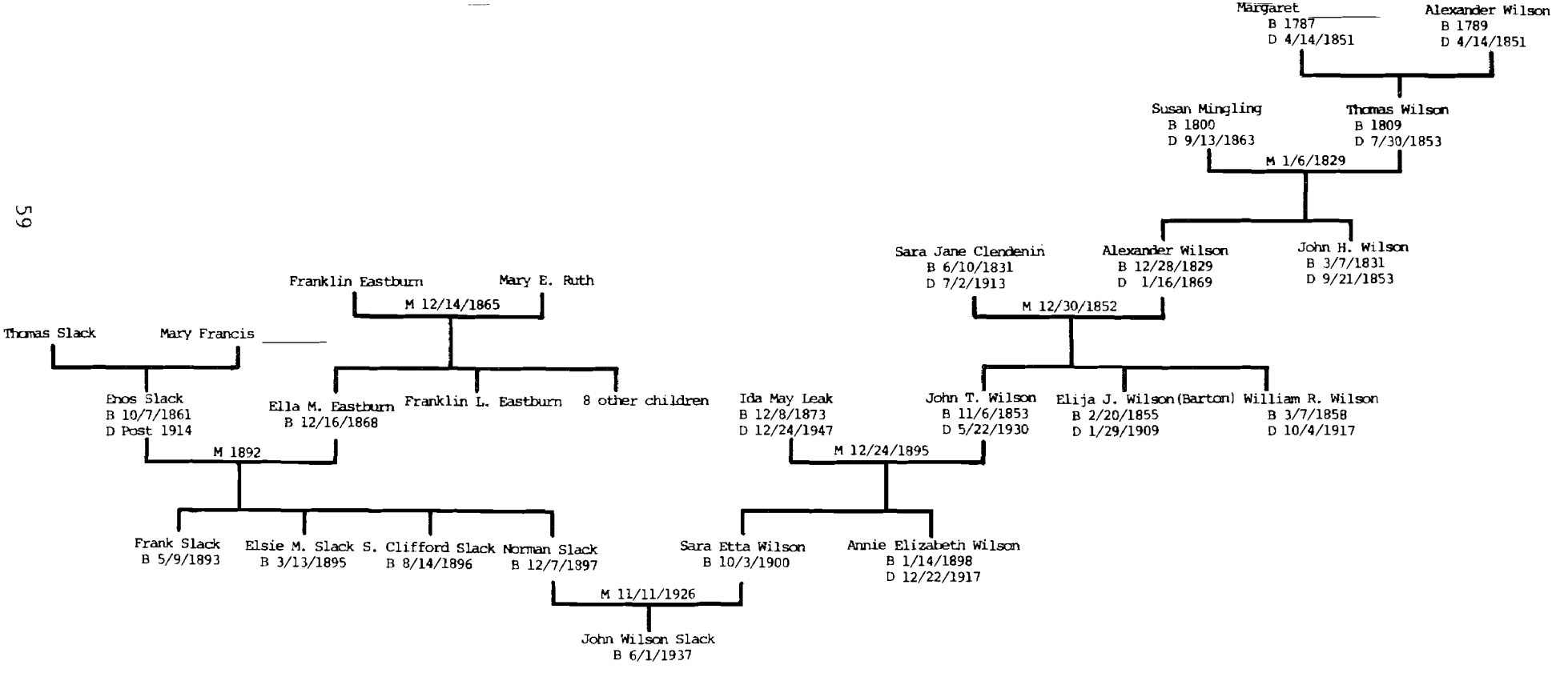
1880

Name	Color	Sex	Age	Relationship	Occupation	Months Attended School	Birth Place	Father's Birth Place	Mother's Birth Place
Wilson, Alexander	W	M	50		Machinist		MD	MD	MD
Wilson, Sarah	W	F	48	Wife	Keeping Hse.		PA	PA	PA
Wilson, John	W	M	26	Son	Machinist	12	DE	DE	DE
Wilson, Lidia J.	W	F	24	Daughter	At Home		DE	MD	MD
Wilson, William R.	W	M	22	Son	Mechanic		DE	MD	PA
Townsend, Mary	W	F	16	Servant	Servant		MD	MD	MD
Bonsall, Levi	W	M	13	Servant	Errand Boy		DE	DE	DE
Cleaver, Henry	W	M	18	Boarder	Blacksmith	12	PA	PA	PA
Albert, Reed					Blacksmith				

1900

Name	Relationship	Birth Month	Year	Age	Birth Place
Wilson, John T.		Nov.	1853	46	Delaware
Wilson, Ida	Wife	Dec.	1872	27	Delaware
Wilson, Annie	Daughter	Jan.	1898	2	Delaware
Wilson, Sarah	Mother	Mar.	1832	68	Pennsylvania

Figure 6: WILSON-SLACK GENEOLOGY



According to data from the 1860 Census of Manufacturers, Alexander Wilson called himself a blacksmith and had in his employ a wheelwright and one other worker (Table 11-Appendix IV). His capital investment, payroll and raw material expenditures, and production worth seem meager when compared to today's standards, but Del Sordo's (1981:4-5) analysis indicates that Alexander Wilson's business assets and overhead could be ranked among the top four blacksmiths/wheelwrights in Pencader and White Clay Creek Hundreds. This finding generally holds true for the remainder of Wilson's career, according to Del Sordo's analysis. Wilson's account books show that during the seven year period covering 1863 to 1869, he served over 200 separate customers (Del Sordo).

Alexander Wilson's household in 1860 consisted of seven individuals (Table 10). In addition to his immediate family of wife and three young children, his wife's sister and one of his employees shared the house (1860 Census of Population). The increase in the size of Wilson's household over the preceeding years may have influenced him to enlarge the house to its present size by this time (Del Sordo).

On Beer's 1868 Atlas of Pencader Hundred (Figure 7) Alexander Wilson's complex is shown with two structures, one presumably his residence, the other labelled "W. W. & B.S. Sh.". This letter is the standard 19th-century mapmaker's notation for "Wheelwright and Blacksmith Shop." Only two structures are shown on the property. It is not expected that all outbuildings, especially the smaller ones, could logically be included on a map of this scale, and no conclusions on the make up of the site should be drawn.

This 1868 map (Figure 7) also shows the proposed route of the Avondale, Newark, and Delaware City Railroad to the east of the complex. The railroad was, in fact, not built on this location, but was put through just to the west of Wilson's property several years later (Cooch 1936:28, 115). The change in the position of the right-of-way was but a foreshadowing of the events that followed for the

TABLE 11

ALEXANDER WILSON BUSINESS DATA
(from Del Sordo 1981)

Year	A. Wilson Occupation	Capital Investment	Raw Material Costs	Wages # Employees	Wages Amount Paid	Value of Goods Produced	Annual Profit
1860	Blacksmith	$ 450	$ 302	2	$ 720	$ 1180	$ 150
1870	Machinist, Wheelwright, Blacksmith	$ 4000	$ 2240	6	$1400	$ 5000	$ 1360
1880	Machinist, Blacksmith, Wheelwright	$ 8000	$ 3200	7	$3000	$ 7600	$ 1400

railroad company and for many of the branch lines built in the late 19th century (Clayton 1948).

The charter for the construction of the railroad line passing north-south adjacent to the Wilson-Slack property was granted in February 26, 1857, to the Delaware and Pennsylvania Railroad Company. The purpose for the construction of the line was to provide a connection between the western Pennsylvania coal fields and the port of Delaware City, Delaware. It was thought that this would be a profitable venture for coal transportation as the crowded and more expensive port of Philadelphia was avoided and also because the Delaware City port, unlike other ports, remained ice-free during the winter months. The idea was to ship coal mined in western Pennsylvania through the Chesapeake and Delaware Canal to Delaware City where it could be re-shipped to all points on the Atlantic seaboard. The Pennsylvania and Delaware Railroad was to have been used for the transport of the coal when the canal was frozen over during the winter months (Hayman 1979:62).

Due to difficulties with the construction, financing, and legislation, the railroad was not completed for 16 years after its charter. The Pennsylvania section of the line was first called the Newark and Avondale Railroad and was incorporated in Delaware on March 11, 1867 for the purpose of connecting with the Delaware Railroad. Later, this railroad changed its name to the Pennsylvania and Delaware Railroad. In 1871 the legislature of Delaware permitted the P & D RR and the D & P RR to unite, and the new company chose the Pennsylvania section's name. Construction finally began in 1870 and the road was opened for the entire thirty-nine miles between Pomeroy and Delaware City in 1873 (Figure 8). Because of the poor financial climate of the time, the company did not purchase its own equipment but leased the railway bed to the Pennsylvania, Wilmington, and Baltimore Railroad (Hayman 1979). The railroad had been given $30,000 by the

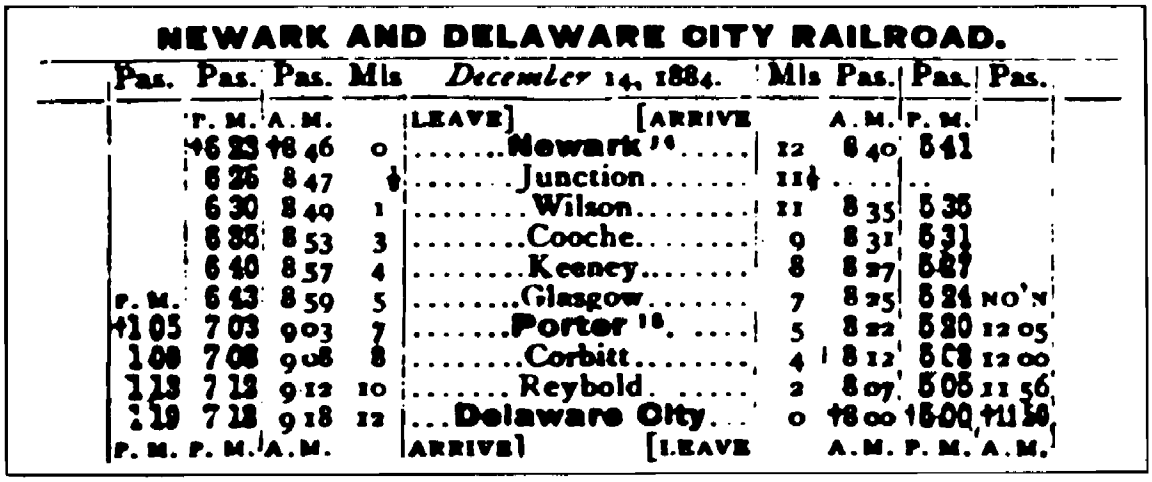
citizens of Delaware City in hopes of generating new commercial interest in the town (Journal Every Evening 1960). Unfortunately, their hopes were not realized. The city lost all of their investment as the line operated for only five years, barely meeting operating expenses.

On October 23, 1878, a storm destroyed the railroad from Delaware City as far west as Reybold Station and all the railroad bridges between Delaware City and Newark. Unable to operate and generate any income, the Pennsylvania and Delaware Railroad Company could not meet interest payments, and on March 24, 1879, foreclosure proceedings culminated in the sale of the railroad. A new corporation was formed on February 5, 1880, the Pomeroy and State Line Railroad Company, to manage the Pennsylvania portion of the original railbed. The Delaware portion became the Newark and Delaware City Railroad on March 29, 1880. By a deed dated October 29, 1881, the Newark and Delaware City RR Company conveyed to the Philadelphia, Wilmington and Baltimore RR Company it's right-of-way and properties. The P. W. & B eventually was consolidated into the Pennsylvania Railroad Company, which operated the line until the merger as Conrail under bankruptcy proceedings.

From its inception, the railroad operated for both passenger and freight traffic. By 1885, a small three sided frame shed ie. passenger station had been co-structed on the southwest corner of the intersection of the railroad and Route 4 (Chestnut Hill Road). The station was not listed and it is assumed that it had not been built in 1875 when a guide to the Pennsylvania RR was published (Sipes 1875). Figure 9 shows a passenger handbill from circa. 1885, and gives an example of the local service provided to the new station. Known as "Wilson's Station", it provided local residents with a means of connecting travel with the main line at Porter's station (Figure 10). Passenger service was never very prosperous and was eventually discontinued in 1928 (Every Evening 1928). By 1948 only the segment

Figure 9:

PASSENGER SCHEDULE – CA. 1885



NEWARK AND DELAWARE CITY RAILROAD.

December 14, 1884.

Pas.	Pas.	Pas.	Mls		Mls	Pas.	Pas.	Pas.	
	P. M.	A. M.		LEAVE] [ARRIVE		A. M.	P. M.		
	†6 23	†8 46	0	.....Newark [14].....	12	8 40	5 41		
	6 26	8 47	½	.....Junction.....	11½	....	..		
	6 30	8 49	1	.....Wilson.....	11	8 35	5 35		
	6 35	8 53	3	.....Cooche.....	9	8 31	5 31		
	6 40	8 57	4	.....Keeney.....	8	8 27	5 27		
P. M.	6 43	8 59	5	.....Glasgow.....	7	8 25	5 24	NO'N	
†1 05	7 03	9 03	7	.....Porter [15].	5	8 22	5 20	12	05
1 08	7 08	9 08	8	.....Corbitt.....	4	8 12	5 08	12	00
1 13	7 13	9 12	10	..... Reybold.	2	8 07	5 05	11	56
1 19	7 18	9 18	12	...Delaware City...	0	†8 00	1500	†11	50
P. M.	P. M.	A. M.		ARRIVE] [LEAVE		A. M.	P. M.	A. M.	

between Newark and Delaware City remained in use, the Avondale to Newark segment having ceased operation in the early 1900's (Figure 10).

The 1870 population census (Table 10) shows an increase in Alexander Wilson's household, which now had eleven members. His three children, ranging in age from 12 to 16 years, were attending school, probably at the Welsh Tract School #54 less than one mile west. Four of Wilson's employees, two blacksmiths and two wheelwrights, resided with the family, in addition to a domestic servant and a small child.

By 1870 Alexander Wilson had enlarged his business considerably. He lists himself in that year's Census of Manufacturers as machinist, wheelwright, and blacksmith (Appendix IV), and states that included among his equipment are three lathes, one circular saw, two other saws, and a 15-horsepower steam engine used to power his machinery. Wilson reported that he employed six men and produced $5000, although his records indicate he did work amounting to only $2,771.89 worth of goods for the year (Table 11). Census figures show that his assets, overhead, and profit had increased an average of about 398% over the previous decade. Del Sordo (1981) states that Wilson's was "by far the largest operation" in both Pencader and White Clay Creek Hundred. From 1869 to 1873, Wilson recorded over 350 individuals for whom he performed work, which shows a 75% increase in the number of customers served over the period 1863-1869. Wilson's account books however, do not reflect such a marked increase in dollar value of work performed, even though Wilson is now employing more workers. In fact, Del Sordo found that Wilson's prices varied little during this period. Wilson's day books indicate that his business operated six days a week and, occasionally, on some holidays.

Figures in the 1880 Census of Manufactures indicated that Alexander Wilson's business continued to grow (Table 11). He employed seven men and his assets and overhead increased about 72%. Despite this investment, his profits increased only

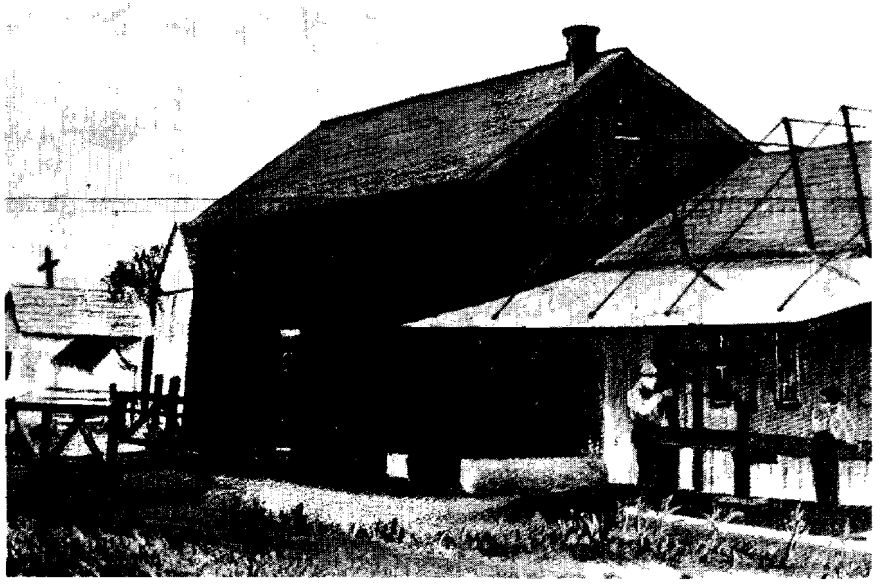
3% over those of a decade earlier. Del Sordo notes that "in terms of total investment versus return, other shops in Pencader and White Clay Creek Hundreds were just as profitable, if not more so", despite Wilson's larger investment and overhead. In 1881, Alexander Wilson advertised his business for the first time as the A. Wilson Agricultural Implements Works (Del Sordo 1981), suggesting a shift in the focus of his work. Agricultural implements that Wilson may have manufactured or repaired include plows, harrows, threshers, hay rakes, hoes, shovels, and other tools and equipment used in farming.

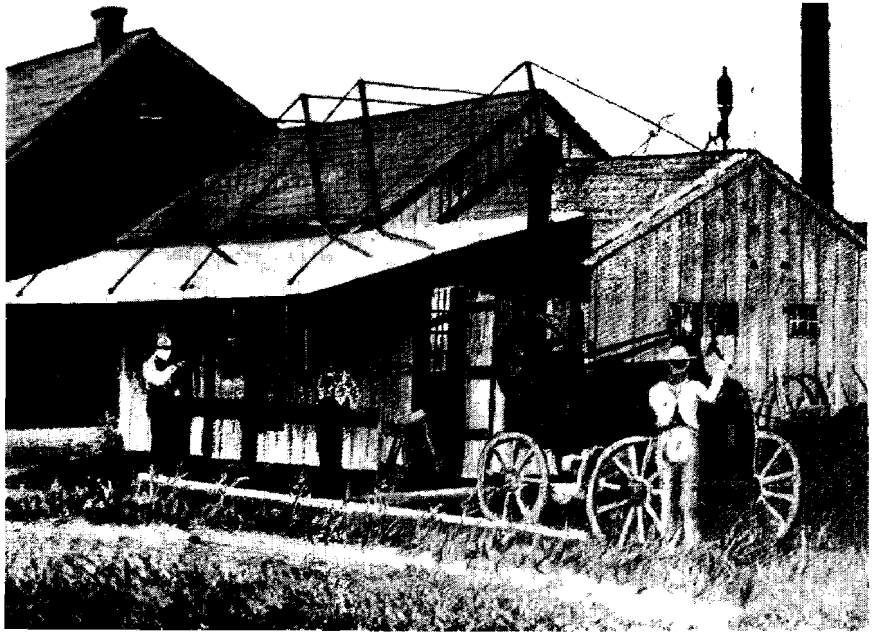
Alexander Wilson's household, according to the 1880 Population Census (Table 10), consisted of seven individuals. In addition to himself, Wilson's two sons, John and William, are listed as machinists and probably worked for him. Wilson's daughter Lidia (Eliza?), Mary Townsend, a servant, and Levi Bonsell, errand boy, are also memebers of the household. Notably absent is the listing of Sara Jane, Alexander's wife. This was due to an error of the census taker, as she did not die until 1913.

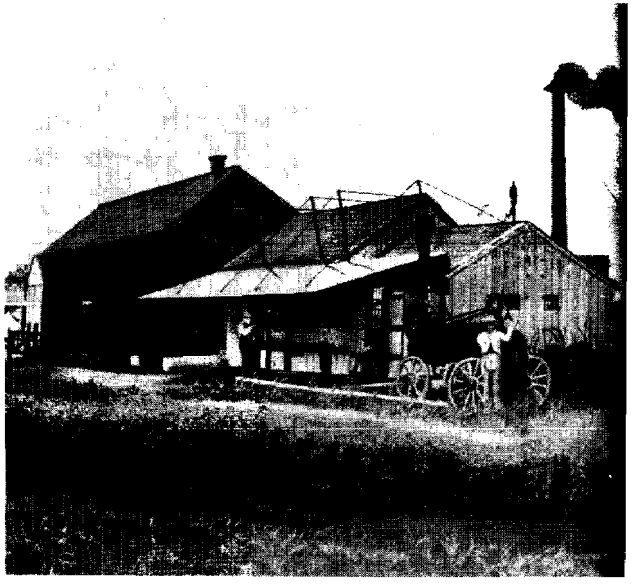
In 1884 Alexander Wilson commissioned a traveling artist to paint a picture of his complex (Plate 6). The view was taken looking northwest from in front of the grist mill. The painting shows a coal shed in the house's east yard. The buildings depicted in the back yard represent the granary, privy, and storage shed. The function of the grist mill, open to the front, is clearly identified, depicting several types of agricultural machinery and men working inside. One worker is feeding stalks of corn into one of these machines. Mrs. Slack mentioned that before the building was torn down in the 1940's she remembers that it was equipped with a corn sheller, and that it had a "patio" in front. In the painting, a wagon stands in front of the machine shop, with several men working on it. While there is no archival information on the grist milling of Alexander Wilson's business, the painting indicates that by 1884 he was operating a steam-powered grist mill, at

PLATE 6

1884 PAINTING OF THE WILSON-SLACK COMPLEX







least on a small scale. The steam engine was used also to power wood and metal saws and lathes.

Alexander Wilson's surviving ledgers do not cover the 1880's nor does Del Sordo (1981) discuss an 1890 Census of Manufacturers. Baist's 1893 Atlas of New Castle County (Figure 11) shows the Alexander Wilson Agricultural Implements Works on two acres, depicting three structures identified as "A. Wilson Res." (Residence), "B.S.S. & W.W.S." (Blacksmith and Wheelwright Shop), and "Machine Shop". The relative positions of these three structures correspond to the standing house, the standing shop building (which the Slacks refer to as the machine shop), and the non-extant building the Slacks call the grist mill. Since this latter building was being referred to as a machine shop, while the 1884 painting shows it as a grist mill, milling operations may have constituted only a small portion of the work performed in the building.

Alexander Wilson died in 1896, reportedly after having suffered 13 strokes, one in each of the 13 years preceeding his death (Del Sordo 1981) (Appendix IV). Alexander's son John did not continue the Agricultural Implements Works business, but rather concentrated on the grist mill operations. According to Mrs. Slack, John Wilson used to haul corn into Wilmington, and continued in this line of work until the early 1920's. As the young Sarah Wilson, Mrs. Slack received her schooling at the Welsh Tract School #54 (Catts et. al. 1983) When she married Norman Slack in 1926, he came to live with her in the Wilson home.

Mrs. Slack provided some valuable insights into the socio-economic standing of the Wilson household. Both Alexander Wilson and his son John served on the Levy Court, and John's wife frequently entertained members of the court. Mrs. Slack maintained that both Alexander and John were quiet, modest men who were highly respected by the community. Despite the fact that Mrs. Slack felt that everyone in the area, including the Wilson family, was "poor", she emphasized that

the Wilsons owned their property while everyone else rented, thereby implying that the Wilsons were, or had been, a little less "poor" than their neighbors. Mrs. Slack stated that she had had a sheltered upbringing. She was not expected to perform domestic duties since they had servants, and she had no contact with the business side of the complex. These comments suggested that the Wilsons perceived their position in society to be slightly above that of the majority of their neighbors. This is probably so for at least the 20th century, and may hold true for the latter part of the 19th century as well, since social attitudes are often conveyed, consciously and unconsciously, by the preceeding generations.