

Early Manufacturing
In Lancaster County, Pennsylvania
1710 - 1840

Part I

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*This installment of Chapters I and II of Mr. Wittlinger's dissertation on "Early Manufacturing," will be followed by three other installments, appearing in 1955, 1956 and 1957.

Preface

This study traces the development of manufacturing in Lancaster County through a period of 130 years following the beginnings of white settlement in the area. During this interval the county progressed from a small frontier settlement to an advanced agricultural and industrial community with a population of more than 84,000. The study, therefore, involves an intensive analysis of the changes which occurred within a small, selected geographical area as the simple home industries of a pioneer economy grew into a complex manufacturing system designed to serve the interests of large numbers of people.

Throughout the paper the focus of attention is upon manufacturing. However, the complete isolation of one phase of the economic life of any community is impossible, and some attention has been given to other economic aspects such as mining, transportation, finance, and agriculture. The last-named has been selected for somewhat detailed treatment, for as the study proceeded, it became apparent that farming rather than manufacturing was the chief economic interest of the county throughout the entire period under consideration. It also became clear that the agricultural environment was perhaps the most significant factor in guiding the development of manufactures.

The year 1840 is a convenient approximate date for the termination of the study, for about that time economic forces began to revolutionize the industrial life of the county. Among the important changes which occurred were the improvement of water transportation to and from the city markets, the coming of the railroads, the decline of the distilling industry, the beginnings of the anthracite iron era, and the application of steam power to manufacturing.

Many organizations and individuals have rendered valuable assistance in the preparation of this work. I wish to express my appreciation for the kind consideration of the library staffs of the Division of Public Records of the Pennsylvania Historical and Museum Commission, the Franklin and Marshall College Library, the Historical Society of Pennsylvania, the Lancaster County Historical Society, the Lancaster Newspapers, the Library of Congress, the Messiah College Library, the Pennsylvania State Library, the Philadelphia Bibliographical Center and Union Library Catalogue, the University of Pennsylvania Libraries, and the York County Historical Society. My thanks are also tendered for aid given by officials of the following organizations and agencies: the Bethlehem Cornwall Corporation, the Demuth Tobacco Company, the Division of Crop Reporting and Information of the Pennsylvania Department of Agriculture, the Lancaster City Archives, the Lancaster County Archives, the Manufacturers' Association of Lancaster, the Moravian Church of Lancaster, the Trinity Lutheran Church of Lancaster, the Land Office of

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—M. L. H.

THE NATURAL ENVIRONMENT

So you enter Lancaster County where the land gets better as you go . . .

—Cazenove, 1794

Lancaster County is a roughly triangular area of land located in south eastern Pennsylvania. Its greatest distance from east to west is about forty-six miles, while its northern and southern extremities are separated by about forty miles. The surface area covers approximately 941 square miles or 602,240 acres.¹ On the south the county is bounded by the State of Maryland, on the east by Chester County, on the northeast by Berks County, on the northwest by Lebanon and Dauphin counties, and on the southwest by York County from which it is separated by the Susquehanna River. The region enjoys a highly favorable natural environment. Some of its physical assets, such as excellent climate and exceptionally fertile soil, have made important economic contributions until the present day. Other natural advantages, including iron ore deposits and abundant water power facilities, have lost their value as a result of changing economic conditions.

The region delineated above was originally a part of Chester County. Problems arising because of its distance from the county seat led to demands for separation. As a result, on May 10, 1729, the new county of Lancaster was organized.² It was the first Pennsylvania county to be formed after the original three—Chester, Bucks, and Philadelphia. For twenty years after its erection Lancaster County embraced a vast territory extending to the provincial limits. Reduction of this area began with the organization of York County in 1749. From time to time other counties were formed in whole or in part from Lancaster County territory until the erection of Lebanon County in 1813 brought the reduction process to a close with the county boundaries as they are today.

The climate of the region under consideration is more favorable than the average for the State. At Lancaster, the coldest month of the year, January, has an average temperature of 29.7 degrees, and the warmest month, July, an average of 73.7 degrees. The yearly average is 51.8 degrees. Mild winters, warm summers, and a growing season of about 160 days accomodate most middle latitude crops. The annual rainfall is about forty inches. This pre-

¹ U. S. Dept. of Agric., *Field Operations of the Bureau of Soils*, 1914, p. 327.

² *Statutes at Large of Pennsylvania, 1724-1744*, chap. 306, pp. 131-134.

ipitation is well distributed for cropping, as nearly two-thirds of it falls from April to September inclusive.³

Topographically the general surface of the county is a gently rolling lowland with few abrupt elevations or obstacles to utilization. Highest altitudes are found in the north where the Conewago Hills and Furnace Ridge follow the boundary with Dauphin and Lebanon counties. The northern soils are formed largely from sandstones and shales, broken by ridges of trap and other igneous rocks. These soils spread southward and meet the central county limestones along a line which runs roughly north of Bainbridge and Mount Joy, and south of Manheim to the Conestoga Creek, which it follows in a general way to the Berks County line. Enclosed by the northern sandstone and shale soils, an expanse of limestone appears about Manheim and extends eastward in a large valley to embrace Lititz and Ephrata. The sandstone and shale belt soils are good, but the farmers who work them labor under certain disadvantages. Part of the region is stony. Furthermore, cropping is uncertain in dry seasons in some sections where soil and subsoil conditions do not readily lend themselves to the conservation of ground waters.⁴ Much of this land in the north was in the hands of the ironmasters during the period of this study.

From the southern boundary of the sandstones and shales, the rolling limestone plains sweep southward, embracing fully one-half of the area of the county. Here the rich soils, of which the clay and silt loams of the Hagerstown soil series are the most widespread, are unexcelled in any part of the State. Beginning at the Susquehanna about midway between Columbia and the mouth of the Conestoga, the southern boundary of the limestones runs generally eastward to the Chester County line. A few ridges of shales and other rocks more resistant to erosion than limestone rise out of the plains. One short range begins at the Susquehanna and runs eastward south of Mountville to disappear into the limestone. Another range begins near Columbia, where it is known as Chickies and Chestnut hills, and extends towards Lancaster. As a lower range, it passes north of that city and south of Neffsville and vanishes into the limestone plain. Near New Holland it reappears and merges into the Welsh Mountains.⁵

Another series of hard rock ridges passes along the southern boundary of the limestones. Beginning with the rugged relief about the mouths of the Conestoga and Pequea creeks, hills extend eastward until they are lost in the limestone plain near New Providence. East of this town they reappear in Mine

³ R. E. and M. Murphy, *Pennsylvania; a Regional Geography*, pp. 219-220, 586; U. S. Dept. of Agric., *Field Operations of the Bureau of Soils*, 1914, p. 330. The temperature readings are in Fahrenheit degrees.

⁴ H. J. Roddy, *Physical and Industrial Geography of Lancaster County, Pennsylvania*, pp. 2-5, 27, and soil map between pp. 48 and 49 (cited hereafter as: Roddy, *Lancaster County Geography*); A. I. Jonas and G. W. Stose, *Topographic and Geologic Atlas of Pennsylvania*, No. 168, *Lancaster Quadrangle, Geology and Mineral Resources*, pp. 12-13 (cited hereafter as: Jonas and Stose, *Lancaster Quadrangle*).

⁵ Roddy, *Lancaster County Geography*, pp. 2-5, and soil map between pp. 48 and 49; R. E. and M. Murphy, *Pennsylvania; a Regional Geography*, pp. 220-221.

Ridge which runs slightly to the northeast to strike the county boundary between Cambridge and Christiana. South of Mine Ridge in Sadsbury Township a narrow valley of Chester County limestone penetrates the Lancaster County boundary and extends toward Quarryville.⁶

No other county in Pennsylvania has as large an exposed area of limestone as Lancaster, for about one-half of the surface rocks are composed of this mineral.⁷ The limestone soils are chiefly rather sandy loams. They contain a large percentage of decomposed organic matter, as well as limey constituents, and are highly fertile. Generally they are underlaid with a clayey subsoil which retains ground water and, through capillary action, brings it up to the plant under drought conditions.⁸ The fortunate combination of these several soil advantages has contributed much to the reputation of Lancaster County as the "Garden Spot."

Southern Lancaster County exhibits a varied relief. Hills and dales are freely interspersed. The soils formed from the decay of schists, gneisses, granite, and other metamorphic rocks in this section are rich in elements of plant growth, especially potash compounds. As compared to the limestone belt, subsoil conditions are less favorable here for the conservation of ground waters, and cropping conditions are rendered less certain. However, this part of the county may be said to have "quite favorable agricultural conditions in nine years out of ten."⁹

Some appreciation of the relative agricultural potentialities of the different soil areas can be gained by a comparison of land values about 1916. At that time the central limestones, including the limestone valley surrounding Manheim, Lititz, and Ephrata, were valued at from \$100 to \$200 per acre, the major southern county soils from \$40 to \$100 per acre, and the major northern county soils, exclusive of the limestone penetration, from \$25 to \$100 per acre.¹⁰ These figures may have been influenced somewhat by the value of farm buildings and other factors, apart from the value placed upon the soil itself. However, it may be concluded that they do reflect, in a general way at least, the relative agricultural potentialities of the soils of the various sections. From these figures, it is clear that the agricultural heartland of the county is found in the great limestone belt.

Lancaster County lies entirely within the drainage basin of the Susquehanna River, and the general direction of the drainage is toward the southwest. Among the larger streams are Conestoga, Pequea, and Chickies creeks, and the border streams, the Conewago in the northwest, and the Octoraro in the southeast. Numerous tributaries and smaller streams are scattered throughout the county. Some of their names—Mill Creek, Hammer Creek, Furnace Run—take the mind back to bygone days when their banks were lined with busy

⁶ Roddy, *Lancaster County Geography*, pp. 4-5, and soil map between pp. 48 and 49.

⁷ B. L. Miller, *Limestones of Pennsylvania*, p. 85. See also the map opposite p. 398.

⁸ Roddy, *Lancaster County Geography*, pp. 25-27.

⁹ *Ibid.*, pp. 3, 5, 27.

¹⁰ *Ibid.*, pp. 47-48. The statistics are incomplete for the Berks Soils which surround the limestone valley embracing Manheim and Lititz.

industries. With reference to its streams, the county is almost a province in itself. Only a few have their source waters outside of its boundaries, and all except the Conewago and Octoraro terminate within the county.¹¹ The local streams were particularly well adapted for water power developments of the relatively simple type which prevailed in the eighteenth and early nineteenth centuries. The gentleness of the watersheds on the northern and eastern boundaries, and the regularity of the water supply, facilitated the preservation of dams and the constancy of mill operations. The streams, supplemented by springs,¹² also provided a never-failing water supply for irrigation. Few, if any, counties in Pennsylvania or in any other state possessed such adequate water power and irrigation facilities during the period under discussion.¹³ Since water was the principal prime mover in the county prior to 1840, the local streams were of outstanding importance for the development of manufactures.

The towering forests which challenged the strength and courage of the pioneers represented another valuable natural resource of Lancaster County. Like water power, the forests were destined to play a vital part in manufacturing. From them came the charcoal fuel for the iron furnaces, bark for the tanyards, and lumber for wagons, gunstocks, and cabinet work. Hardwoods predominated, and conifers were scarce. As Cazenove surveyed the county woodlands in 1794, he noted that the forests were stocked with chestnut, locust, walnut, maple, white oak, and hickory.¹⁴

No technical nor exhaustive survey of the mineral resources in Lancaster County will be attempted, but brief attention will be given to such minerals as were exploited for commercial or local manufacturing purposes during the eighteenth and early nineteenth centuries. Limestone has been a major creative influence in Lancaster County history to an extent that perhaps few people realize. The abundance of this rock has been emphasized, and mention has been made of the rich residual soils formed from its decay.¹⁵ County farmers used it in the form of lime as a corrective for soil acidity, and as such it was an important factor in the development of the outstanding agricultural tradition of the area.¹⁶ From the standpoint of manufacturing, limestone made its greatest contribution as the flux for the Lancaster County blast furnaces. Lime is also used chemically in connection with certain other manufactures, some of which, like tanning, and the making of glass and paper, had

¹¹ U. S. Dept. of Agric., *Field Operations of the Bureau of Soils*, 1914, p. 328; Roddy, *Lancaster County Geography*, p. 5.

¹² Joseph Scott, *A Geographical Description of Pennsylvania*, p. 62; W. U. Hensel, *Resources and Industries of the City of Lancaster*, p. 71.

¹³ Secretary of Internal Affairs of the Commonwealth of Pennsylvania, *Annual Report for 1874-5, Part III, Industrial Statistics*, III, 97.

¹⁴ R. W. Kelsey, ed., *Cazenove Journal*, 1794, pp. 72, 75 (cited hereafter as: *Cazenove Journal*); C. D. Ebeling, *Die Vereinten Staaten von Nordamerika*, IV, 676 (cited hereafter as: Ebeling, *Die Vereinten Staaten*); *Lancaster Journal*, Dec. 9, 1825.

¹⁵ See also Jonas and Stose, *Lancaster Quadrangle*, pp. 65-81, and the same authors' *Topographic and Geologic Atlas of Pennsylvania*, No. 178, *New Holland Quadrangle, Geology and Mineral Resources*, pp. 21-30.

¹⁶ *Lancaster Journal*, Feb. 3, 1797, Nov. 17, 1810.

a place in the early economic life of the county.¹⁷ Both limestone and the reddish-brown sandstone of the north were largely used for building purposes.¹⁸ Marble for architectural ornament was secured from some of the limestone, and large quantities of this mineral were spread for road paving.¹⁹ Thus the abundant deposits of this rock proved to be a rich heritage which promoted the development of agriculture, manufacturing, and transportation.

Other county minerals which were of some special interest or importance in the period under consideration are: slate, copper, chrome, magnesite, sand, clay, and iron. Slate was quarried for roofing material and is of little interest for the present study.²⁰ Of the other minerals in the list, only clay, sand, and iron played a part in the development of Lancaster County manufacturing enterprises during the period studied. However, some of the other mining operations were of considerable importance, and may be of sufficient interest to justify a digression to note them.

The existence of copper in Mine Ridge near Gap was known in the eighteenth century, and in the 1790's an ambitious plan for mining operations was brought forward. This called for the organization of a Gap mining company capitalized at \$50,000 divided into one-hundred-dollar shares.²¹ A joint stock company of the voluntary unincorporated type was formed, with stockholders in both Lancaster County and Philadelphia. Oliver Evans, the noted inventor, and Francis Bailey, the well-known publisher, were among the Philadelphia subscribers.²² With the optimism which so often characterizes those who follow financial will-o'-the-wisps, a leader in this venture suggested that it would be necessary for the company to meet only once a year to receive their profit dividends and choose directors and officers.²³ Company meetings were held from time to time on into the nineteenth century, but there is no evidence of the materialization of the anticipated profit dividends!²⁴ This enterprise is of special interest as one of the earliest industrial joint stock company ventures in the history of Lancaster County. Other attempts to operate the Gap copper mines during the early decades of the nineteenth century met with little success.²⁵ During the latter part of that century, however, nickel was recovered from these ores, and the mine accounted for more than a tenth of the world's supply of this mineral until the cheaper imported nickel from New Caledonia and Sudbury, Ontario, forced suspension of operations.²⁶

¹⁷ Jonas and Stose, *Lancaster Quadrangle*, p. 65; B. L. Miller, *Limestones of Pennsylvania*, pp. 35-55.

¹⁸ Jonas and Stose, *Lancaster Quadrangle*, p. 87.

¹⁹ Memorial of Citizens of Lancaster City, *Reports of Committees*, 25th Cong. 3rd Sess. Vol. I, House Report No. 168 (cited hereafter as: *House Report No. 168*, 25th Cong. 3rd Sess.); C. B. Trego, *A Geography of Pennsylvania*, p. 271.

²⁰ Persifor Frazer, Jr., *The Geology of Lancaster County*, pp. 176, 179-182.

²¹ *Lancaster Journal*, May 5, 1797.

²² *Ibid.*, May 5, June 10, 17, 1797, Jan. 13, 1798.

²³ *Ibid.*, June 10, 1797.

²⁴ *Ibid.*, Dec. 30, 1797, May 23, 1801.

²⁵ Persifor Frazer, Jr., *The Geology of Lancaster County*, pp. 163-164.

²⁶ Pa. Dept. of Int. Affairs *Pennsylvania's Mineral Heritage*, p. 165.

Chromite ores occur in the southern part of the county in both Fulton and Little Britain townships.²⁷ The Wood Mine in the latter was once the largest source of chromium in the world. Opened in 1827, it was worked for many years with an estimated total output of 100,000 tons or more of ore. A number of other mines in this region yielded small quotas of chromite.²⁸ The Tyson Mining Company of Baltimore controlled the chromite ore deposits in Lancaster County.²⁹ Magnesite, the mineral from which epsom salts are produced, occurs in both Fulton and Little Britain Townships.³⁰ Outside capital was active in this field also, for the Baltimore firm of McKim, Sines and Company, once the principal suppliers of epsom salts in the country, had mining investments in these southern townships in the early nineteenth century, and took out several hundred tons of magnesite annually.³¹

Clay deposits of commercial value occur in various places in Lancaster County. Their importance is suggested by the fact that this substance ranked second in economic importance among the minerals of the Lancaster Quadrangle about 1930.³² During the period under discussion, these local clays supplied the raw materials for numerous brick kilns and potteries in the vicinity of Lancaster. Large sand deposits are also found in the county, as is indicated by the fact that sand ranked third in economic importance among the minerals of the Lancaster Quadrangle about 1930.³³ The use of sand by the general building trades in mortar, plaster, and concrete is not of particular interest for purposes of this study. More to the point is the contribution which sand made as an ingredient in the manufacture of Stiegel flint glass in the eighteenth century, and its use for molds in the casting sheds of the iron furnaces which were such prominent features of the economic life of the region throughout most of the period studied.

From the standpoint of early manufacturing, few natural resources of Lancaster County are of greater interest than the iron ores. Most of these within the present county boundaries are brown hematite, known also as limonite, which was mined with large aggregate output at about twenty-five separate places in the eighteenth and nineteenth centuries.³⁴ The largest of the brown hematite deposits are concentrated in West Hempfield and nearby townships. A geological map of that area plots eleven abandoned brown hema-

²⁷ H. H. Beck, *The Minerals of Lancaster County*, p.4; *House Report* No. 168, 25th Cong. 3rd. Sess.

²⁸ Pa. Dept. of Int. Affairs *Bulletin*, V, 4 (Dec. 1937); H. H. Beck, *The Minerals of Lancaster County*, p. 4; Persifor Frazer, Jr., *The Geology of Lancaster County*, pp. 176-178.

²⁹ Pa. Dept. of Int. Affairs *Bulletin* V, 4 (Dec. 1937).

³⁰ S. G. Gordon, *The Mineralogy of Pennsylvania*, pp. 204, 206.

³¹ Thomas F. Gordon, *A Gazetteer of the State of Pennsylvania*, p. 228; *House Report*, No. 168, 25th Cong. 3rd Sess.; Persifor Frazer, Jr., *The Geology of Lancaster County*, pp. 178-179.

³² Jonas and Stose, *Lancaster Quadrangle*, pp. 64, 84-89. This quadrangle comprises a large section of the northern part of the county.

³³ *Ibid.*, pp. 64, 81-84.

³⁴ Pa. Dept. of Internal Affairs, *Pennsylvania's Mineral Heritage*, p. 165. The extensive Cornwall magnetite mines were also in Lancaster County until 1785.

tite mine sites, nine in or close to the border of West Hempfield, and one each in East Hempfield and Manheim townships respectively.³⁵ The ores in the famous Chestnut Hill deposit were apparently worked to a very limited extent only in the eighteenth century. In 1843 "immense quantities of ore" were mined here for the supply of furnaces in Lancaster and neighboring counties. From 1832 to 1869 an estimated 1,000,000 tons were taken out.³⁶ A second important series of brown hematite deposits are located south of Lancaster in an area which includes the townships of Eden, Providence, Strasburg, Pequea, and Conestoga. Many of these hematite deposits cluster in the vicinity of Quarryville and New Providence.³⁷ In the early nineteenth century, the Conowingo mine in north Eden Township yielded an ore which produced a superior grade of iron.³⁸ Brown hematite deposits are also found in Caernarvon Township near Beartown. Discovery of these ores was delayed until about the middle of the nineteenth century, and therefore they had no importance during the period of this study.³⁹ The bog ore form of brown hematite has been reported in West Cocalico Township.⁴⁰ Some magnetite ores occur in Lancaster County, chiefly in Martic Township, although small deposits have been located at other points.⁴¹ Red hematite and carbonate ores have also been reported, but subsequent investigations have failed to confirm anything more than traces of these minerals.

Another valuable natural resource of the county should be mentioned with the minerals. This was a hard, pebbly, conglomerate rock occurring north of Ephrata and found to be adapted for the production of good millstones. As early as the 1750's, an important industry developed to supply the so-called "Cocalico" stones which so greatly facilitated the rise and concentration of mill industries in the area.⁴²

Lancaster County lacked that essential of modern industry—coal. This, however, was no industrial handicap during the period under consideration.

³⁵ Jonas and Stose, *Lancaster Quadrangle*, Sheet 168, Plate I.

³⁶ Charles B. Grubb, in J. I. Mombert, *An Authentic History of Lancaster County*, p. 592 (cited hereafter as: Mombert, *Lancaster County*); C. B. Trego; *A Geography of Pennsylvania*, p. 266.

³⁷ H. H. Beck, *The Minerals of Lancaster County*, p. 5; Jacob Hildebrand, *Lancaster County Historical Society Papers* (cited hereafter as: *L. C. H. S. Papers*), I, 100; Persifor Frazer, Jr., *The Geology of Lancaster County*, pp. 220, 225-234, 236; Charles B. Grubb, in Mombert, *Lancaster County*, p. 493.

³⁸ G. W. Hensel, *Reminiscences of Thirty-Five Years Experience in a Country Store*, p. 18 (cited hereafter as: G. W. Hensel, *Reminiscences*); Persifor Frazer, Jr., *The Geology of Lancaster County*, pp. 230-231; *House Report No. 168*, 25th Cong. 3rd Sess.

³⁹ H. H. Beck, *The Minerals of Lancaster County*, p. 5; Persifor Frazer, Jr., *The Geology of Lancaster County*, pp. 239-245; J. B. Lincoln, *L. C. H. S. Papers*, XVIII, 70.

⁴⁰ H. H. Beck, *The Minerals of Lancaster County*, p. 5.

⁴¹ *Ibid.*, p. 4; S. D. Gordon, *The Mineralogy of Pennsylvania*, pp. 204-206; Persifor Frazer, Jr., *The Geology of Lancaster County*, p. 222.

⁴² Lewis Evans, in Lawrence Gipson, *Lewis Evans; to Which is Added Evans' A Brief Account of Pennsylvania*, p. 105 (book cited hereafter as: *Gipson, Lewis Evans*); P. B. Flory, *L. C. H. S. Papers*, LV, 76-82.

Water power dominated manufacturing enterprise in the county prior to 1840, although steam began to be introduced into Lancaster City industry in the 1830's.⁴³ Furthermore, while there is little evidence that mineral fuel was utilized in a significant way in local manufacturing during the period studied, blacksmiths and other manufacturers who may have been inclined to the use of coal had a convenient source of supply in the Susquehanna River trade. At least as early as the first decade of the nineteenth century, coal from the upper Susquehanna Valley was available at Columbia.⁴⁴ Later, beginning in 1829 considerable quantities of coal, including both the anthracite and bituminous forms, were imported directly into Lancaster by way of the Conestoga Slack-water Navigation.⁴⁵

Proximity to large urban centers such as Baltimore, Wilmington, and Philadelphia was another geographical advantage enjoyed by the county, for these cities were logical markets for surpluses of agricultural produce and manufactured goods. Nature, however, was not generous in providing convenient transportation to and from these markets. The county streams which contributed so much by way of water power and irrigation were of little value for transportation, although there was some local trade on Conestoga Creek at an early date.⁴⁶ A glance at a map may suggest that the Susquehanna River offered an easy natural route for trading enterprise. However, the lower course of this river was so obstructed by rapids and rocks as to preclude any practicable ascending navigation. While the downstream passage could be made by rafts and arks during freshets, even this was extremely hazardous and subject to the disadvantages of one-way voyages. Consequently the people of Lancaster County made little use of the river for trade until forced to do so by changing economic conditions in the period of the Panic of 1819.⁴⁷

The county was especially fortunate in its relation to the overland transportation routes between Philadelphia and the West and Southwest. Whether the pioneer, trader, or traveler crossed the Susquehanna at Wright's Ferry, now Columbia, or at Harris' Ferry, now Harrisburg, his most direct course lay through Lancaster. From that point one heavily traveled route ran southwestward through York and Gettysburg to Hagerstown, Maryland. It then continued up the Shenandoah Valley and eventually made junction with

⁴³ See Chapter V.

⁴⁴ Joshua Gilpin, "Journal of a Tour from Philadelphia Thro the Western Counties of Pennsylvania in the Months of September and October, 1809," *Pa. Mag. of Hist. and Biog.* L, 76 (author and title cited hereafter as: Gilpin, "Journal"). See also, *Lancaster Journal*, Jan. 1, 1836.

⁴⁵ *Lancaster Intelligencer*, May 12, 1829; *Lancaster Journal*, Aug. 8, 1834; *House Report No. 168*, 25th Cong. 3rd Sess. Stoves which burned coal were in service in Lancaster in the 1830's, and the use of coal was begun in some of the local limekilns about the close of the period under discussion. *Lists of Patents and Designs Issued by the United States, from 1790 to 1847*, p. 146 (cited hereafter as: *U. S. Patents and Designs*); *Lancaster Journal*, Mar. 26, 1830; G. W. Hensel, *Reminiscences*, p. 7.

⁴⁶ *Pa. Archives*, 8th Series, III, 2048; *Votes and Proceedings of the House of Representatives of the Province of Pennsylvania*, III, 154, V, 255 (cited hereafter as: *Votes of the Assembly*).

⁴⁷ See Chapter IX.

Boone's Wilderness Road into Kentucky. The present Lincoln Highway parallels this route closely from Philadelphia to Gettysburg. Another main transportation artery left Lancaster to cross the river at Harris' Ferry from whence, through Carlisle and Chambersburg, it led to Pittsburgh. An important inland communication center such as Lancaster provided a favorable setting for the development of manufactures to supply the needs of the frontier and the Indian trade. The relation of Lancaster County to the interior country, particularly the upper Susquehanna Valley, also had another important economic consequence. Tench Coxe clearly grasped the implications of this situation in the late eighteenth century when, referring to an area embracing a number of counties along the lower course of the river, he wrote picturesquely: "It is, as it were, *the bottom of a great bag or sack, into the upper parts of which natural and agricultural produce is poured from the north-east, north and from the west.*"⁴⁸ Much of this interior produce passed through the rural areas of the lower valley to the cities on the seaboard. However, a portion was consumed by the milling, distilling, and woodworking industries of Lancaster and Chester Counties.⁴⁹ Geographical locations gave the county another outstanding advantage in the 1830's. The State of Pennsylvania was then engaged in the construction of a system of public works to link Pittsburgh with Philadelphia. Columbia became the terminus for the eastern branch of the Pennsylvania Canal, and Lancaster County was so situated as to reap the full benefits from the state financed railroad completed in 1834 to connect Columbia with the city on the Delaware.

⁴⁸ Tench Coxe, *A View of the United States of America, in a Series of Papers, Written at Various Times Between the Years 1787 and 1794*, p. 395 (cited hereafter as: Coxe, *View*).

⁴⁹ Gilpin, "Journal," *Pa. Mag. of Hist. and Biog.*, L, 76.

THE PEOPLE AND THEIR AGRICULTURE

These people are widely known as thrifty and diligent workers, and it is hard to see how any people could have done more to bring the region that they settled to a high degree of fruitfulness.

—R. E. and M. Murphy, 1937

The first white settlement in what became Lancaster County was made in 1710 by a group of Swiss-Palatine Mennonites who took up land on Pequea Creek several miles south of Lancaster near the present village of Willow Street. They are of special interest as the vanguard of that host of sectarians who have so indelibly stamped their impress upon the religious and agricultural history of the county. Soon after 1710 other Mennonites entered the area, and for a short time this sect was the most numerous element in the population. About 1715 they lost their numerical advantage, and thereafter the non-Mennonite population grew rapidly.¹

Most of the early settlers in the region were of German, Scotch-Irish, or English nationality, although there were some Swiss, French, and Welsh.² Numerically the Germans were by far the most important,³ and they have consistently remained so. Thus Lancaster City was predominantly German about 1832,⁴ and a contemporary in 1843, referring to the county as a whole, wrote: "The population . . . is mainly of German descent; the German language, until within a few years past, was more generally spoken than English."⁵ Even today the best farming areas in the county, the limestone lowlands, are predominantly Pennsylvania German, and the labor supply for Lancaster City industry is comprised largely of urbanized members of this group.⁶

The possession of the Pennsylvania limestone by the Germans is an interesting phenomenon. There developed early a tendency to explain the presence of these people upon the best farming lands by reference to priority of settlement. According to this view, the other nationalities were dismayed by the task of clearing the heavy limestone timber and turned away to the more

¹ C. H. Smith, *The Mennonite Immigration to Pennsylvania in the Eighteenth Century*, pp. 149-153, 172.

² *Ibid.*, p. 172; Pa. Hist. Records Survey, *Inventory of the County Archives of Pennsylvania*, Number 36, Lancaster County, pp. 7-10.

³ Isaac Weld, Jr., *Travels Through the States of North America*, I, 120, 123; *Cazenove Journal*, p. 72; *Lancaster Journal*, Sept. 14, 1804.

⁴ T. F. Gordon, *A Gazetteer of the State of Pennsylvania*, p. 233.

⁵ Sherman Day, *Historical Collections of the State of Pennsylvania*, p. 388.

⁶ R. E. and M. Murphy, *Pennsylvania; a Regional Geography*, pp. 220-221, 229-231.

lightly wooded areas.⁷ While it is a fact that some of the limestones were originally settled by the Germans, another factor, population displacement, has also been at work. These industrious people with their thrifty agricultural practices and conservatism have tended to crowd their neighbors of other nationalities off of the best lands.⁸ Referring to the Germans, Rush wrote in 1789:

From an attention to the cultivation of grass, they often double the value of an old farm in a few years, and grow rich on farms, on which their predecessors of whom they purchased them, have nearly starved. They prefer purchasing farms with some improvements to settling a new tract of land.⁹

A score of Quaker meeting houses and Presbyterian and Episcopal churches once flourished on the limestone plain east of Lancaster, thus indicating that other nationalities were once well represented in an area now predominantly peopled by Pennsylvania German sectarians.¹⁰ In the late nineteenth and early twentieth centuries numerous Scotch-Irish farms in the vicinity of Quarryville passed into the hands of German farmers.¹¹ Thus it is clear that population displacement, as well as priority of settlement, has been a significant factor in bringing the Pennsylvania limestones into German possession.

No clear picture can be drawn of population growth in the county prior to the first Federal census. Such figures as are available are difficult to interpret because the area of the county changed from time to time as territory was lost to newly erected counties. In 1790 the total population was 36,147.¹² This figure increased to 53,927 in 1810 and to 84,203 in 1840.¹³ The final reduction of the area of the county occurred during the later interval when Lebanon County was erected in 1813, but this had little effect upon population statistics. Lancaster Borough, which was laid out in 1730, had a population of 3,762 in 1790 and was at that time the largest inland town in the United States.¹⁴ Its population increased to 5,405 in 1810 and to 8,417 in 1840.¹⁵ These figures reflect a steady substantial population growth in the region. Many Lancaster County inhabitants, including descendents of German farmers, eventually moved farther west.¹⁶

⁷ Gilpin, "Journal," *Pa. Mag. of Hist. and Biog.*, L, 71-72.

⁸ Smith, *The Mennonite Immigration to Pennsylvania in the Eighteenth Century*, p. 172.

⁹ Benjamin Rush, "An Account of the Manners of the German Inhabitants of Pennsylvania, Written 1789," *Pa. Ger. Soc. Proceedings*, XIX, 57 (author and title cited hereafter as: Rush, "The German Inhabitants").

¹⁰ W. M. Kollmorgen, "The Agricultural Stability of the Old Order Amish and Old Order Mennonites of Lancaster County, Pennsylvania," *Amer. Jour. of Soc.*, XLIX, 233-244.

¹¹ W. U. Hensel, *The Scotch-Irish in Lancaster County, Pennsylvania*, p. 17.

¹² *First Census*, 1790.

¹³ *Third Census*, 1810; *Sixth Census*, 1840.

¹⁴ Bureau of the Census, *A Century of Population Growth, 1790-1900*, p. 197; Coxe, *View*, p. 312; *Cazenove Journal*, p. 72.

¹⁵ *Third Census*, 1810; *Sixth Census*, 1840.

¹⁶ *Cazenove Journal*, p. 68; La Rochefoucault, *Travels Through the United States*, I, 41 (title cited hereafter as: *Travels*).

Agriculture has been the most important Lancaster County industry from the time of earliest settlement.¹⁷ The nature and development of the manufactures of the region were largely determined by the agricultural environment. Thus a Donegal Township plantation in 1760 had manufacturing facilities which included a gristmill, a distillery, and a cooperage.¹⁸ These represent three important early industries, all of which depended upon the supply of raw materials from the farms. Other interrelations of agriculture and manufacturing were also important. The prosperous farming community served as a market for local manufactures such as copper stills, firearms, iron, and glass. On the other hand, communities of workmen at the iron furnaces consumed large quantities of farm produce. The story of Lancaster County manufacturing, therefore, should be prefaced by a brief sketch of agriculture.

Selective immigration contributed much to Lancaster County farming. Many of the German settlers in the area came from the Palatinate, a fertile agricultural region on the Upper Rhine.¹⁹ Here, particularly in the eighteenth century, advanced farming practices were developed. In this development the Swiss Brethren, a dissenting religious group of Swiss origin, and one which contributed a substantial number of Lancaster County settlers, played a leading part. Experience with, or knowledge of, the progressive agriculture of the Palatinate was one of the factors which enabled the settlers to lay an early foundation for the great agricultural tradition which has made the county famous.²⁰ Selective immigration, however, interacted with other factors of equal importance, such as unusually fertile soil and favorable climate.

The familiar designation of Lancaster County as the "Garden Spot of Pennsylvania" reflects the achievements of the farmers who have made the region second to none in fruitfulness. This reputation was first earned in the eighteenth century, for in the 1790's the area was already commonly referred to as the "Garden of Pennsylvania."²¹ Many observers from that time on used or verified the aptness of the title.²² During the period of this study, the modern terminology, "Garden Spot," never came into common use. One visitor to the county in the 1820's did employ it, however, in the following interesting context: "Lancaster is the garden spot of Pennsylvania, take it on every ground, and not only of Pennsylvania, but of the whole Atlantic country."²³ Citizens of the town of Paradise, at a celebration on July 4, 1823, were even

¹⁷ U. S. Dept. of Agric., *Field Operations of the Bureau of Soils*, 1914, p. 331; R. E. and M. Murphy, *Pennsylvania; a Regional Geography*, pp. 221-222.

¹⁸ *Pennsylvania Gazette*, Sept. 11, 1760.

¹⁹ H. F. James, *The Agricultural Industry of Southeastern Pennsylvania; a Study in Economic Geography*, p. 37.

²⁰ Ernst H. Correll, *Das schweizerische Täufernnonitentum*, chap. 6; R. H. Shryock, "British Versus German Traditions in Colonial Agriculture," *Miss. Valley Hist. Review*, XXVI, 39-54.

²¹ Ebeling, *Die Vereinten Staaten*, IV, 677.

²² Thomas Cooper, *Some Information Respecting America*, p. 137; Gilpin, "Journal," *Pa. Mag. of Hist. and Biog.*, L, 71; Anne Royall, *Pennsylvania, or Travels Continued in the United States*, I, 162 (cited hereafter as: Royall, *Pennsylvania*); C. B. Trego, *A Geography of Pennsylvania*, p. 265.

²³ Royall, *Pennsylvania*, I, 162.

more lavish in praises of their homeland, for they drank the following toast: "Lancaster County—The Garden of America; may her Agriculturists reap the benefit of their labor."²⁴ While the last two citations introduce variants of the designation, "Garden of Pennsylvania," it was that title which prevailed most generally during the period studied.²⁵

As the early eighteenth century Lancaster County pioneers looked about, it is doubtful if any but the most imaginative and optimistic among them saw anything remotely resembling the "Garden" which the region was destined to become. Our age of comfort and convenience can hardly visualize the grim realities of the homesteader's situation. All about him were the dense forests, some of which would have to be killed or cleared before he could hope to gather a crop. Within their shade lurked the perils of savage men and beasts. While the work of clearing the land went forward, the pioneer and his family had to somehow supply the basic necessities of existence—food, clothing, and shelter—in an area more or less remote from outside sources of supply. The settler's equipment for the accomplishment of these stupendous tasks often consisted of little more than a gun, an axe, a few simple tools, possibly including a plow, a small amount of imported food and grain, and a few head of livestock. We can only wonder that so much was accomplished with so little.

Historical records which illumine the development of Lancaster County agriculture and manufacturing during the first half of the eighteenth century are very meagre. However, against the known background of the preceding paragraph, and the circumstances revealed as the sources gradually become more voluminous, the story can be pieced together with a good deal of assurance. Several facts stand out. There was no staple money crop like tobacco to supply an early and easy medium of exchange, labor was scarce, and marketing facilities were primitive and difficult when surpluses of any kind were produced. Hence the early county farmers of necessity developed a diversified, self-sufficient, small-farm economy. This initial agricultural pattern was destined to persist until the present day, except for the self-sufficing aspect which has been progressively modified. Another fact of central importance was the large amount of land suited for agricultural purposes. Since it was the one form of wealth which was abundant on the frontier, there can be little doubt that in Lancaster County, as elsewhere, the early settlers made extravagant and predatory use of the land. This cannot be too severely criticized when it is remembered that the pioneers lived in a day when physical survival itself was an achievement. Then too, it will become apparent that an interest in soil conservation developed relatively early in Lancaster County, and that this was one of the basic factors which helped to make the area the "Garden of Pennsylvania."

The small-farm pattern was characteristic of the agriculture of the county from the beginning of settlement. Prior to the Revolution many of the estates consisted of 100 acres or less, although plots of from 100 to 300 acres

²⁴ *Lancaster Intelligencer*, July 8, 1823.

²⁵ Lottie M. Bausman, L. C. H. S. *Papers*, XIX, 311-314; Ebeling, *Die Vereinten Staaten*, IV, 677; C. B. Trego, *A Geography of Pennsylvania*, p. 265.

were not uncommon. Farms larger than 300 acres were exceptional, while only the ironmasters possessed great tracts running to thousands of acres.²⁶ The clearing of the land went forward slowly. More than half of the countryside was still in woodland in 1773, or, to put it differently, the average farm was less than half cleared in that year.²⁷ This is not surprising, for the labor available for this and other purposes was generally limited to the farmer and his family. Negro slaves were never numerous enough in the area to be a significant labor factor,²⁸ and there were relatively few indentured servants.²⁹ Furthermore, free labor was scarce where land could be acquired so cheaply, and the German farmer was not inclined to hire labor even when that rare opportunity presented itself.³⁰ The Germans, too, preferred the more laborious method of clearing the land. Rush wrote:

In clearing new land they do not girdle the trees simply, and leave them to perish in the ground, as is the custom of their English or Irish neighbors; but they generally cut them down and burn them. In destroying underwood and bushes, they generally grub them out of the ground; by which means a field is as fit for cultivation the second year after it is cleared, as it is twenty years afterwards.³¹

Taking all these factors into account, it is apparent that only a few acres of a farm could ordinarily be cleared each year. It is equally obvious that the scarcity of labor imposed limitations upon the scale of farming operations in general and made the small family size farm the only practicable arrangement.

The settlers planted their clearings with grain crops such as corn, wheat, and rye.³² Wheat quickly became the main profit crop in Lancaster County, and large quantities were produced by the middle of the eighteenth century.³³ Primitive transportation facilities made the marketing of such a bulky commodity difficult, however. About 1735 a group of the county farmers informed the Assembly of the inconvenience of bringing their wheat to the Philadelphia market. They petitioned for a bounty on flax which was more easily carried and which could be grown on soil unsuitable for wheat.³⁴ While nothing came of this petition, flax culture was begun at an early date and carried on to a

²⁶ *Pennsylvania Archives*, 3rd Series, XVII, *passim*.

²⁷ Lancaster County Assessment Lists, 1773, Pa. Hist. and Museum Commission, Division of Public Records, Harrisburg, Pa. (document depository cited hereafter as: Public Records, Harrisburg, Pa.).

²⁸ *Ibid.*, *First Census*, 1790.

²⁹ *Pennsylvania Archives*, 3rd Series, XVII, *passim*.

³⁰ Rush, "The German Inhabitants," Pa. Ger. Soc. *Proceedings*, XIX, 67.

³¹ *Ibid.*, p. 58. As late as 1773, however, some inhabitants of Lancaster County still engaged in the "unlawful and dangerous Practice" of burning the woods. *Pennsylvania Gazette*, May 17, 1773.

³² P. W. Bidwell and J. I. Falconer, *History of Agriculture in the Northern United States, 1620-1860*, p. 78 (cited hereafter as: Bidwell and Falconer, *History of Agriculture*).

³³ T. Pownall, *A Topographical Description of . . . the Middle British Colonies . . . in North America*, p. 28 (cited hereafter as: Pownall, *The Middle British Colonies*); Lewis Evans, in Gipson, *Lewis Evans*, p. 101; *Pennsylvania Gazette*, Sept. 11, 1760.

³⁴ *Votes of the Assembly*, III, 231.

considerable extent to serve the household linen industry.³⁵ Hemp was grown for the same purpose, and also for the Philadelphia market.³⁶ Hops cultivated as a profit crop along the Susquehanna before the Revolution, were available for the use of local brewers and distillers and for export.³⁷ The addition of flax, hemp, and hops to the grain crops commonly grown on the frontier prior to the Revolution reflects the tendency toward diversity in Lancaster County farming.

Agricultural diversity is also seen in the early attention given to grass culture in the county. Colonial animal husbandry in the early eighteenth century was generally inefficient and unproductive. Livestock, poor in quality to start with, commonly suffered from inadequate shelter and food. Sufficient winter forage could hardly be secured from the natural meadows, and it was not unusual for stock to starve to death, or to end the winter in a weak, emaciated condition.³⁸ In Lancaster County, however, meadow irrigation by the middle of the eighteenth century provided an answer to the winter forage problem and made possible a more efficient animal husbandry.

Kalm saw meadow irrigation in several parts of Pennsylvania about the middle of the eighteenth century and remarked: "The inhabitants seldom fail to employ a brook or spring in this manner, if it is not too far from the meadows to be led to them."³⁹ Lancaster County was within the irrigation areas to which Kalm referred, for when Governor Thomas Pownall passed through the region in 1754, he wrote:

Between Lancaster and Mr. Wright's I saw one of the finest farms one can conceive, and in the highest culture, particularly one that was the estate of a Switzer. Here it was that I first saw the method of watering a whole range of pastures and meadows, on a hill side, by little troughs cut in the side of the hill, along which the water, from springs, was conducted, so as that when the out-let of those troughs were stopped at the end, the water ran over the sides, and watered all the ground between that and the trough next below it. I dare say this method may be in use in England, I never saw it there, but saw it here first.⁴⁰

Six years later another farm in the county had thirty acres of irrigated meadow.⁴¹

The increased hay crops provided from the irrigated meadows went far toward a solution of the livestock forage problem. Skill in animal husbandry was also displayed by the county inhabitants in other ways. The German farmer kept only a small number of horses and cows, but he fed them well and, as a result, gained from them more labor and milk. He also knew the value of keeping them as warm as possible in winter in order to reduce their

³⁵ *Pennsylvania Gazette*, June 14, 1770.

³⁶ *Ibid.*, William McCord Ledger, 1764-1767.

³⁷ Rhoda Barber Journal, 1726-1782.

³⁸ Bidwell and Falconer, *History of Agriculture*, pp. 79, 87, 102-103.

³⁹ Peter Kalm. *Travels Into North America*, I, 241-242 (cited hereafter as: Kalm, *Travels*).

⁴⁰ Thomas Pownall, "Journal," *The Remembrancer; or Impartial Repository of Public Events for the Year 1777*, pp. 488-489 (cited hereafter as: Pownall. *The Remembrancer*, 1777).

⁴¹ *Pennsylvania Gazette*, Sept. 11, 1760.

consumption of hay and grain. To accomplish this end, an adequate barn was needed, and the German farmer would ordinarily address his attention to supplying it ahead of improved housing for himself. Rush adds: "The barn and stables are generally under one roof, and contrived in such manner as to enable them to feed their horses and cattle, and to remove their dung, with as little trouble as possible."⁴² The first group of farm buildings erected on one Donegal Township plantation in the first half of the eighteenth century included a double barn. By 1760 this estate had new improved stone buildings again including a double barn.⁴³

Livestock commonly kept by settlers in the Colonial period included horses, cattle, sheep, oxen, swine, goats, and poultry. In the early 1770's the typical Lancaster County farmer had from one to four horses and about the same number of cattle. Sheep were introduced at an early date, and in 1773 a considerable proportion of the farms had flocks numbering typically from two to twelve animals.⁴⁴ Early attention was given to the breeding of powerful draught horses, leading ultimately to the development of the famous Conestoga horse, so named after its place of origin.⁴⁵ It does not appear that this horse was developed from any original distinctive stock.⁴⁶

Horticulture also received attention in the diversified agriculture of Lancaster County in the Colonial period. Acrelius noted the care given to Pennsylvania fruit culture about the middle of the eighteenth century. Cultivation consisted of grafting and pruning in spring, and plowing and sowing to maize, rye, or oats every five to six years.⁴⁷ Peaches, apples and cherries were cultivated in Lancaster County at this time.⁴⁸ Apples were the chief fruit, being utilized largely in the production of cider, a favorite drink of the Pennsylvania Germans, along with wine and beer.⁴⁹ Many varieties of apples were grown, and among them appear both strange and familiar names—"Romanites, Hoops, Ramboe's, Newtown, Pippin, English russets, Hay's apple, English codlen, sweet early, tart early, sweet winter, lacker, spice apple, Clemptonites, cat-head, Spitsenberg, and divers other sorts."⁵⁰ Peaches ranked next to apples in importance. Both apples and peaches were distilled in the county at least as early as 1733.⁵¹ Colonial fruits were also put to table use in forms other

⁴² Rush, "The German Inhabitants," *Pa. Ger. Soc. Proceedings*, XIX, 54, 59-60.

⁴³ *Pennsylvania Gazette*, Sept. 11, 1760.

⁴⁴ Lancaster County Assessment Lists, 1773, Public Records, Harrisburg, Pa.

⁴⁵ John Strohm, "The Conestoga Horse," Report of Commissioner of Agriculture for the Year 1863, *House Exec. Doc. No. 91*, 38th Cong., 1st Sess., pp. 175-180.

⁴⁶ Pa. State Agric. Soc., *Third Annual Report of Transactions*, 1855, pp. 312-313.

⁴⁷ Israel Acrelius, *Hist. Soc. of Pa. Memoirs*, XI, 151-152.

⁴⁸ Pownall, *The Middle British Colonies*, p. 28; *Pennsylvania Gazette*, Sept. 11, 1760; Robert Proud, *The History of Pennsylvania*, II, 266.

⁴⁹ Bidwell and Falconer, *History of Agriculture*, pp. 99-100; Rush, "The German Inhabitants," *Pa. Ger. Soc. Proceedings*, XIX, 63.

⁵⁰ *Pennsylvania Gazette*, Sept. 27, 1775.

⁵¹ *Votes of the Assembly*, III, 200.

than beverages, and surpluses were fed to swine. Pennsylvania German horticulture included gardens as well as orchards, and both caught Pownall's attention as he passed through the region in 1754.⁵²

From what has already been said about the small diversified farms of Lancaster County in the Colonial period, it is apparent that they were largely self-sufficient. Animal and vegetable foods were home grown. Clothing was made in the home from the wool, flax, and hemp grown on the farms, although by 1770 some cotton was used in home industry in Lancaster Borough.⁵³ Buildings, furniture, and tools were often of home manufacture, especially in the early eighteenth century. As time passed, however, some farmers erected manufactories such as grain and saw mills, distilleries, and cooperages.⁵⁴ Establishments of this type were made available for customer business, and represent a modification of certain of the processing aspects of home industry. By the end of the Colonial period, a wide variety of artisan services could be secured in Lancaster Borough.⁵⁵ However, in spite of the modifications suggested, self-sufficing farming was characteristic of the Lancaster County scene in the Colonial period.

In view of the circumstances just set forth, it is evident that the local market for farm produce was very limited. When every man produced most of what he needed, there was little occasion for exchange with his neighbor. Farmers in the vicinity of Lancaster had some outlet for their products in the official town markets which the borough charter of 1742 authorized twice weekly, on Wednesday and Saturday.⁵⁶ On the eve of the Revolution, the Lancaster artisans numbered somewhat fewer than 500, suggesting that the consuming town population at that time may have been 2,500 or 3,000. However, even the town families were at least partially self-sufficient agriculturally, and thus the borough market for farm foodstuffs was strictly limited.⁵⁷ The workers at the furnaces and forges of the county consumed large amounts of agricultural produce, but much of this was grown on the iron plantations themselves in the Colonial period, and the surrounding farmers could not look to the ironworks for an extensive market.⁵⁸ Produce such as hemp, wool, hides, grain, and hops were consumed, of course, by the early county craftsman—rope and hat makers, saddlers, millers, brewers, and distillers—but some of the manufactured products such as flour and whiskey still had to be disposed of largely outside of the county.

⁵² Pownall, *The Middle British Colonies*, p. 28.

⁵³ *Pennsylvania Gazette*, June 14, 1770.

⁵⁴ *Ibid.*, Sept. 11, 1760.

⁵⁵ *Pennsylvania Archives*, 3rd Series, XVII, 454-465.

⁵⁶ This charter is printed in Mombert, *Lancaster County*, pp. 141-146. Efforts to sell goods other than foodstuffs on the weekly markets encountered the opposition of the Burgesses who in 1768 forbade the market "hugsters" to sell any merchandise, but to confine themselves to eatables entirely. Lancaster Corporation Book, 1768.

⁵⁷ *Pennsylvania Archives*, 3rd Series, XVII, 454-465; Ebeling, *Die Vereinten Staaten*, IV, 684.

⁵⁸ A. C. Bining, *Pennsylvania Iron Manufacture in the Eighteenth Century*, pp. 34-35, 125.

Philadelphia with its relatively large population, varied industries, and export trade in grain and other farm products to the West Indies, Europe, and other colonies was a logical market center for the county. Road connections were established early in the eighteenth century between the Conestoga settlements and the city,⁵⁹ and farm produce, such as grain and hemp, was sent down during the Colonial period.⁶⁰ The importance of the Philadelphia market to the farmers of Lancaster County in the 1780's is reflected in the following petition signed by about 1,000 of them, and sent to the General Assembly:

That your memorialists stand informed, that repeated applications have been made to the honourable House, for a law to extend the Market House on High Street, still farther westward.

That it is of great importance to the Farmer to have a ready access with his wagon into the heart of the city; The price of his produce, and the readiness of sale, greatly depend upon it; There he can most easily purchase such goods as he may have occasion for, and best inform himself of the lowest price at which they are sold. While, on the contrary, if he be obliged to remain at the outskirts of the city, there are fewer purchasers for his produce, he is at greater difficulty to obtain what he wants to purchase, and more liable to be imposed on by the few traders who may reside there.

That High Street, from its great width, is well calculated for accommodating wagons, while they remain in the city; but the other streets are too narrow as to be extremely inconvenient—That even that street, wide as it is, has lately often been much crowded, and that increase of wagons is so great, as must soon render a want of room for them a distressing circumstance . . .

Your petitioners therefore, pray, that until some large open square, near the center of the trading part of the city, can be obtained for the reception of wagons, the entrance into the heart of the city by High Street, may not be any further interrupted, or prevented, by any means whatever.⁶¹

This petition indicates that the county farmers commonly transported their surpluses to Philadelphia in their own wagons and personally managed the exchange. Considerable amounts of farm produce were also taken in by the Lancaster County merchants either by purchase or in exchange for store goods. These merchants then sent the produce, such as hemp and flour, on to Philadelphia to be applied on their accounts with their purchasing agents.⁶²

Early in the history of Lancaster County road connections were established with points in Delaware and Maryland, and trade was carried on with those areas.⁶³ Military developments created markets for county farm pro-

⁵⁹ Israel Acrelius, Hist. Soc. of Pa., *Memoirs*, XI, 145; C. I. Landis, *The First Long Turnpike in the United States*, p. 1.

⁶⁰ *Votes of the Assembly*, III, 231; William McCord Ledger, 1764-1767.

⁶¹ Printed in H. H. Shenk, L. C. H. S. *Papers*, XXV, 71. See also *Minutes of the General Assembly of the Commonwealth of Pennsylvania*, April 1, 1785, 9th Assembly, 2nd Sess.

⁶² William McCord Ledger, 1764-1767; Charles Hamilton to John Mitchell, Nov. 20, 1774, John Mitchell Correspondence, 1772-1785.

⁶³ H. F. Eshleman, *Map Showing Location and Date of the Earliest Highways Leading from the Delaware and Schuylkill Rivers to the Susquehanna River and Its Branches* [c. 1907].

duce from time to time. Thus 150 wagons of oats, corn, and other forage were sent from Lancaster and neighboring counties to supply Braddock's army in 1755.⁶⁴ The needs of the Revolutionary Forces created special demands for various products of the county farms.⁶⁵

Colonial agriculture commonly made extravagant use of the soil. Since land was so abundant, the settler had little incentive for conservation, even when he knew something about proper soil care. Rotation of crops was not practiced. Various grain crops were sown successively until the impoverished fields no longer yielded satisfactory returns, after which the land was permitted to lie fallow for a time. Livestock frequently ran at large with the result that little animal manure was available, and even this scant supply was generally neglected.⁶⁶ There can be little doubt that this general agricultural pattern which was so characteristic of the Colonial period was reproduced to some extent on the colonial farms of Lancaster County. However, there are evidences of an early interest in proper soil care. The county farmers were among the first to lime their land, and this practice was general among them in 1754. Pownall visited the region in that year and wrote: "Every Farmer has a Limekiln burnt for the dressing of his Land, and they raise a great deal of Wheat."⁶⁷

The careful livestock feeding and housing practices of the Germans produced more than the usual quantities of animal manure, and at least limited use was made of this manure in the Colonial period. Schoepf, writing shortly after the Revolution, states that the use of "plaister" had recently become a favorite practice in an area including Lancaster County ". . . because there is less trouble involved than in the collecting, lading, hauling, and spreading of the common dung of cattle—trouble which the farmer here does not willingly submit to."⁶⁸ This statement implies that animal manure was used prior to the introduction of gypsum about the beginning of the 1780's.

In bringing to a close this section on Lancaster County agriculture in the Colonial period, it is interesting to note the general impression made upon a traveler who visited the Lancaster vicinity in 1754. Pownall wrote:

These Successions of Valleys appeared to me as I rode along them the most charming of Landscapes. The Bottoms of the Vales were full of cultured Farms, with Houses, such as Yoemanry, not Tenants, live in: These were busked up with Gardens, and with Peach and Apple Orchards all round them, and with every Convenience and Enjoyment that Property and Plenty could give to Peace and Liberty. My Heart felt an Overflowing of Benevolence at the Sight of so much and such real Happiness.⁶⁹

⁶⁴ *Pennsylvania Gazette*, May 15, 1755. See also, *Pennsylvania Archives*, 1st Series, VIII, 155.

⁶⁵ *Pennsylvania Gazette*, April 17, 1776, May 7, 1777.

⁶⁶ *American Husbandry*, chap. 12; Kalm, *Travels*, I, 145; Israel Acrelius, *Hist. Soc. of Pa. Memoirs*, XI, 146-147.

⁶⁷ Pownall, *The Middle British Colonies*, p. 28.

⁶⁸ Johann David Schoepf, *Travels in the Confederation, 1783-1784*, I, 196, footnote (cited hereafter as Schoepf, *Travels*).

⁶⁹ Pownall, *The Middle British Colonies*, p. 28. See also Pownall, *The Remembrancer*, 1777, pp. 488-489.

One of the farms which this traveler may have seen was described a few years later as follows:

EIGHT Hundred Acres of Land, with valuable Improvements, situated in the Township of Donegall, and County of Lancaster; the Whole well watered and timbered, and in a healthy full settled Part of the Country; One Hundred Acres whereof are already cleared, and in good Repair, and 30 Acres already made into Meadow; all well watered by a gentle and constant Stream gliding through the same, and may, with Ease, be directed to any Part of it; To which may be added, occasionally, 100 or more Acres, capable of the like or better Advantages, by Water flowing through the same . . . having on the one end of the Tract a good convenient square Log Dwelling-house, a double Barn, and a young Orchard, etc. on the other a good Stone House, 40 Feet long, and 28 Feet wide, containing four Rooms on a Floor, with a convenient Cellar under Part of the same, a good double Barn, two Orchards of fine bearing Apple and Cherry Trees, a good overshot Grist-Mill with two Pair of Stones, three boulding Cloths, and hoisting Gears, all going by Water, and in very good Order, with every Thing necessary for Merchant and Country Work, supplied by a constant and plentiful Stream of Water throughout the Year, capable of turning out 20 Barrels of Flour every 24 Hours, with proper Attendance, or upwards of 7000 Barrels in a Year; with a good Saw-Mill, Distillery House, Cooper's Shop, and Store-House, lying in a fine Part of the Country for the Purchasing of Wheat and other Grains.⁷⁰

This item reflects the advanced state of agriculture and farm industry in the county only fifty years after the beginning of settlement. It will be noted that this homestead had already in 1760 graduated from the original log buildings to improved stone housing. Of special interest, too, is the fact that the estate was advertised by Thomas Harris whose name suggests that he was Welsh or English rather than German, which indicates that not all of the progressive farmers in the area were of the latter nationality.

Lancaster County agriculture from the Revolution to 1840 reveals many similarities to the earlier period. The small diversified farm continued to be characteristic of the region. It retained a good measure of its self-sufficiency, but there was a gradual increase of dependence upon outside agencies. Careless and unscientific use of the land gave place to an efficient system of soil conservation, and many other significant changes occurred.

Meadow irrigation was general in the county at the close of the eighteenth century.⁷¹ A visitor in the 1790's wrote: "The city of Lancaster is surrounded with meadows, which are well watered. It gave me much satisfaction to see a wheel, purposely designed to raise the water necessary for that purpose."⁷² The introduction of the cultivated English grasses such as timothy and red clover into the field culture of the local farms in the latter part of the

⁷⁰ *Pennsylvania Gazette*, Sept. 11, 1760.

⁷¹ *Pennsylvania Packet*, Feb. 25, April 1, 1778; *Intelligencer, and Weekly Advertiser*, July 31, Oct. 23, Dec. 4, 1799; *Lancaster Journal*, Jan. 17, 1801.

⁷² La Rochefoucault, *Travels*, I, 44. The elevation of irrigation water by mechanical means was rare in the county. William Strickland, *Observations on the Agriculture of the United States*, p. 70.

eighteenth century, however, changed the outlook on meadow irrigation.⁷³ These grasses could be grown readily upon the upland fields, and the farmers thereafter were released from dependence upon lowland meadow hay. In 1801 John B. Bordley wrote:

... it is remarkable that the irrigated and bottom meadow lands [in Pennsylvania] are now thought lightly of, in comparison with the very high estimation they were in before clover came into field culture. Still irrigated grounds are, as they ever will be, very valuable; but so sure and plentiful are clover crops, that the Pennsylvania farmers are less solicitous about meadows. Till lately a farm without irrigation or bottom meadow, was never much valued. Now purchasers are less anxious for those articles, as they are sure of abounding in clover and hay from the arable upland.⁷⁴

By 1819 permanent meadows had generally disappeared in the best cultivated parts of Pennsylvania, but an occasional one could still be found in Lancaster County at the close of the period studied.⁷⁵

The production of upland hay was made possible by the use of gypsum, or plaster of Paris, which, when applied to the land in small quantities, greatly stimulated the growth of grass. Richard Peters of Philadelphia pioneered the introduction of gypsum in this country, having begun to experiment with it about 1770. Soon thereafter he sent samples to the German farmers of Lancaster County whom he found to be totally ignorant of it, and some years elapsed before they could be prevailed upon to use it freely.⁷⁶ About the close of the Revolutionary War, however, gypsum was in general use in the vicinity of Lancaster, where it was applied to both grass and plow land.⁷⁷ Before the War of 1812, Nova Scotia was the source of the gypsum supply, but about that time new quarries were opened in New York State, and thereafter Lancaster County needs were met by shipments down the Susquehanna River.⁷⁸ As a result of the new gypsum and clover culture, hay production increased tremendously.

Increased hay supplies enabled the farmers to keep more livestock and make more manure. The following advertisement reflects the generous use of

⁷³ Thomas Cooper, *Some Information Respecting America*, pp. 137-138; *Lancaster Journal*, May 12, 1798. Red clover seed grown in Lancaster County was marketed in Philadelphia as early as 1773. *Pennsylvania Gazette*, April 14, 1773.

⁷⁴ J. B. Bordley, *Essays and Notes on Husbandry and Rural Affairs*, p. 31. See also, William Strickland, *Observations on the Agriculture of the United States*, p. 70.

⁷⁵ *The American Farmer*, I, 132; *Intelligencer and Journal*, Oct. 8, 1839.

⁷⁶ Phila. Soc. for Promoting Agric., *Memoirs*, I, 166; *American Farmer*, II, 137, VII, 20.

⁷⁷ Schoepf, *Travels*, I, 196; Ebeling, *Die Vereinten Staaten*, IV, 678. See also numerous gypsum advertisements in *Neue Unpartheyische Lancaster Zeitung, und Anzeigs Nachrichten*, Feb. 13, 1788, Jan. 14, 1789 (cited hereafter as: *Neue Lancaster Zeitung*); *Lancaster Journal*, Dec. 30, 1797, April 28, 1798, July 5, 1800.

⁷⁸ Bidwell and Falconer, *History of Agriculture*, p. 233; Phila. Soc. for Promoting Agric., *Memoirs*, III, 267.

manure in the county before the close of the eighteenth century and strikingly illustrates the general progress made in local agriculture by that time:

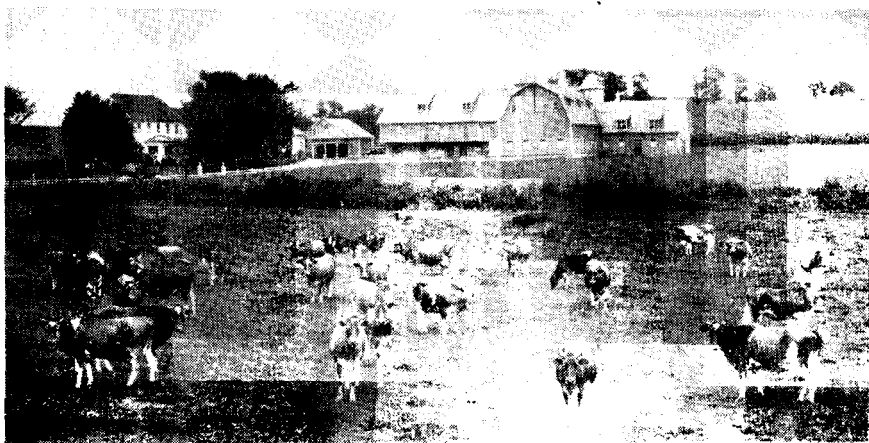
A Valuable TRACT or LAND, adjoining the borough of Lancaster, containing about sixty acres; the whole in the highest state of cultivation; fifteen acres are watered meadow, in complete order, having three watering dams, the collection of the springs in said meadow, which fill so as to water the same every morning and evening. The Upland is nearly divided on each side of said meadow, the one half in wheat and rye, and the other in excellent clover. The whole has been these several years past thoroughly manured.—There are on the said tract, a neat brick house, with a handsome piazza fronting on the meadow, beautifully situated; a neat brick spring-house, with a good room in it, built over a large spring; a large and convenient barn, with two threshing floors and stabling for a number of cattle; a large good kitchen garden, inclosed with locust posts and pine boards; an apple orchard, containing upwards of 160 trees of the best grafted fruit, with a great variety of other valuable fruit around the house and garden, such as cherries, prunes, plums, peaches, pears . . .⁷⁹

The use of manure over the entire farm will be noted, and also the cattle stabling so necessary for the production of this organic fertilizer. About this time cattle were stabled from December to April in the vicinity of the nearby town of Lebanon.⁸⁰ Thus it is evident that considerable manure was made. Production of the same was greatly facilitated around the beginning of the nineteenth century when large droves of western cattle were brought into York, Lancaster, and Chester counties to be fattened for eastern markets.⁸¹

⁷⁹ *Lancaster Journal*, May 12, 1798.

⁸⁰ *Cazenove Journal*, p. 49.

⁸¹ Gilpin, "Journal," *Pa. Mag. of Hist. and Biog.*, L, 164.



LANCASTER COUNTY DAIRY FARM
"Woodside" on Lancaster-Harrisburg Pike

Cattle feeding became a general practice thereafter, and the increase in manure was turned back into the soil.⁸²

Lime continued to be used on the farms of the county throughout the period under consideration.⁸³ Farm kilns had not disappeared by 1839,⁸⁴ but commercial lime burning operations began at Quarryville some years before that date. This town, originally Barr's Quarries, got its name from the limestone quarries located there. Farmers of the southern townships bought or leased quarry lots from Martin Barr in the early nineteenth century, and on these built log cabins. After the fall work was done, part of the family would take provisions and go up to their cabin to quarry the stone, while another part of the family would haul it home to the farms, each of which had a lime kiln using wood which was plentiful and cheap. As wood became more scarce the farmers sold their personal quarries, and a large commercial lime burning industry gradually developed at the site. The lime was sold at the kilns, but the operators kept teams which delivered large quantities to all of the lower townships. One of the most prominent men in this business was Daniel Lefever who commenced operations about 1832. Toward the close of the decade, he began to use coal in his kilns, having been the first in the Quarryville vicinity to do so.⁸⁵ Some of the other county lime burners used coal a short time later.⁸⁶

Gypsum, animal manure, and lime all contributed to an efficient program of soil conservation. The introduction of the cultivated grasses in the latter part of the eighteenth century had paved the way for another significant development in that program—scientific crop rotation which eliminated wasteful fallowing. In clover particularly, the farmer had a crop which could be alternated with grain to restore the soil, while at the same time it provided him with abundant hay. In the 1790's a four-year rotation was used in Lancaster County. Corn was planted the first year, wheat the second, and then followed two years in clover mown twice a year. Rye or barley was sometimes substituted for wheat and oats for corn. Some buckwheat was also grown.⁸⁷ Experimentation led to changes. In the best cultivated parts of Pennsylvania in the early nineteenth century the rotation covered five years. Corn was planted the first year, oats the second, wheat the third, mixed clover and timothy for hay the fourth, and mixed clover and timothy for pasturage the fifth.⁸⁸ Some

⁸² *The American Farmer*, I, 132, VII, 163; J. B. Bordley, *Essays and Notes on Husbandry and Rural Affairs*, p. 30.

⁸³ *Lancaster Journal*, Feb.. 3, 1797, Nov. 17, 1810; *Intelligencer and Journal*, Oct. 8, Dec. 3, 1839, Mar. 17, 1840; Tench Coxe, *A Statement of the Arts and Manufactures of the United States of America for the Year 1810*, p. 74 (cited hereafter as: *Coxe, Arts and Manufactures*).

⁸⁴ *Intelligencer and Journal*, Oct. 8, 1839.

⁸⁵ G. W. Hensel, *Reminiscences*, pp. 3, 7.

⁸⁶ J. H. Bryson, *Lancaster Directory for 1843*, p. 30.

⁸⁷ Thomas Cooper, *Some Information Respecting America*, pp. 137-138.

⁸⁸ *The American Farmer*, I, 132.

of the rich Lancaster County soil permitted a more strenuous rotation with four years in grain and one in grass as follows:

The land being rich, they crop hard, as will appear by the following rotation, which they frequently adopt: 1st, corn; second, barley or oats; 3rd, wheat, with manure; 4th, rye; 5th, clover and timothy. When they are not likely to have manure for the barley or oat stubble, they omit the barley or oat crop, and break the corn ground for wheat before harvest. Then the rotation is corn, wheat, rye and grass seed. On the above system, not more than one-fifth of grass land is broken annually, and as they keep few cattle, and these mostly soiled in the stable until after harvest, nearly four-fifths of the whole cleared part of the country is left in harvestable crops . . .⁸⁹

These rotation systems indicate that Lancaster County passed in approximately a century from wasteful frontier agriculture to an intelligent and highly efficient program of soil care and conservation. Gypsum, animal manure, lime and clover were the essential elements of the new agriculture. The soundness of the principles upon which it was based is revealed by the fact that the rotation of corn, oats, wheat, and hay (mixed clover and timothy) is still common in southeastern Pennsylvania, although in Lancaster County the oats cycle has been replaced with tobacco and potatoes.⁹⁰

There was little change in the livestock situation in the county between the Revolution and 1800. The typical farmer at the latter date had the same kinds, and about the same number, of farm animals as did his counterpart in the early 1770's.⁹¹ There was little advantage for the farmer in the increase of his stock in this period. Only a limited number of horses could be used profitably on the farm and in transportation, and there was little opportunity to dispose of dairy products and wool if he produced beyond the needs of his family. Farm surpluses in the eighteenth century were most readily marketed in the forms of grain, whiskey, and flour. It was the intelligent grasp of realities such as these which led the German farmers to specialize on a limited intensive animal husbandry.⁹²

The total livestock of the county increased in the early nineteenth century, although there is little evidence that the typical farmer went in for stock raising in a big way.⁹³ In 1810 there were 17,916 horses in the county, and the number increased only to 18,726, including mules, in 1840.⁹⁴ This slight increase of 810 horses and mules in thirty years while population increased by about 30,000 at first thought seems incredible. Oxen may have been used to a greater extent during the interval, although this is unlikely, for, as compared

⁸⁹ *The American Farmer*, VII, 163.

⁹⁰ W. M. Kollmorgen, *Culture of a Contemporary Rural Community*, U. S. Dept. of Agric., Bur. of Agric. Economics, *Rural Life Studies* 4, pp. 15, 16.

⁹¹ Lancaster County Assessment Lists, Earl Township, 1777, Conestoga Township, 1788, 1800, Lancaster County Archives; La Rochefoucault, *Travels*, I, 46.

⁹² Rush, "The German Inhabitants," *Pa. Ger. Soc. Proceedings*, XIX, pp. 59-60, 62.

⁹³ *The American Farmer*, VII, 163.

⁹⁴ Coxe, *Arts and Manufactures*, p. 75; *Compendium of the Sixth Census*, p. 131.

to horses, oxen were never popular with the county farmers.⁹⁵ The real explanation for the slight increase in beasts of burden between 1810 and 1840, however, must be sought in transportation improvements. In the early 1820's Lancaster County began for the first time to make intensive use of the Susquehanna River for the shipment of exports.⁹⁶ The Columbia and Philadelphia Railroad completed in 1834, provided convenient land transportation to and from the Philadelphia market.⁹⁷ Improved land and water conveyance inevitably ruined wagon freighting, and as the once numerous Conestoga wagons gradually disappeared from the marketing highways, the need for horses greatly decreased.

During the period from 1810 to 1840, cattle increased in the county from 48,648 to 61,164.⁹⁸ This increase is to be accounted for mainly by the growth of the population from 53,927 to 84,203 during the interval, thus creating a demand for more meat and dairy products. Beef feeding was begun at least as early as the first decade of the nineteenth century when droves of western cattle were brought into Lancaster and adjoining counties to be fattened for the eastern markets.⁹⁹ Thereafter the typical Lancaster County farmer fattened a certain number of beeves each year, thus adding to his supply of manure, while at the same time his grain was transformed into a marketable product.¹⁰⁰ A few men went into cattle feeding on a fairly large scale. In the late 1820's, one progressive farmer with 300 acres fattened from twenty to thirty head each year.¹⁰¹

Throughout the period prior to 1810 the production of wool in Lancaster County was merely a minor farm enterprise to supply the raw materials for household industry.¹⁰² Between 1810 and 1840 a few small woolen manufactories developed, but these had no appreciable effect upon the local sheep industry.¹⁰³ There were 37,365 sheep in the county in 1810 and 41,967 in 1840.¹⁰⁴ This increase of 4,602 animals is readily explained by reference to a population larger by 30,000 at the latter date. In fact, the increase is so small as to reflect an actual relative decline in wool production as measured by the number of sheep per capita, at the very time when the strengthened national wool market caused rapid growth of the nation's flocks.¹⁰⁵ The failure of Lancaster County to follow the general trend is explained by the fact that the farmers there simply did not find it profitable to devote more of their land

⁹⁵ *Seventh Census*, 1850.

⁹⁶ See Chapter IX.

⁹⁷ *Ibid.*

⁹⁸ Coxe, *Arts and Manufactures*, p. 75; *Compendium of Sixth Census*, p. 131.

⁹⁹ Gilpin, "Journal," *Pa. Mag. of Hist. and Biog.*, L, 164.

¹⁰⁰ *The American Farmer*, I, 132.

¹⁰¹ Hazard, *Register*, IV, 112.

¹⁰² L. G. Conner, "A Brief History of the Sheep Industry in the United States," *Amer. Hist. Assoc. Annual Report*, 1918, I, 96.

¹⁰³ See Chapter IV.

¹⁰⁴ Coxe, *Arts and Manufactures*, p. 75; *Compendium of Sixth Census*, p. 131.

¹⁰⁵ L. G. Conner, "A Brief History of the Sheep Industry in the United States," *Amer. Hist. Assoc. Annual Report*, 1918, I, 109-111.

and capital to sheep raising as compared to grain and cattle farming. Buchanan, whose Congressional district included Lancaster County, stated the matter clearly on the floor of the House in 1828:

I am willing and anxious to extend further protection to this suffering interest [the woolen manufacture], although there is not an individual in five hundred of my constituents, in that portion of the congressional district with which I am best acquainted, who will *personally*, at the present time, derive the least benefit from an additional tax on woolens . . . The farmers in the eastern part of Pennsylvania never can, and never will, convert their small farms, for which they have paid large prices, into sheep walks.¹⁰⁶

There are no statistics prior to 1840 for county livestock other than horses, cattle, and sheep. The presence of abundant swine from the beginning of settlement may be assumed. These animals were able to forage for themselves, and they could also be fed on distillery refuse. Thus they provided an economical household meat supply. Some county farmers fattened hogs for the city market. Thus John Harburger sold two in Baltimore in 1820, which had a combined weight of 1743 pounds. One was six feet and three inches in girth around the body, and measured nine feet, one inch, from the root of the tail to the end of the snout. These animals were corn and milk fed for the last six months. Harburger's marketing of fat hogs illustrates another method by which the farmers converted their grain surpluses into cash.¹⁰⁷ The number of swine in the county in 1840 was 75,026.¹⁰⁸ Oxen, although mentioned occasionally in the sources, were never numerous.¹⁰⁹ Of the many tax lists examined by the writer, none enumerated oxen specifically. They are not distinguished in the census reports until 1850, at which time there were only 1,731 in the county.¹¹⁰ Poultry, which had a place in the diversified farm economy of the county from the beginning, was valued at more than \$29,000 in the year of the Sixth Census.¹¹¹

Except for horses, very little attention was paid to livestock improvement in Lancaster County before 1840, but considerable interest was manifested in stock breeding by Pennsylvania farmers about that time.¹¹² In 1810 there were only ten pure blood Merino sheep and 528 mixed Merino and common breeds among the farmers' flocks. The census reports for that year also included 249 Tunis broad-tailed mountain sheep, a strain in which Richard Peters of Philadelphia was much interested, and which was introduced into Lancaster County by his endeavors.¹¹³ Even if the mixed Merino and common breeds are included,

¹⁰⁶ *Congressional Debates*, 20th Cong. 1st Sess., IV, Part 2, p. 2104.

¹⁰⁷ *The American Farmer*, I, 376. Hog bristles also found a market in the shops of the local brush makers. *Lancaster Journal*, May 9, 1806.

¹⁰⁸ *Compendium of Sixth Census*, p. 131.

¹⁰⁹ La Rochefoucault, *Travels*, I, 46.

¹¹⁰ *Seventh Census*, 1850.

¹¹¹ *Compendium of Sixth Census*, p. 131.

¹¹² C. B. Trego, *A Geography of Pennsylvania*, p. 112; Report of the Commissioner of Patents for the Year 1858, *Sen. Exec. Doc. No. 47*, 35th Cong. 2nd Sess., pp. 193-194.

¹¹³ Coxé, *Arts and Manufactures*, p. 75; Phila. Soc. for Promoting Agric., *Memoirs*, II, 211.

the special breeds in 1810 numbered less than 1,000 as compared to the 36,578 common sheep as expressly mentioned in the census returns.¹¹⁴ Actually, however there was little incentive for the local farmers to invest in special breeds of sheep, and especially in the fine-wooled strains. They kept sheep primarily for household industry, and this called for a strong, coarse wool which could be clipped from common animals requiring a minimum of care and feed.¹¹⁵

The German farmer took a special interest in horses. Rush wrote: "A German horse is known in every part of the state; indeed he seems to 'feel with the lord, the pleasure and the pride' of this extraordinary size or fat."¹¹⁶ Mention had been made of the famous Conestoga draught horse which was developed during the Colonial period. Interest in the breeding of fine horses continued unabated thereafter. The services and sale of pedigreed stallions, some of them imported from Europe, were advertised regularly about the beginning of the nineteenth century.¹¹⁷ Eight such advertisements in a single paper suggest that good horses were the general rule in Lancaster County at that time.¹¹⁸

Passing reference was made to the early Lancaster County barns. About the middle of the eighteenth century, Lewis Evans wrote of Pennsylvania as follows: "It is pretty to behold our back Settlements, where the barns are large as pallaces, while the Owners live in log hutts; a sign tho' of thriving farmers."¹¹⁹ At that time Lancaster County was one of the "back settlements" to which Evans referred. Here the large bank-barn became a tradition and was deemed as necessary for the agricultural enterprise as the plow itself.¹²⁰ John B. Bordley, in the early nineteenth century, wrote the following excellent description of the Pennsylvania barn:

Farmers in Pennsylvania have a commendable spirit for building good barns, which are mostly of stone. On the ground floor are stalls in which their horses and oxen are fed with hay, cut-straw, and rye-meal; but not always their other beasts. Roots are seldom given to their live-stock, being too little thought of. The second floor with the roof, contains their sheaves of grain, which are thrashed on this floor. A part of their hay is also here stored. Loaded carts and wagons are driven in, on this second floor; with which the surface of the earth is there level; or else a bridge is built up to it, for supplying the want of height in the bank, the wall of one end of the house being built close to the bank of a hill cut down. For giving room to turn waggons within the house, it is built thirty-six to forty feet wide; and the length is given that may be requisite to the design or size of the farm . . . There are not many instances of sheds tacked to their modern

¹¹⁴ Coxe, *Arts and Manufactures*, p. 75.

¹¹⁵ L. G. Connor, "A Brief History of the Sheep Industry in the United States," *Amer. Hist. Assoc. Annual Report*, 1918, I, 100.

¹¹⁶ Rush, "The German Inhabitants," *Pa. Ger. Soc. Proceedings*, XIX, p. 60.

¹¹⁷ *Lancaster Journal*, July 1, 1797, Mar. 31, 1798; *Intelligencer*, and *Weekly Advertiser*, May 19, 26, 1802, Mar. 29, 1803.

¹¹⁸ *Lancaster Journal*, May 19, 1804.

¹¹⁹ Lewis Evans, in Gipson, *Lewis Evans*, pp. 100-101.

¹²⁰ Frederick Watts, "The Pennsylvania Barn," *Report of the Commissioner of Agriculture for the Year 1864*, p. 289; *Cazenove Journal*, p. 83; *La Rochefoucault, Travels*, I, 46.

barns. Their mode of building, of late, does not well admit of them; and room is gained by all being under one roof, covering one or more stories, having deep sides or pitch. The roof is a costly part of buildings; but it costs no more to cover three or four stories than one.

Their barns on the sides of hills (which they chiefly prefer) may be built three stories high, instead of the usual two stories. Cut down the hill perpendicularly seven or eight feet, and build up one end of the barn close to the bank. The other walls are to be quite free and airy from bottom to top. The ground story seven or eight feet high; the next thirteen feet—the third also thirteen feet; into which grain in the straw is pitched up, and there thrashed out.¹²¹

Many of the barns were from sixty to 120 feet in length. When not built wholly of stone, they frequently had a lower story of stone and a superstructure of wood, and were handsomely painted or white-washed.¹²²

Progress continued in Lancaster County horticulture after the Colonial period. Apples remained the chief orchard fruit, although many peaches were grown, as well as smaller amounts of other fruits, such as cherries and pears.¹²³ Pruning and grafting were both practiced before the close of the eighteenth century.¹²⁴ Currants were cultivated to some extent in the early nineteenth century, and forty barrels of currant wine were made in the year of the Third Census.¹²⁵ Grape culture did not make much progress in the period of this study. However, in the 1820's some attention was turned in this direction.¹²⁶ One of the most popular grape varieties at that time was an indigenous vine taken from an island in the Susquehanna River and hence called the Susquehanna grape. In the year reported in the Sixth Census, 1,324 gallons of wine were made. Lancaster County orchard, market garden, nursery, and florist products were valued at more than \$20,000 in the same year.¹²⁷

All of the crops grown in the Colonial period were cultivated on into the nineteenth century. The summary of annual crop production about 1840 was as follows:¹²⁸

Oats	1,376,673	bushels
Indian corn	1,307,600	"
Wheat	1,129,277	"
Rye	448,710	"
Barley	35,280	"
Buckwheat	12,073	"
Potatoes	228,860	"
Hay	59,554	tons
Hemp and flax	17	"

¹²¹ J. B. Bordley, *Essays and Notes on Husbandry and Rural Affairs*, p. 134.

¹²² C. B. Trego, *A Geography of Pennsylvania*, p. 112.

¹²³ *Lancaster Journal*, Aug. 13, 1794, May 12, 1798, Jan. 3, 1801, July 19, 1805, Nov. 11, 1808; *Intelligencer, and Weekly Advertiser*, July 31, Oct. 23, Dec. 4, 1799.

¹²⁴ *Lancaster Journal*, May 12, 1798; Rush, "The German Inhabitants," *Pa. Ger. Soc. Proceedings*, XIX, 71.

¹²⁵ Coxe, *Arts and Manufactures*, p. 59.

¹²⁶ *Lancaster Journal*, Jan. 30, 1824; Thomas Gordon, *A Gazetteer of the State of Pennsylvania*, p. 230.

¹²⁷ *Compendium of Sixth Census*, p. 133. The kind of wine is not specified.

¹²⁸ *Ibid.*, pp. 131-133.

Wool	72,950	pounds
Tobacco	48,860	"
Hops	5,991	"
Wax	313	"
Dairy products	\$ 86,760	value
Orchard products	17 140	"
Market garden products	2,536	"
Nursery and florist products	800	"
Wine made	1,324	gallons
Wood sold	18,627	cords

Reference has been made to a few of the items in this table, but several others are of special interest. Wheat remained, as it had been since the early eighteenth century, the chief money crop. The production of only seventeen tons of hemp and flax reflects the decline of the household linen industry as a result of the increased competition of cheaper cotton fabrics.¹²⁹ Hemp culture ceased in the county within the next decade, and flax production fell to less than three tons annually.¹³⁰ By 1840 the household woolen industry has also reached its peak, and annual wool production declined to 29,403 pounds ten years later.¹³¹

The 1840 produce table includes two crops which were destined to become increasingly important in Lancaster County agriculture—potatoes and tobacco. Oats, the first crop in number of bushels produced at the time of the Sixth Census, was in the process of elimination from the county crop rotation by the end of the century, with potatoes and tobacco taking its place.¹³² The latter also replaced wheat as the chief money crop after the Civil War, and the present farm picture is largely orientated around it. Almost all of the tobacco grown was, and still is, used for cigar filler. Nearly two-thirds of such filler produced in the United States about 1937 was grown in the Lancaster tobacco area with its minor extensions into neighboring counties. This same area at that time accounted for ninety-nine per cent of Pennsylvania's tobacco production.¹³³

Penn's colonists early engaged in tobacco culture, and some tobacco was shipped to England in the seventeenth century. In time it ceased to be grown extensively, although a little was cultivated thereafter for domestic use.¹³⁴ The commercial planting of tobacco in Lancaster County began very feebly in the 1820's. A Lancaster editor wrote in 1825:

We recollect, thirty years since, to have seen small patches of tobacco cultivated for domestic use in this county. Mr. Martin Brenne-
man has, for several years past, raised on his farm about three miles
south of this city, very fine tobacco, which he had made into segars
for his own use. Last year Mr. Brenne-
man extended his tobacco-

¹²⁹ G. W. Hensel, *Reminiscences*, p. 13; Bidwell and Falconer, *History of Agriculture*, p. 250.

¹³⁰ *Seventh Census*, 1850.

¹³¹ *Ibid.*

¹³² W. M. Kollmorgen, *The Culture of a Contemporary Rural Community*, U. S. Dept. of Agric., Bureau of Agric. Economics, *Rural Life Studies* 4, p. 16.

¹³³ *Ibid.*, p. 32; R. E. and M. Murphy, *Pennsylvania; a Regional Geography*, p. 226.

¹³⁴ J. B. Killebrew, "Report on the Culture and Curing of Tobacco," *Tenth Census*, III, 147; Israel Acrelius, *Hist. Soc. of Pa. Memoirs*, XI, 151.

patch, and had for sale several thousands of very fine segars, far superior to what are sold for the best Spanish, and with age would, we think, equal the very best Havanna. This year Mr. Brenneman has planted *ten acres* with tobacco.¹³⁵

It is not clear if Brenneman's first tobacco venture was made with Spanish seed. However, by 1827 he grew a Spanish variety, and his success attracted other farmers to the new crop, as is indicated by the following:

Since the success of Mr. Brenneman, in raising Tobacco from Spanish seed, which he has had manufactured into segars, pronounced superior to most of the Havanna segars imported, many of our planters have turned their attention to the raising of Tobacco. We have therefore been induced to publish an article on the culture of the *Buelto Abaxo* tobacco, which is said to be the best kind raised on the island of Cuba, and we have been requested to state that Geo. Louis Mayer, Esq., has received from a friend in Havana, some of the genuine seed of the *Buelto Abaxo*, which he generously offers to distribute, without charge, among the planters of our county.¹³⁶

One of the first men to take up tobacco culture was John Rohrer of Lampeter Township. In 1827 he advertised "segars" made from tobacco which he grew from Havanna seed. A box of 250 sold for two dollars.¹³⁷

About the time of these tobacco ventures close to Lancaster City, similar experiments were made by farmers near Ephrata. Here, too, cigars were manufactured for the grower's use and for exchange or sale at the country stores.¹³⁸ The early tobacco crops were very small, however, and the total annual production about 1840 amounted to only 48,860 pounds or from thirty to forty acres.¹³⁹ John S. Gable, who died in 1881 at the age of seventy-six years, was referred to at that time as the pioneer leaf tobacco merchant in Lancaster County. When he first began the business prior to 1833 he secured his tobacco in Kentucky, for the leaf was not then raised locally to any extent.¹⁴⁰

Changing circumstances helped to strengthen the local market for Lancaster County farm produce in the period from the Revolution to 1840. Population increased in the county with a corresponding growth of towns. Manufactures also increased, and many craftsmen and workmen became generally less self-sufficient agriculturally with the passage of time. The chief county export markets in this period were Philadelphia, Wilmington, and Baltimore.¹⁴¹

Farm implements and methods in the eighteenth century were simple and crude. Harvesting was a hand operation performed with the sickle or scythe. Threshing was done with the flail or by having animals stamp out the grain.

¹³⁵ *Lancaster Journal*, May 27, 1825.

¹³⁶ *Ibid.*, Jan. 5, 1827.

¹³⁷ *Ibid.*, Mar. 30, 1827.

¹³⁸ J. B. Killebrew, "Report on the Culture and Curing of Tobacco in the United States," *Tenth Census*, III, 147.

¹³⁹ *Compendium of Sixth Census*, p. 132; Pa. Dept. of Agric., *General Bulletin* 371, pp. 13-14.

¹⁴⁰ *Weekly New Era*, Aug. 13, 1881; *Hazard, Register*, XII. 160.

¹⁴¹ *House Report* No. 168, 25th Cong. 3rd Sess.; G. W. Hensel, *Reminiscences*, p. 29.

Plows, made almost entirely of wood, were clumsy and inefficient, and together with harrows, constituted the only horse-powered agricultural implements in general use. Carts and wagons, of course, were commonly employed for farm work and market transportation. Few changes in the implements and methods here referred to occurred before the nineteenth century.¹⁴²

The cradle, an advance over the sickle and scythe, was used in the Middle States toward the close of the eighteenth century, and was manufactured in Lancaster County at least as early as 1808.¹⁴³ Inhabitants of the county showed considerable interest in the improvement of the plow. In the early nineteenth century, John Seitz patented a cast iron plate to attach to the mould-board, and formed a partnership to manufacture these plates at Strasburg at least as early as 1814.¹⁴⁴ Between 1834 and 1840, three other county residents patented plow improvements.¹⁴⁵ James B. Moore manufactured a self-sharpening plow in Lancaster in 1839. This latter implement had a replaceable point and share costing thirty-one and one-fourth cents.¹⁴⁶ Plow castings were among the articles supplied by the cupola foundries which were erected in the county in the 1830's.¹⁴⁷ In view of the progressive attitude taken toward the plow in Lancaster County, it seems safe to assume that innovations such as Jethro Wood's famous implement were welcomed in the area during the latter part of the period studied. Other horse-drawn equipment came into use in Lancaster County agriculture in the early nineteenth century. Peter Gaillard of Lancaster patented the first horse-power grass cutting machine in America in 1812, all previous horse cutters having been for grain. His machine, however, was of little consequence.¹⁴⁸ By 1825 the cultivator and horse hay rake were in general use in the region.¹⁴⁹ John Wike manufactured the latter implement in Salisbury Township in 1833, and his successor in the same shop some years later made horse rakes of the revolving type.¹⁵⁰ In 1840 wheat was still broadcast by hand and covered with a harrow or cultivator, but within the next decade seed drills came into general use in Pennsylvania.¹⁵¹ One of the earliest manufacturers of seed drills in the nation was Henry W. Smith of Salisbury Township, Lancaster County, who produced these implements at least as early as May 4, 1841. Five years later Smith patented an improved drill with tee-h

¹⁴² Bidwell and Falconer, *History of Agriculture*, pp. 123-126; Israel Acrelius, Hist. Soc. of Pa. *Memoirs*, XI, 149; *Pennsylvania Gazette*, May 17, 1775.

¹⁴³ Leo Rogin, *The Introduction of Farm Machinery in Its Relation to the Productivity of Labor*, p. 70 (cited hereafter as: Rogin, *Farm Machinery in Relation to Labor*); *Lancaster Journal*, April 15, 1808.

¹⁴⁴ U. S., *Patents and Designs*, p. 16; *Marietta Pilot*, April 19, 1814.

¹⁴⁵ U. S., *Patents and Designs*, pp. 16, 17.

¹⁴⁶ *Examiner and Democratic Herald*, Sept. 5, 1839.

¹⁴⁷ *Bethania Palladium*, May 20, 1834.

¹⁴⁸ U. S., *Patents and Designs*, p. 11; M. F. Miller, "Evolution of Reaping Machines," U. S. Dept. of Agric. *Bulletin* No. 103, p. 39.

¹⁴⁹ *The American Farmer*, VII, 163.

¹⁵⁰ *Bethania Palladium*, May 6, 1833; *Intelligencer and Journal*, July 6, 1841.

¹⁵¹ Bidwell and Falconer, *History of Agriculture*, p. 299.

which could be elevated when the device was conveyed from place to place.¹⁵² Most Lancaster County wheat was seeded by the use of drills before the middle of the nineteenth century.¹⁵³

Other evidences of local interest in mechanical agriculture may be noted. Machines for hulling clover seed and shelling small grains were introduced into the Lancaster vicinity in the early nineteenth century.¹⁵⁴ John Blocher of Lancaster City patented a hand corn planter as early as 1814, and four other patents were granted in the county for corn shellers or shelling improvements in 1832 and 1833.¹⁵⁵ Manufactories of both hand and horse power corn shellers were in operation in the county about the close of the period under consideration.¹⁵⁶ Threshing machines, which were introduced into various states between 1820 and 1840, appeared in Lancaster County at least as early as 1830, for Rudolph Miller of Marietta patented a thresher in that

¹⁵² *Intelligencer and Journal*, July 6, 1841; Rogin, *Farm Machinery in Relation to Labor*, p. 192; Patent No. 4,833, United States Patent Office.

¹⁵³ *The American Farmer*, Series 4, III, 177 (Dec., 1847).

¹⁵⁴ U. S., *Patents and Designs*, p. 13; *Lancaster Journal*, Sept. 25, 1802.

¹⁵⁵ U. S., *Patents and Designs*, pp. 8, 9, 22.

¹⁵⁶ *Examiner and Democratic Herald*, Nov. 28, 1839; J. H. Bryson, *Lancaster Directory for 1843*, p. 30.



LANCASTER COUNTY TOBACCO FIELD

H. W. Huffnagle, Quarryville, Pa.

year.¹⁵⁷ Several manufacturing of portable horse-power threshing machines were operated in Lancaster in the late 1830's, and one was also erected at Mount Joy before the close of the period studied.¹⁵⁸ Thus it is evident that machine threshing became common in the area about 1840. The data presented on farm implements and machinery indicate that Lancaster County was in the forefront of progress in the use and production of equipment for mechanical agriculture in the early nineteenth century.

As might be expected, Lancaster County agriculturists reaped handsome dividends on their efforts. Many of them had become wealthy by the late eighteenth century. Cazenove wrote:

There are many Lancaster farmers who own as much as 10, 15, 20 thousand [pounds] in land, and funds lent on mortgages on other lands. This does not keep them from coming with their long linen-trousers, and themselves driving a cart-load of wood to the Lancaster market.¹⁵⁹

This accumulation of wealth in agriculture continued in the early nineteenth century. About 1829 one Lancaster County farmer with approximately 300 acres sold in one year an estimated \$2,533 worth of whiskey, \$569 worth of hogs, and \$775 worth of wheat for a total of \$3,877. In addition, he took many other products to market and fattened from twenty to thirty head of cattle each year. The recorder of these statistics estimated that there were a hundred farmers in the county who did as well or better.¹⁶⁰ A traveler a few years later reported that the farmers of the area were all in such easy circumstances, that every one of them kept his own comfortable open carriage.¹⁶¹

The American agricultural society movement began in the eighteenth century when, following the Revolution, there was a desire to establish economic as well as political independence. Philosophical and scientific groups of that day set a pattern of organization for "gentlemen farmers"—professional men and business men who joined together in the interest of agricultural improvement. These agricultural societies sought their objectives by the publication of memoirs and transactions, the offering of premiums for achievement, and the sponsorship of exhibitions. As "learned" organizations, they exerted little influence upon the rank and file of the farmers.¹⁶² Lancaster County felt the impact of this movement, and in 1800 a group of citizens formed The Lancaster County Society for Promoting Agriculture, Manufactures and the Useful Arts.¹⁶³ As the name suggests, this society was one of those which

¹⁵⁷ Bidwell and Falconer, *History of Agriculture*, pp. 215-216; U. S., *Patents and Designs*, p. 30.

¹⁵⁸ *Lancaster Examiner and Herald*, July 5, 12, 1838; *Lancaster Intelligencer*, June 11, July 23, 1839.

¹⁵⁹ *Cazenove Journal*, p. 75.

¹⁶⁰ Hazard, *Register*, IV, 112.

¹⁶¹ James Stuart, *Three Years in North America*, II, 489.

¹⁶² R. H. True, "The Early Development of Agricultural Societies in the United States," Amer. Hist. Assoc. *Annual Report*, 1920, pp. 295-306; A. C. Bining, *The Rise of American Economic Life*, pp. 276-277.

¹⁶³ *Intelligencer*, and *Weekly Advertiser*, Mar. 26, 1800.

sought to overcome the cleavage between agricultural and manufacturing interests.

The constitution of the new society stated that political freedom from Great Britain had not brought deliverance from economic bondage. It denied any intention to make a manufacturing country as commonly thought of, or to foster manufacture for export, or any manufacture which the natural resources of the country did not make profitable. Nor was there any desire to see "... a Manufacturing Capitalist . . . enjoy his Luxuries, or fill his Coffers, by paring down the hard-earned Wages of the laborious Artists he employs." The constitution then set forth the objectives of the organization as follows:

. . . to procure, from the fertile Soil of Pennsylvania, every Production it is capable of affording; and, from the Labour and ingenuity of independent Citizens, every Article of Manufacture and of the useful Arts, necessary to render our Country happy, prosperous, and truly independent.¹⁶⁴

Each member agreed to use domestic manufactures and productions in preference to foreign when the former could be had, and to appear at the annual meeting clothed "... in the Manufactures of his Country."¹⁶⁵ One of the first acts of the new society was to offer a gold medal to any person raising the greatest quantity of flax of the best quality from one acre of ground, and a short time later it offered to pay well for any quantity of good wool produced within the county.¹⁶⁶ This society appears to have been short-lived, and no indication of the response to its premium offers or of its further activities has been found. An effort was made to organize another agricultural society in the county in the 1820's when the Pennsylvania legislature passed an act to encourage this movement, but no evidence has been found that such a society actually came into existence.¹⁶⁷

As sectional lines were drawn on the tariff in the early nineteenth century, Lancaster County developed a strong protectionist sentiment. The source of this sentiment lay in the American System concept that the interests of commerce, manufacturing, and agriculture could be reconciled in a program looking to the promotion of the national welfare. While industrial interests like iron and textiles contributed to tariff enthusiasm in the county, the real numerical strength of the protectionist movement emanated from agriculture. The definite conversion of the farmers to protection came in the 1820's when the collapse of their market dispelled their previous apathy toward the tariff question.¹⁶⁸

¹⁶⁴ *Constitution of the Lancaster County Society for Promoting Agriculture, Manufactures and the Useful Arts*, pp. 17-18.

¹⁶⁵ *Ibid.*

¹⁶⁶ *Intelligencer, and Weekly Advertiser*, Mar. 26, June 4, 1800.

¹⁶⁷ *Ibid.*, Nov. 18, 1820. Several agricultural societies were formed in Lancaster County in the 1850's. Pa. State Agric. Soc., *First Annual Report of Transactions*, 1853, p. 222; Report of the Commissioner of Patents for the year 1858, *Sen. Exec. Doc. No. 47*, 35th Cong. 2nd Sess., XIV, 193-194.

¹⁶⁸ See Chapter III and M. R. Eiselen, *The Rise of Pennsylvania Protectionism*, pp. 43-51 (cited hereafter as: Eiselen, *Pennsylvania Protectionism*).

James Buchanan provided an able Congressional voice for Lancaster County protectionists throughout the 1820's. He was elected to the national House of Representatives in 1820 from the Third Congressional District of Pennsylvania, which included the counties of Lancaster and Dauphin. Following the state reapportionment in 1822, Lancaster County was placed in the Fourth Congressional District which included, in addition to Lancaster, the counties of Chester and Delaware. This district returned Buchanan for four successive terms. Since he took a consistently positive stand on the tariff, which was then becoming highly controversial, Buchanan's continued popularity with his predominantly agricultural constituency indicates that he correctly represented the view of the farmers in southeastern Pennsylvania.

Buchanan delivered his initial speech on the tariff in 1823. In his judgment the state of the treasury at that time made imperative an increase of revenue from imports. But how were the new rates of duties to be determined? Buchanan's answer was that articles should be selected for additional duties with a view to encouraging domestic manufactures necessary for national defense and for the consumption of the great mass of the people, and particularly those for which the country furnished the raw materials in abundance. Thus while raising a revenue, the country would gradually become more independent of foreign nations. He then asked frankly for " . . . some indirect encouragement to the agriculture and manufactures of the middle portion of the Union."¹⁶⁹ In doing so, he had principally in mind the interests of the farmers, as appears from the following passage which provides a clear insight into his tariff position in the 1820's:

The gentlemen have contended that, should this bill be adopted, the agricultural interest of the country will be greatly injured. If this were the case, it would be a conclusive objection to its passage. The farmers are the most useful, as they are the most numerous class of society. No measure ought ever to be adopted by the Government which would bear hardly upon them . . . My constituents are principally farmers, and I should feel it both my duty and my inclination to resist any measure which would be pernicious to their interest.

The agriculturists are the great body of consumers. It is from them that the revenue must principally be derived, no matter what may be the mode by which it is collected. They must equally pay it, whether in the shape of an excise, a land tax, or an impost upon the importation of foreign articles. I will never consent to adopt a general restrictive system, because that class of the community would then be left at the mercy of the manufacturers. The interest of the many would thus be sacrificed to promote the wealth of the few . . . If this bill proposed a system which would lead to such abuses, it should not receive my support.¹⁷⁰

Like Buchanan, the farmers of Lancaster County were willing to see additional protection extended to industries such as iron and textiles, for they were loyal supporters of the general tenets of the American System. However, they were determined to insist upon measures which they believed would contribute more directly and immediately to a home market for farm produce such as wool, hemp, and grain, the last named being their staple. The obvious

¹⁶⁹ *Annals of Congress*, 17th Cong. 2nd Sess., pp. 896-897.

¹⁷⁰ *Ibid.*, p. 898.

place to strengthen the home grain market, they thought, was at the point of the distillation industry which had long been forced to compete with a flood of West Indies spirits. Therefore, the primary tariff objectives of the grain farmers of southeastern Pennsylvania were the reduction or prohibition of the importation of foreign spirits, and also molasses which was extensively used in the manufacture of rum. They reasoned that the consumption of domestic grain in the forms of rye and corn would normally increase as the imports of spirits and molasses declined, and that the prices of these grains would tend to rise accordingly.¹⁷¹

The tariff of 1824 which levied duties on various farm produce such as wool, hemp, and wheat was only partially satisfactory to the farmers of Lancaster County. Their criticisms were directed specifically at the lack of additional duties upon distilled spirits, and at what they considered to be the inadequate duties upon hemp. Hence tariff agitation continued in the county and was especially marked in 1827 when it was reflected in farmers' mass meetings and editorials in the local press.¹⁷² In 1827, Buchanan, having tried in vain to insert into the Woolens Bill some additional protection for hemp and domestic spirits, voted against it on the grounds that it conferred undue sectional advantages upon New England.¹⁷³ Thus as a new tariff revision loomed in 1828, it was certain that the farmers of southeastern Pennsylvania would demand further protection for their home market.

An interesting aspect of the debates on the tariff bill in 1828 was the sharp conflict between the producers of grain and the New England rum distillers. The grain growers maintained that the increase of duties on foreign spirits would be of little help to the farmer if the American distilleries producing rum from foreign molasses were permitted to capture any business which the tariff subtracted from foreign distillers. Buchanan clearly stated the problem as follows:

Some gentlemen say, we are willing to give you an additional duty upon foreign spirits; but you must not touch the molasses. This would be a mere delusion. You may impose two dollars a gallon upon the importation of foreign spirits, if you suffer it to come to our country in the shape of molasses, at five cents per gallon; I ask what protection will be afforded to the grain growers? None. Its sole effect would be to transfer the distilleries of molasses from the West Indies to New England . . . It will be a vain attempt to endeavor to persuade the Pennsylvania farmer, that he will be protected against foreign rum by a high duty, whilst the raw material out of which this rum is manufactured, shall continue to be imported at the present rate of duty.¹⁷⁴

This bitter issue was resolved in favor of the grain growers. A duty of ten cents per gallon was laid on molasses, and the tariff of 1828, which at the

¹⁷¹ *Ibid.*, p. 903; *Congressional Debates*, 20th Cong. 1st Sess., IV, Part 2, pp. 2104-2109.

¹⁷² *Congressional Debates*, 20th Cong. 1st Sess., IV, Part 2, pp. 2092-2104; *Lancaster Journal*, Aug. 10, 17, 24, 1827; *Lancaster Intelligencer*, Dec. 11, 1827.

¹⁷³ *Congressional Debates*, 20th Cong. 1st Sess., IV, Part 2, 2092; *Lancaster Journal*, July 13, 1827.

¹⁷⁴ *Congressional Debates*, 20th Cong. 1st Sess., IV, Part 2, 2106.

same time increased the duties on distilled spirits, wool, hemp, flax, and iron, was received with approval in Lancaster County. Buchanan exulted:

It is the only Tariff which has ever yet passed Congress in perfect accordance with the American System;—a system which equally protects American industry, whether employed in agriculture, in commerce, or in manufactures.¹⁷⁵

That Lancaster County shared his sentiments, is reflected in the substantial majority which its voters gave him when he stood for re-election a few months later.¹⁷⁶ The new tariff was no “abomination” here!

Thus Lancaster County agriculture definitely aligned itself in the 1820's with the American System concept of the tariff. The farmers of the area strongly insisted that agricultural interests generally should not be neglected in pursuing the objectives of that system, although the nature of their own agriculture precluded their reaping much practical benefit from the increased protection on produce such as wool, hemp, and flax. They were principally growers of grain, and, therefore, were especially preoccupied with the possibility of strengthening the home market for that commodity by increasing the grain consumption of the domestic distilleries.¹⁷⁷

The number of persons engaged in agriculture in Lancaster County in 1840 was 10,285 as compared to 3,928 engaged in manufacturing and trades. Manufacturing investment at that time amounted to \$1,213,484. Within the next decade this figure increased to \$3,927,349.¹⁷⁸ Agricultural investment in 1850, as measured by the cash value of farms, implements, machinery, and livestock, totaled \$38,734,265.¹⁷⁹ These statistics clearly indicate the predominant position of agriculture in the economic life of the county during the first half of the nineteenth century. Led by the Germans who comprised the bulk of the population, the local farmers capitalized upon their European heritage in progressive agriculture, and upon unusually favorable soil and climate, to win for their area the significant title—“Garden of Pennsylvania.” As attention is directed to the development of local manufacturing, it will become apparent that the nature of that development was determined in no small degree by the agricultural environment in which it occurred.

Chapter III and IV of Mr. Wittlinger's essay will appear in our Publication next year.

¹⁷⁵ *Lancaster Journal*, July 18, 1828.

¹⁷⁶ *Ibid.*, Oct. 17, 1828. See also, *Ibid.*, May 2, 1828.

¹⁷⁷ *Annals of Congress*, 17th Cong. 2nd Sess., p. 904.

¹⁷⁸ *Compendium of Sixth Census*, pp. 27, 141; *Statistical View of the United States . . . Being a Compendium of the Seventh Census*, pp. 300-301.

¹⁷⁹ *Seventh Census*, 1850.