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Agrarian Capitalism

by

Alfred S. Pierce, Esquire

A Dissertation

Presented to the Graduate and Research Committee

of Lehigh University

in Candidacy for the Degree of

Doctor of Philosophy

in

History

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Alfred S. Pierce, Esquire

Approved and recommended for acceptance as a dissertation in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

Alfred S. Pierce
Agrarian Capitalism

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Defense Date

_____
John K. Smith, Dissertation Director

_____
Approved Date

Committee Members:

_____
Stephen H. Cutcliffe

_____
Roger D. Simon

_____
Albert H. Wurth

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ABSTRACT

Agrarian capitalism refers to the description of agricultural economy contained in the The Wealth of Nations by Adam Smith. Smith's treatise was a critique of the existing economic conditions and noted two major limitations imposed by government on agricultural economies. One was a limitation on the sale of land, and the other was a limitation on the free movement of labor. The study analyzes two townships in rural Pennsylvania from 1783 to 1900. Using tax records, probate records and mortgage records, you are able to analyze the development of an agricultural economy. The study shows that Smith's analysis was correct, and successful agrarian capitalism benefitted from the free sale of land and the free movement of labor.

The study also identifies two major elements not fully considered by Smith that also drove the agricultural economy. One was the development of transportation systems able to deliver goods to market. The other was the development of technologies that enabled the agrarian husbandman to increase productivity on the farm.

The rural Pennsylvania economy progressed through three stages in the study period. Initially, land was developed, labor was provided and self-sufficient husbandry was practiced. After 1830, transportation improvements enabled rural Pennsylvania to ship surplus agricultural goods to urban markets economically. The final period after 1870 reflects the surge in productivity on the farm that resulted from the industrial economy's ability to produce new equipment for the agrarian husbandman. That equipment generated ten to twenty times the productivity of the individual farmer in 1900, compared to the individual farmer in 1783.

In 1900, the majority of Americans remained in the rural setting supported by agrarian capitalism. The great growth in the nineteenth century was in the urban industrial sector, but the majority of the populace remained in the agricultural economy that Smith analyzed at the beginning of the period.

INTRODUCTION

Adam Smith did an extensive analysis of agricultural economy in The Wealth of Nations. That analysis identified the ideal agricultural economy as one of perfect liberty. In reviewing existing agricultural economies, Smith observed two major limitations imposed by governments which contradicted perfect liberty and injured agricultural economy. The first restriction was on the sale of land, particularly as restricted by the laws of primogeniture and entail. The second major restriction was on the free movement of labor caused by the regulations on apprenticeship and exclusivity of profession and the poor laws. Smith looked to the North American colonies as potential governments that would follow his precepts. In particular, he noted that Pennsylvania was a favorable system following his observed preferences.

The study focuses on two townships in rural eastern Pennsylvania as suitable empirical examples of agricultural economy in the nineteenth century. The Commonwealth of Pennsylvania had outlawed primogeniture in colonial times. It maintained no meaningful restrictions on the free movement of labor and encouraged the sale of real estate in fee simple. The County of Northampton maintains the original property tax records, probate estate inventories and mortgage records for both townships. The data provides substantial insight into the actual operations of an agricultural economy, beginning with the transition from the colonial proprietorship to the Commonwealth of Pennsylvania.

The evolution of the agricultural economy in both townships over the course of the nineteenth century also demonstrates that Smith overlooked two of the primary forces of change. He did not anticipate the developments in the technology of agricultural equipment or in the modes of transportation available to the rural community. Smith's study assumed the higher level of transportation that had evolved in the England of 1776 without giving close analysis to its impact. Since England and Scotland were both relatively small geographical areas with ample water-borne commercial transportation, it would have been

difficult for Smith to imagine the problems created by the vast areas occupied in the new world for agricultural husbandry. Since the technology of agriculture had evolved little during Smith's life or the prior several centuries, it is also not surprising that he failed to imagine what industrial technology would do to husbandry.

The agricultural economy of the Pennsylvania countryside in 1783 was land-based in all respects. The citizens of Northampton County were isolated because there was no viable water transportation to the relatively few urban markets of early America. The economy that developed in Northampton County was one that could be described as largely self-sufficient and integrated within the community. The largest occupation was that of farmer, but they were less than a majority of the local economy. The remaining occupations were divided among a multiplicity of artisan crafts. Land ownership was not limited to the farming community, but included many of the artisans as well. The largest capital asset of any of these individuals was their land holding. Following both the practice of both the Penns and the Commonwealth of Pennsylvania, land ownership was widely diversified. The Penns had initiated the practice of selling up to three hundred acres to individuals willing to settle and occupy the land. Payment was made over time, allowing the settler to generate from occupation of the land the capital to pay for it.

Development can be divided into three stages, each developing over an extensive period of time. Beginning with the Commonwealth in 1783, land titles issued by the Penns were confirmed. The remaining lands of the Penns were transferred to the Commonwealth of Pennsylvania, and process of sale to individual settlers was continued. The two townships the focus of this study, Moore and Allen, saw their land titles finalized by 1830. Allen Township, a preferred location because of the topography, the soil and the proximity to the Lehigh River, had seen all of its land titles granted before 1783. While confirmation of land ownership and the extensive subdivision and occupation of the lands within the townships

was complete, the other aspect, technology and transportation, remained unchanged in the initial stage of this study.

The second stage, beginning in 1830, was different because of dramatic change in transportation modes available to the citizens of the townships. During the 1820s, the Commonwealth had authorized the construction of the canal along the Lehigh River, as well as a separate canal along the Delaware River. A third link had been approved through New Jersey to the port of New York. As the 1830s progressed, the physical completion of the canal links enabled the bulk products of local agriculture to be shipped economically to both Philadelphia and New York. While canals had seasonal limitations in the winter, they did provide reciprocal traffic in the goods available in urban areas for low cost distribution in rural areas. The second stage of development from 1830 to 1870 witnessed the gradual disappearance of the integrated economy. The many artisans who had provided goods and services to the communities of Moore and Allen Townships disappeared from the economic scene. The railroads, the first of which appeared in 1855, rapidly extended the reach of the industrializing economy of the urban centers. By 1870, most of Allen Township and parts of Moore Township were accessible to a railroad grid that allowed direct connection to the urban centers of Philadelphia, New York and the smaller cities in between. Canals continued to operate, providing competitive low cost transportation for the bulk goods of the agricultural economy.

The third stage of the study period, from 1870 to 1900, covers the dramatic changes in agricultural technology and their impact on agricultural productivity. While it is true that the initial development of agricultural equipment began as early as the 1820s with the hay rake and iron plows, the ability of industrial American to produce serviceable agricultural equipment is really most noticeable after 1870. This development produced a negative impact on the agricultural communities of Moore and Allen Townships. Because the agricultural economy of the entire United States received the benefits of technology and

greatly enhanced productivity, it seriously undermined the comparative advantage of the eastern Pennsylvania farmer. The impact is reflected in the decline in overall population, in the specialization of the rural economy in farming to the exclusion of artisan industries and the small accessory industries, gristmills, flour mills and distilleries, that had previously been an integral part of the township agricultural economy. Accompanying this change was a decline in land values reflecting the difficult economic times of the latter third of the nineteenth century in agricultural economy. Prices frequently declined during periods of panic and largely offset the productivity gains that farmers obtained from the new equipment available.

The three stages to consider the evolution of agricultural economy also correspond to the evolution from subsistence farming to commercial farming. At the beginning of the study period in 1783, while land holdings were large, the actual arable land was as little as five or ten acres per farm. Production was focused on subsistence. The more successful farmer was able to produce surpluses which could be marketed. As the first stage evolved, more and more land was brought into cultivation, more and more surpluses were generated and farms would be utilized sixty percent for self-sufficiency and forty percent for commercial purposes.

The second stage was one of economic success in eastern Pennsylvania. The availability of transportation enabled the local agricultural community to ship its surpluses very effectively to urban markets demanding food supplies. Accessory industries like flour milling flourished in the same period. The farmers' practices evolved to utilize ever larger portions of their farms for active agriculture. Extensive fallow periods were part of the crop rotations. Nonetheless, land was used more intensively. Crop surpluses were more substantial, and the resultant profits were utilized to enhance the value of the land. This took the form primarily of more and better buildings, including brick houses and stone barns.

The third stage of the study witnessed the transition to commercial farming. Land was used extensively and intensively. Artificial fertilizers eliminated the need for long fallow periods. Equipment enabled the farm family and the relatively small labor force to produce substantial quantities of farm products. The counter cyclical availability of industrially produced goods gave rise to the retail store as an important element in the rural environment. The farmer bought finished goods, rather than self-sufficiently producing them or purchasing from the local artisan. The farmer became part of a cash economy to a much larger extent than either of the previous stages of development. That degree of specialization also culminated in the elimination of almost all of the accessory type of businesses, including mills, distilleries and blacksmiths, which had been previously part of the integrated agricultural economy.

Smith's ideal of agricultural economy was largely fulfilled by the development of eastern Pennsylvania agriculture as typified by Allen and Moore Townships. Concurrently, as seen in Allen Township, the nineteenth century trend toward industrialization and urbanization provided a direct impact. Where Allen Township had been the home of a couple thousand people, part of an integrated agricultural economy at the beginning of the nineteenth century, at the end a small portion of the township was becoming an intensely populated and developed urban community based on substantial local industry, portland cement.

CHAPTER 1
AGRARIAN CAPITALISM

The purpose of this study is to analyze the development of an agricultural economy based on perfect liberty hypothesized by Adam Smith in The Wealth of Nations. Rural Pennsylvania was an area that Smith anticipated would provide a good test of the efficacy of his economic system. The period chosen for the study from the founding of the United States to the beginning of the twentieth century highlights a period when Smith's ideals were closely followed politically, economically and legally. The area chosen for study, Allen Township and Moore Township in Northampton County, Pennsylvania, are representative of the rural countryside typical of America's founding. They contained a mix of farms, crossroads and virgin forest developing into the "middle landscape" described by Leo Marx.[1] The emphasis will be on the agrarian development, but it will also consider the non-farm-related activities which developed concurrently. By 1785, the initial phase of pioneering was largely completed, the land surveyed and sold to the occupants by the Penns or the Commonwealth of Pennsylvania as their successors in interest. Ownership was in the form of fee simple, and transfers were infrequent. The impetus to grow economically, characteristic of much of the eighteenth century's thinking epitomized by Smith, is the force on which this study will focus. How was rural America able to develop, grow and remain an attractive economic alternative to urban industrial are the questions I seek to answer. The areas in this study were virgin forests encompassing both limestone plains and bluestone uplands. Different agricultural techniques were required to develop each topography, but the problems that the settlers faced were common to most of the northeast United States. To develop an agrarian economy, the forest had to be removed, fields created and agriculture commenced. To develop an economy beyond subsistence, transportation routes were

[1] Adam Smith, The Wealth of Nations (New York: The Modern Library).

required and sufficient artisans and workers added to the society to provide the desired level of goods and services.

Penn's colony was recognized by Adam Smith as an ideal test for his economic system. Penn recognized early on that he would benefit most if land was a commodity. After all, this was the basis for his acquisition of Pennsylvania in the first instance. Admiral Penn had loaned the Crown 16,000 pounds. Charles II, always cash poor, offered surplus property in the New World to satisfy the debt. Penn accepted 58 million acres of wilderness as fair exchange. While the desire for a Quaker community open to the ideals that he espoused, ranging from freedom of religion to a free and open society, was a motivation, neither Penn nor particularly his sons lost sight of the economic goal of recovering their family's investment. The lands had no value unless populated by farmers who could produce a sufficiency of products to support themselves and a rural economy. The Penns developed a market for small farms, less than five hundred acres, conveyed to individuals who would develop the tracts by actually occupying them. Speculators, like William Allen, acquired larger parcels but similarly converted them into the typical farm and sought out purchasers who would actually build farmsteads. The two study areas, Allen Township and Moore Township, progressed somewhat differently. By 1787, all of Allen Township had been conveyed to resident owners. Moore, because of its more upland topography and more distant location from main roads, had not completed the transfer of title to resident owners. Much of the township had been occupied, but by settlers not willing or able to complete the purchase of their lands and receive formal title. Land was recognized as an invaluable commodity, the capital for agricultural development. Both limited technology and relatively small populations prevented rapid physical development of the pastoral ideal. The modern traveler still will see the "middle landscape," an agricultural setting, in much of Allen and Moore Townships. Even halfway through the study period, the majority of the lands owned and occupied remained forested. Development was a slow labor-intensive process tied to

available markets, labor force and technology. Generations would pass before the real pastoral landscape was uniformly achieved.

The study will explore how development occurred and attempt to answer the question of why it succeeded. The template for this analysis is Adam Smith's writings in The Wealth of Nations. Smith lived in the world of a pastoral garden, the British Isles of the eighteenth century. He also traveled in western Europe and observed the same conditions in other countries. He read extensively on both jurisprudence and what became the study of economics. He applied his knowledge and experience to develop the ideas of an economy based on what is now referred to as capitalism. Smith's thinking was anchored in a rural economy and began with and was based on agriculture being the principal element to a nation's economic development. Because agriculture has drifted into economic insignificance, the modern reader tends to overlook both Smith's analysis and the fact that ninety percent of Americans lived in a rural world at the nation's founding. Moreover, an agricultural economy and a rural America represented the majority of citizens throughout the study period.

History is written from the perspective of the historian. It is difficult to write about a social order different from the one in which the historian lives. It is difficult to capture the rhythms of time and place when they are dramatically different from the norms of modern life. Part of this study will focus on how agrarian society functioned in early America. What were the rhythms of time, place and space? How did they impact development? Development also has context and multiple meanings in the way the land transitioned from forest to agriculture, from the occasional passage of native Americans to the permanent habitation of Europeans. The study will consider how technology, capital and labor worked to create an agrarian economy. From Locke to Smith, European writers contrasted the settled pastoral world of the western Europe they lived in to the primitive wilderness world of

America. To have economic development, the European model was required. In contrast, to have environmental permanence, the native American model, would have been required.

The starting point of this study is an effort to view from an historian's perspective, capitalism and how it applies to the economics of agriculture. Capitalism is a subject written about by historians from all sides of the philosophical spectrum. The term is generally misused or misunderstood and treated to various forms of sophistry in historical writings discussed below. This is particularly true when one seeks to understood capitalism in America at the time of the founding. It is often pointed out that ninety percent of Americans lived in rural areas and obtained their living from agriculture or vocations supported by agriculture. It is usually considered a pre-capitalist society, with the agriculture practiced referred to as subsistence level, and that industrialization was correlative to actual capitalism as an economic system. It is the purpose of this study to demonstrate that this is an incorrect understanding.

If we begin with the assumption that Adam Smith's book, The Wealth of Nations, is the first thorough treatise describing a capitalist system, we can look at what he wrote as the first level of explanation. Smith was a scholar by trade, a man learned in many subjects with an unusually acute perception of human nature. He developed The Wealth of Nations as a description of what system society should create to allow human nature to produce the most effective economic activity. Smith referred to this as a state of perfect liberty. It was based on his premise

> ...the principal which prompts to save, is the desire of bettering our condition, a desire which, though generally calm and dispassionate, comes with us from the womb, and never leaves us until we go into the grave. In the whole interval which separates those two moments, there is scarce perhaps a single instant in which any man is so perfectly and completely satisfied with his situation, as to be without any wish of alteration or improvement of any kind. An augmentation of fortune is the means by which the greater part of men propose and wish to better their condition. It is the means the most vulgar and the most obvious; and the most likely way of augmenting their fortune,

> is to save and accumulate some part of what they acquire, either regularly and annually, or upon some extraordinary occasions.[2]

It was Smith's assumption that man was on the make from womb to grave that underlies the principal of the invisible hand moving the market. Smith was writing about his understanding of human nature. He believed that humanity was compelled to augment the individual fortune. He assumed that the system that maximizes human inclination is the system most likely to produce the greatest economic benefits. The Wealth of Nations was his effort to describe both the correct system and the limitations and mistakes made by the governments of Europe in the then extant systems of economic activity. Smith, of course, is known most for his critique of mercantilism, but that omits the other half of his book, the critique of the limitations on agriculture.

Smith recognized that agriculture was the beginning point of an economy. Indeed, he believed that capital could only be accumulated as the stock (produce) of labor which is held to produce revenue. The initial stock of any economy had to be generated by the agricultural sector. Smith recognized that most of agriculture's efforts throughout history had been limited to consumption. It can be argued that it was only in the latter stages of the eighteenth century that meaningful accumulated stock was actually created.[3] "Unless a capital was employed in furnishing rude produce to a certain degree of abundance, neither manufactures nor trade of any kind could exist."[4] Smith also concluded that no equal capital puts into motion a greater quantity of productive labor than that of the farmer. Smith identified countries where agriculture was the most profitable of all employments and farming and improving the most direct roads to a splendid fortune. The capitals of individuals will naturally be employed in the manner most advantageous to the whole

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[2]Smith, Wealth of Nations, 324.

[3]Ibid., 262.

[4]Ibid., 341.

society.[5] By way of summary of his continuing emphasis on agriculture, Smith said "Food not only constitutes the principal part of the riches of the world, but it is the abundance of the food which gives the principal part of their value to many other sorts of riches."[6] Agriculture was the heart, soul and fundamental beginning point of capitalism as it was understood and described by Adam Smith in The Wealth of Nations.

The many historians who have gone on at some length referring to the agriculture of the late eighteenth and early nineteenth centuries as a form of subsistence waiting patiently for the great innovations of industrial capitalism misunderstood the first book of capitalism. Without a system of agriculture in place capable of producing surpluses, which become the capital on which all else is erected, there never can be a system of industrial capitalism.

Remembering that Smith looked for perfect liberty, he described human nature in agriculture as the man who prefers to own land and cultivate it as the chosen best use of capital. Thus, Smith would have it that every pioneer farmer who owned his own land and cultivated it was fulfilling human nature's most basic need. Smith described the artificer as one who saw himself as a servant of his customers. The planter who cultivates his own land, derives subsistence from the labor of his family, is considered a master and is independent of all the world.[7] Smith assumed that there can be no more desirable position in an economic world than a landowner who can support himself, his family, his dependents and produce a surplus that can constitute capital which can be used to produce additional revenue.

Smith also spent a portion of the book critiquing the existing system of agriculture with which he was familiar, both in England and in Europe, as inadequate and insufficient because of the problem he described as engrossment. By this he meant the various schemes of legal limitation placed on the lands of Europe after the collapse of the Roman Empire. He

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[5]Ibid., 355.

[6]Ibid., 174.

[7]Ibid., 359.

referred primarily to two legal propositions, the law of primogeniture and the law of entail. These two legal limitations effectively undermined the utilization of land for agricultural purposes. Smith's examples were written carefully because the England of 1776 certainly supported all shapes and forms of aristocracy, government and a real property system dependent upon engrossment. Smith was not prepared to write a revolutionary manifesto, and he spent some time explaining why the rent for land by the farmer, as that word was understood in England, was an appropriate economic payment. Smith's revolution was in the mind, not the streets.[8]

Utilizing the example of France and the woeful condition of the metayer, the French peasant, Smith outlined all the bad aspects of engrossed lands. He explained that in England, the 40-shilling freeholder represented a vast step forward and certainly a shining example of why England was a much better place and much more effective economically than much put upon France. Nonetheless, Smith made it clear that agriculture economy would be much more successful if the landowner was also the producer. His principal reason for this is a lack of incentive on the part of any of the participants, landowner, farmer, laborer, to actually improve the land. What Smith recognized as the most significant capital aspect of agriculture, the land to be cultivated, was always underimproved. This was because nobody benefitted directly from the improvements. The great landowners received rent from the farmers. The rent was established at the beginning of the term. It was based upon the expected produce of the farmer's cultivation and represented what a farmer believed he could afford to pay and still profit. In England the farmer, albeit a tenant, was the capitalist. He brought to the farm the equipment of cultivation, the livestock necessary for cultivation and husbandry, the seeds and skills of the husbandman necessary to produce crops. Landlords were particular to identify as tenants a well capitalized farmer, one who would be able to effectively utilize the lands and the labor available to him. Labor, on the other hand, while

[8]Ibid., 361.

necessary to the farmer, particularly in the seasons of great activity like the harvest, had no stake in the farmer's success. Indeed, labor's use of common grounds, gardens and the like were antithetical to the farmer. They produced competitive products and provided subsistence to the laborer, and they took up time, energy and skill, all of which the farmer would have preferred to be used for his benefit. Thus, no one had an interest in improving the lands, the buildings, the other aspects of the real property which supported agriculture. The farmer would do the minimum needed to produce a crop, the minimum needed to provide his own homestead and the minimum needed to house his livestock. Laborers would do the minimum work necessary to preserve their employment with the farmer and put their own ingenuity and effort into their gardens, the common area and the maintenance of their own livestock. The great landowners' overriding concern was to identify good tenants and let all else take care of itself.[9]

Smith identified this as a system antithetical to perfect liberty and antithetical to the idea that capital used to produce revenue meant improvement of the land. Land could be the greatest capital asset of all, but it was not in anybody's particular interest to utilize it in that manner. A part of The Wealth of Nations usually viewed as part of the critique of the mercantile system involved analysis of the colonies. Smith continued to develop his preference for a free agricultural economy as the basis for proper capitalism. He stated that the colonists carried knowledge (husbandry, government, laws) applied to uncultivated lands free of rents and taxes which encouraged high wages to get land into production.[10] The English colonies in North America must make rapid progress: "Plenty of good land, and liberty to manage their own affairs their own way, seem to be two great causes of the prosperity of all new colonies."[11] He also identified Pennsylvania as the only colony with

[9]Ibid., 368, 371.

[10]Ibid., 532.

[11]Ibid., 538.

no primogeniture, therefore a system of free socage, which facilitates sale and encourages the grantee of extensive tracts of land to convey as fast as he can. In analyzing Pennsylvania, Smith pointed out that moderate taxes are a key. Pennsylvania in 1775 spent a total of 4,500 pounds annually for its civil government in contrast to the huge expenses incurred by the British empire in the defense of its colonies. This point was not to argue for Townsend's tax act, but rather to suggest that low cost government produced a more healthy economy. By way of summary Smith stated: "The labor that is employed in the improvement and cultivation of land affords the greatest and most valuable produce to the society."[12] One cannot read Smith's discussions without realizing that he believed Pennsylvania to be the prototype for his proposed experiment in how to run an appropriate political economy for the agriculture sector.

The other feudal relic which Smith identified as a major limitation on agricultural development was the restriction of the free movement of labor. He noted that throughout Europe there were policies in various nations that restricted the movement of labor and caused wage distortions. He identified two of the primary limitations as the laws of apprenticeship and the laws providing exclusivity of profession to corporations, both private and municipal. In England, he identified an additional level of restriction in the form of the poor laws, which prevented labor from leaving the place of settlement, that is to say, the place where they can be supported by public charity. Smith stated "To remove a man who has committed no misdemeanor from the parish where he chuses to reside, is an evident violation of natural liberty and justice."[13] Smith's system was based on his twin beliefs in human nature's desire to improve oneself and the expectation that a society that placed the fewest restrictions on the right of the individual to better himself would produce the best outcome for all members.

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[12]Ibid., 540.

[13]Ibid., 141.

A study of rural townships in an agricultural district of Pennsylvania should produce an empirical model of Adam Smith's preferred system capitalism employed in the pursuit of agriculture. It is critical to that study that, like Smith, the reader appreciate that land is the most important capital asset of an agricultural economy, that improvements of the land–soils, buildings, enclosures and capital goods (equipment, livestock, seeds) are the foundational tools of a capitalist economy. Where there is success in agriculture, there will be surpluses that can be used as stock to produce income, i.e., capital. Utilization of that capital will benefit all parts of society, including the agricultural sector that originates it. Development of the farming sector in Northampton County bears out that presumption from 1787 to 1900.

Neal Wood, a political science professor offered a view of agrarian capitalism in his book John Locke and Agrarian Capitalism published in 1984. Wood used the template of John Locke's two published writings on interest rates and his two treatises on government. Wood treated the interest rate articles as Locke's version of political economy and tied it most closely to the fifth section of the second treatise dealing with private property. Locke lived in, benefitted from and wrote about an agrarian England that had evolved a triadic system for agriculture in several parts of the domain. This system featured the landed gentry as a class of landlords living on their rents. Farmers were featured as a class of capitalists who, by renting substantial arable lands, were able to provide equipment, livestock, seed and wages to profitably cultivate the rented lands. The third element was the day labor force that worked for the farmer for wages. Part of the enclosure process which Locke supported was intended to consolidate large holdings of arable land in the control of landlords making them available for rent, and at the same time dispossessing cottagers of the feudal labor force from common lands, thereby increasing the wage labor force.[14] Locke recognized that his system favored landowners, of which he was one, and disadvantaged laborers. One of his solutions

[14]Neal Wood, John Locke and Agrarian Capitalism, Berkeley, California: University of California Press (1984), pp. 16-18, 40-45.

to the potential of popular unrest on the part of labor was greater labor discipline by means of a more severe poor law. Accepting as accurate Wood's analysis of Locke and Locke's positions should show Smith's progressive thinking and implicit critique of Locke's version of capitalism. Smith sought the most effective form of political economy. He recognized the triadic system's gross inefficiencies. The single most important capital in agriculture is the land; and in the triadic system, nobody really has the clear incentive to maintain, improve or develop that capital.

Joyce Appleby in her Capitalism and a New Social Order published in 1984 used the political thought of the founding generation in an effort to understand the agrarian economics that prevailed in the Jeffersonian period. She analyzed the political thought of the Jeffersonians in comparison to the Federalists. She placed substantial emphasis on the theories of England's glorious revolution, including Locke. She then transitioned into an explanation of capitalism as a way of organizing the economy, a particular system for producing the material goods that sustain and embellish life. Like Wood, Appleby sought to impose a modern understanding of a post-industrial capitalist economy on the thinking and actions of the founders in their efforts to organize early America. Since her approach is a political analysis, she has a tendency to intermix political thought, typically Locke, the classical Republican tradition of Harrington, Trenchard and Gordon, with the modern notion of liberty that undergirds the free enterprise system.[15] While it is true that the founders read Adam Smith, this did not prepare them for the capitalism that would develop industrial technology. The founders, like Adam Smith, were interested in an agricultural economy with some commercial and artisan aspects. They understood the value of land. They understood the growth potential of America's vacant lands. That their concept of personal liberty for political purposes juxtaposed with Smith's concept of personal liberty for economic purposes

[15] Joyce Appleby, Capitalism and a New Social Order, New York: New York University Press (1984), p. 26.

was probably a happy coincidence. The founding generation's political efforts in all levels of government were focused on growing the agricultural sector. This involved two substantial points: meaningful improvement in transportation, and sale and occupation of unoccupied lands, which meant encouraging immigration. Other political problems of an economic nature lacked consensus. The efforts to establish a monetary system were invariably the subject of the cheap money versus strong money debate that pervaded Republican and Federalist campaigns. Appleby extended her analysis too far when she identified the underpinnings of future capitalism in these viewpoints.

Whether pre-industrial American farmers were capitalists has been a question that has been hotly debated by historians for several decades. Beginning in the late 1970s historians Michael Merrill, James Henretta, and others began to argue that American farmers originally participated in a "moral economy" and only later made a transition to capitalism because of the challenges and opportunities posed by the transportation and industrial revolutions. The definition of a capitalist adopted by these historians was the profit-maximizing rational actor described in economics textbooks.[16]

The idea of capitalism in the history of rural America, particularly beginning in colonial times, is fraught with difficulty. The earliest recognized agricultural historian would be Percy Bidwell, who with John Falconer, authored The History of Agriculture in the Northern United States, 1620-1860 published in 1925. The Bidwell book assumed the tandem development of industry and agriculture in the Northeast.

In 1972, James T. Lemon, in The Best Poor Man's Country, applied a developmental analysis to southeastern Pennsylvania in the eighteenth century. Lemon, a geographer, emphasized the development of the agricultural areas of southeastern Pennsylvania. He too identified the mix of artisan and husbandman throughout the agrarian community. Likewise,

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[16]Merrill's article, "Cash is Good to Eat," Radical History Review, 3, Winter 1977, began the "moral economic debate."

he analyzed why the individual producer was able to effectively occupy the lands in southeastern Pennsylvania. He recognized both the tenets of capitalism and Protestantism, which provided for the liberal society and economic development that were the pattern for development in not only the eighteenth but the nineteenth century as well. Because the pioneer period lacks the impact of transportation systems, industrialization and capital accumulation that occurred in the nineteenth century, Lemon did not give much consideration to the impact of technology on the husbandman. The farming capabilities of the eighteenth century farmer were no better and no different than those of any previous era. They apparently remained constant and stagnant throughout the period of Lemon's study.

Lemon did not utilize The Wealth of Nations as a template for his study, though he assumed much of the contents of The Wealth of Nations as part of the commercial orientation of the early settlers. Likewise, he did not give much depth to the economic analysis of land as a commodity, and that commodity as the basis for agrarian economic activity. Rather, Lemon emphasized ethnic and sectarian distinctions and the Protestant values that accompanied the early settlers. As a geographer, he also placed considerable emphasis on the methodology of urban development and its consequences to the markets of the eighteenth century.[17]

The next generation developed a counter-thesis, now referred to as a "moral-economy" view of agrarian development. This social history decried a capitalist motivation to agricultural development and sought to define a different "mentallite". This naturally touched off further debate which lasted another generation, the end of which might be summarized in an article by Naomi R. Lamoreaux titled "Rethinking the Transition to Capitalism in the Early American Northeast," which was published in 2003. Lamoreaux

[17] The Best Poor Man's Country, pp. 14, 20, 116, 120-123, 143.

acknowledged the impact of the moral economist on the debate and concluded that their position had been largely subsumed by later arguments.[18]

James A. Henretta challenged capitalism in rural America with "Families and Farms: Mentallite in Pre-industrial America" in 1978. Henretta focused his article as a challenge to James T. Lemon's book, The Best Poor Man's Country: A Geographical Study of Early Southeastern Pennsylvania published in 1972. Henretta took Lemon to task for "falsely ascribed a 'liberal' consciousness to the inhabitants of eighteenth century Pennsylvania." He went on to say that "a number of historians of colonial New England have offered similar interpretations of an entrepreneurial mentality among a majority of the agricultural population." Henretta challenged this view saying that the mentality of the lineal family was different, and that the different mentality, or "cultural outlook set certain limits on the personal autonomy, entrepreneurial activity, religious membership and even political imagery seen as the prism of family values."[19]

Following Henretta was Christopher Clark, in an article "Household Economy, Market Exchange and the Rise of Capitalism in the Connecticut Valley, 1800-1860" published in 1979. Clark quoted Merrill on the household mode of production, saying "It was not predominantly profit-oriented." In his article, Clark stated that the exchange of goods and services without cash reflected "deeply-felt habits and values, that enabled the growth of markets to complement rather than destroy at once the old household system." "This kind of exchange did not necessarily signal an immediate alteration in the farmer's attitudes toward profit seeking." Clark's point was that a cash economy equated to a

[18]Naomi R. Lamoreaux, "Rethinking the Transition to Capitalism in the Early American Northeast," The Journal of American History, Vol. 90,11,02 (Sept. 2003), pp. 437-461.

[19]James Henretta, "Families and Farms: Mentallite in Pre-industrial America," William & Mary Quarterly, 35 No. 1 (1978), pp. 10, 32.

capitalist economy. Cash-denominated exchanges of goods and services relate to family values which are not capitalist.[20]

As the controversy continued, other participants offered more nuanced versions of the debate. Allan Kulikoff, in his article "The Transition to Capitalism in Rural America" published in 1989 provided an apt summary: "Market historians insist that America developed out of vigorous capital expansion and that early American farmers were capitalists. They measured capitalism by commercial expansion and household participation in commodity markets." He further argued: "Social historians start with the Marxist distinction between production for use (use-value) and production for exchange (exchange-value). In economies where use values predominates, householders controlled the means of production and made some commodities for markets, but used most of what they produced in their households or exchanged it in their local communities. The value of goods was determined not by the market price, but by their utility to those who produced or used them." This can be summarized by Kulikoff as "A capitalist economy is a commercial economy, where profits are divided between the original producers: petty capitalists, artisans, wage laborers (any class of capitalists who own and control the means of production)."[21]

The entirety of these arguments really amounts to an effort to superimpose on rural history a particular ideological framework. To do this, they define the meaning of terms so that the facts support the final argument. Thus, individuals who owned the means of production provided the labor for production and sold their production were excluded from what would otherwise be considered the capitalist category. Since they represent a majority of the people in early American rural society, acknowledging their status as capitalists

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[20]Christopher Clark, "Household Economy, Market Exchange and the Rise of Capitalism in the Connecticut Valley, 1800-1860" Journal of Social History, 13 No. 2 (1979), pp. 177-178.

[21]Allan Kulikoff, "The Transition to Capitalism", William & Mary Quarterly, 46 No. 1 (1989), pp. 122, 123.

destroys the argument that there was no capitalism. This need for sophistry and abuse of common understanding of English words suggests why market historians prevailed in the debate.

In a 2003 article economic historian Naomi Lamoreaux argued that the textbook definition of capitalist as a profit-maximizing rational actor did not even apply to merchants and manufacturers in the pre-industrial era. Like farmers, their acquisitive activities were severely constrained, especially by the lack of efficient means of communication and transportation. To cope with limitations farmers, merchants, and manufacturers alike relied on family and community to sustain their enterprises. Yet, Lamoreaux argues that many of these actors had displayed a capitalist *mentalite* through their desire to make profits. Capitalists can be defined as people who are interested in increasing their wealth, or supply of capital. Adam Smith believed this "desire to improve one's condition" was a universal human trait. The economic problems that Smith addressed were the constraints that prevented people from acting on their natural impulse for self improvement. At the time that Smith wrote the main economic opportunity available was in the ownership and development of land for agriculture. Thus Smith argued that people should be free to acquire land and accrue the benefits of their improvements made to that land. In the eighteenth century, as Lemon points out, Pennsylvania was one place where land was readily available and could be acquired through individual effort. Thus, in the pre-industrial era, capitalist-minded farmers sought land and worked to increase its value, usually by labor-intensive tree removal. Inadequate transportation and traditional technology put limits on the amount of food that farmers could grow and sell, so acquiring and improving land were the main routes for capital accumulation. With the onset of the American transportation and industrial revolutions in the 1820s, farmers began to see new opportunities in more intensively farming their land and marketing produce over wider areas. According to Lamoreaux, what changed was not the *mentalite* of farmers but the opportunities they had to "improve their

condition."[22] Since many farmers were already capitalists, a transition to capitalism was not necessary.

A study of rural townships in an agricultural district of Pennsylvania should produce an empirical model of Adam Smith's preferred system capitalism employed in the pursuit of agriculture. It is critical to that study that, like Smith, the reader appreciate that land is the most important capital asset of an agricultural economy, that improvements of the land–soils, buildings, enclosures and capital goods (equipment, livestock, seeds) are the foundational tools of a capitalist economy. Where there is success in agriculture, there will be surpluses that can be used as stock to produce income, i.e., capital. Utilization of that capital will benefit all parts of society, including the agricultural sector that originates it. Development of the farming sector in Northampton County bears out that presumption from 1787 to 1900.

[22]Lamoreaux differs from Smith in arguing that only some entrepreneurial minded individuals will respond to economic opportunity, others who are more traditionally-minded will resist change.

CHAPTER 2
SELF-SUFFICIENCY

In developing an understanding of rural America at the time of the founding, it is important to establish what we mean by certain terms used to describe the agrarian economy. Historians frequently refer to a transition from subsistence agriculture to commercial agriculture as characterizing rural American development. This is a false dichotomy and is particularly misleading when reference is made to European agricultural development. The same terminology is used by historians of western Europe and America, but the circumstances are not the same and misleading analogies abound.

Subsistence agriculture should refer to the circumstance where the producer, i.e. the farmer, is not able to generate a surplus which can be converted into capital. Examples of this are the slave, serf or villien whose legal weakness allows the expropriation by the landlord of all agricultural surpluses. The producer is left only with the wherewithal to survive. In a true pioneer economy, the producer would have the ability to produce surpluses, but no market in which to dispose of the surplus and create capital. The early pioneers were too few and too economically primitive to support markets. Later pioneers are too distant from extant markets to participate. We are referring to distance, not in miles but in miles of viable economic transportation. Early America existed over vast distances but always near navigable waterways. Coastal shipping and ocean shipping both allowed low cost transport of agricultural surpluses to markets. The plantation owners of the Potomac River and the patroons of the Hudson River were examples of market based agriculture in an otherwise early stage pioneering economy. The last example of a subsistence agriculture is one driven by culture, like that of the native Americans. They never developed a mechanism for converting agriculture surplus to capital, because they never developed a form of market economy. The unlimited land resource available produced no agriculture surplus of any economic significance.

Self-sufficient agriculture is a separate, distinct and more insightful description for early American historians. Self-sufficient agriculture presumes the producer's ability to create sufficient food, shelter and clothing from his utilization of labor and land. Surpluses are generated when markets are available and can be utilized to create capital. The development of Pennsylvania's interiors away from navigable streams follow this model. The early pioneers of Northampton County entered a barren wilderness of vast forests. These lands were readily convertible to self-sufficient agriculture because shelter came from the trees, food and clothing from husbandry of the small acreage deforested by the producer owner. With the passage of time, the deforested areas expanded and, despite the difficulties of maintaining soil fertility, the vast amount of acreage created enabled the farmer to generate surpluses. The typical surplus was small grains, particularly wheat. The surpluses generated created capital which allowed the producer to obtain better tools and create accessory resources like gristmills, saw mills and distilleries to add value to the products of husbandry.

Commercial farming described an agricultural economy which generated surplus products for sale in markets. The subsistence of the producers is subsidiary. The substantial proportion of land, labor and capital is devoted to the production of surplus. The slave plantations of early America could rightly be described as commercial farming. While a part of the plantation was devoted to producing food crops intended primarily to sustain the slave labor force, the vast majority of the economic effort was devoted to cash crops, tobacco, rice, indigo, sugar and later cotton. Crops that were intended to be marketed into a cash economy, with the cash utilized to operate the plantation economy. A quintessential example of this early commercial agriculture in the Americas would be the sugar plantations of the Caribbean. The circumstances there limited the ability of husbandry to support the labor population and mandated the importation of subsistence, as well as the exportation of the

cash crop. Commercial agriculture came to Pennsylvania by degrees and did not prevail until the dawn of the twentieth century.

This study is focused on the self-sufficient agricultural communities of nineteenth century America, how they functioned and how they evolved, in companion with the industrialization of the American economy, taking place concurrently. As Smith pointed out, the freedom to enter and exit the market, both with capital and labor is critical to economic development. In nineteenth century Pennsylvania, the rural community at the pre-industrial dawn generated sufficient food to support itself and the artisan service economy that created consumer and capital goods for distribution to the agrarian community. Throughout the nineteenth century, the individual ability to direct land, labor and capital resources to the most profitable uses, allowed the development of the industrial economy. During the course of the nineteenth century, agriculture became vastly more productive, and the practices of husbandry changed dramatically from the usages familiar in Roman times to systems and methods recognizable to twentieth century modernity. This vast increase in productivity enabled American agriculture to feed the vast population that converted to industry and service. Each was dependent upon the other because the tools, the techniques and the transportation that allowed agriculture to become hugely more productive were derived from the industrial production, the knowledge and the resources made available by the rest of the economy. In analyzing the hundred year development, we should always remember that the basic premise is that Adam Smith's perfect liberty was the apt description for economic success.

The terminology of capitalism used by historians in describing British economic development, as well as other European locales, demonstrates the same terms being used with different meanings and applications. British historians frequently described an agricultural revolution which occurred in the sixteenth and seventeenth centuries. That revolution is often described as an emerging tripartite capitalist hierarchy of commercial

landlord, capitalist tenant and hired wage labor. This structure was seen as replacing the medieval system of small inefficient peasant tenants occupying agricultural lands under a feudal manorial system.[1] It is probably a valid understanding of English agrarian history to recognize that the large land holdings of the gentry and aristocracy of Britain were a subject of husbandry practiced by independent contractors, i.e. farmers, who did not own the land. Unlike tenants in most agrarian economies, the British independent contractors had bargaining power and capital. The capital came in the form of the livestock, the seeds, the equipment and the knowledge to farm. The bargaining power came from their ability to move at the end of the lease term. The land owner's bargaining power came from his ability to offer the real estate to multiple farmers who priced the rent they were willing to pay on their analysis of the productivity and marketability of the products of their husbandry.

The third element in this process was the laborer. In the feudal circumstance, the laborer tied himself to the landlord's lands in exchange for the right to utilize small portions of the larger property as common lands of the village or individual garden plots. The laborer had no bargaining power because he had no right to move. The land owner had great control as the owner of the land and the master of the laborer's ability to move. The drawback with the system was that the laborer had no incentive beyond subsistence, since very little in the way of permanent benefits could accrue to the laborer. European history reflects the many divergences from the British experience. France featured a much more extended land right in the laborer metayer, a different form of tenant right to land possession and land use, but no expansion of the laborer's right to keep and accrue the benefits of his efforts. France followed a different path because of the development of an expansive central government which absorbed much of the authority and economic control of the landowners. Much of eastern Europe remained in an extended version of the feudal system. The end result was a

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[1]Robert Brenner, "The Agrarian Roots of European Capitalism," Past and Present, No. 97 (November 1982): 88.

broad variation in productivity of the agricultural worker. In an article titled "Productivity Growth Without Technical Change in European Agriculture Before 1850," Gregory Clark described the outcome.[2] British and American agricultural workers were substantially more productive than the workers in eastern Europe, this, despite the fact that there was no technological advantage to husbandry in the west compared to the east before 1850. References to U.S. labor rates in this analysis are confined to the northern United States. This differentiation is necessary to avoid the low productivity rates of slave labor in the southern United States, that agricultural system being operationally closely akin to the eastern European.

The understanding of good farming practices, the equipment to farm and the desire to obtain products of intensive cultivation were generally comparable throughout Europe in the seventeenth and eighteenth centuries. Crop rotation, heavy manuring, livestock husbandry, similar equipment and technology were practiced throughout Europe and colonial America. The different outcomes in productivity resulted from the systems of ownership, management and operation of agriculture. Through the end of the nineteenth century, human and animal power were the primary sources of energy in agriculture. Effectively, the number and quality of workers and animals were the measure of inputs for productivity. Since the principal purpose of the landowner, other than the relatively few small farm owner-operators, was to extract as much economic benefit as possible from the laborers' husbandry, little consideration was given to the development of capital resources. Since the farmer laborer was the subject of this extraction, relatively few surpluses were developed by their efforts; and the surpluses developed, other than in the British system, were not returned to the land as capital. Historians like B. H. Slicher VanBath discussed these trends and describe how

[2]Gregory Clark, "Productivity Growth," Journal of Economic History, 47 No. 2 (1987).

they impacted agricultural development. The limiting factor of most of these discussions reflects the failure of historians to apply Smithean analysis.[3]

Capitalism is always understood in the context of labor relations. When the farm laborer became a wage laborer, most historians see the dawn of capitalism in agriculture. Insufficient consideration was given to analysis of land ownership systems. This resulted in misleading analogies. A European subsistence farming economy was the result of the labor input in agricultural productivity being restricted to a group of people who lacked most economic rights. They did not own the land. They owned little, if any, equipment. They lacked the authority to retain any surpluses created by their labor inputs, and they lacked the ability to utilize any accumulations of capital for further economic development, primarily because of the restrictions on their mobility. The American slave agricultural system produced a similar result, the primary difference being that the owner-operator was a much more direct manager of the agricultural unit than his European counterpart. The feudal system and its descendants made great efforts to divorce the landowner from operation and management of his agricultural lands. The plantation owner, in contrast, was a business manager, the owner of two substantial forms of capital, chattel slaves and land. The integration of the two were the plantation owner's direct responsibility. Southern agriculture was arguably a closer version of Smith's idea of economic operations, if you put aside the thought that it required human beings to become the equivalent of livestock.

Commercial farming was a further illustration of the dichotomy between European land ownership forms and American land ownership. The landowners in the European system were all commercial farmers, because they extracted revenues from husbandry on their lands and utilized the revenues for their own economic purposes. To the extent that food products, etc., are derived directly from the land and delivered to the landowner's table

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[3]B. H. Slicher VanBath, "Eighteenth Century Agriculture on the Continent of Europe: Evolution or Revolution," Agricultural History, Vol. 43, No. 1 (January 1969).

is coincidence, not the purpose, of land ownership. The plantation owner in the American south similarly applied husbandry to generate revenue in the form of single crop production for export and sale (i.e., tobacco, indigo, rice and cotton), the revenues generated were used to sustain the plantation owner's operations and lifestyle. Again, food brought to the table was the coincidence, not the overriding purpose. In contrast, the independent American farmer followed a different path. In the very earliest period, subsistence may have been the only alternative available. But as soon as markets could be developed, the American farmer continued to be self-sufficient. The primary purpose of ownership was to be able to generate all that was necessary to house, clothe and feed farmer and family, but as quickly as possible add the commercial element, add the ability to generate Smith's surpluses, which were then available to build additional capital resources and generate greater revenues. The reason this was possible was the land ownership system unique to America. Not only did the owner operator have the ability to re-invest surpluses, but there was always the ability to sell the whole, including all the accrued savings in the form of capital reinvestment. The idea that land itself was the ultimate commodity changed completely the dynamics of agrarian capitalism and distinguished the American model from the European. The American farmer was about self-sufficiency until the rest of the economy developed and industrialized to the point where specialization on the farm produced economic benefits that allowed the farmer to participate in a market economy for basic needs produced in higher quality and lower price than self-sufficiency. Agrarian capitalism in the nineteenth century in America is the history of the transition to commercial farming but underlying and enabling the process is the system of land ownership that originated in the seventeenth century, particularly in Penn's Woods.

In the study of Smith's perfect liberty, the role of the individual is paramount. But Smith saw this role played out in the aggregate through markets. The role of the individual was a distinct factor in economic development. Richard Cantillon, an enterprising French businessman and author of an early text on commerce, was given credit for originating the

role of the entrepreneur, as well as the use of the term. He was published in 1755, but the work was written considerably earlier. Smith was obviously familiar with Cantillon's work and cited it frequently in The Wealth. Nonetheless, he did little to develop the idea of entrepreneurship. Many economists have contributed to the ideas and concepts, including the early American economist Frederick Hawley:

> His theory emphasized the entrepreneur as the great dynamic force of a capitalist economy. He ranked enterprise, or 'risk taking', with land, labor and capital as the four basic forces of production and he characterized profit as the income arising from the chance of gain being greater than loss and the risks assumed by the entrepreneur.

This formulation was very similar to Cantillon's. For modern scholarship, Ludwig von Mises, conceptualized entrepreneurship: "There is a simple rule of thumb to tell entrepreneurs from non-entrepreneurs. The entrepreneurs are those on whom the incidence of losses on the capital employed falls." While there were many modifications and alternate formulations for the role of the entrepreneur in business, the application to the early American agrarian economy may be examined by studying the Kleppinger family.[4]

Johann (John) Georg Kleppinger was born in the Palatinate province of Germany on January 25, 1707. He arrived in Philadelphia on September 26, 1737. He married Anna Margaretta, maiden name unknown, and had at least eight children. His first child, Julianna Kleppinger, was born on September 29, 1737, suggesting that her mother bore the ocean voyage with great fortitude. John Georg, a good Lutheran, lived for a while in the area of the Trapp community presided over by Henry Melchior Muhlenberg. He was among the earliest of the German pioneers to Northampton County. His efforts to build his own farm were rewarded by the purchase of 331 acres in Allen Township from William Allen on November 30, 1762. By that time, John Georg had accumulated the four hundred pounds necessary to complete the purchase. This farm bordered the Lehigh River for a considerable

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[4]Robert A. Habert and Albert N. Link, The Entrepreneur (New York: Praeger Publishers, 1982), 65.

distance. John Georg's pioneering efforts probably preceded the actual deed to the property. Within ten years of purchase, John Georg had divided the farm into two 165-acre tracts and sold them to two of his sons, John Henry and Frederick, receiving in exchange approximately eight hundred pounds, or double his purchase price. John George would be a prototype of the colonial entrepreneur. He arrived with no meaningful assets and, over the course of his working life, approximately twenty-five years, he was able to accumulate the capital to purchase a landed estate. He was also able to provide for his own retirement by the sale of his landed estate to some of his own family members.[5]

Ludwig (Lewis) Kleppinger, the oldest son of John Georg, is another example of agrarian entrepreneurship typical of the community as it existed at the founding of the nation. Born in 1741, he was part of his father's family farming operation. Ludwig was able to become an independent farmer himself and acquired several farms in Lehigh and Moore Townships. Ludwig's acquisitions were not only intended to support himself and his family, but also to provide for the future of successful family members. In 1816, Ludwig sold a 200-acre farm to his son Elias for a sum in excess of $8,900, an 80-acre farm and gristmill to his son William, identified as a miller, for $8,000, and a second 200-acre farm to a third son, Jacob Kleppinger, for the sum of $9,547. Ludwig had acquired his farms from the Penns or the Commonwealth of Pennsylvania through the patent process. This system allowed the pioneer to identify, survey and begin to cultivate a farm, with the ultimate payment to be made at the end of the warrant period, twenty or thirty years. Ludwig, a man of considerable ambition and aided by sons of equal energy, was able to develop three separate farms over the course of his life. The method of transfer to his own children at the end of his active working life for substantial cash payments reflects both the capitalism of parent and child.

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[5]Stanley J. Kleppinger, Kleppinger-Clippinger Family History (Allentown, Pennsylvania.: George P. Schlicher & Son, 1956), 7-12.

The sons who had the wherewithal to generate earnings and accumulate savings were able to purchase their father's properties.[6]

William Kleppinger, the son identified as a miller and the purchaser of the Moore Township property, is another example of entrepreneurial drive in a rural community. William early on acquired the skills of a mill operator and was the manager of both a gristmill and a saw mill constructed on the Moore Township farm property. Over the course of his working life, William acquired in addition to the original 80-acre farm and mills an additional two hundred acres of adjoining farms and lands. During the course of his life, he supported the careers of his own children. Son Paul acquired a substantial farm in Upper Nazareth Township in Northampton County. Son Edward acquired a reconfigured 100-acre farm, part of William's land holdings in Moore Township. His son-in-law, Peter Anthony, ultimately acquired a 35-acre farm that William Kleppinger built for his retirement. In each instance, the child paid full value for the property acquired. Farm enterprises were managed on an economic basis. Profits were generated, capital surpluses retained, and the larger share of value exchanged hands with the sales of the real estate.[7]

Ludwig, the son of an immigrant, rose to the status of yeoman, the owner of three farms, proved himself capable of providing for both his and his wife's retirement in a suitable manner, and at the same time, enabled enterprising sons to continue as men of property and substance. Likewise, William Kleppinger, the son of a substantial property owner, was able to build on his father's efforts by adding the skills and technology of a gristmill and a sawmill to the family enterprises. William's success in operating those businesses was a springboard to his acquisition of considerable additional real estate. In 1853, William erected a new house, barn and carved out a 35-acre retirement farm for

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[6]Ibid., 14; deeds of record in the office of the Recorder of Deeds of Northampton County.

[7]Tax assessment records of Moore Township, see Appendix D; Northampton County deeds.

himself. At the same time, he disposed of his other properties by sale to family members or other enterprising individuals capable of paying a fair price. William's will provided that the retirement home would be maintained for the benefit of his widow, Elizabeth Bachman Kleppinger. At her death, his sons, Paul and Edward, acting as his executors, conveyed the farm to his son-in-law, Peter Anthony. The cash proceeds, along with the rest of Williams' estate, were divided among his children. The scope of William's abilities is also reflected by the roles he played in managing family affairs. He was named as the co-executor of the estate of his father-in-law, John Bachman, another substantial property owner in Lehigh Township, Northampton County. Similarly, William was the designated administrator of the affairs of his father, Ludwig, after Ludwig's death in 1823. Men of capacity and energy identifiable as entrepreneurs like Ludwig and William were able to demonstrate fulfillment of the American dream. Through their application of hard work, good management and retention of capital, they were able to acquire large assets. They utilized their assets, not only as business enterprises, but also as illustrated by William's retirement farm, to build and live expansive lifestyles.[8]

Entrepreneurship can be illustrated by other individuals at different stages in the progress of American economy in rural Pennsylvania. George Weber was the third generation son of German immigrants. In that sense, he was very much a contemporary of William Kleppinger. George also learned the miller's trade while growing up in Montgomery County, Pennsylvania. In 1823 George moved to Allen Township and acquired an existing mill property originally built by Conrad Kreider. Kreider was a famous figure among the early German immigrants to Northampton County. He settled in Allen Township in 1763, acquiring a large parcel of land which he subdivided into two farms, one occupied by his brother-in-law, George Michael Bastian, and the other by Kreider himself. Kreider was a notable figure, erecting one of the first mills in the township and, during the

[8]Probate records of William Kleppinger, Ludwig (Lewis) Kleppinger and John Bachman.

Revolutionary War, acting as the wagon master of the Revolution, providing transport and supplies to Washington's armies in Pennsylvania. Kreider, too, enjoyed great success throughout most of his career. His children did not share his success. Conrad Jr. was forced to sell his accumulated assets to pay creditors. George Weber, a man on the make, acquired the original Kreider mill property from the Sheriff's sale.

George Weber was also a man of substantial entrepreneurial energy. The original mill property that he purchased had defects related to the water power. After five years, George Weber sold the first property and bought another mill once owned by Kreider. Weber extended the reach of his milling operations by becoming a merchant miller. That term meant a miller who bought and sold for his own account. He would purchase grains from farmers, mill them into saleable products and market the products. The gristmiller, or simply a miller, ran a service business in which his profit was limited to providing the milling process to a farmer who brought his grain and left with the finished product. A gristmiller had no entrepreneurial risk in the product transaction. The merchant miller, on the other hand, was active in the marketplace, taking the risks of buying and selling, and also enjoying the profit. Weber's success was evidenced in multiple ways. He gradually acquired several farms with well over two hundred acres and built another mill. He owned shares in the Siegfried Bridge Company, a private toll bridge connecting the Lehigh County side to the Northampton County side of the Lehigh River at Allen Township. He was regarded with sufficient respect to be named one of the founding trustees of Lafayette College. The college was incorporated as an institution for Northampton County, and Weber was the designated representative of the western portion of the county.[9]

William Kleppinger and George Weber, third generation German immigrants, were examples of successful entrepreneurs in an agrarian capitalist economy. They built on the

[9]Tax assessment records of Allen Township, see Appendix D; minutes of the Trustees of Lafayette College (1826-1845).

opportunities provided by their parents and grandparents–capital, education, access to opportunity. They rose to much higher levels of success than their contemporaries. In each case, the primary measure of their success was the ownership of real property. The one notable difference, Kleppinger, while enterprising, followed the Calvinist tradition of paying for assets out of accumulated earnings. Weber, on the other hand, was willing to engage in more risk and was leveraged by his use of institutional debt financing from the Easton National Bank and the Congregational Brethren of Bethlehem, two of the primary institutional lenders in the period. It is noteworthy because little debt financing occurs in most transactions, and the majority of the financing that was provided comes from individuals, rather than the relatively few banking type institutions that were extant in Northampton County. In the narrow sense of our definition, every owner producer in Allen and Moore Townships was an entrepreneur. His capital was at risk. Failure would result in the loss of the land. Self-sufficiency in the operation of a family farm limited the practical aspects of capitalism. The farmer, healthy enough to operate his farm with a family sufficient to support the laboring effort, could easily produce all the wherewithal to feed, clothe and house his family at a much better level than was available to comparable societies in the Europe of 1790 to 1850. In addition, cash crops, primarily wheat or the milled product, flour, provided currency for both lifestyle and expanded production resources. The entrepreneurs, like Weber and William Kleppinger, were individuals who used their resources to expand beyond a single unit base to add additional production to their asset base and to expand their land holdings beyond a basic farming unit needed for self-sufficiency.[10]

The Pennsylvania farmer of 1787 in Northampton County was somewhere between subsistence and self-sufficient. The area lacked real navigable waterways. Downstream transport was possible in the spring, but other seasons were limited to over land, and the distance to market was great. Population density was very low. Farmers lived in a largely

[10]Mortgage records in the office of the Recorder of Deeds of Northampton County.

forested ecology with relatively small acreage carved out and cleared as arable lands. Individual technology was likewise extremely crude. The plows were wooden, typically of individual manufacture, drawn by teams of oxen and capable of turning three to six-inch furrows, depending upon the condition of the soil. Yields of ten to twenty bushels per acre for wheat, yields of twenty to forty bushels per acre for corn, and lesser amounts for oats, barley and other grains were characteristic. Plowing was done to break the soil. Cross-plowing was done to loosen the soil for planting. Seeding was done by the broadcast method, with crude harrows used to cover the seeds. Weeding was done by hoeing or, in the case of corn, additional plowing. Harvest was still primarily using a sickle, reaping a half acre of wheat a day, perhaps an acre of lighter crops, like oats and barley. Reaping was followed by binding and shocking, all labor-intensive and further exacerbated by the accelerated pace of ripening grain, allowing two to four weeks for harvest. A single adult with a young family could manage perhaps twenty acres of arable land under actual cultivation.[11]

Animal farming was limited in both the effort and capital applied to it. The stabling of animals was often limited to the winter and early spring months when the farmer was obliged to provide food for the livestock from stored resources. In the seasons when natural provender was available, most animals were free-range. Fencing and enclosures to secure crops, as well as livestock, were still in the developmental stage. Managing the forest was a major element for the early farmer. Not only was wood the primary fencing material, but it also provided both shelter and heat to the farmer and his family. The forest was also a source of pearl ash. Potash and pearl ash were saleable commodities as fertilizer. Timber or sawn lumber were saleable commodities when delivered by ark downstream to Philadelphia.

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[11]Clarence H. Danhof, Change in Agriculture: The Northern U.S. 1820-1870 (Cambridge, Massachusetts: Harvard Univ. Press, 1969).

The rural community of 1787 was also an integrated economy supporting producers with a variety of goods and services. Individuals with capital and access to moving water built mills. The mills included grist and saw mills, distilleries, cider presses and textile related facilities. On-the-farm work included many activities related to textile manufacture. It took six to ten people spinning to manufacture enough yearn to supply one weaver. Many farm households performed the spinning service to support the local weavers.[12] Weavers, shoemakers, tailors, masons, carpenters and smiths were typical artisans of the community. Their economic activities were integrated with those who earned their primary living directly from agriculture.

Like the Old World, the principal change in agriculture from the earliest period through the 1820s was simply the addition of more arable land and more labor to utilize it. Technology remained much the same. It can be argued that the skill or knowledge of effective agricultural husbandry was expanded during the period, but it is hard to discern proof that the knowledge developed was effectively disseminated and utilized in the rural community. As population increased substantially, the deforestation of Northampton County continued apace, much more land was included in husbandry in the two generations following the founding of the republic. The much vaunted agricultural revolution of the English eighteenth century really consisted of the same process. More land was put under the plow; more labor was utilized in agricultural production. The end result was a considerable increase in agricultural products, but a very limited, if discernable, increase in productivity. The transition in agriculture that reflects productivity, as well as commercialization, was derived from the period beginning about 1830. Two concurrent streams of improvement meaningfully impacted husbandry. On the one hand, the transportation revolution became fully engaged in Pennsylvania. The state canal system was

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[12] Adrieane D. Hood, The Weaver's Craft (Philadelphia: University of Pennsylvania Press, 2003), 74.

started. In its support, state roads were constructed and, beginning in the 1840s, the railroad superceded both as the future of transportation. The Lehigh was never a navigable stream. The Delaware was never navigable upstream of Trenton in any meaningful commercial manner. The construction of the Lehigh Canal, combined with the Delaware Canal and the Morris Canal, provided commercially effective transport to both New York and Philadelphia, offering the Northampton County farmer the opportunity to market product and receive goods at levels not previously attainable.[13]

Concurrently, technology impacted the actual work. The 1830s saw the iron plow, early mowing machines, the horse drawn rake, and similar devices, which hugely improved productivity for the general farmer. The science of agriculture also gradually permeated the farming community. Use of crop rotation and artificial fertilizers, in addition to manure, replaced the soil depleting practices of the pioneer farmer.[14] The value of land as a permanent asset, in combination with better husbandry and better equipment, allowed the general farmer to maintain his property as a continuously productive asset. This contrasted to the early colonial practice of exhausting fields by constant grain cropping, and then moving on to new fields and repeating the process. If land was cheap enough, as the early Penn patents were, this was a viable system. With the passage of time and the increase in land values, this sort of mobility gradually became unsustainable. The transition from forest to arable land was similarly a function of the pattern of land use. The early farms, well in excess of one hundred acres owned by one producer family, likely involved no more than ten or twenty arable acres. The first, and possibly the second generation of husbandmen, could use the soil depletion method of farming and still remain on the same property.[15]

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[13] History of the Lehigh Coal & Navigation Company (Philadelphia, 1841), 11.

[14] Peter D. McClelland, Sowing Modernity (Ithaca, New York: Cornell Press, 1997), 147-148; Leo Rogin, The Introduction of Farm Machinery (Berkley, California.: University of California Press, 1931).

[15] McClelland, Sowing Modernity, 147-148; Rogin, The Introduction of Farm Machinery.

The value of salable products, combined with the value of self-sufficient food, clothing and shelter, made the early farm a profitable capital investment. The level of self-sufficiency, the standard of living, was higher than that of western Europe. That was not the limit of the farmer's condition. He owned the primary capital asset, the farm, and he received the capital benefit of the surplus production. Farmers were able to use this surplus in a variety of ways. In continuing to deforest and expand the arable lands, farmers improved the capital value of the basic asset. By committing capital to permanent buildings for occupancy and for the use of husbandry, both livestock and crop, the main asset was improved in value, and the standard of living for the producer and family was increased. Lastly, the producer was able to use surpluses to invest in additional lands, to invest in improvements like mills and larger or improved herds of livestock, thus broadening the capital base for future husbandry. Surpluses, essentially food for other people, were the key to allowing specialization of labor and the maintenance of an artisan class within the community. The artisans being the specialized producers of both capital goods and consumer goods, i.e., smiths, weavers, tailors, masons, coopers and other craftsmen.[16]

Technological changes, particularly industrially-driven technology, was very slow throughout the nineteenth century. The producer expanded, adding land and labor inputs as the primary basis for increased production. In contrast to the initial pioneering example of soil exhausting husbandry, the second or third generation of landowners necessarily sought to preserve all land resources as productive. The method for achieving this outcome was not initially technology, but education. The farming techniques originated in the lowlands of Holland and Belgium, practiced in different parts of England in the eighteenth century, as well as the Rhineland, were transferred and incorporated by the Pennsylvania farmer. This consisted of forms of crop rotation and soil supplements, including manures, meadow flooding, liming and other artificial supplements for the soil. Various techniques were

[16]Tax assessment records of Allen Township, see Appendix D.

developed and put in practice by the farming community. Since farming is seasonal by nature and farmers a conservative lot, the transition in applying knowledge was slow but steady.[17]

Nonetheless, the technology used in the field still limited productivity throughout the first half of the nineteenth century. The transition from sickle to scythe and cradle increased productivity in harvesting a crop, but there were no parallel improvements in binding and stacking. Moreover, the scythe and cradle required skilled and expensive labor and did not work particularly well in thin fields, rocky fields or hilly areas. The sickle requires limited strength, limited skill and does not break the grain head as readily as the scythe. The sickle also was the tool for wind blown grain when weather works against the husbandmen. Similarly, the transition from wooden plows to iron colters and straps to iron mold boards to steel mold boards as an effective design required roughly sixty years of experiment, development and production from the founding to the 1840s. Likewise, grass farming received a huge productivity increase after 1820, when a workable horse drawn rake was available, making the raking function ten times more productive than the efforts of the hand-raking laborer. The cutting of hay remained the work of the scythe man until the 1850s, when an effective reaper was in practical production. The reaping of grain in the northeast remained a work in progress, and the scythe man was not completely displaced even at the end of the nineteenth century. The tools that supplement the plow, the harrow and the cultivator, for covering the seeds and weaving the fields, were also devices that were introduced and improved throughout the nineteenth century, but with little real impact on productivity until the second half.[18]

The actual grain handling was an area of production that moved in odd spurts. Seeding was done by hand using the broadcast method until the 1830s. From the 1830s to

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[17]McClelland, Sowing Modernity, 147-148; Rogin, The Introduction of Farm Machinery.

[18]McClelland, Sowing Modernity, 147-148.

the 1870s, broadcast seeding was done using hand seeders. Consequently, harrowing, plowing or raking were required to cover the seeds. It was only after 1870 that effective seeders were in place which allowed the seed to be inserted in regular rows and covered in one process, a major step forward in productivity.[19] At the back end of the planting process, thrashing and winnowing, the early farmer used methods no different than the Romans, the flail to separate the grain from the straw and wind to separate grain from chafe. Winnowing, like seeding, received a jump in efficiency by the development of fans turned by cranks that would allow three men working together to do the work of many. Similarly, threshing machines were developed, which by the 1860s allowed a five-fold increase in productivity. Taken as a whole, a farmer in 1890 could produce wheat with one-quarter of the labor required in 1820.[20]

The Pennsylvania farmer, from the founding to 1900, was able to create value on a consistent basis. The initial cause was in the transition of the natural resource, land, from wilderness to cultivation by the removal of the forest and the application of labor. With the passage of time, the transition to all arable land was made and productivity would have reached the point of equilibrium, subject only to more intense labor inputs. However, the combination of inventiveness, i.e. labor-saving devices, combined with industrial capability, the manufacture at reasonable cost of labor-saving devices, allowed a much greater increase in productivity in the latter half of the nineteenth century. The productivity of technology enabled the farmer to increase production without increasing labor inputs. By the end of the period, the husbandmen's efforts were directed at increasing productivity and decreasing labor inputs. On a national scale, the rural component of the labor force went from in excess of ninety percent at the beginning of the study period to less than sixty percent at the end of

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[19]Rogin, The Introduction of Farm Machinery.

[20]Murray Benedict, Farm Policies of the U.S. 1790 to 1950 (New York: 20th Century Fund, 1953), 86.

the study period. Notwithstanding the huge increase in overall population and the substantial increase in absolute terms in the rural population, the farmer was capable of producing his own sustenance and the sustenance of the other forty percent of the U.S. population, and a wide variety of agricultural products for export.

CHAPTER 3
TRANSPORTATION

Transportation was one of the critical elements in the development of an agrarian capitalist economy. As Adam Smith proposed, agriculture would produce surpluses. Those surpluses would become capital for further development. The key to obtaining value for a surplus was marketing the surplus and, in Allen and Moore Townships, the most significant markets were well outside the reach of available transportation at the beginning of the study period. River transportation was the normal standard for post-Colonial America. It required rivers deep enough to manage shallow draft commercial vessels. The Lehigh, in particular, was a very shallow stream. The Delaware above the falls at Trenton was both shallow and subject to rifts and falls, making commercial shipping very difficult. Using arks, freight was floated downstream during spring freshets. The typical ark was constructed of local timber and broken up and sold as lumber as part of the product delivered to Philadelphia. One of the predecessors to the Lehigh Coal & Navigation Company provides an example of the hazards of ark shipping. In 1813, Charles Cist loaded five arks with anthracite coal for intended delivery in Philadelphia. Only two of his arks actually arrived safely at their intended destination.

The desire to utilize the Lehigh and Delaware as an avenue for coal hauling continued to inspire Philadelphia industrialists. One consortium had been approved to develop a canal on the Schuylkill, which would bring anthracite from the southernmost fields to the city. The Lehigh offered an avenue to deliver coal from the middle fields located between Summit Hill and Mauch Chunk. Josiah White and Erskine Hazzard, with various partners, organized companies to both mine the coal and build a transportation system for its delivery. Their initial effort to make the Lehigh navigable was a system of partial dams designed to channel the flow of the river and create channels sufficiently deep to float twenty to forty-ton vessels. In 1820 Josiah White devised a system of dams to create the necessary channels. Two types of dams were utilized. Wing dams were a pair of dams constructed from opposite sides

toward the center to create a deep channel. Crib dams were a solid dam across the river with a sluice gate in the center. Opening the sluice gates caused an artificial freshet which supplied sufficient depth to cross the shallow areas below the dam. By the end of 1820, 37 wing dams and 13 crib dams made the Lehigh navigable from Mauch Chunk to Easton.[1]

In the first year of operation, the Lehigh Coal & Navigation Company shipped 365 tons of coal to Philadelphia. This was one-way traffic, and it offered no benefits to the citizens of Allen or Moore Townships. It did offer a monopoly to the Lehigh Coal & Navigation Company for the delivery of anthracite coal to Philadelphia, since the Schuylkill canal was not completed until 1825. Recognizing that the future required a more dependable navigation system, White and Hazzard obtained legislative authority to recapitalize at $1 million. Additional legislation in 1823 authorized the company to collect tolls on its soon to be constructed navigation system, though none were collected until 1827.[2] Anthracite coal became a spectacular success and enabled White and Hazzard to expand. Their canalized system allowed the shipping of some lumber and even a modest amount of farm products in addition to coal. Shipping was still done by arks, generally about sixteen to eighteen feet wide and twenty to twenty-five feet long that were hinged together in a series in as high as eight with a total length of one hundred eighty feet.[3] The hinging of the arks was necessary to navigate the sluice gates and later canal locks. The arks were used until 1834 when the completion of the Delaware division canal provided a continuous two-way canal route to Philadelphia.

In response to the ever growing demand for coal and the success of the Schuylkill navigation after 1825, White and Hazzard began major improvements to their navigation

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[1]W. Ross Yates, History of the Lehigh Valley Region (1963), 62.

[2]History of the Lehigh Coal & Navigation Company, 11.

[3]Chester L. Jones, The Economic History of the Anthracite-Tidewater Canals (Philadelphia, 1908), 13.

system. In 1827 two projects were started which would result in the Lehigh navigation becoming one of the most efficient in the country. First, a road from the Summit Hill mines to Mauch Chunk was replaced with an incline railroad. This was a nine-mile railroad and was the second to be completed in the United States. Gravity supplied the power for the loaded cars while empty ones were hauled uphill by mule teams.[4] The second project involved the creation of a slack water navigation from Mauch Chunk to Easton. At the same time, the Pennsylvania legislature authorized the Delaware division canal as a state project linking Easton and Bristol. The Lehigh Coal & Navigation Company's completed canal would create a slack water canal navigation all the way to tidewater utilizing the two canals. Concurrently, two different New Jersey companies began construction of canals crossing New Jersey from the Hudson to the Delaware, which would provide navigation links to the port of New York.

The Lehigh canal was built to handle small coastal schooners up to 120 tons burden. Its dimensions of 60 feet in width and five feet in depth, with locks 22 feet by 100 feet, made it the largest and best constructed canal in the state of Pennsylvania.[5] When completed in 1829, the navigation consisted of 34.5 miles of canal, ten miles of pools, and 1.6 miles of locks, for a total of 46.2 miles. It covered a descent of 364 feet by using 52 locks with eight dams to create the pools and supply the water for the canal links.[6] The total cost for the complete navigation amounted to $1,558,000.[7] Obviously, this tremendous capital investment could not have been generated by the agrarian community of Allen and Moore Townships, since it exceeded the value of all the farms in both townships. The driving force was anthracite coal. But, transportation, regardless of the source, was a critical element in

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[4]Ibid., 15.

[5]Hacker Report to the Senate of March 4, 1835.

[6]History of the Lehigh Coal & Navigation Company, 35.

[7]Annual Report of the Lehigh Coal & Navigation Company, 5.

the expansion and growth of both townships. The overall mania for canals resulted by 1835 in completed links to Newark via the Morris canal, Perth Amboy via the Delaware and Raritan canals, and Philadelphia via the reconstructed Delaware division canal. This enabled the townships to both send and receive products, but the shipments were always ancillary to coal, which was the source of revenues that made the canals viable.[8]

By 1840 the canal was shipping 21,000 tons of lumber and cord wood, a portion of which was generated in Allen and Moore. The canal also provided shipment for 8,000 tons of flour and grain from the valley farmers, providing obvious support for the six mills making flour on the Hokendauqua Creek, as well as the farmers providing the wheat. On the receiving end, the canal imported 1,200 tons of salt, meat and other provisions into the Valley, some of which would have been included in the markets of Allen and Moore. The importance of the canal to the local economy could be seen in the construction of the Siegfried covered bridge connecting the Lehigh County side of the river to the canal company side of the river in Allen Township. Access to the two-way transportation system of the canal was a necessary element in the developing local economy.[9]

1855 was a watershed year for the Lehigh canal. It reached its peak as a carrier with approximately 1.5 million tons of shipping, primarily coal, but including a variety of products. At the same time, the canal's first real competitor in the Lehigh Valley came into existence with the completion of the Lehigh Valley Railroad on the west bank of the Lehigh River. By 1863, the Lehigh Valley Railroad was hauling a half million tons of coal more than the canal. Nonetheless, the canal continued to be a major transportation link due to the tremendous growth, not only in the coal industry, but the nascent iron industry which developed along the lower reaches of the Lehigh River. In 1855, there were sixteen operating furnaces that shipped 72,000 tons of iron, while receiving 70,000 tons of iron ore

[8]Ibid., 10.

[9]1840 census records for Allen Township, see Appendix D.

and 27,000 tons of limestone. Lumber continued to be a significant export, while the grain and provision industry exceeded 10,000 tons.[10]

The next step in transportation impacting east bank communities came after the disastrous floods of 1862. They destroyed much of the canal north of Mauch Chunk and led the Lehigh Coal & Navigation Company ("LCN") to conclude that a railroad should be constructed as a replacement. The existing incline plane railroad from the Lehigh to the Susquehanna would be expanded from White Haven to Mauch Chunk as a engine-driven railroad. When a suitable agreement could not be worked out with the Lehigh Valley Railroad, the Lehigh Coal & Navigation Company determined to extend the Lehigh and Susquehanna Railroad along the east bank of the Lehigh from Mauch Chunk to Phillipsburg, New Jersey, and a connection with the Central Railroad of New Jersey. At the same time, a southern connection was made in Bethlehem with the North Pennsylvania Railroad. By 1867, the LCN had an effective rail link with both Philadelphia and New York, while continuing to employ its canal link with Philadelphia, New York and the coastal trade. Again, an investment of outside capital amounting to $10 million was necessary to construct this transportation link, but the citizens of Allen and Moore Townships were beneficiaries of the modernization.[11] In a similar way, the strongly capitalized Chapmans Slate Quarry was able to support the extension of a railroad link from the Lehigh and Susquehanna Railroad in Bethlehem north along the Monocacy Creek to Chapmans in Moore Township. This rail link offered the southern portion of Moore Township a direct connection to the larger regional economy.

Roads in Pennsylvania did not enjoy the support and capitalization necessary to make an effective system throughout the nineteenth century. In 1785, the state passed its first highway law, and from 1791 through 1820, the state legislature provided appropriations for

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[10] Annual Report of the Lehigh Coal & Navigation Company, 7.

[11] Yates, History of the Lehigh Valley Region, 79.

the support of state highways. In the Lehigh Valley a state road was authorized from the Lehigh Gap to the Susquehanna Valley in 1786. Appropriations for this road continued, and as late as 1826, George Weber was named as one of three people to supervise a state appropriation for maintenance of the road where it crossed the Blue Mountain at Little Gap. However, the state's willingness to support highways declined precipitously after 1820. By 1845 there was no financial support available. The legislative acts of 1834 included an extensive rewrite of the powers of local government, including roads. Supervisors of all townships were authorized to assess at a rate not exceeding one cent on the dollar real and personal property, offices, trades and occupations, for the purpose of laying out, opening, making, amending or repairing roads and highways and for the making and repairing of bridges. Based on this law, the responsibility for roads passed to the supervisors of Allen and Moore Townships.[12] In consequence, bridge building began in earnest in both townships. Allen favored wooden covered bridges. In the village of Kreidersville, there were three such bridges constructed beginning in 1839. Each bridge served a road, one north to Stone Church and Pennsville, one westerly to Cherryville, and one southerly to Siegfrieds. They were all crossings of the Hokendauqua Creek and its large loop around the Kreidersville ridge. The roads remained dirt and their passability a direct consequence of the effectiveness of the supervisors at any given time. From 1785 until the construction of the canal links in the late 1820s, completed by 1835, and the later construction of the parallel railroads, both Allen and Moore were still restricted by their road grid. Travel from the far reaches of Moore Township to Siegfrieds with a loaded wagon could involve a whole day one way. Soils, topography and transportation made Moore the poorer township throughout the nineteenth century.[13]

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[12] Act 11 of 1834, Sec. 25, Laws of the Commonwealth of Pennsylvania.

[13] Wilbur C. Plummer, The Road Policy of Pennsylvania (Philadelphia, 1925).

CHAPTER 4
EARLY LAND DEVELOPMENT

The rural economy exemplified by farming in eastern Pennsylvania after the founding was a healthy growing enterprise. Farms were on a large enough scale to easily support a family. The principal requirement for operation was labor, the very thing provided by the family unit. It was labor intensive and productivity was largely the result of the quality of soils. Farmers were able to produce in excess of their needs, were able to exchange surpluses within the integrated local economy and trade additional surpluses into a market economy for export outside the rural community. It has been fairly said that the American standard of living was the highest in the world, and that this standard was derived from a sophisticated household based economy combining husbandry with the processing of agricultural products and the exchange of personal services. While crude by modern standards, it compared well with the rest of the world.[1]

The original Allen Township contained some 37,000 acres of which 6,000 were cleared and farmed by 1800. The process of deforestation was ongoing, and it was entirely dependent upon the labor of the owner occupiers. Most of the original buildings were constructed from wood and were fairly crude. The 1800 census population totaled 1,257 people in Allen Township, among them several weavers, tailors, carpenters, smiths and similar artisans. Similarly, Moore Township contained over 20,000 acres of land with a lower percentage cleared for crops. Moore's soils and steeper topography were limiting factors on development. The population in the 1800 census was a mere 881.[2]

Land ownership initially reflected the policies of the Penns and their associates. All of Allen Township had been deeded and subdivided by the Penns or their close allies, like

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[1]Paul K. Conklin, Prophets of Prosperity (Bloomington: Indiana University Press, 1980), 3.

[2]Matthew S. Henry, Manuscript History of Northampton County, Pennsylvania (1851), 107-109.

William Allen and Casper Wister. Tracts of one hundred to five hundred acres were conveyed to owner occupants. The map attached as Appendix A skews the initial land holdings of the early settlers. Some of the examples of early development can be seen in the holdings of Conrad Kreider and John Kleppinger. Kreider purchased 263 acres and within a few years divided the tract into two large farms, one retained by Kreider and the other owned by his brother-in-law, George Michael Bastian. Kreider's farm was laid out to include a portion of the Hokendauqua Creek, which allowed him to erect a three-story water-powered stone gristmill. Kleppinger acquired 330 acres, including a substantial river front along the Lehigh. Eight years after the purchase, he divided the farm into two equal parts and transferred each to one of his sons. The initial development was geometric in nature, reflecting the careful survey techniques used to deed real property. As time passed, boundary adjustments were made not only for family units, but also to reflect topography, natural resources, particularly streams, and access to roadways.[3]

As America moved into the Jacksonian era, both townships reflected a world of rural yeomanry in which the broad social economy provided for a general equality of opportunity and a balanced division of economic resources. Allen Township had approximately 120 persons engaged in farming and approximately the same number engaged in other professions. In the trades to produce clothing, there were six tailors, seven weavers, thirteen shoemakers, two dyers and fullers. In the contracting trades, there were three masons, two coopers, two carpenters and eight smiths. The township contained a paper mill that employed four. It also included seven operators of gristmills. Service industries included two innkeepers, six storekeepers and a doctor. The largest assessed farm was 433 acres, and the median size was 71 acres.[4]

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[3]Office of the Recorder of Deeds of Northampton County.

[4]Tax assessment records of Allen Township, 1820, see Appendix D.

Moore also reflected a balance between the farming community and other crafts. There were 78 farmers in Moore Township, as well as a large number of cordwainers and shoemakers. Other clothing industry professions included 29 weavers, four tailors and two hatters. Moore also had a substantial number of fabricators, including carpenters, coopers and blacksmiths. Many of the other professions were substantial land owners. Two-thirds of the cordwainers and shoemakers owned land varying from one hundred acres to one. The farmers' land holdings included the largest at 475 acres, with a median of 104 acres.[5]

As can be seen from the breakdown of professions, the townships operated an integrated economy. Goods and services were created and traded within the community. Self-sufficiency on a community-wide basis was extensive. The yeomanry included many besides farmers, not only because of their status as the holders of economic occupations, but also their frequent status as the owners of substantial land holdings. The artisans produced not only for their community, but operated in an individual agricultural context as well. Food production and food surpluses were generated by many members of the economic order, not limited to the farmer or the farm laborer.[6]

The evolution from forest to farm was slow. The typical land owner cut tress, grubbed saplings and removed stumps to create arable land. Large trees would be cut in eleven-foot or better lengths and split for rails or in four-foot lengths to be used as firewood. The scrap would be burned for potash. Ten acres of forest could produce a ton of potash worth approximately $200. The good timber could produce 17,500 board feet of lumber or ten cords of firewood per acre. This product had a value to the extent that it could be successfully shipped to market or utilized within the community. Wood structures and large quantities of wood fence creating enclosures were a critical part of early economic

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[5]Tax assessment records of Moore Township, 1820, see Appendix D.

[6]Tax assessment records of Allen and Moore Township, 1820, see Appendix D.

development. As an example, a cornfield of one acre required a fence of eight hundred ten to twelve-foot rails to completely enclose a crop and protect it from marauding animals.[7]

The actual tools utilized dictated the output a yeoman farmer could actually anticipate. A horse-drawn wooden plow made by the local craftsmen could till one to two acres per day creating three to six-inch furrows. On rough woody ground, it would be an acre or less per day. The initial groundbreaking, using the large breaker plow, required two or three horses and two men or one man and a boy. Cross plowing and inter-tillage could be managed with a small single-horse plow, still requiring two workers. The typical wheat field might require three or four plowings before seeding. Thus a yeoman farmer who produced even a ten-acre field of wheat could commit forty days to the plowing before seeding. Because seeding involved broadcast, it was only possible to weed the field by hand using a hoe, a very time consuming labor intensive process.[8]

Harvesting, likewise, took a great deal of effort. Through the 1840s, all harvesting was done using either a sickle or the scythe and cradle method. The sickle remained a common tool for thin crops, brittle crops and very difficult hilly terrain. The scythe and cradle were most easily utilized in broad smooth fields with fairly dense crops harvested early enough to avoid the problem of brittle grain breaking loose from the straw. A typical workman could reap a half acre of wheat in a day using a sickle. The scythe and cradle could reap two acres a day of wheat. One and a half binders per cradle could shock ten acres per day. This calculus reduced to, in a typical two-week harvest period, one man per acre per day to reap, bind and shock. The ten-acre wheat field consumed almost the entire harvest

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[7]W. Fletcher Stevenson, Pennsylvania Agriculture and Country Life: 1640 to 1840 (Harrisburg, Pennsylvania: Pennsylvania Historical and Museum Commission, 1971).

[8]Rogin, The Introduction of Farm Machinery, 5, 16, 21, 127, 129, 130.

week and required multiple workers to be effective. It can be readily understood that a large farm acreage did not correlate to large crop land.[9]

The final stage of the process was threshing and winnowing the grain. In Allen or Moore Township, the Pennsylvania German method of threshing was done on the barn floor using flails or horse treading to break the grain loose from the straw. The last stage of the progress was to winnow the wheat using the sheet method, tossing the grain in the air and using wind to separate. Prior to the utilization of the fanning machine, the sheet method would produce twenty bushels of wheat sacked in thirteen to sixteen hours utilizing two men. Threshing could produce seven to eight bushels of wheat a day with a flail and one man. The total, 27 man hours to produce one acre of twenty bushels of wheat, threshing, winnowing and sacking, and stacking the straw. Horse treading was faster than the flail, but damaged the grain producing a lower quality product. It can be seen that the ten-acre wheat field, producing twenty bushels to the acre, a relatively high productivity, involved months of labor. At the price of a dollar per bushel, it also produced a considerable amount of cash in an era when wages for farm labor were two or three dollars per week.[10]

The science of farm husbandry had evolved, particularly in Holland and England, to utilize a system of crop rotation. Grain farming exhausted soil of its nitrogen within three or four years of initial planting. The rich loamy forest soil available to the Pennsylvania farmer after the initial logging might produce twenty bushels of wheat to the acre. After three or four years, the yields would be ten bushels or less. The various rotation systems involved two or three years of grains, wheat, oats and corn, followed by root crops, turnips and potatoes, and then an extended period of fallow soil with the grass cropped as hay or used as standing pasture. A one hundred plus acre farm would be worked in five- or ten-acre planted parcels so that the fallow ground would be ready in ten years for a return to grain

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[9]Rogin, The Introduction of Farm Machinery, 5, 16, 21, 127, 129, 130.

[10]Rogin, The Introduction of Farm Machinery; Stevenson, 1640 to 1840.

farming, and then a repeat of the rotation cycle. Considering that a farmer's labor force may have included hired help in the form of young men saving to buy a farm or older men not able to manage effectively the ownership of a farm, combined with the farmer's children and the availability of the artisan community during peak periods like harvest, it would still be difficult for the average farmer to effectively crop more than twenty acres of land in a given year. Through the 1840s, the key limit to production, not only in Eastern Pennsylvania but throughout the better agricultural areas of the western world, was the amount of labor available. Every step in the process of agriculture was enormously time consuming. The only way to enhance productivity was to add labor units.

In England, this proved to be manageable because of the surplus population in rural districts. Large farm units employed capitalist farmers as the operators and managers of agricultural husbandry. The landlords contributed land and a portion of the capital for improvements to the land like drainage tile, buildings and structures. The farmer capitalist paid rent and provided animals, equipment, seeds and the capital to fund the extra labor. Cottagers, migrants and seasonal workers provided the labor force. The much talked about agricultural revolution in England, on close analysis, can be seen as the addition of marginal lands to the crop farming acreage and additional labor units to produce a harvest. The science of crop rotation undoubtedly helped to maintain the level of productivity on the limited amount of land available, but the real change in the 17th and the first half of the eighteenth century for English and Dutch agriculture was the increased amount of land and labor committed to food production.[11]

The United States lacked the surplus labor, but compensated to a large extent by utilizing surplus lands. The process of deforestation and extensive grain farming produced an ever increasing level of food production. In eastern Pennsylvania by 1840 this resulted

[11]G. P. H. Chorley, "The Agricultural Revolution in Europe", Economic History Review, Vol. 34, No. 1 (1981); VanBath, "Eighteenth Century Agriculture on Europe."

in an almost complete removal of the original forest. Allen Township, in particular, was estimated to have less than one thousand acres of woodland remaining by 1840. Since woodland remained a substantial resource for lumber, firewood and fence rails, future problems were visible on the horizon.[12]

Technology and industrialization would provide the answer to the farm community's difficulties. This took multiple forms. Throughout the early portion of the nineteenth century, a constant effort was made to improve the plow. The actual work was still performed primarily by local blacksmiths, but the plow's capabilities increased as they added more and more metal to the plow. This included moldboards, plowshares and colters, as well as the structural elements of the plow. These improvements enabled individual farmers with one or two horses to do increasingly more plowing with less help.[13] On the threshing side of the harvest process, the development of an effective windmill to separate grain from chaff marked an equally important improvement in productivity. The real breakthroughs would come over the thirty-year period spanning the Civil War era from 1840 to 1870. In this time, an effective reaper was developed and brought into a level of manufacturing production that allowed it to be produced at a cost effective level for the Allen Township and Moore Township farmer.[14] Similarly, threshing machines were developed which, bought by groups of farmers or entrepreneurial farmers able to service their neighbors, greatly enhanced productivity. Development of workable seed drills, an idea originated by Jethro Tull in the

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[12]Henry, History of Northampton County.

[13]John T. Schlebecker, Where We Thrive (Ames Iowa: Iowa State University Press, 1975).

[14]Paul W. Gates, The Farmer's Age: Agriculture 1815-1865 (New York: Holt Rinehart & Winston, 1960).

1730s, but not made economically practical until the mid-nineteenth century, combined with the other improvements made revolutionary changes in the productivity of a farmer.[15]

The science of husbandry also evolved. The need for nutrients to be returned to the soil was known to the farming community in the late seventeenth century. Nevertheless, precisely how to effectively recharge the soil was a slow developing process, both in knowledge and in materials to be used. The rapid breakthroughs of imported fertilizers, the use of gypsum or limestone in addition to manures and potash, allowed the farmer to utilize his existing fields much more effectively. The long periods of fallow ground were no longer required. The farmer could utilize more of his acres for grain production, which he could still effectively manage with only the labor available from family and perhaps one full-time employee. Throughout the period from 1840 to 1900, Moore Township, which remained almost exclusively an agricultural community, had approximately one laborer for every farmer. While many of the laborers owned land holdings, their primary job was to work for a farmer.[16]

The consequence of these production improvements was to sharply increase the cash flow of the farm unit. Ready cash also allowed the farmer to focus on buying and utilizing as much equipment as possible to allow as much productivity from existing acreage as possible. Farms became very capital intensive, not only in terms of land values, the primary expense of the early nineteenth century farmer, but also the costs of stocking an operating farm. In a sense, by the end of the nineteenth century, the American farm unit was beginning to resemble the English farm unit, in that large capital requirements, in addition to land costs, were now common. The post-colonial farmer initially required only sufficient resources to

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[15]McClelland, Sowing Modernity, 94-94; Rogin, The Introduction of Farm Machinery, 191-162; Percy W. Bidwell and John I. Falconer, History of Agriculture in Northern United States, 1620-1860 (Washington, D.C., 1925).

[16]Moore Township tax records, see Appendix D; David Grigg, The Transformation of Agriculture in the West.

buy land, and most things after that could be produced by the sweat equity of the farmer and his family. By the late nineteenth century, however, the cash requirements for capitalizing a farm had become far more substantial. The farmer needed substantial equipment, livestock and hired labor to be a competitive commercial farmer. In like manner, the English farmer had always been expected to contribute substantial capital to make a functioning farm unit.[17]

One of the consequences of this evolution was the elimination from the rural community of all the ancillary occupations. By the late 1800s, there were no weavers, there were no cordwainers, there were no fabricators in Moore Township. Farmers, laborers and those people involved in farm industry–millers, blacksmithing and metal working–were the residents of Moore Township. Commercial farming had arrived. The township population peaked with the 1870 census and then declined slightly, reflecting the removal of the ancillary population and the limits imposed on farms by the acreage available for agriculture. Allen Township stood in contrast because a portion of that community urbanized and saw an incredible population increase independent of the residual agricultural community.[18]

Time, in the sense of labor productivity, was the key element in this nineteenth century evolution. For the first half of the century, a farmer's time commitment for relatively little production was great. Profits were derived from the ability to sell surplus grains or refined grains in the form of flour and meal to the ancillary workers, the artisan community within the rural areas, and to merchants capable of delivering products to urban areas like Philadelphia. Farmers were able to grow crops which were directly utilized on the farm, oats for horses, corn and hay to support cows, pigs and sheep, in addition to using the pastures created by the fallow ground crop rotations. Animals were utilized primarily for the farmers' diet and to create products exchangeable with the artisan community. Flax was a standard

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[17]Probate records of Northampton County; Danhof, Change in Agriculture.

[18]Hood, The Weaver's Craft; tax assessment records of Allen and Moore Townships, see Appendix D; census records of Northampton County, see Appendix D.

crop, perhaps only half an acre to a given farm, but in combination with sheep a basis for the local textile industry. Tanning yards integrated the hides of farm animals and the finished product of cordwainers and shoemakers with the end products going back to the farmers and the other members of the community. In the same way, fulling mills and dye yards operated and allowed the local textile industry to produce for the other members of the rural order. Gristmills converted the farmers' products into flour and meal which fed the community. In most respects, both Allen and Moore Townships had within their boundaries the workers, the equipment, the animals and the capital necessary to maintain a largely self-sufficient rural community with relatively little market interaction from outsiders. The change that technology and industrialization brought to this formerly closed structure by the late nineteenth century was the consequence of market and transportation developments during the course of the previous twenty years.[19]

The Lehigh Valley was initially isolated and serviced only by the typical transport of horse and wagon over atrocious dirt tracks. Little effective economic activity existed between Moore, Allen or the adjacent townships and the more dynamic diverse communities of Philadelphia or New York despite the relatively close distances. By 1830 canals had been constructed which allowed transport of bulk commodities to Philadelphia at relatively low cost roughly nine months of the year. The farmer in Allen Township benefitted more directly because his land transport to the canal site was a day or less. The Moore Township farmer continued to be two days removed and still burdened with bad roads, hills and stream crossings. Within a generation following the canals, railroads were added to the transportation network and made available year-round transport of not only bulk

[19]Gates, The Farmer's Age; tax records of Allen and Moore Townships, see Appendix D; census records of Northampton County, see Appendix D; Stevenson, 1640 to 1840; W. Fletcher Stevenson, Pennsylvania Agriculture and Country Life: 1840 to 1940 (Harrisburg, Pennsylvania).

commodities but other goods as well. By the 1850s substantial improvement in the lives of Allen and Moore residents could be observed.

While all initially were living in log structures, log houses continued to be primary residences well into the nineteenth century. The first real examples of more substantial structures were found in the form of the Georgian stone house characterized by the Scotch-Irish community in Weaversville. The 1850s saw the proliferation of brick homes throughout the townships. This suggests the availability of millwork and consumer goods furnished not only for construction, but the occupation of the new residences. It also confirms the economic success of the enduring agricultural community, now in its third generation of post-Colonial development.[20]

The period from 1840 to 1870 completed the transition of the early colonial agrarian community to the agrarian community that was a companion of the industrial society created in America the latter half of the nineteenth century. This transition impacted the husbandman, but even more so his neighbors. The rural community that had a balanced integrated economy providing goods, services and industry for its internal as well as external use gradually disappeared. This was accompanied by an increasing specialization in husbandry, also a consequence of industrialization in the larger economy. By 1870 there were 79 farmers in Allen Township, 50 of whom owned their own farm. The median size of a farm was 75 acres. In Moore there were 192 farmers, 155 of whom owned the farms they operated; and the median size of the farm was 60 acres. The population of Moore Township reached its peak for the century at 2,938. Reference to the census data which describes all of Northampton County identifies 2,972 farms, 671 under 20 acres, and 2,301 over 20 acres, but none exceeded 500. The 6,603 acres in Allen Township identified as farmland by the 1870 census was valued at $945,608. In Moore, 18,147 acres were valued at $1,558,387. The differential, $143 per acre for Allen Township, compared to $85 for

[20]Appendix B.

Moore Township reflects the better transportation and better agricultural soils of Allen. These values were the peak for the nineteenth century. The remaining thirty years witnessed a decline in the value of farmlands, which accompanied the decline of the integrated rural economy. These changes were driven by the same combination of technology, transportation and markets, which produced the integrated post-Colonial economy.[21]

Pennsylvania's place as a leader in the production of bread staples, wheat, rye and flour was eclipsed over the course of the last three decades of the century by the rapid growth of grain farming in the Midwest. The development of the railroad transportation system which accompanied the westward movement of agriculture meant that the more productive western farms could deliver flour more competitively than those of eastern Pennsylvania. The milling industry suffered a parallel decline. The small low-powered water mills typical of Allen and Moore Townships were supplanted by the larger, technologically advanced and economically superior mills that were able to deliver the product cheaply and effectively by railroad. The great growth in the population of America, the development of urban markets in the burgeoning cities, the demands of the European export market and, finally, the Civil War had created a period of great economic advantage to the agrarian capitalists of Moore and Allen Townships, but they could not sustain growth and profitability into the twentieth century. They could enjoy the increase in land values and the profits to be made from marketing their farm commodities. The introcution to the 1860 censuscontained an analysis of U.S. farming practices and compared them to those of the developed countries of western Europe. It served as a rebuttal of the challenge that farming in America was wasteful and inefficient compared to Europe. The author's response was purely capitalist in its profit and loss analysis. Cheap land and dear labor in the United States supported non-intensive

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[21]Tax records of Allen and Moore Townships, see Appendix D; census records of Northampton County, see Appendix D; Alvin S. Tostlebee, Capital in Agriculture; Its Formation & Financing Since 1870 (New York: Princeton Press, National Bureau of Economic Research, 1957).

farming techniques. Rather than spend large amounts of capital to improve land, it was easier to allow long periods of fallow and transfer the husbandry to new soils. Similarly, it was more effective to use equipment than high cost labor. The reverse was generally true in European farming. Large amounts of capital were expended to improve substandard lands and high levels of labor were required to manure, fertilize and otherwise regenerate fields. The census noted that between 1850 and 1860 the cash value of farms in the United States had doubled. One of the effects of this economic success in both Allen and Moore Townships was extensive construction of brick residences during the 1850s. Brick homes were a new addition to these communities, reflecting both economic success and the availability of bricks due to cheap transport.[22]

Technology was also beginning to play a substantial role. The census noted that prior to 1850 nearly all operations of the husbandman in the growing and harvesting of grain were performed by manual labor. By 1860 labor requirements had been reduced by seventy-five percent as a result of the introduction of the reaper and the mower. The census further estimated that the cost of harvesting had been reduced from $1.90 per acre to 90¢ per acre as a result of the new technology. All these circumstances combined to increase the surpluses generated by the husbandman and enabled him to invest in his land and buildings, as well as the new equipment. In 1840 there were 137 farmers in Moore Township; by 1870 there were 192. Similarly, there were 232 people employed in service in other industries in 1840; and that number rose to 341 by 1870. Allen Township grew from 60 farmers to 79 farmers, and 120 service occupations to 154 service occupations in the same period. The number of laborers more than tripled in Allen Township and they doubled in Moore. The difference is reflective of the beginnings of urbanization in Allen Township. The fact of its location along the Lehigh River on the eastern shore where the canal initiated this process.

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[22]Tax assessment records of Allen and Moore Townships, see Appendix D; census records of Northampton County, see Appendix D; A. E. Pierce, The R. A. Smith Milling Company, 1889 to 1955, unpublished dissertation (June 1956).

By 1865 a railroad had been constructed on the east bank paralleling the Lehigh Valley Railroad on the west bank. That railroad became a subsidiary of the Central Railroad of New Jersey and provided links to New York City as well as Philadelphia.[23]

In 1867 George H. Stem and his brother William transferred their business from the west bank in the Village of Coplay to the east bank. They operated a car works, building railroad cars, spring and farm wagons of various types. Their business was directly linked to the railroad. Stem himself had a connection to the Central of New Jersey, making it one of his primary customers for railroad cars. The Village of Stemton grew up in Allen Township around the car works. In 1856 a second bridge, built by a private contractor, had crossed the Lehigh in the immediate vicinity of what became Stemton. The Hokendauqua Bridge Company, incorporated in 1856, built the bridge for $12,000, operating it thereafter as a toll bridge. The mills and retail operations nestled in the area of the Hokendauqua and Lehigh confluence provided additional impetus to the urban growth in Allen Township. In this period can be seen the accelerated growth of non-agrarian economic enterprise in Allen Township while Moore, with the exception of a small slate mining industry, turned its focus more strongly to husbandry, a trend that would continue to the end of the century.[24]

Reviewing the conditions of an ancillary agrarian business, the milling industry produced a parallel picture. In 1840, eighteen persons were identified as millers or merchant millers who owned or operated gristmills in Allen. Two of them, Peter Laubach, Sr., and George Weber, were the largest property owners in Allen Township. Not only did they have acreage, but their properties included mills, taverns, distilleries, stores, lumber yards and coal yards, which made them the principal economic figures in the community. By 1870, there were eight people in Allen Township identified as millers by profession. Similarly, in Moore

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[23]Rogin, The Introduction of Farm Machinery; McClelland, Sowing Modernity; census records of Northampton County, see Appendix D; tax assessment records of Allen and Moore Townships, see Appendix D; Stevenson, 1840-1940.

[24]Ray F. Wahl, Northampton, the Town That Wants You (Cement Printing Co., 1941).

Township in 1840 eleven people were identified as millers or the owners of mills. Those mills were primarily sawmills and gristmills. By 1870 there were six identified millers and seven mills operational, approximately half sawmills and half gristmills. They remained viable businesses, but their peak period had passed and their future was very limited.[25]

The final thirty years of the nineteenth century completed the transition of agrarian capitalism in eastern Pennsylvania to a specialized commercial practice. The husbandmen relied on sophisticated equipment and hired labor to utilize fully the acreage available for farming. The farms got progressively smaller and more numerous. Their economic viability gradually moved to the European fashion supporting urban areas. Farmers transitioned from wheat to livestock as the cash crop. Land was intensively farmed and very productive in consequence.

The 1900 census included a section on agriculture progress over fifty years. It noted that in the United States there were now seven farms proportionate to population, where in 1850 there were only four. In 1850 there was a farm for every fourteen persons, and in 1900 a farm for every 8.9 persons. The growing farm population was needed to sustain a population that had grown from 20 million to 51 million. Northampton County was credited with 3,538 farms with an average acreage of 54. The total farm acreage amounted to 191,378 acres and was valued at $13,405,550. Thus, the average acre was valued at $70, a substantial drop from the $112 average of 1870. Similarly, each farm was worth an average of $3,789, a major decline from the $7,000 figure of 1870. We can see that the trend toward a more pure husbandry, despite the increase in the husbandmen and in their capacity to produce, did not reflect in the capital value of farming.[26]

Similarly, the grist and flour milling industry suffered an almost total decline. In 1900 there were only two mills left operating in Allen Township, and two mills in Moore

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[25]Tax assessment records of Allen and Moore Townships, see Appendix D.

[26]Census records of Northampton County, see Appendix D.

Township as well. In Allen there were four millers and in Moore there were five. Industries that had been the most substantial employers and the largest producers of value in 1840 largely disappeared by 1900. Moore Township experienced an absolute decline in population, from 2,938 in 1870 to 2,544 in 1900. Allen on the other hand experienced enormous growth due to urbanization and industrialization. Allen's 1900 population was 6,541, an increase of 4,500 people from 1870, but the increase was unrelated to the farming community. Allen had 79 farmers in 1870 and 87 farmers in 1900. The median farm size had shrunk from 75 acres to 43 acres, again reflecting the trend toward the smaller more intensively managed husbandry typical of the turn of the century commercial farmer.[27]

What was new was the huge increase in the laboring population, now numbering 1,775 in 1900, compared to 242 in 1870. Where the earlier population was reflective of both labor for the farming community and labor for the earlier industries, particularly the Stemton car works, the labor pool of 1900 was built almost entirely around the cement industry, which had come to Allen Township at the very end of the nineteenth century.[28]

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[27]Tax assessment records of Allen and Moore Townships, see Appendix D; Pierce, Pierce, Smith Milling Company.

[28]Earl J. Hadley, The Magic Power (New York: G. P. Putnam Sons, 1945); Wahl, Northampton, the Town that Wants You.

CHAPTER 5
LAND DEVELOPMENT

The primary asset of the occupants of Allen and Moore townships at the beginning of the nation was land. The Penns began the process of land commodification shortly after the first settlers arrived. Penn, Sr., began the process of land transfer with some of the limitations and restrictions characteristic of feudal England. He fairly quickly recognized that mass migration was the better alternative for converting 57 million acres of wilderness to cash. The Penns were particularly successful. The original debt satisfied by the land was 16,000£ owed by Charles II to Admiral Penn. For almost one hundred years, the Penns were able to sell land as a commodity to settlers. The Revolution brought the act of condemnation in 1779, which transferred all undeeded Penn land to the Commonwealth. The Commonwealth continued the Penn process of sale and compensated the Penns with the payment of 130,000£. Capitalism, understood as commodification of land, has been intrinsic to Pennsylvania from the outset.[1]

Capital, in the form of land, necessitates a credit system. Particularly in the new world of Pennsylvania, there was vastly more land than available capital to purchase it. Rather than allowing squatters to effectively expropriate their most valuable commodity, the Penns developed a workable system of credit purchase. This involved a four-step process: the warrant, the survey, the return of survey and the patent.[2] The Commonwealth adopted the Penns' system and continued the process of allowing settlers, also referred to as squatters or preempters, the right to move onto vacant land. Their occupancy was based on improvements. Pennsylvania's 1792 law provided for the construction of a dwelling, residency within the dwelling for a minimum of five years, and cultivation of at least two of

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[1]"Public Lands," Title 64, Purdon's Pennsylvania Statutes and Consolidated Statutes Annotated (West Publishing Company), 1-115; Donna Bingham Munger, Pennsylvania Land Records (Wilmington, Delaware: Scholarly Resources, Inc., 1991).

[2]Munger, Pennsylvania Land Records.

every one hundred acres claimed. Applicants were limited to four hundred acres and given ten years to complete the process. Thus, a citizen could go on the land, begin the process of occupation, identify generally what the boundaries of his expected estate would be, and accumulate the capital necessary to complete the cash purchase. The patent, the last step in the process, was the deed transferring the property, which could not occur unless payment was made. Prices varied throughout the time, but 10£ per hundred acres was frequently used.[3]

The alternative to warranted lands were the activities of speculators. Allen Township was named after the chief speculator in Allen Township lands. William Allen was a Quaker entrepreneur who also served as the Chief Justice of the Pennsylvania Supreme Court during colonial times. A large portion of the lands purchased by settlers in Allen Township were acquired by William Allen and other Philadelphia speculators, like Casper Wister and James Taylor, directly from the Penns. Settlers who had accumulated capital in some manner made direct purchases from the land speculators. The speculators favored transferring larger tracts, and Allen Township's early landowners frequently received several hundred acres as their initial holding. Thus, Conrad Kreider, John Kleppinger and Hugh Wilson acquired large parcels in Allen Township before the Revolution. These men and their families then became significant personages in the early history of the county.[4]

Moore Township, on the other hand, was not deemed valuable enough for the speculators' interest. Thus, Moore Township warrants were more likely to be smaller tracts more relevant to the actual capacity of the settler and family to use the land.[5] The squatter was the archetype for the Moore Township lands. The titles were transferred after the

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[3]Ibid., 79, 141, 150.

[4]A. D. Chidsey, Jr., The Penn Patents in the Forks of the Delaware (Easton, Pennsylvania: The Northampton County Historical & Genealogical Society, 1937).

[5]Ibid.

Revolution by the Commonwealth and followed the warrant and survey pattern. Thus, Ludwig Kleppinger obtained an 80-acre parcel from the Commonwealth by a deed in 1815. At that point, the actual occupier and producer was his son, William Kleppinger.

Forced by the requirement of two acres of improvement for every hundred acres of ownership, the early settlers were largely parasites in the forest. Because of the low level of technology available, deforestation was an extremely slow process. Because of the lack of labor as well as technology, utilization of arable land was extremely limited. Even the first class farmer with the help of his family had difficulty maintaining twenty acres in actual husbandry in any given year. The period from the first census, 1790 through the first agricultural census of 1840, was a time of slow growth and gradual development. The early tax records for Allen Township identified 37,120 acres in the township (including East Allen Township), 19,800 of which were held by speculators and untaxed. Of the 17,307 taxable acres, 5,989 had been cleared. In 1851 it was estimated that only 1,000 acres of woods were left in the township.[6] The less valuable lands in Moore Township were considered to be 20,000 acres in a state of nature, with 842 cleared in 1766. The first period through 1820 presents us with a community with broad distribution of land.

In Allen Township in 1820, there were 321 taxables, 193 of whom were landowners. The land holdings varied from as much as 433 acres to as little as one acre, with the median being 71 acres. There were 121 farmers with holdings varying from 433 acres to two acres, and a median of 100 acres. There were 118 other taxed professions, of whom 44 were landowners. The artisan community included tailors, weavers, shoemakers, dyers and fullers who produced the community's clothing needs. There were several masons, coopers and carpenters to provide for construction, while smiths, millers and storekeepers met the manufacturing needs of the community. There were thirty identified industries, nine gristmills, nine distilleries, four sawmills, three oil mills, a paper mill, a clover mill, a fulling

[6]Henry, History of Northampton County, 107, 108, 175.

mill and a forge. This is evidence of a balanced economy. The successful producer owned land which provided both residents' needs and agricultural commodities. The husbandmen represented roughly one-third of the population. A relatively small portion were laborers, and the balance represented the artisan and professional community providers of goods and services. The artisan landowner also expected to provide his residence and at least a portion of his agricultural consumables from his own lands. Self-sufficiency is the operative term for this economy. Each profession sought to own a sufficient amount of land to support family, both residence and products in conjunction with the economic production from individual skills. The husbandman required more land because his source of surplus was limited to agricultural production. Since the market for products was limited by extremely bad transportation, the community became its own marketplace. The artisans exchanged their goods with other members of the community to rely on either agricultural surpluses or their own particular skills as ministers, doctors, lawyers and the like to produce exchangeable surpluses. This was a cash economy in the sense that dollars were the standard of exchange, but it was a credit economy in the sense that most transactions were done by book account.[7]

Moore Township in 1820 presented a similar but less developed mix, 269 taxables including 216 landowners. The largest land holding was 475 acres, with the median 55 acres. There were 78 farmers with lands ranging from 475 to 20 acres, and a median of 104 acres. Moore had a large artisan community, 66 cordwainers and shoemakers, 29 weavers, 50 of whom were landowners with lands varying from two hundred to one acre. Moore's industries were limited to seven sawmills and one gristmill. Moore's slower development, much more difficult terrain and restricted transportation was reflected in these conditions. Nonetheless, land holdings were broadly distributed. Like Allen, the overall balance was that of the yeoman property holder as the dominant element in society.

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[7]Tax assessment records of Allen and Moore Townships, see Appendix D; Hood, The Weaver's Craft; probate records of Northampton County.

One of the conditions that caused this slow but balanced development was that capital was in relatively short supply. The settlers had been gradually converting the forest to productive lands. Conversion had produced some economic benefits as seen from the seven sawmills operating in Moore Township. Lumbering was slow developing because of the very crude transportation and the lack of any urban market within a reasonable distance. Husbandry was likewise a slow growth activity. The crude plows and, in general, the lack of any technology beyond that available to the medieval peasant limited farm production to ten or twenty acres of cultivatable ground per year. Surpluses were necessarily limited and bad transportation and lack of urban markets restricted their value. Within the community, economic activity took place through individual exchange. The factories that were created were those requiring little capital and much labor. Water-powered mills were built of natural materials, stone and lumber, available onsite. The water power produced by small dams and races were largely the consequence of timber dams and excavation by horse drawn equipment. The local smiths and the local forge were sufficient for the low level of metal work required. The local tannery supplied both the shoemaking community and the belts and other accessories necessary for the mills to operate.[8]

This slow growth economy largely depended upon the social and economic intercourse within the community and prevailed through the first half of the nineteenth century. The ingredients for change started to appear with the construction of the Lehigh canal in the late 1820s. But real change remained dependent upon the advent of the railroad and the development of large urban markets.[9]

By 1840 progress had occurred in Allen Township beyond natural growth of population. The Lehigh Canal had been in service for ten years. The bridge across the

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[8]Pierce, Smith Milling Company; Rogin, The Introduction of Farm Machinery; Gates, The Farmer's Age.

[9]Robert W. Fogel and Stanley Engerman, The Reinterpretation of American Economic History (Ed. Stanley Engerman, Harper & Row, 1971).

Lehigh at Siegfried's was likewise in service for more than ten years. The township erected several bridges across the Hokendauqua; thus more effective transportation was available. The 1840 census provides us with considerable detail. Allen's population of 2,547 was equally engaged in agriculture and in trades and manufacturing. The census identified 232 persons employed in agriculture. The tax records indicate 156 farmers and 109 laborers within the Township. The census also identified 231 persons engaged in trades and manufacturing. The assessment record provides a breakdown including 16 blacksmiths, 11 masons, 19 carpenters and joiners in the construction crafts; and 20 weavers, 22 cordwainers and 10 tailors in the clothing trades. The census lists nine workers on the canal, 25 in the learned professions and 13 in commerce. By contrast, the tax records identify eight merchants, seven innkeepers, four physicians, four clergy and seven teachers.[10]

The advance of local industry is also clearly defined. Two tanneries produced 700 leather sides for soles and 1,100 leather sides for uppers, employing six men and utilizing $7,000 in capital during the year 1839. The three distilleries created 21,000 gallons of product employing six men and $5,000 in capital. Most notably, the six flour mills were credited with 30,000 barrels of flour. Also listed were six gristmills, two sawmills and an oil mill, with total employment of 26 men, and a capital of $60,000 and a product value of $175,000. Pennsylvania's status as part of the nation's bread basket, including Allen Township's contribution as an industrial provider, was clearly reflected in the figures.[11]

The agricultural community was credited with producing 39,680 bushels of wheat, 24,710 bushels of oats, and 73,160 bushels of rye. The wheat and rye contributed to the flour, the rye to the distilleries and the oats were required to maintain the 802 horses in the township. Corn was a lesser crop, with 23,450 bushels, along with over 4,000 tons of hay and 17,000 bushels of potatoes. There were 1,908 meat cattle, 1,503 sheep, 3,081 swine

[10]Tax assessment records of Allen and Moore Townships, see Appendix D.

[11]Census records of Northampton County, see Appendix D.

located in the township. Dairy, with a value of $3,600, orchards with a value of $700, poultry with a value of $970, and homemade goods with a value of $3,100, were clearly minor activities meant to supplement the major commodities being produced, both for local consumption and export to the Philadelphia market at the end of the canal system. The local textile industry also benefitted from 3,000 pounds of wool and 3½ tons of flax produced in the township.[12]

Economic activity was robust, production widespread. It was all land-based. The mills, distilleries and tanneries were all tied to local agricultural production. The surplus was produced on the land. The wheat and the rye were the basis for the trades, the distilleries and the flour mills. There were 102 farmers in the township owning their own land and the median remained a 100-acre farm. Landowners included 104 other individuals in the artisan and professional communities. In addition, the beginnings of urbanization at the village level were reflected in identification of 38 houses and lots being separately taxed. More than half of the structures remained log construction. There were relatively few brick buildings, but stone houses were not uncommon.[13]

Moore Township presented a continuing contrast brought about by its less substantial arable lands and greater isolation from good transportation. The population was 2,389 with 177 employed in agriculture and 268 in trades and manufacturing. The professional community was relatively tiny with ten people. Industry remained limited. Sawmills and gristmills were identified as five each with a capitalization of $16,000 and an employment of eight men. There were three tanneries and one distillery employing eight men and $6,000 capital. Even the animal population showed the lesser economic development of Moore, 508 horses, 1,332 cattle, 1,854 sheep and 2,807 swine were listed.[14]

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[12]Census records of Northampton County, see Appendix D.

[13]Tax assessment records of Allen and Moore Townships, see Appendix D.

[14]Census records of Northampton County, see Appendix D.

The tax records denote 137 farmers in Moore with the continuation of a larger number of clothing workers. 20 weavers, 14 tailors and 27 cordwainers. Substantial building trades are reflected in the 19 carpenters, 27 coopers, 20 masons and 11 blacksmiths. Moore had 332 landowners with a median acreage of 38. The 137 farmers had a median acreage of 80, 122 laborers included 51 landowners with a median acreage of 12. Moore more amply demonstrated the yeoman economy. Moore's farmers were unable to produce at the higher level found in Allen Township. Only 7,486 bushels of wheat, 33,250 bushels of rye and 18,100 of oats were grown. Corn amounted to 18,300 bushels and potatoes 11,420 bushels. All these numbers reflect lower productivity and the lower amount of arable lands available to the Moore farmers. They also explain why the capital available for other development was likewise lacking; there were not sufficient surpluses to build the capital. On the other hand, Moore had produced more buckwheat, 9,940 bushels, compared to 4,850: more wool, 3,708 pounds, compared to 3,000; and more poultry, $2,000 compared to $970. This reflects Moore's need to produce for the local economy rather than the higher value surpluses of Allen Township meant for export. Moore, however, did produce salable amounts of wood, lumber and tar, which, while limited, were not found at all in Allen Township. All the economic activity was closely tied to the land, and the far larger share of the value was in the worth of the real property

In 1840, Allen Township's assessed 15,000 acres was valued at $882,635. Since there were 204 property owners, this meant that land and improvements, an average of $57 an acre and an average of 76 improved acres per landowner. Moore Township contained 18,713 taxable acres for 332 property owners. A total assessment of the land was $285,433, for an average valuation of $15 an acre. Allowing for the idiosyncrasies of the township assessor, land values in Allen Township were almost four times those of Moore. The scope of the disparity is also reflected in the relationship of improved land value to taxable value of other property in the township. Allen had $139,463 of other property, a ratio of one to

six. Moore, on the other hand, had $103,829 in value of other property, a ratio of less than one to three. The other property valuations are quite close between both townships. Again, this emphasized the importance of land in the capital structure of the community. Other assets do not require large capitalizations. The major value was in the land and its production. The relative weakness of the Moore Township lands in terms of grain production were reflected in the relative weakness of the land valuations. In a later chapter, we will look at the individual entrepreneurs who exploited the economic opportunities available and consider how effective they were in achieving wealth and status.

CHAPTER 6
HUSBANDRY

As has been noted, the principal capital asset of the early occupants of Allen and Moore Townships was land. Title was taken in fee simple, and the early occupants typically acquired tracts in excess of one hundred acres as their initial land holding. The economic unit included not only the owner and family, but an animal population as well. Horses, the principal means of power, needed to be housed and fed. Other animals, primarily cattle, sheep and pigs, were resources. The typical occupant in the early period built his home from logs, his animal shelter from logs, and utilized more logs for the fencing that was necessary to enclose crop land. Gradual transformation of land from forest to pastoral featured both recycling trees for structures and economic uses.

Crops were grown with two purposes in mind as well. Each land owner expected to provide as large a portion as possible of his own needs from the soil. Typically, three to five acres were required to maintain the family. Large gardens and orchards were standard. Grain crops would be cultivated to support family and animals. Horses and cattle required pastures in season and fodder in the winter; they also required grain supplements. The good farmer allocated land for this purpose. Farmers utilized their land to produce cash as well, typically growing wheat that could be converted into flour and exported from the area. Those who derived their livings from different occupations were still likely as land owners to utilize a portion of the land as any farmer would for their own sustenance.[1]

The actual productivity of agriculture was severely limited in the early period by both limited technology and markets. If everybody fit the Jeffersonian ideal of the yeoman, owning his own land and practicing his occupation in conjunction with producing his own shelter and sustenance, then market exchange would be limited, as everyone had essentially the same goods. The husbandman first needed to remove the trees and make the soil

[1]Clarence Danhof, Farm Enterprise," Research in Economic History. Vol. 4. (1979), 127-192; McClelland, Sowing Modernity.

available for plowing. Once under plow, maintenance of the soil became the primary problem of husbandry. Grain removes nitrogen and within a few years, exhausts the soil's ability to produce worthwhile crops. For the earliest farmers, this was a substantial problem because they were only technologically capable of farming up to twenty acres of land in a given year, not all as grain. The early husbandman continued deforestation and rotation of fields to maintain soil productivity. The animal population and its manures were known to be the best resource for restoring soils. Tracts set aside as gardens would typically benefit. Because the animal population was relatively small in the early period and oftentimes not housed except in the winter season, the availability of manures was limited. Rotation was the primary tool for farm maintenance and soil restoration. While crops were rotated, the primary tool to restore nitrogen were years of fallow, when the land was used for grass, both as pasture and fodder.[2]

Technology controlled the husbandman in the final analysis. A wooden plow was the standard tool. This required at least one or two horses, the farmer and usually a child helper to operate. Large wooden plows were used to break the soil initially. Smaller plows were used for cultivating and cross-plowing, depending on the crop. An acre a day was a successful effort and half to three-quarters of an acre was a more likely level of productivity. Two plowings were typically required to plant a crop of grain, while corn, planted in individual hills, remained a crop that utilized much handwork with a hoe. Grains were sown by broadcast, which could involve a farmer and his children, spreading the seed by hand through the cross-plowed field. A harrow of the wood-tooth variety might be utilized to cover the seed after sowing. In every instance, an acre a day was a high level of production. Cultivation of crops was largely handwork, since broadcast sowing precluded the use of

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[2]Danhof, "The Farm Enterprise"; Rogin, The Introduction of Farm Machinery, pp. 5, 16, 21, 127, 129 and 130; McClelland, Sowing Modernity; Stevenson, 1640-1840; Stevenson, 1840-1940.

cultivators and the typical corn crop was hoed three or four times to remove weeds. Harvesting put a tremendous burden on the husbandman because of time constraints.[3]

The typical grain crop, but particularly wheat, offered a ten-day window from ripening to loss of grain due to seed dispersion. In that time, grain had to be harvested, shocked and stored. In the early period the typical tool for harvesting was a sickle. This type of stoop labor did not require the extra strength and skill of husbandry characteristic of plowing or harrowing and weeding. It did, however, require a degree of speed to stay ahead of the ripening grain. A man could do perhaps a half an acre in a day, but that was only part of the task. Following the harvester were more workers who would rake the grain and then bind it into sheaves for transport. The final stage was gathering the sheaves and delivering them to storage, typically the upper floor of the barn. Once stored, the grain would be allowed to dry and would be further processed during the slow period of winter. There was a great deal of labor involved in the harvest, and it was typical for the husbandman to hire his neighbors, those who worked at other occupations, during the harvest weeks to provide that necessary labor supplement.[4]

Again during the early period, the last stage, threshing, involved the use of a flail and a hand-cranked fan to break the grain loose from the straw and then winnow the grain to remove the chaff. While the actual process of separating the grain was very slow work, utilizing multiple people to collect the grain as the flail broke it loose and then to use the typical fan or the more crude sheet system to winnow, there was no time pressure, and work could take as long as needed to produce a final grain that was deliverable to the local mill or

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[3]Rogin, The Introduction of Farm Machinery; Stevenson, 1640-1840; Stevenson, 1840-1940.

[4]Rogin, The Introduction of Farm Machinery, pp. 5, 16, 21, 127, 129 and 130; Stevenson, 1640-1840; Stevenson, 1840-1940.

exportable in a bag. It is estimated that a typical ten-acre wheat field involved 58 days of labor to plant, harvest and thresh.[5]

Because the technology limited the productivity of labor, a farmer with a hundred acres could only effectively utilize fifteen or twenty, depending on the size of his family and the availability of seasonal labor to supplement the husbandman. In the early period, it became clear that the land was a resource to be utilized on a reserve basis. Some land was always in production, but the vast bulk was either forest to be removed or previously used crop lands lying fallow and awaiting the return of sufficient nutrition to become productive again.

The middle stage of development was driven primarily by the two-way street of improved transportation and industrialization of certain product lines. In the early period, farmers could export both grain and flour in barrels to Philadelphia in arks floated on spring freshets. Both wagon and pack horse were available for year-round land transport, but both were too expensive to allow for much of a market, either in the commodities exportable from Allen and Moore or the commodities desirable for consumption and importable to Moore and Allen. The period of the 1820s changed this dynamic by the construction of the canal system along the Lehigh and the Delaware Rivers connecting the coal fields of the upper Lehigh Valley to the burgeoning city of Philadelphia. The secondary beneficiaries of this gigantic capital expenditure were the husbandmen of Allen and Moore Townships. With the exception of the winter ice, they had year-round transport of bulk goods to Philadelphia at a very reasonable cost. Once constructed, a canal provided daylight transport at about three miles an hour. The typical canal boat of the Lehigh could carry sixty tons of cargo. This meant that the costs similar to the experience of the Erie Canal in New York being one-tenth or less the prior cost of transport. Equally important was the two-way aspect of canal travel.

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[5]Rogin, The Introduction of Farm Machinery, 5, 16, 21, 127, 129, 130; Stevenson, 1640-1840; Stevenson, 1840-1940.

While the total volume of imports coming from the urban economy of Philadelphia was small compared to the commodities shipped out, coal, lumber, grain and flour, nonetheless the cost remained minimal, since carrying anything on the return trip was a benefit to the canal boat operator. Until 1855, the canal system dominated the economy and provided for many consumer products which had been previously very expensive to become available to the township citizenry. The weavers, shoemakers and tailors who had maintained successful occupations were now forced to compete with the industrially produced goods brought from the urban markets of Philadelphia.

The husbandman benefitted because industrial technology created tools that enhanced agricultural productivity. The use of metals was a key factor. The crude wooden plow of the early period was replaced first with iron plates, then cast iron shears, then finally steel plows. This changed the dynamic of farming by enabling a two- or four-horse team with a plowman handling an acre or an acre and a half per day. While the speed was improved, quality was also enhanced. The wooden plow typically dug a furrow three inches deep. Metals plows greatly improved the depth of the furrow and the quality of the soil available for cultivation. While the systems for seeding remained unchanged, harvesting was enhanced by the use of the scythe and cradle. This doubled or tripled the productivity of a sickle, but it also required a higher level of strength and skill, thus adding to the burdens of providing sufficient labor in the short grain harvest season. As many as three people would be required to rake, bind and haul the acre and a half that the scythe and cradle could harvest in a given day, but productivity still increased a hundred percent. By the end of the middle period, there were also the beginnings of real productivity enhancements in the form of reapers, mowing machines and threshing machines, which were ten times as productive per day of labor as the previous systems.[6]

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[6]Stevenson, 1640 to 1840; Rogin, The Introduction of Farm Machinery; Danhof, Change in Agriculture.

The end of the middle period also saw the introduction of railroad transportation to the Lehigh Valley. Beginning in 1855, the Lehigh Valley Railroad provided transport from the coal regions to the Delaware and beyond. As the rail grid expanded in the final period of the study, dramatic changes would result in the economics of the husbandman. One of the consequences for the agrarian community was the disappearance of many occupations. The weaver, the shoemaker and even the tailor largely disappeared. They were replaced by the retail store owner who purchased the finished consumer goods of industrial America, transported them and made them available to the agrarian consumer. While stores existed in the earlier periods, they functioned as brokers more than retailers. They were the middle men exchanging goods and services, providing temporary storage and capital to sustain the various producers. There were very few stores in Allen or Moore Townships because the community was small enough that its members could interact directly. The husbandman would go to the shoemaker without the need of an intermediary. In the later period, we see the rise of the storekeeper as a significant capitalist in the community on a par with the millers of the earlier era.

For the husbandman, the period after the Civil War saw the introduction of technologies that allowed for the true commercialization of the farm. A single-family farm could then utilize productively sixty, eighty or even one hundred acres with some help, typically a laborer and his family. New equipment had made this possible. Not only were plows now all metal, but really effective seeding machines were now available at a reasonable cost to the eastern farmer. This allowed for high speed planting. It also enabled the farmer to use cultivators instead of the hoe to eliminate weeds while the crop was growing. The harvest, the most critical time for the grain farmer, was now entirely controlled by the technology initially of the reaper; and by the end of the period, the combine, a reaping and threshing machine. Throughout the period, individual threshing machines were available to substitute for the previously labor intensive process. Since threshing machines were

extraordinarily productive, twenty times that of the hand threshing, they became specialized equipment most often purchased by a group of farmers and shared, or purchased by an operator who traveled during the harvest season. The end result was that the family farm could farm all its acreage successfully with the labor of its occupants. This enhanced productivity was only useful because farm commodities could be transported in a cost efficient way to the urban areas that needed vast quantities of food products. A corollary for the husbandman was that animal farming for commercial purposes also now became a viable business. The farmer was no longer tied to wheat/flour as the only marketable commodity product. The grains could be utilized to produce beef or pork on a scale sufficient to support the family unit and allow commercial sale. By the end of the period, the railroad links were sufficient to allow even the interior farmers of Moore Township the ability to ship directly products such as eggs and milk to urban markets, further broadening the scope of commercial farming.[7]

The objective of the agricultural capitalist was first acquisition of land and then the improvement of it. Improvement meant converting a forest to a pastoral environment, and then civilizing the environment by the addition of buildings, fences, roads, mills, dams and races. Given the lack of capital, crude technology, the relative shortage of manpower, compared to the quantity of land, this was a slow process. From the beginning of our study period through 1820, the occupants of Allen and Moore Townships made slow steady progress.

Allen Township lay primarily within the broad limestone valley of the Lehigh. It was early sought after as land suitable for development, and by the beginning of the study period had been entirely subdivided and sold to occupiers. As implied by the name, Allen

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[7]Rogin, The Introduction of Farm Machinery, 5, 16, 21, 127, 129, 130; Stevenson, 1640-1840; Stevenson, 1840-1940.

Township had initially been sold in part to speculators like William Allen and Casper Wister, but their purpose was to convert as rapidly as possible sales to occupying settlers.

Moore Township developed much more slowly, partly because it was geographically removed and consisted of much hillier and shalier lands north of the limestone valley, and partly because it was farther removed from the normal lines of transportation.

The Kleppinger family illustrated how capital was accumulated, lands purchased and properties developed. The progenitor of the family, Johann George Kleppinger, arrived in Pennsylvania in 1737. Over the ensuing twenty-five years he moved gradually northward from Philadelphia to Northampton County, and ultimately arrived on the banks of the Lehigh in Allen Township a purchaser in 1762 of a 330-acre tract. His family amounted to ten children, including six sons. His eldest son, Ludwig (Lewis) managed to acquire patents on two tracts of over two hundred acres immediately to the north of Allen Township. Ludwig's purchases were done utilizing the warrant system where payment took place over a period of time and delivery of the deeds could be twenty or thirty years after original occupation. Ludwig was aggressive, moving on his Allen Township lands by warrant. He also acquired an 80-acre tract in Moore Township.[8]

The 330-acre tract purchased from William Allen and Joseph Turner in November of 1762 was paid for with the sum of 400£. In 1770, Johann split the tract evenly between two of his younger sons, receiving 400£ for each farm conveyed. Johann George Kleppinger lived from 1707 to 1786 and left two sons in Northampton County who continued to develop the founder's capital. Son Henry remained in Allen Township and continued to operate the 165-acre farm he acquired from his father until his death in 1795. Henry died relatively young without children. In anticipation of his death and for the welfare of his widow, he made arrangements to transfer his farm to his nephew, John George Kleppinger. Henry was a successful operator of the farm he acquired from his father and was able to fund two

[8]Kleppinger, Family History.

charitable endowments for the support of school children in Allen Township, one for the school at Stone Church, and the other for the school on the Siegfried land next to his farm.

His brother Ludwig established an expansion of the family enterprise by placing his son William on the 80-acre farm he acquired from the Commonwealth in Moore Township. The property acquired had been configured purposely to allow the development of a water-powered enterprise. William, as an adult, had the occupation of miller and operated both a sawmill and a gristmill on the eighty acres he acquired from his father Ludwig. By 1820 William was well established and carrying on the family enterprises as the third generation from the original immigrant. Similarly, in Allen Township, John George was carrying on the family farm as the third generation descendant from the original immigrant. In both instances, they were still in the process of timbering the land, moving from log cabin to more substantial stone dwellings and barns; and in the case of William, the construction of a stone mill.[9]

In the early period, the techniques of farming probably allowed an individual, like Kleppinger, to avoid confronting the agricultural problems characteristic of England and the continent in this period of 1780 to 1820. Often characterized as the agricultural revolution meant to be compared or equated with the industrial revolution, the problems confronting western agriculture were the same in Europe, England and Pennsylvania. The population to be supported by this husbandry had vastly increased, and with industrialization was increasing even more rapidly. The first answer, the so-called agricultural revolution, was a conjunction of three broad applications of available economic factors. The addition of more labor, more land and the utilization of knowledge produced substantially larger agricultural production.[10] In Pennsylvania in the early period a different mix was utilized, relying almost exclusively on more land. The European revolution converted lands that had been

[9]Appendix B

[10]VanBath, "Eighteenth Century Agriculture on Europe."

considered marginal for agrarian operations by the addition of drain tile, by conversion of pasture to tillage, by the enclosure of commons to effectively increase the amount of acreage actually used as arable crop land. In Europe and England, in particular, the labor inputs required to farm the new crop lands were obtained by utilizing the surplus population. Lastly, knowledge, which generally originated in the northwestern European coast lands but was enhanced in England, of the value of crop rotation and use of manures and additives to the soil to enhance crop growth, enabled the European farmer to utilize on a more continuous basis the lands available for production. In Pennsylvania, the sheer volume of land eliminated the necessity for the higher level of labor inputs and the more careful knowledge based crop rotation and soil improvements techniques. The early farmer could farm a fifteen or twenty-acre area intensively for four or five years, exhausting the soil for grain producing purposes. But overall, productivity was unaffected because in that time he could deforest an additional fifteen or twenty acres from the large farm parcel and farm it intensively. Given that the crop rotations usually followed the ten-year pattern, the Pennsylvania farmer was able to simply move to new fields and, by the time the farm was becoming wholly deforested, old fields would have been fallow sufficiently long to allow renewed crop productivity. Similarly, it took generations to build up a sufficient animal population to provide the manures to be available for renewing the soil. This progress was more marked in Allen Township, which had been more heavily occupied initially and was more amenable to farming because of the limestone soils and generally rolling topography. Moore was populated more gradually and deforested more gradually.[11]

Rather than focusing only on the husbandmen when analyzing rural economy, it is important to recognize that the lack of economic transportation systems meant that the service and consumer goods side of the economy had to be produced in the immediate area. In 1820 in Allen Township with an overall population of 1,847 people, there were 125

[11] 1860 census records of Northampton County, see Appendix D.

individuals identified as farmers, 31 identified as laborers, and 78 identified in other trades. The breakdown of the trades reflects the elements necessary to operate the crude economy of the first three generations of Pennsylvania agrarians. There were six tailors and seven weavers, two dyers and fullers. These people included among them several land owners, probably farmed to a greater or lesser degree in conjunction with their identified professions. John McAughtry, an 1803 immigrant to Allen Township, was both a weaver and a shoemaker. Over the course of his working life, he acquired in three separate transactions a total of 29 acres of land, which he presumably used for agricultural purposes. Nevertheless, his principal income was derived from his artisan skills.[12]

There were thirteen shoemakers in Allen Township, as well as eight blacksmiths. The contracting business featured three masons and two carpenters, and there were two coopers. Six individuals were identified as storekeepers, two as innkeepers, one doctor and two ministers. In the industrial side of the economy, there were nine gristmills, nine distilleries, and four sawmills. In addition to these common types of water-powered operations, there was also a fulling mill, three oil mills and one paper mill. The paper mill employed four workers. The other industries were effectively operated as a part of an agricultural enterprise. So a landowner identified professionally as a farmer might own a mill. The people identified as millers might be operators only or operator-landowners. The same combination of economic enterprise was applicable to the stores and taverns as well.[13]

Moore Township, being the more isolated and more rural, presented a somewhat different mix. The population was 1,645, even though Moore was physically the larger township. There were 78 identified farmers, but the ancillary or artisan professions were much more prevalent. In Moore there were 66 taxables identified as cordwainers or

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[12]Tax assessment records of Allen and Moore Townships, see Appendix D; probate records of Northampton County.

[13]Tax assessment records of Allen and Moore Townships, see Appendix D.

shoemakers. Forty-two of them were landowners. There were also two hatters, four tailors and twenty-nine weavers, most of whom were also landowners. In the construction trade, there were fourteen carpenters and joiners, as well as four coopers. There were six blacksmiths. Moore in 1820 still had substantial forests and there were seven operating sawmills, but only one gristmill. Moore also was home to a large sheep population reflective of that transient phenomena in American agricultural of sheep raising. With the exception of the Napoleonic era, eastern sheep farming was rarely profitable. Because the population was still relatively small, one individual could amass exceptional wealth. George Palmer, the state surveyor for Northampton County since 1772, was a substantial property owner in Moore Township, including over four hundred sheep in 1820.[14]

A population which grew from 269 taxables in Allen Township in 1795 and 151 in Moore to 321 taxables in Allen and 269 taxables in Moore in 1820 reflects slow steady growth, but little that can be identified as dynamic. In 1820, the median farm in Allen Township was 71 acres and in Moore 55 acres. The entire period is one of family units, both farmers and artisans, occupying forested lands, gradually converting them to arable or pastoral condition, while at the same time providing the capital structures for both homes, barns, shops, mills and stores that fueled the local economy. Self-sufficiency would be a descriptive term for the individual family unit. While the farmer devoted his efforts to producing agricultural surpluses, the artisans put their efforts into weaving, tailoring, shoemaking or the like to generate surpluses. The more successful, the more aggressive, the more ambitious used their surpluses to acquire lands to gradually move from log cabin to stone colonial residences, to build stone mills or log taverns and stores. The capitalism of the time would best be described as sweat equity based. The initial effort involved owning land, whether by working as a tenant like the first Johann George Kleppinger, until sufficient sums were accumulated to allow the purchase of lands, or working as a homesteader like

[14]Tax assessment records of Allen and Moore Townships, see Appendix D.

Ludwig Kleppinger, acquiring lands through the patent process, which required occupation, clearing of forests and production of crops and erection of dwellings as proof of the homesteading process. The key element was the labor provided by the family unit. A man and wife with children as they matured were capable of farming or operating a weaving business with land sufficient to provide a garden, a cow, a pig, a few chickens, a few fruit trees necessary for the self-sufficient, and then surpluses, agricultural or artisan, to interchange and exchange with the other members of the community for the products not available at home. In this most rural of areas the farmers never equaled a majority of the occupants; and while, with the passage of time, the growing number of laborers undoubtedly reflected the needs of farming, rural populations always contained a large element of people whose primary occupation and economic function was something other than husbandry. At the same time, in the crude economy of this age, everyone was self-dependent to produce food, clothing and shelter sufficient for the family's continued existence. Surpluses allowed for the expansion of the family enterprise, but did not change in any meaningful way the fundamentals of their existence.[15]

The period from 1820 to 1860 should be viewed as the transitional age in agrarian capitalism. The founding generations built upon self-sufficiency, land and an integrated marketplace. Transition means moving from self-sufficient to ultimately a commercial agricultural economy. This involves specialization by the husbandman, substantial increase in capital committed to the farming process, and the transition away from the integrated internal marketplace to participation, both as exporter and importer in a regional and even national marketplace. Four factors were critical to creating this transition:

First and foremost, the development of transportation links to the Allen and Moore communities;

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[15] Ibid.

Second, the development of machines and equipment which greatly enhanced the husbandman's productivity;

Third, the availability at affordable prices of a multiplicity of goods created by the industrial revolution; and

Fourth, the rise of urban centers requiring large quantities of agricultural products.

The transition was emblematic of the changes in the larger American economy in the same period. The nation added the industrial base with urban cores of large dimension, transportation networks sufficient to connect the disparate parts, and a population growth sufficient to make the process dynamic. The agrarian capitalist was a participant, a contributor, as well as a beneficiary of all the interactions that free market capitalism generated in this transitional period.

Transportation was the first step; and in Allen Township the most notable element was the creation of the Lehigh Coal and Navigation Company canal, completed by 1829, on the east bank of the Lehigh River from White Haven to Easton. This permitted the Allen Township communities lying along the east bank of the Lehigh River to both send and receive goods and products into the regional economy. This meant that Allen Township had direct access to both of the United States' primary east coast ports, allowing both import and export of goods and products without the burden of excessive transportation costs.

The impact on the larger community of Allen and Moore was less dramatic. The problem of land transportation remained. The road laws of Pennsylvania placed the burden of road improvement on individual municipal governments. Since the townships were both limited in their permitted tax structure and, by popular demand, reticent to tax, very little was done to provide for roads. Indeed, one of the most prominent transportation improvements accessory to the canal was the Siegfried Bridge Company's privately owned and constructed toll bridge. This wooden covered bridge was built across the Lehigh from west bank to east bank in 1828. The obvious purpose was to allow the west bank to access the canal then

under construction and receive some of the benefits of regional transportation. However, road access remained crude. As early as the 1830s, Allen Township also undertook bridge construction as a civic improvement. Three wooden covered bridges were erected on the roads leading to Kreidersville. Each of these was of Burr bridge design and enabled vehicular traffic to move across the road system without the problem of fording the creek. Moore Township, both physically removed and slower developing, began its bridge building projects in the 1830s, which consisted chiefly of the stone arch variety.[16]

The equipment revolution is a result of the intersecting dynamic of the farmers' desire for increased productivity and the industrial sector's technological advances. Self-sufficient husbandmen with a wood mold board plow, a sickle, a flail, hoes and rakes could be amply supplied by the local blacksmiths and carpenters. Cast iron and, later, steel plows required industrial shops. Reapers and mowers invented by Cyrus McCormick and Obed Huffey in the 1830s and 1840s required large scale manufacturing facilities. These goods were also tied to the last elements in the transportation cycle, the railroad. The railroad came to Allen and Moore rather slowly. The first tracks were not laid until 1867. This was the consequence of the canal company's ownership and domination of the east bank of the Lehigh. A not surprising corporate decision to avoid direct competition with its own extremely expensive installed canal caused the east bank to remain unserviced. In contrast, the Lehigh Valley Railroad begun by Asa Packer, a entrepreneur in the Upper Lehigh Valley, was built on the west bank of the river. By 1855 it offered a through service identical to the canal from Mauch Chunk in the north to Easton. The growth of the railroads throughout the United States is well known, but its meaning to the eastern agrarian capitalist was reflected in the availability at reasonable cost of equipment like steel plows, reapers and mowers, which were generally manufactured in the Midwest. As the new tools of industrial manufacture became available, huge jumps in farm productivity became possible. The

[16]Plummer, The Road Policy of Pennsylvania.

husbandman, previously limited to an acre a day for most his activities, could now do five or ten times as much with proper equipment. The surge in productivity created the surpluses that funded the purchase of these capital items. It also made possible the extensive use of the now arable lands that the first period occupants had cleared of their forest cover. The husbandman could now effectively utilize the sixty to eighty-acre farms that were prevalent throughout Allen and Moore.[17]

The increasingly productive agrarian capitalist could generate substantial surpluses on the farm. While continuing to maintain a degree of self-sufficiency, these surpluses enabled him to purchase not only capital goods, but consumer goods as well. The husbandman could ship his grains directly from Allen Township by canal or using the Siegfried Bridge by railroad to the ports and rapidly growing urban centers of New York and Philadelphia. The vast developing urban populations required the import of almost all their food, thus a ready market for the new surpluses. At the same time, the highly concentrated population in the urban areas provided the labor force to man the new factories to produce steel plows, threshing machines and reapers that were shipped back to Allen and Moore.

In the sense of Schumpeter's creative destruction, there was a clear loss in the makeup of the early rural community. The artisan, the specialist who provided the consumer element in the economy, began to disappear. The many tailors, weavers and shoemakers of 1820 were steadily declining in number. At the same time, the overall population was increasing. The growth was on the agricultural side with more farmers on smaller farms and more laborers supporting the farming effort. The small industries that existed in the 1820s, oil mills, clover mills, fulling mills, paper mills and the like, gradually disappeared. Similarly, the number of gristmills, sawmills and distilleries declined. The regional economy, with its enhanced transportation systems, made available the goods of better

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[17]Rogin, The Introduction of Farm Machinery, 219, 234; McClelland, Sowing Modernity, pp. 147, 148.

quality and lower price characteristic of industrialization. The artisan and small manufacturer could not compete and disappeared. At the same time, the farmer's ability to be productive encouraged more intensive land use, the application of more labor to that land, as well as the capital equipment to generate productive husbandry and substantial surpluses.

The final stage in the progress of agrarian capitalism may be described as the commercial. This period extended from 1860 to 1900. By the end of the period, the farmer was a specialist in the Adam Smith expectation that skills and productivity would require. The transportation system continued to be a critical element. The railroad extended along the entire east side of the Lehigh River, and included a branch line that extended into Moore Township, and had under construction an additional railroad line that would bisect Moore as well as Allen and connect the third leg of the triangle. While the road system remained dirt tracks, bridges had been constructed over stream crossings, and the township governments were responsible for the basics of road maintenance.

The development of equipment bringing technology to the farm was now complete. While remaining an animal powered or water powered economy, the actual tools encompassing steel plows, mowers threshing machines, some of which involved steam power, seed planters, cultivators and small tools allowed the farmer and his laborers to be up to ten times as productive as the farmer of the self-sufficient era eighty years before.

The effect of urbanization and the growth of markets meant Moore, the continuing rural township, had reached a population equilibrium. In 1900, there were 260 identified farmers, 259 identified laborers, together representing eighty percent of the economically employed members of the community. The 160 remaining included merchants, innkeepers, teachers, blacksmiths and carpenters. There was also a slate industry and a segment of taxed but non-working individuals. The balance of the earlier self-sufficient era, when more than half of the taxable occupations were artisans, had completely changed. The service industries provided relatively few finished goods which were obtained from merchants acting

as retailers. In Allen Township, urbanization had become a part of the fabric of the economy. The population had grown enormously from the self-sufficient period of less than a thousand to the urbanized 6,500. There were 2,186 taxed individuals, a mere 87 being farmers; and assuming the same one-to-one ratio as in Moore, an additional eighty or ninety farm laborers. The total laboring population was 1,774, representative of the industrial growth caused by the cement industry. Accompanying this tremendous explosion in the industrial workforce was the substantial service population. This included over eighty people employed in the building trades, and over twenty people providing finished consumer goods.[18]

The agrarian capitalist remained static in the sense that the land and its production remained the source of his economic well being. The revolution that had come was actually the normal evolution that Adam Smith predicted. The application of capital, based on the surpluses derived from agriculture, enabled the husbandman to buy advanced equipment that greatly enhanced his productivity. The ability to produce much with less labor and more capital goods allowed the husbandman to use his land intensively, getting the full benefit of all acres, rather than the loss of land to fallow over extended crop rotation periods. The addition of capital goods allowed the eastern Pennsylvania husbandman to utilize labor as an effective increment for productivity, while at the same time, technological efficiency allowed the surplus laborer to become part of the urban industrial cores characterized by Allen Township's development. The urban core was the market that used the huge surpluses of food production the husbandman created, while returning the high production equipment to the husbandman.

In summary, Smith predicted that a successful free market in land and labor would allow agriculture to develop surpluses. The utilization of those surpluses to create capital caused more production and more surplus. What Smith did not particularly predict was the impact of technology, also referred to as industrialization, on the equation. The ability to

[18]Tax assessment records of Allen and Moore Townships, see Appendix D.

produce tools and the ability to transport both urban industrial product and the rural agricultural product at a manageable cost enormously expanded the rate of capital growth throughout the economy. Returning to Smith, this resulted in specialization and knowledge driving the laboring and entrepreneurial portions of the economy, while capital accumulation and technology provided the other power drivers. Underlying it all was the basic building block of land as a free market commodity.

CHAPTER 7
CREDIT SYSTEM

Adam Smith devoted relatively little consideration in The Wealth of Nations to individual credit. One description that he provided is as follows:

> But if money is wanted, barter will supply its place, though with a good deal of inconvenience. Buying and selling upon credit, and the different dealers compensating their credits with one another, once a month or once a year will supply it with less inconveniencing. A well regulated paper money will supply it not only without any inconveniencing but in some cases with some advantages.[1]

Smith is describing the book account or open account system that prevailed throughout the nineteenth century. Individuals, particularly the artisans and operators of accessory enterprises, supported their agrarian communities by providing credit. As suggested in Smith's description, barter was the earliest form of transaction, but evolved into credit systems, because this expedited market transactions. Open accounts were expected to resolve within a month or within a year, but resolved in some natural cycle not dissimilar to the idea of barter, where a pig is exchanged for a cow and both parties have immediately that which they seek. The medium of exchange, paper credit or paper money, created the same immediacy. Long-term credit served a different purpose. Again referring to Smith:

> The money which is borrowed, and which it is meant should not be repaid until after the period of several years...ought to be borrowed upon bond or mortgage of such private people as propose to live upon the interest of their money without taking the trouble themselves to employ the capital, and who upon that account are willing to lend that capital to such people of good credit....[2]

Smith was surmising that, like the rentier class of European landowners, capitalists would develop a class of capital holders willing to live on their interest. This is in contrast to the capitalist husbandman who employed his capital to produce agricultural products. The key for the capitalist lender, as well the rentier landlord, is the quality of the borrower or the

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[1]Smith, Wealth of Nations, 405.

[2]Ibid., 292.

tenant. A bad borrower does not repay; a bad tenant does not pay and can be destructive of the underlying asset. The key element of all such cases was also described by Smith: "The credit which he [a person] may get from other people depends not upon the nature of his trade, but upon their opinion of his fortune, probity and prudence."[3]

John R. Commons in The Legal Foundations of Capitalism discussed the price bargain. Tracking Smith's analysis but extending it, he described honor economics as neither a barter economy nor a truck economy, as the physiocrats and classical economists would have had it. Rather, Commons saw a price economy, distinguishing business as not the exchange of commodities, but the purchase and sale of commodities. Thus, he saw an economy of buyers and sellers, borrowers and lenders, but not one of truck and barter. The essential credit was the transfer of titles. In the full of sense of the word, it is a credit economy, for it is the transfer of goods and services for a mere promise to pay a price. His reality is none other than the confidence and the expected behavior of citizens, judges and legislatures.[4]

This element of capitalism, internal credit of the economic community, is amply demonstrated in Allen and Moore Townships by analyzing the mortgage history. In the nineteenth century, the vast majority of mortgages were provided by individual citizens. Institutional credit was a very rare event, and the majority of its use was in the urbanizing area of Allen Township at the very end of the nineteenth century. The agrarian community relied almost exclusively on internal credit. The successful entrepreneur would accumulate sufficient capital to be able, as Smith suggested, to live on the interest. While it is clear that agrarian capitalists put their capital to work as a supplement to their income, the possibility of a total transition does exist in the person of Josiah Kline. Kline was a substantial

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[3]Ibid., 105.

[4]John R. Commons, Legal Foundations of Capitalism (Madison, Wisconsin: University of Wisconsin Press, 1959), 245-246.

landowner in that part of Allen Township which was identified as suitable to the cement industrywhere he held almost $100,000 in mortgages against one of the early cement industry pioneers. Since this represented the total value of his farms and the total disposition of his agrarian holdings, it meant that he could subsist solely on the interest of his capital. While any other agrarian capitalist approached retirement by transferring the family farm or business in exchange for a mortgage intended to provide support in old age, Kline is the best example of a huge leap in value creating exceptional wealth and capital surplus, the consequence not of gradual accumulation and improvement but solely to a sudden upward change in market price.[5]

From the post-Colonial period to 1900, approximately 2,200 mortgages were recorded in Allen and Moore Townships. Of those, approximately 320 were granted by corporations, including approximately 230 granted by banks and insurance companies. The balance, more than 1,900 mortgages, were granted by individuals. The vast majority of the financing was based on capital created by members of the community and loaned to other members of the community. The average mortgage was over $1,800, and the accumulated value of the mortgages was $4 million, with approximately 1,300 issued in Allen and 900 in Moore.[6]

Finance capitalism was largely self-sustaining within the agrarian community. This is particularly true when the analysis is extended to the different periods of growth. The pre-1800 mortgages were 159 in number and averaged slightly less than $1,800 per mortgage. In the twenty years between 1800 and 1819, 124 mortgages were issued averaging $1,800. A slightly higher level of population and economic growth in the next two twenty-year periods produced approximately 160 mortgages in each twenty-year segment with an average of more than $1,800 per mortgage. The entire first three generations present a consistent

[5]Mortgage records of Allen and Moore Townships.

[6]Mortgage records of Allen and Moore Townships.

picture of the agrarian economy of eastern Pennsylvania. Small farms were the dominant capital asset. Farms were financed by capital generated within the community. This came in the form of sellers granting purchase money mortgages for the price of the farm or successful husbandmen drawing on accumulated financial capital to advance cash to putative borrowers. Use of the mortgage confirms the capitalist expectation that the real property that secured the loan was the capitalist's ultimate protection. The examples of failure earlier referred to show the effectiveness of this expectation. Those unable to pay their mortgages were subject to Sheriff's sale. The Sheriff's sale produced a portion, if not all, of the loaned capital. Both the underlying productive asset, the real estate, and the financial asset, the loan, were allowed to continue within the local economy. Beginning in 1860, the volume of lending increased sharply. Over the next twenty years, over 500 mortgages were granted, though the amount remained notably constant, with the average mortgage over $1,850. In the final two decades of the century, 1,000 mortgages were granted, and the average value rose to almost $1,900, but a significant change occurred in the mix of loans.[7]

In the early periods, institutional lenders, corporations, banks and insurance companies, were very limited. The range of lenders varied from the Society of the United Congregational Brethren (Moravian Church) to the Easton National Bank. An analysis of the individual mortgages identifies three dozen of the approximately 600 mortgages granted prior to 1860 as institutional lenders. Their loans were frequently to mill operators or the larger farmers. As earlier referred to, George Weber was able to borrow from both the Easton National Bank and the Moravian Church in the person of Phillip Goepp. Prior to 1840, the church used Goepp as its agent, and transactions were conducted in his name utilizing church funds. George Weber was able to borrow substantial amounts of money from both the Easton bank and the church to support his multiple enterprises. Joseph Howell, who operated the original Wilson mill, was also a borrower at the Easton National

[7]Mortgage records of Allen and Moore Townships.

Bank. Conrad Kreider, Jr., borrowed very large sums for the period, $12,000, from Easton National Bank in 1821. Unfortunately, by 1830, when he was unable to repay, his property became the subject of a Sheriff's sale. When George Weber sold a substantial portion of his farm assets, the purchaser, Jacob Boyer, was able to obtain a $10,000 mortgage from the Easton National Bank, which funded the entire purchase price of the Weber asset. Since Weber owed the Easton bank approximately the same amount of money, it is possible that this really represented a simple extension of the existing financing. The institutional loans were very closely related to the underlying land values as reflected by the Weber/Boyer transaction. The early nineteenth century expectation that a mortgage was a continuing loan and that, as Adam Smith suggested, the object was to obtain interest to support the capitalist rather than amortization of the debt. This is also reflected in the Weber/Boyer transfer. While outside capital was occasionally used and aimed at larger asset transactions, the self-sustaining quality of the credit system up to 1860 was particularly evident in these mortgage records. Land was the principal commodity asset of the agrarian capitalist, either as a means of production or as a means of financing. Similarly, the successful entrepreneurs, those husbandmen who achieved large surpluses which they were able to retain as capital assets, utilized them within their community by the mechanism of mortgage financing. Others, like the Rev. Meendsen, simply converted the real estate asset to a mortgage at the point of retirement, and then utilized the interest in the Smithean manner of income to live on, or if you will in modern terms, a pension plan.[8]

After 1860, the changes brought about by continued capital appreciation, as well as urbanization, produced marked changes in the mortgage market. While individuals continued to be the primary lenders, of the 1,600 mortgages granted between 1860 and 1900, approximately 300 of them were corporate in nature. This represents a major change. The corporate loans tended to follow two trends. They represented in part a continuation of the

[8]Mortgage records of Allen and Moore Townships.

previous pattern of lending to the more substantial agrarian capitalist, but the large majority were consumer loans aimed at single-family residential property owners. We see the savings banks, as well as development companies, providing loans to enable urban or rural non-farmers to purchase their residences. While the majority of the corporate loans took place in Allen Township, the rise of one peculiar institution in Moore gives a picture of the expansion of institutional finance in agrarian communities. During the 1870s, the institution known as the Klecknersville Savings Fund wrote 41 mortgages for amounts of less than $2,000 each. Of those 41 mortgages, 17 were never paid and remain unsatisfied in the county records. This is the probably explanation of the disappearance of the Klecknersville Savings Fund after the 1870s. But those 41 mortgage represent the substantial majority of bank mortgages granted in Moore Township in the period from 1860 to 1900. It would appear that the capital that underlay the Klecknersville Savings Fund was created by deposits of the local populace. It really represents the use of local capital to maintain a local community.[9]

Allen Township saw a substantial rise in institutional mortgages coincident with the substantial development of industry. The industrialists brought with them the expectation that urban development would occur, and a conscious effort was made to maximize land values for residential building purposes.

Appealing to the demand for building lots, the Stem family created the village of Stemton from lands next to the car works. The farmers owning land around the future cement plants made efforts to subdivide portions of their farms and sell lots to individuals for residences. These same individuals sought financing, either from other individuals in the community, or such other institutions like banks or development companies that would provide financing. The enormous jump in mortgages in the last 40-year period is a reflection of non-agrarian building activity. Though on a scale similar to the past, the husbandman

[9]Mortgage records of Allen and Moore Townships.

continued to obtain financing for the purchase of a farm from local sources, rather than institutional.

Finance capitalism, the providing of credit, was part of the development of Moore and Allen Townships. It was part of the normal agrarian capitalism built around the pre-eminent asset, real estate. Whenever, as in the case of Josiah Kline, maximization of real estate values was possible, the husbandman was quick to take advantage. They were willing to transition from producer capitalist to rentier capitalist if the possibility arose.

CHAPTER 8
CAPITAL ACCUMULATION

One of the prerequisites of the successful agrarian capital economy is the accumulation of capital. As Adam Smith discussed in The Wealth of Nations, a farmer's capital consisted of the implements, the livestock, the wages and maintenance of servants. Smith assumed the farmer was not a land owner but a tenant. He also believed that no equal capital put into motion a greater quantity of productive labor than that of the farmer.[1] The husbandmen of Allen and Moore Townships were accumulators of capital, but also were affected by their Calvinist world view which preached temperance and limited the demand for consumer durables.

A review of the probate inventories filed in the two townships throughout the nineteenth century reflects the twin effect of Smith's capitalism and Calvin's asceticism. Estates rarely included a large accumulation of consumer goods. As the century progressed, there was an ever greater accumulation of agrarian capital in the form of equipment, livestock and improvements to the land. There was an increase in the amount and range of consumer durables, but they were rarely a significant portion of the inventory of successful husbandmen. In contrast, the agrarian capitalists favored financial assets, primarily in the form of capital loaned to other members of the community, but also stock of the bridge companies, banks and in agrarian businesses, like gristmills. The mortgages recorded in the nineteenth century reflect these developments. It is only at the very end of the period that financial institutions became providers of fixed capital, in the form of mortgages, and then primarily for the developing urban area in Allen Township. The agrarian community remained largely financed by its own capital surpluses accumulated by the more successful entrepreneurs and advanced to the next generation to support their efforts at becoming independent husbandmen. Smith believed that the natural inclination of men to own their

[1]Smith, Wealth of Nations, 262, 263, 344.

own land and cultivate it was the preferred use of capital to any other.[2] The Jeffersonian ideal of the yeoman farmer as the most important element in a republic was built on a similar premise, that the individual property owner was most strongly motivated to support and defend a system of government which best enabled him to own and cultivate his own land.

The estates of John Henry Kleppinger, who died in 1793, and Michael Kreider, who died in 1797, provide good examples of the early successful husbandman. Both were able to accumulate a fair amount of assets. The total value of Kreider's estate, 721£, included 520£ in the form of book accounts and notes due the deceased. Also included were the capital assets of his farm ranging from two pitchforks, one shovel, one scoop and one dung fork to a wagon, a wheelbarrow, two plows and a harrow. His livestock included three black cows, one brindle cow, one brown cow, one heifer, five sheep, seven hogs and seven shoats, two horses and a colt. The cumulative value of his farm capital was over 100£. The remaining assets were consumer durables of the day, three beds and bedding, a woman's saddle and a man's saddle, a stove and pipe, several tables, watch, a looking glass, several chairs, a variety of dishes, pots, kettles, a fowling piece, a case with razors, Delft plates and pewter tea funnels. The total value of the consumer durables was a little more than 60£. Mr. Kreider's farm was adequately stocked; his residence amply furnished, but his primary asset other than land were the book accounts representing his investment of his own capital surplus in his community.[3]

John H. Kleppinger had a somewhat larger estate, 1,073£; but it was constituted in a similar manner. His preference for notes rather than book accounts provided more detail in the way in which his capital was put to use. George Nagle had been advanced two notes of 100£ each on which interest had accrued at the rate of six percent. John Nagle, who was

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[2]Ibid., 358.

[3]Probate file of Michael Kreider in the Office of the Register of Wills of Northampton County at Easton, Pennsylvania.

obligated on two bonds in the total amount of 190£, had been outstanding since 1791. Anthony Kleppinger had a 20£ bond dated 1782. In addition to finance, Kleppinger owned two houses and lots in Millerstown, Macungie Township, worth 200£. 820£ of the total estate was in the form of bonds, notes and investment property. The remaining 250£ consisted of primarily the capital of the farm. Kleppinger owned three horses and a colt worth 68£. He had four cows, one bull, one ox and three calves, ten sheep and seven swine. His equipment included a plow, a harrow, a chain double tree, a windmill, two hay forks, seven cow chains, an apple mill, hoes, gun, sheep shears, extra harrow teeth. He also had accumulated twelve yards of linen, twenty pounds of flax yarn, twenty bags, seven great baskets, 16 old casks, 35 bushels of oats, eleven bushels of wheat, 25 bushels of buckwheat, nine bushels of rye, thirteen bushels of corn and 21 gallons of whiskey in a barrel. Consumer durables included four iron pots, a stove with five plates, a coffee mill, a tea mill, four pewter dishes, 15 pewter spoons, 21 earthen pots, seven china plates and seven cups, a coffee mill, a pine chest, two spinning wheels, a tea table, three bedsteads with bedding, and clothing amounting to three coats, five jackets and five pairs of breaches, a hat, four pairs of stockings, all valuing together less than 25£. Mr. Kleppinger's rather extensive will provides further insight into the management of the agrarian capitalist facing the uncertainty of this mortal life. Kleppinger knew that his health was deteriorating and, having no children, anticipated the problem by inviting his nephew, John George Kleppinger, to move from Southampton Township, Franklin County, Pennsylvania, to Allen Township to take over the farm and support his widow, Ann Mary. He promised his nephew a cash income of 20£ money annually in exchange for building a new dwelling house for his wife. John George was to provide five bushels of wheat, eight bushels of rye, ten bushels of buckwheat and six bushels of Indian corn annually to Ann Mary; further, to carry the said grain to any mill that she directed within five miles of the plantation and to bring the grist home again. In addition, she was to receive annually a hog of 120 pounds, 30 pounds of good beef and such amount

of apples she might take for her own use, two barrels of cider and the liberty to keep fowl and poultry at the plantation for her own use, and to maintain a quarter acre plowed, manured and prepared for planting, and to provide fodder for one cow; and as well to maintain the cow; and a riding mare for his wife's use out of the livestock given to John George. John George was also to provide sufficient firewood in season and to provide a quarter acre of flax properly prepared for spinning. In the event that Ann Mary should become infirm and require a servant or maid, then John George must provide the same. Under those conditions, John George would inherit the entire plantation and all of the property, except a clock, an iron stove, a walnut desk and a walnut table which were separately bequeathed to Ann Mary. Among the other restrictions on his estate, John Henry Kleppinger provided that his nephew would be asked to pay various other relatives certain sums, and also the elders of the Lutheran congregation in Allen Township the sum of 20£ for the support of poor children in the schoolhouse near the church, and an additional 25£ to be used for the support of poor children at the Siegfried school previously built in Allen Township. Even in 1796, the yeoman farmer could and did plan his estate with the care and sophistication of an English lord presiding over his demesne.[4]

The next generations showed how the successful operation of an agrarian economy evolved in the early nineteenth century. Michael Weaver, a merchants and the owner of a successful tannery in Allen Township died in 1834. Weaver was an example of the artisan entrepreneur, a necessary element of the early integrated economy of the township. At his death, he had $300 in cash and almost $3,000 worth of tannery products. These included 45 hides of sole leather at $5.50 per hide, 34 hides of harness leather at $4.60 per hide and 44 hides of lower quality for harness at $3.60 per hide. His stock included 60 Spanish hides, as well as calfskins, 60 cords of bark, tanner's tools, curling knives and barrels of tanner's

[4]Probate file of John Henry Kleppinger in the Office of the Register of Wills of Northampton County at Easton, Pennsylvania.

oil. Weaver had expanded his stock in trade to include a broad range of textile goods which he included in his available merchandise. These items totaled approximately $1,300 and ranged from four yards of silk at $1 per yard to 483 yards of calico at 17¢ per yard, 168 yards of domestic calico at 9¢ per yard, a variety of muslins at 10¢ to 15¢ per yard, 46 yards of red flannel and 23 yards of green flannel at 30¢ per yard. The last portion of his inventory for retail included 26 corn brooms for $3, nine wooden shovels for $1.80, a lot of flaxseed for $4, a lot of earthenware for $20, a lot of hollowware for $20 and a lot of American steel for $25. His inventory also included over one hundred pairs of shoes, men's, women's and children's, 94 pounds of shot and a variety of pots and pans, as well as lots of hardware, spool cotton and sundry groceries valued at approximately $1,000. Weaver's personal property also emphasized the needs of a husbandman. He had six horses valued at approximately $300, milk cows worth $100, pigs, hogs and young cattle. For equipment, he had three wagons, some plows, dung forks and a winnow mill, thrashing flails, rakes, pitchforks and harrows, all equipment required for husbandry. His barns contained wheat, rye, hay, corn of more than $300 value and almost $200 of wheat and rye in the field. Consumer durables varied from an eight-day clock to copper kettles, two beds, three spinning wheels, kitchen utensils, one coal and four wood stoves, five beds with bedsteads, various chests, cupboards and sundry items with a total value of approximately $400. Weaver was also a financial capitalist owning five shares of the stock of the Easton Bank, one share of the Biery Bridge, and notes and book accounts totaling almost $1,400. He also had $400 of doubtful or bad book accounts. His total estate was valued at $10,000, $9,500 of which represented his business assets, his farm equipment and his financial capital. He too remained an example of the Protestant ethic's preference for building capital surpluses rather than personal indulgence.[5]

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[5]Probate file of Michael Weaver in the Office of the Register of Wills of Northampton County at Easton, Pennsylvania.

In 1840, Abraham Wilson died a resident of Allen Township. He was a merchant who possessed 587 enumerated items in his store with a total value of $4,211. The range of his store goods was greater than that of the Weaver merchandise. Wilson had dozens of items of cloth goods varying from blue blush at a $1.50 per yard to brown satin at 70¢ per yard, domestic gingham at 18¢ per yard and bed ticking at 20¢ per yard. He also sold finished goods like stockings, hose, brushes and needles. Wilson's store also had a substantial supply of crockery and candles; farm equipment, including scythes and forks; housewares, including coffee pots and lanterns; and food products like 68 dozen eggs, 34 gallons of wine and sugar. His personal property included four horses, five cows, six shoats, eight hogs, wagons, farm equipment, blacksmith tools, harness and fifty bushels of rye in the stack. Household goods included a dutch oven, tubs, beds and bedding, tables and chairs, drawers and an eight-day clock. The value of all the property was less than $1,200. Financial assets of notes collectible exceed $4,000. Again, we see that the entrepreneur's emphasis was building capital assets; very little was expended for personal use.[6]

A final example from the middle of the nineteenth century was the estate of Daniel Levan, who died in 1854, the owner of a substantial farm in Allen Township. His estate included a bay horse, a buggy, a sled, farm equipment, including a corn sheller and shaker, a Deerborn wagon, a clover machine, a grain drill, a repeater and two cultivators. The successful farmer was using the available equipment to increase production. The results included 150 bushels of oats in the straw, 150 bushels of barley in the straw, 50 bushels of wheat, and equipment including plows, harrows and a winnow mill. He also had two red cows, twelve head of oxen, seven shoats, a sow and sixteen acres of corn in the field. Collectively, his farm assets totaled approximately $1,700. Personal property varied from beds, looking glass, a clock, desk, drawers, a stove, a map of the United States and a shotgun.

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[6]Probate file of Abraham Wilson in the Office of the Register of Wills of Northampton County at Easton, Pennsylvania.

His personal property for consumer use amounted to not more than $100. His financial assets were substantial, including shares of the Siegfried Bridge Company and book accounts of $1,600. While Levan's will provided for the partition of his 221-acre farm among his three sons, subject to their duty to pay substantial cash amounts to his daughters, the husbandman again had his capital primarily in the form of land. Daniel Levan spent his adult life buying from his various brothers almost the entirety of the original Levan plantation. The rest of his capital was in the equipment and livestock necessary to operate such a large farm.[7]

As we close on the end of the nineteenth century, we can see the continued evolution of the agrarian capitalist. Mifflin Graver died in 1895, the owner of a farm in Moore Township. More equipment and a wider variety of livestock were apparent. Graver had two bay colts, several wagons and a sleigh, a cultivator, a mower, a corn planter, a home creamery and a clover seed sower. In addition to a variety of farm equipment, there were 275 bushels of corn at 60¢ per bushel, four tons of hay at $12 per ton and 1,600 pounds of phosphate at $16 a ton. Livestock included a horse, milk cows, hogs, chickens and turkeys, in whole totaling more than $1,400. Consumer goods included several beds, a dining room table, six cane bottom chairs and rocker, thirty yards of carpet, comforters, quilts, four tons of coal and food on hand totaling less than $400. Financial assets represented the largest portion of this farmer's net worth, with promissory notes over $1,200, judgment notes over $2,600, and mortgages in excess of $4,000. Another significant asset was 57 shares of the Catasauqua National Bank valued at over $1,500.[8]

Another example of an entrepreneur in Moore Township was James Scholl who died in 1896. Scholl had owned a farm and a gristmill operation for over fifty years. The

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[7]Probate file of Daniel Levan in the Office of the Register of Wills of Northampton County at Easton, Pennsylvania.

[8]Probate file of Mifflin Graver in the Office of the Register of Wills of Northampton County at Easton, Pennsylvania.

personal property consisted of a parlor stove, plank chairs, beds, a settee, a rocking chair and a secretary, which amounted to less than $200. Equipment included a Fairbank scale, a variety of tools, a wagon and a carriage and a grain drill. There were oats, rye and corn in the field, two cows and chickens, the total being less than $400. Again, the lifetime of capital accumulation was represented by financial assets. Scholl had acquired 33 shares of the Catasauqua National Bank, four shares of the First National Bank of Pen Argyl, and mortgages and notes to the total of almost $15,000. Perhaps as a result of the operation of a mill, Scholl had over fifty individuals who owed him money.[9]

A final example of the latter day entrepreneur is Joseph Wanamaker, who died in 1880 in Allen Township. Wanamaker was originally a miller, then entered into the store business. At his death, he was credited with a half interest in the store stock consisting of dry goods, groceries, queenware and hardware with a value of $2,000, and partnership financial assets consisting of book accounts, notes and cash on hand totaling almost $1,800. Consumer property included a pianoforte, a desk, carpet, beds, copper kettle, a stove, a chest, a map and the like with a value of $400. The store was part of a small farm which included hogs, cows, three horses and a harness. Equipment included scythes, plows, a cultivator, various tools, several wagons, a threshing machine with tread power, a windmill and an Empire mower and reaper. Crops included wheat, rye and oats, all in the straw, the total value being approximately $1,000. Again, the principal assets were financial. Our storekeeper had over $8,000 in notes, mortgages and book accounts.[10]

In keeping with the capitalist's premise, the successful operator, whether husbandman or accessory business, milling, tanning or store keeping, the accumulation of surplus was the common element. The successful operator over time accumulated substantial financial assets

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[9]Probate file of James Scholl in the Office of the Register of Wills of Northampton County at Easton, Pennsylvania.

[10]Probate file of Joseph Wanamaker in the Office of the Register of Wills of Northampton County at Easton, Pennsylvania.

which then took the form of loans to the community. Each observed his Protestant ethic and refrained from accumulating an excess of consumer goods, though all accumulated enough to provide for their own needs and gradual accumulation of additional equipment and livestock necessary for the husbandman. The early farmer had minimal equipment, largely hand tools, relatively little livestock limited to horses, cows, pigs and sheep. At the end of the period, technology had worked to enhance productivity and expand significantly the equipment of the farmer. Reapers, threshers and grain drills were common at the end of the century, supplanting the hand tool environment of the traditional husbandman. There was little change in the type of consumer durables, though the quantity certainly increased. Similarly, notes, mortgages and book accounts existed at the beginning of the period, but the volume of financial assets held by successful entrepreneurs and made available to their creditworthy neighbors had increased substantially. Smith proved prescient when he identified Pennsylvania as a potential successful example of agrarian capitalism despite the national trends which impacted local farmers the last thirty years of the nineteenth century.[11]

[11]Smith, Wealth of Nations, 539-540.

CHAPTER 9
AUXILIARY INDUSTRIES

As demonstrated in the analysis of husbandry, a rural community had many elements in addition to the husbandman. There were four different types of water-driven industries that were complementary to the agrarian base in Moore and Allen Townships. These were gristmills, sawmills, distilleries and ancillary mills. In a sense, these types of enterprises were characteristic of the future industrialization of the Northeast. They also reflected the limitations of industrial development caused by poor transportation. Many water-powered mills, all small with low level technology, minimum workforces and highly seasonal in their operations, were indicative of transportation problems, rather than industrial development. While capital costs were not insignificant because each mill involved construction, the real costs were largely labor. The mills were generally log and stone, the water power derived from small, usually log crib dams on the creeks and streams of the northern portion of Northampton County. The labor to dig the race, fell the trees, construct the dam and construct the building was all local. The costs, even for equipment, were not dramatic on the scale available to a successful agrarian capitalist. A set of millstones from Philadelphia cost 95£ in 1796.[1]

The Hokendauqua Creek, a stream of fourteen miles extending from the Blue Mountain in Moore Township southwestwardly to the Lehigh River in Allen Township, was a center for water-powered industry. The country gristmill was the most common and most notable of the complementary industries in an agrarian community. Grains were not easily utilized as food in their natural condition. Grinding or otherwise altering the natural grain was the precursor to most food products. Pennsylvania was the bread basket of early America, because its husbandmen grew wheat successfully and converted it into flour economically. The gristmills on the Hokendauqua were an example of that process. The

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[1]Washl, Northampton, the Town that Wants You, 138.

earliest dated from 1750 in Allen Township on property owned by Hugh Wilson, an early Scotch-Irish immigrant. The mill operated until 1895 as one of the primary grist, and later, flour mills in Allen Township. As the population in both areas grew, mills were added. In 1791 Christian Baer constructed a mill about two miles north of the Wilson mill, and in the same year, Frederick Beck constructed a mill near Kreidersville. This latter mill provided competition to an earlier mill built by Conrad Kreider in the 1770s, also in the vicinity of the village to be known as Kreidersville. William Kleppinger, in partnership with his father Lewis, constructed a mill in the Moore Township stretch of the Hokendauqua, but it was initially operated as a sawmill prior to 1820, when it was converted into a gristmill. Henry Beil built a mill at the confluence of the Hokendauqua and Lehigh Rivers in 1796.[2]

Mill construction could be done even in the relatively primitive conditions of the early nineteenth century and prior, because water-powered mills of the Hokendauqua were very small operations. They were not intended to be used as factories with a distinct workforce on a regular daily schedule. Rather, they were intended to be subsidiary businesses used in season to serve the local community. There is a physical distinction between the typical mill of the Hokendauqua and the more recognized industrial, largely textile, mills of New England. Large operations required regular manageable water power, which involved large dams, large impoundments and much capital expenditure. Mills on the Hokendauqua were not necessarily powered by water from the creek itself. Some were built to use water from subsidiary streams that could be three, four or five feet wide and a foot in depth. The dams did not have to be more than three, four or five feet in height or ten or fifteen feet in width. Impoundment areas were often quite limited. The downside was that the water resource to turn the wheel was also limited, reducing hours of operations and rendering them very seasonal. In order to develop the drop characteristic of a water wheel, races from the original dam site were often quite lengthy. Though a capital improvement,

[2]Ibid., 138.

this really was a work of labor, since a race was partial excavation and partial embankments designed to create a swale or aqueduct several feet wide, two or three feet deep, to both contain and channel sufficient amount of water to power the wheel.[3]

In 1850 a summary of the Hokendauqua mills would read as follows: Closest to the Blue Mountain was a sawmill; a mile south, a gristmill owned by James Scholl; and another mile south, a sawmill with the largest impoundment on the stream. The sawmill dam contrasted sharply with the next two mills within a mile and a half downstream: one built by Kleckner, a gristmill of new construction that relied on a dam on the Hokendauqua; and then the Kleppinger mill, originally built as a sawmill and by 1850 also operated as a gristmill, which relied for its water supply on a small tributary of the Hokendauqua that followed its race to a sharp drop at an embankment, returning the water to the Hokendauqua Creek. Next proceeding south was another combination grist and sawmill which featured a full dam on the Hokendauqua Creek, a lengthy race and a similar sharp drop at a point of embankment. In each case, for these two mills, the public road crossed the race at the mill site.[4]

Another, the Petersville Mill, was an example of pure commercial capitalism. In 1805 the mill was built as a merchant flour mill by Abraham Kreider. This mill was located on the road leading from the Lehigh Water Gap to Easton. The mill was built to steal traffic that would otherwise continue the twenty miles' distance to Easton for farmers from the Susquehanna Valley who used winter weather to sled their wheat to the flour mills in Easton. Easton, of course, offered the capability of both milling and transporting wheat and flour to Philadelphia for further distribution. The Petersville Mill was based on the premise that the

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[3]Ethan Allen Weaver, Local Historical and Biographical Notes (Easton, Pennsylvania: 1906), 212.

[4]Matthew S. Henry, Map of Northampton County (1851).

Susquehanna farmers would be happy to save the last leg of the trip. By 1850 the changes in transportation had reduced this facility to a local gristmill.[5]

Further downstream in Allen Township, the first mill belonged to the Hummels. This was a chopping mill supporting another aspect of the agrarian economy. Next was the original Conrad Kreider mill in continuous operation as a gristmill. Beyond that was the relatively new mill constructed by George Weber to operate as a merchant flour mill on property he had acquired that included the 1791 Beck mill, making him the owner and operator of two mills within a quarter mile of each other. The remaining stretch of the Hokendauqua contained in continuing operation the three mills earlier referred to, those of Baer, Wilson and Beil, under new ownership and, in the instance of the Wilson mill, substantial change in operation. The mill itself had been completely re-equipped in the 1840s to function as a merchant flour mill, and, in addition, it was constructed to function as a distillery. In like manner, the Beil mill at the confluence of the Hokendauqua and Lehigh was much expanded as a result of the construction of the canal along the east bank of the river. This enabled the Beil mill to obtain water power from the canal as well as the creek. In addition, the canal facilitated sufficient markets to add a sawmill, a distillery and several other functions to the site. The general trend of the auxiliary businesses was comparable to the trend that pervaded the agrarian economy of Moore and Allen Townships throughout the nineteenth century.[6]

In 1820, the Allen Township tax rolls revealed fifteen different mills in operation, several with more than one capacity. Nine could be identified as gristmills, three as sawmills. There were three distilleries, three oil mills, a clover mill, a paper mill and a fulling mill. Four persons were identified by occupation as paper millers, while six others

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[5]Henry, History of Northampton County, 176.

[6]Henry, Map of Northampton County; tax assessment records of Allen and Moore Townships, see Appendix D.

were identified generically as millers. The property owners were not always identified as millers. Some were farmers and some landlords or practitioners of some other professions. The diversity of mills corresponds to the diversity of the agrarian economy. Self-sufficiency meant that the community had to generate its own goods and services with relatively little being imported. By contrast, Moore Township in 1820 reflected its slower development. Of the eight mills identified in operation, only one was a gristmill. The other seven were sawmills. The continued process of deforestation was reflected in the proliferation of sawmills in the township.[7]

What followed was in keeping with the overall pattern of agrarian economics throughout the Northeast. As transportation improved, as the population increased and as the land was converted to agriculture, complementary industries continued to support the economy. In 1830 Moore had seven sawmills and two gristmills. Also there were four identified millers by occupation who were operator, not mill owners. George Nolf's gristmill included 92 acres operated by the owner who was a miller. By 1840 more progress was noted with four gristmills and two chopping mills, and only five sawmills remaining. There continued to be ten identified millers to provide the labor force for some of the mills. Through 1870, the status quo remained, with a rough balance in Moore between the sawmill and the gristmill operations, although there was a steady increase in the number of non-owner millers. A change in Moore came between 1880 and 1890, when the number of mills began to drop sharply, culminating in 1900 when only two gristmills remained, both utilizing hired labor. Allen Township, because of the urban impact resulting from its access to transportation, evolved more quickly and with a greater degree of specialization. By 1860 there remained but four operating gristmills in the township. There was a labor force equal to the number of mills. By 1880, the tax records reflected only one operational gristmill, and

[7]Tax assessment records of Allen and Moore Townships, see Appendix D.

by 1900 there were only two mills total remaining in operation in Allen Township, one of which was the reconstructed paper mill of 1820.[8]

The evolution of the agrarian economy was consistent when looked at from the auxiliary or complementary industry point of view equally with the husbandman perspective. In the early period the economic community was self-sufficient and integrated. Crafts were provided by artisans, often landowners and husbandmen themselves. The dedicated farmer was really a large landowner putting his labor to work, converting forest to arable land. The more entrepreneurial or energetic took advantage of physical opportunities and erected mills to utilize water power as a supplement to husbandry. The combination of land transition and economic development in the form of new houses, barns, mills and roads was continuous through the 1820s. It was also notable for the low technology, low cost local product character of the economic effort. From the 1820s to the 1860s, transition to a more specialized commercial economy began. There were more mills and they did more things, but they remained local and complementary to the larger agrarian scene. After 1860, and particularly accelerating after 1880, however, the complementary industries declined. By 1900, the highly specialized agrarian economy was commercial in its focus, and the complementary industries had been reduced to a few providers, with such services now provided at a distance, possibly due to transportation improvemetns.

A microcosm of economic evolution can be seen in the story of the Levan family and their property on the Hokendauqua Creek in Allen Township. Abraham Levan, a third generation German immigrant, accompanied his friend and brother-in-law, John Siegfried, to Allen Township prior to the Revolution. They had both been born and raised in Berks County as part of large families. They were successful as young men and able to generate the wherewithal to purchase substantial plantations in Allen Township. Siegfried's property

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[8]Tax assessment records of Allen and Moore Townships, see Appendix D; census records of Northampton County, see Appendix D.

lay along the Lehigh River and was the location for Siegfried's ferry, an important transportation link at the beginning of the nineteenth century. To the east, lying along the Hokendauqua, was the Levan plantation, 250 acres purchased from Hugh Wilson and immediately due north of the Wilson gristmill. The family founder, Abraham Levan, was a Revolutionary War leader and the progenitor of a large family. He proved to be not very successful at any enterprise. Two of Abraham's sons, John and Peter Levan, in partnership with Thomas McKeen, purchased a portion of their father's plantation and erected a paper mill sometime prior to 1820. This mill utilized a small dam on the Hokendauqua, which fed a very long race across a low meadow to the mill site. The mill operated for more than a decade, albeit not very successfully, and operation ceased not long after the death of John Levan.

Levan's estate inventory provides considerable insight to the scale of operations of these early industrial plants. The mill property was owned by Thomas McKeen, but the business was operated by John and Peter Levan. At John's death in 1822, the business included 23 reams of paper not finished worth $34, ten reams of writing paper worth $15, three reams of wrapping paper worth $3, a lot of paper of different sizes and qualities worth $270 in the hand of their brother, Isaac Levan, 560 pounds of linen, 800 pounds of woolen rags at the mill to be made into paper, and debts or notes due him of approximately $600. This business, which employed four and operated out of a mill on a 23-acre property, had a total working capitalization of no more than $1,000.

Subsequent to 1830 the paper mill ceased operation, and the Levan plantation was acquired by Daniel Levan, another of Abraham's sons. At his death in 1854, the remaining 227 acres was the subject of a partition between the three sons to whom Daniel granted the plantation in his will. One son, Thaddeus Pulaski Levan, received as part of his portion the 23-acre parcel containing the dam, the race and the mill. That son died by 1860, and the mill property was transferred to his brother, Jacob. In 1873, Jacob had conveyed a portion of the

property, including the mill with an easement for the rights to the dam and the race to three partners, Wolf, Howell and Zellner. Wolf was the representative of a family from Chambersburg, Pennsylvania, that engaged in the flour machinery business.

The critical element in this change of purpose was a technology developed in Europe for processing flour. The new technology employed steel rollers, instead of grinding stones for converting wheat to flour. The technology had come to the United States after 1870, and the Wolf family were early manufacturers of the machinery. After equipping the mill with the new equipment, Wolf and his erstwhile partners tried to operate it. They were generally unsuccessful and sold the property to Daniel J. Levan, the fourth generation of the Levan plantation. This Levan was a farmer and successful inheritor who had no desire to operate the mill. As a consequence, he was open to the proposition of R. A. Smith, a man who had learned the milling trade along the Hokendauqua, to rent the operation, which was done in 1889. One other aspect of this mill reflects the evolution of technology; it was a turbine operated mill rather than waterwheel. The turbine had the advantage of needing a smaller vertical drop, but required a larger amount of water to function. The turbine was more powerful and allowed for the use of heavier machinery over a longer period of time. The mill actually contained three turbines for power of three sets of equipment: (1) the large millstone, residue from the pre-Wolf era; (2) the Wolf-equipped flour mill; and (3) a third stone operation used for cracking corn. Though the flour mill was of relatively small capacity, 35 barrels a day, it was efficient and, as a small mill, it was effective at producing bran and mids, wheat by-products that could be sold to local farmers for animal feeding. In this way, an aggressive operator could convert an existing, but underutilized mill, into an economically effective competitor in the commercial economy that existing in Allen Township at the end of the nineteenth century. Smith could sell flour to the rapidly

expanding urban community that was at his doorstep while continuing to provide the gristmill service required by the remaining farm community of Allen Township.[9]

In Moore no such evolutions occurred because there was no urban market to support the conversion. Moore remained a rural agricultural community without urbanization except for the small concentration around the Chapman slate quarry. None of the mills that had existed throughout the nineteenth century could continue into the twentieth century since there was no real demand for their products or services. Farming now involved delivery to markets outside Allen and Moore and the purchase of goods and services through intermediaries like local stores.

[9]Pierce, Smith Milling Company; probate records of Northampton County; tax assessment records of Allen and Moore Townships, see Appendix D.

CHAPTER 10
ENTREPRENEURS

The idea of the entrepreneur originated with the French economist, Richard Cantillon, whose essay was published in 1755, analyzing economics with an emphasis on the entrepreneur as the pivotal figure in the market. In particular, Cantillon emphasized the theory of the entrepreneur as the risk taker. A predecessor of the physiocrats, he too understood and wrote about an agrarian society:

> The farmer is an entrepreneur who promises to pay the landowner for his farm or land, a fixed sum of money...without assurance of the profit he will derive from this enterprises. He employs a part of the land to feed flocks, produce corn, wine, hay, etc. according to his judgment without being able to foresee which of these will pay best...Consequently he conducts the enterprise of his farm at an uncertainty.

Cantillon's analysis recognized the legitimacy of entrepreneurial profits and the part that profits play in an economy. While Adam Smith recognized the importance of the individual, his focus was on the capital necessary to sustain economic function, rather than the individual risk taker.[1]

With the passage of time, the development of the science of economics broadened the scope of the entrepreneur. It included, not only assuming the risk and supplying the capital, but also the qualities of innovation, decision making and organizing that were a part of the business process. Allen and Moore Townships had noteworthy entrepreneurs who were dynamic forces in the agrarian economy at the beginning of the nineteenth century. We shall consider several of them and the insights their careers offered into the development of agrarian capitalism.

A third generation example of an entrepreneur in Moore was another Kleppinger. William Kleppinger was a grandson of the immigrant John George Kleppinger. William's father, Ludwig, was an aggressive of acquirer of warrants for lands in Northampton County. An 80-acre parcel which he patented in Moore Township became the property of his son

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[1]Haber and Link, The Entrepreneur, 14, 17, 18, 19.

William. The parcel was shaped to fit a particular economic vision that William implemented. Approximately half of the parcel was the flat area at the top of a hill which could be farmed effectively. The narrow land bridge down the side of the hill connected the second half of the farm, which encompassed a portion of the Hokendauqua valley. Most particularly, it included a small tributary to the Hokendauqua which drained a steep incline. William Kleppinger, recognizing a potential of industry in the form of a sawmill, undertook the construction of a dam and a race on the tributary stream. This enabled him to create with much labor but little capital a water power source sufficient to operate a sawmill. By 1820 Kleppinger's sawmill was in action and providing an economic resource in addition to husbandry. Approximately twenty-nine years old when he took control of the property from his father, Kleppinger remained an active entrepreneur for the next thirty years. With the passage of time, he determined that his community would support a gristmill, and he constructed a second mill utilizing the same water power source as the sawmill. Kleppinger acquired the knowledge and skill necessary to operate both mills and the capital resources necessary to service both trades. The degree of his success is reflected in the fact that he accumulated over 240 acres of property, three separate dwelling houses and barns, and, for a significant number of years, was the second largest taxable assessment in Moore Township. Like his father, Kleppinger had skills that enabled him to provide the capital that allowed several of his sons to acquire farms of their own. But Kleppinger's entrepreneurial skills did not transcend to the next generation, and his accumulated wealth dissipated with his passing. Kleppinger was a risk taker. That is a condition more noticeable in a mature economy like that of Europe in 1800 than the primitive conditions prevailing in Moore Township. Each farmer in Moore Township was a risk taker merely by his willingness to challenge the wilderness in the hopes of extracting a living. Kleppinger was also an innovator, a generator of capital needed to build his mills, expand his land holdings and aid his children in their own economic affairs. He also managed to anticipate his own retirement. In 1855 he built

a new house and barn, carved out a 35-acre parcel to be his retirement home; and in his will he provided that it would be also the retirement home of his wife for the remainder of her life. While a pension was not a possibility in Moore Township, the idea of the small estate with suitable structures and sufficient stock served as a close substitute.[2]

Allen Township provided more possibilities for the entrepreneurially inclined because of its access to markets created by the Lehigh River and later the Lehigh Canal. The 1820s saw two examples of aggressive entrepreneurship in the persons of George Weber and Peter Laubach, Sr. They both epitomized the aggressive capitalist in a relatively limited agrarian economy. Peter Laubach was a descendant of early immigrants to Allen Township. His family had accumulated some capital, and he, as a young man, worked to acquire more. In 1822 he was able to purchase property at the junction of the Hokendauqua Creek and the Lehigh River, which contained a gristmill erected in 1791 by Heinrich Beil. Heinrich Beil, Jr., had reached the end of his working life and was ready to convey the family property. While the Lehigh Canal was not yet under construction, it had been authorized by the state legislature. Water flow from the Beil dam and race on the Hokendauqua would eventually be included and utilized as part of the canal system. By his death in 1857, Laubach had managed to add a store, a blacksmith's shop, a distillery, a coal yard, a sawmill and a gypsum mill to the lands that housed the original Beil gristmill. Laubach also became a major landowner, at one point acquiring over 300 acres in Allen Township, and being credited with the largest tax assessment. His enterprise passed to his son Samuel who lived only four more years. In 1861 at Samuel's death, his four sons continued the family enterprises as a partnership. Over time, they too expanded the enterprise by adding a brewery. The Laubach contingent maintained a substantial presence in Allen Township to the end of the nineteenth

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[2]Tax assessment records of Allen and Moore Townships, see Appendix D; Kleppinger, Family History.

century, but it was all based upon and a derivative of the success of Peter Laubach, a true entrepreneur.[3]

The last of the individuals to be considered was George Weber, a slight anomaly compared to Kleppinger and Laubach. George Weber was the great-grandson of immigrants to Montgomery County. His father owned and operated a gristmill in Collegeville. George was born in 1786 and, as he reached maturity, became the operator of his father's gristmill. In 1819, he and his young family moved to Lower Saucon Township in Northampton County, where he bought a mill. In 1823, alert to opportunity, he sold his Lower Saucon Township property and bought a large farm and gristmill, originally built by Conrad Kreider, in Allen Township. Weber was a man of considerable talent and was often recognized by his fellow citizens as an exceptional individual. In 1826 he was named one of the founding trustees of Lafayette College. The original plan for the college anticipated servicing and receiving support from all of Northampton County. The founding trustees included numerous individuals identified as influential or important in the county, and George Weber was the representative of the northwestern segment. In a similar vein, Weber was elected a colonel of the militia regiment assigned to Northampton County in 1828, and thereafter was generally referred to as Colonel Weber, even though his term was but one year. In 1831 Weber, seeing the potential for more effective operation, took advantage of the failure of the younger Conrad Kreider and purchased a 130-acre property containing another gristmill, originally built by Frederick Beck in 1791, also along the Hokendauqua Creek within a mile of his first property. The value of the second property was the ability to utilize the creek to build a third mill which could be operated more effectively as a merchant mill than either of the older gristmills. Weber also acquired additional acreage that originated with the Kreiders, and became the owner of the store and tavern in the little village of Kreidersville.

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[3]Tax assessment records of Allen and Moore Townships, see Appendix D; Henry, Map of Northampton County.

Over time, he acquired over 200 acres, making him the second largest tax assessment in Allen Township. Unlike Kleppinger and Laubach, Weber was an aggressive user of other people's capital. He had substantial borrowings totaling close to $15,000 from two institutional lenders of the period, the Easton Bank and the United Brethren Church. Weber was also a noted figure in the religious activities of the community, and as a member of Stone Church, he worked actively with his neighbor, the Rev. Jacob C. Becker, and his fellow entrepreneur, Peter Laubach, to found a new church in Howertown approximately two miles from his residence and three miles from Stone Church. It was obvious that the exceptional men of the community were leaders respected both socially and economically.[4]

Another anomalous aspect of Weber was his continued willingness to move. In 1844 a young man from Sinking Spring in Berks County came to work at the Weber mill. John Addams was a very enterprising individual and was so exceptional that within the year of his arrival, he convinced Sarah Weber, George's daughter, to marry him. Following their marriage, the young couple moved to Freeport, Illinois, the far frontier of the United States at that time. Within the year, George Weber committed to a similar move, sold all his businesses and properties in Allen Township, and removed to Como, Illinois, where he died in 1851.

The Weber clan represents an interesting example of withdrawal from the agrarian economy. Weber had six children. His oldest son, Devault, attended Lafayette, became a hydraulic engineer, and lived out his adult life in Montgomery County, Pennsylvania. One of his daughters, Margaret, married the neighbor boy, Charles Becker, who followed in his father's footsteps and became a minister of the Gospel. When George Weber moved to Illinois, he gave Margaret and Charles as a dower his splendid new house built in 1840. Sadly, Margaret Becker died in 1851 at the age of 35. His son George, also a Lafayette

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[4]Tax assessment records of Allen and Moore Townships, see Appendix D; Moses Auge, Lives of the Eminent Dead (1879); Hood, The Weaver's Craft; Henry, Map of Northampton County.

graduate, was granted the 28-acre mill properties along the Hokendauqua Creek. He too had wanderlust, sold the property to John Laubach, a brother of Peter, and became a minister of the Gospel and an immigrant to Iowa. Most notable of George's progeny was unquestionably Sarah Weber Addams' daughter Jane, who was awarded the 1923 Nobel Peace Prize for her long career at Hull House in Chicago. It is passing curiosity that an agrarian entrepreneur like George Weber would also be the grandfather of one of the country's most famous women who was one of the early urban social pioneers.[5]

In the middle part of the nineteenth century, the Townships of Moore and Allen responded to a different impetus with the beginning of industrial development directly in the townships. In 1850 William Chapman opened a slate quarry in Moore Township. By 1864 his quarry was so successful that he was able to obtain a charter from the Pennsylvania State Legislature incorporating the Chapman Slate Company. In 1865 he obtained a charter incorporating the Borough of Chapman as a small enclave within Moore Township. The Chapman Slate Quarry was a substantial enterprise. On the date of incorporation it had a capitalization of $300,000. This is particularly impressive because the entire assessed value of the land in Moore Township in 1870 was $307,298. The land assessment only represented a percentage of fair market value, but the proportion remained startling.[6]

Chapman, as a young man, had worked in the slate quarries of Cornwall, England. He arrived in the United States in 1842, and by 1850 he was the owner and operator of what became Chapman Slate Company. By 1880 it was a sophisticated operation utilizing six steam engines, two steam drills, three diamond saws and two planers while employing 160 hands earning collectively $50,000 annually in wages. Chapman himself moved to Bethlehem to oversee his various enterprises, leaving his brother Richard to reside in

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[5]Asa K. McIlhaney, Historical Notes from the Writings of Asa K. McIlhaney (Easton Public Library, 1956); Auge, Eminent Dead; Northampton County deeds.

[6]Manufacturing and Mercantile Resources of the Lehigh Valley (Philadelphia: Industrial Publishing Company, 1881).

Chapman Quarry as the onsite plant superintendent. The company maintained a sales office in New York City and was successful to the end of the century as a major supplier of slate and slate products. The business was dependent on a railroad line that extended from Bethlehem along the Monocacy Creek to the slate quarry property.[7]

In Allen Township a new business had begun in 1867, the Lehigh Car Manufacturing Company. This business was founded by George H. Stem and his brother William, who had an earlier plant across the Lehigh River in Coplay. In 1871 they also received a state incorporation as the Lehigh Car Manufacturing Company, which made a wide variety of equipment ranging from railroad cars to spring and farm wagons. The 1870 census listed production of 197 flat cars, 142 coal cars and 116 oil cars in 1869. The total production was valued at $322,000 based on a capital investment of $100,000. One hundred forty men were employed, and wages were $7,400. An urban community developed along the bank of the river servicing the car shops. While a relatively small enterprise compared to the $1 million iron operations in South Bethlehem, Catasauqua and Glendon, the Stemton car works had a substantial impact on Allen Township. By 1880, the main building was a 60-foot x 310-foot structure, and the entire plant covered about 15 acres, including foundry, blacksmith shop and other store buildings, with an employment of 250 men making a range of railroad cars, including box, gondola, coal, ore drift and mine cars. Permanent success did not come to the Lehigh Car Manufacturing Company. By the late 1890s it had endured successive bankruptcies and ceased to operate. The car business had been tied to relationships with the Central Railroad of New Jersey, which endured its own financial difficulties. George Stem sold his major interest, but remained a substantial landowner in the community.[8]

In the latter part of the century, a new type of enterprise became a significant economic entity in the agrarian community. Two exemplars of retail sales were Joseph

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[7]Ibid.

[8]Ibid.

Wanamaker and Lambert Beers. Wanamaker, in middle age, transferred his capital from the gristmill along Indian Creek to a store in Kreidersville. Responding to the initial success of his business, he erected a substantial three-story brick building in the 1870s. The building served as both a store and his residence. From this store he was able to provide a wide range of goods to the more affluent agrarian community now developing in the township. Wanamaker died suddenly at the age of 59 in 1880. His estate offers considerable insight in the store business of the period. Partners with his sons-in-law, Wanamaker was credited with a $2,000 capital for his half of the dry goods, groceries, queensware and hardware. In addition to the substantial inventory capital, the firm also had book accounts of $1,500 and notes of $800, and cash exceeding $1,200, thus bringing Wanamaker's one-half interest in the partnership to $3,800. This substantial capital was only a fraction of Wanamaker's wealth, which largely took the form of personal loans; approximately $8,600 was outstanding at his death in the form of book accounts, notes and mortgages. These ranged from as small as $3.04 to as large as $3,000 on a single mortgage note. Also notable was the relatively small amount of consumer goods which a man of not only substantial wealth, but ready access, actually possessed. Wanamaker's enterprise included an agrarian element. He owned a two-horse farm wagon, a Cunningham spring wagon, a two-horse spring wagon, a roller, a hay and grain horse rake, a threshing machine with tread power, 40 bushels of wheat, 10 bushels of rye, an Empire mower and reaper, a wide variety of tools. Of the approximately $1,500 in personal property, over $1,000 was allocated to farm equipment and animals, including three hogs, three cows and three horses, with numerous sets of harness. The actual personal property, represented by furniture, appliances and the like, was barely $300. Again, the Protestant ethic of industry, frugality and enterprise dominated Wanamaker's lifestyle. He took the surpluses of his successful enterprises and invested in the community, providing funds not only for his store and the partnership that operated it, but also for many members of the community in need of capital. His land holdings supported

not only the business, but also generated sustenance for his family. The continued integration of the agrarian enterprises, even in the context of the more modern commercial retail store, was the model of this community. Kreidersville was a village close to Stemton and Siegfrieds, the urban communities along the river, but it was a rural community with many enterprises, i.e. mills, stores, blacksmith shops, weavers and tailors that provided goods and services and capital to the larger rural community.[9]

Lambert Beers's retail enterprises offers a somewhat different picture. Located in the far northeastern corner of Moore Township, the Beers store was located at Katellen. Beers himself was one of eleven children and grew up on a farm in the vicinity. Born in 1854, he learned the trade of cooper and practiced farming at the family homestead. He attended a one-room school and became proficient in arithmetic and penmanship. Shortly after his marriage in 1880, he acquired the store. By 1886 he had enjoyed sufficient success to acquire additional land and build a new building, which housed both his residence and the store. The store occupied roughly two-thirds of the overall structure. Therein, Beers sold dry goods, glassware and jewelry, notions and the like. His inventory also included a variety of hardware and grocery items. After 1895, with the erection of the Lehigh and New England Railroad, he was able to keep his store operating and supplied through railroad transportation. Indeed, he made a weekly trip to Allentown to visit the wholesalers that provided most of his goods. Beers took out a mortgage to erect his store in 1886, and retained the mortgage unpaid for his entire career. He felt that he could pay the interest on an annual basis and use the principal as working capital for his business, rather than repaying it. Since Katellen serviced an extremely rural community, Beers as an entrepreneur was much less successful than Wanamaker. Nonetheless, he was able to maintain the business throughout his life. Despite a brief period of conversion from Republican to Socialist during the difficult economic times of the 1890s, Beers maintained his family in adequate style.

[9]Probate records of Northampton County; 1874 map of Allen Township.

Like Wanamaker, substantial time and effort was devoted to self-sufficiency. The family garden provided vegetables, including beans, corn, cabbage, turnips and potatoes. The orchard provided fruit, and animals were raised for slaughter in the fall. Butchering was done on the site, as were apple butter making and cider production.[10]

Individual farmers also provide examples of entrepreneurial activity. In the first half of the nineteenth century, Daniel Levan provides good illustration. One of several sons of Abraham Levan, Daniel became a successful farmer and gradually acquired from his brothers his father's 240-acre plantation. At his death in 1854, Levan left a will directing that his farm be divided into three parts for each of his three sons. The ultimate plan of distribution created two large contiguous 70-acre farms for Daniel W. Levan and Jacob K. Levan, and a third discontinuous grant of a 15-acre tract which included a dam, a race and a mill property, and a 56-acre agricultural tract. When the third brother died, his two survivors split the two parcels, with Daniel W. Levan taking the mill property and Jacob K. the larger farm tract. The first Daniel Levan's estate included some $1,700 worth of personal property primarily related to the business of farming. This included machines like corn shellers, cultivators, a reaper, plows, harrows, wagons and a winnow mill. He also possessed fifty bushels of wheat in the field, one hundred bushels of oats in the field, 150 bushels of barley in the field, twelve head of oxen, seven shoats and a sow, a horse and a variety of tools. Personal property within the home was very limited: a cupboard, a stove, a table, a sausage machine, an apple peeler, a clock and case, four beds, a chest and a sausage stuffer, being examples of the mix. More than half the estate consisted of financial assets. Daniel Levan had accumulated not only the farm, but $150 in cash, six shares in Siegfried Bridge Company worth $150, book accounts and notes totaling over $1,300. While Daniel Levan's entrepreneurial success was largely land based, it certainly reflected the difference in competence, since none of his brothers were able to retain even the portions of the farm they

[10]Lambert Edward Broad, The Broad Family History, unpublished.

inherited from their father. John and Peter had engaged in the failed paper mill business. Each of the others attempted some enterprises which resulted in their gradual transfer of their inheritance to Daniel. The mark of success continued to be frugal, industrious and enterprising individuals who worked hard to build up their estate.

In the latter half of the nineteenth century, Josiah Kline offers a different image of the successful husbandman, maximizing the value of his agrarian enterprise. Kline was the son of a farmer, who through his own efforts and enterprise, acquired a 100-acre farm contiguous to his father's 100-acre farm. After his father's death, he acquired that farm as well; thus he owned 200 acres within a mile of the Lehigh River in Allen Township. While proof of his successful farming enterprise, the land also became the source of great personal worth for Josiah Kline when another newly emerging industrial enterprise came to Allen Township.

Jose DeNavaro and his son Alfonso were capitalists on a large scale. Jose was a Spanish emigrée who used New York City as his base of operations. He was engaged in a variety of enterprises which culminated in his interest in the portland cement business. DeNavaro was an engineer and an innovator, and he determined that the use of a rotary kiln would be a major breakthrough in the production of portland cement. Beginning initially on the west bank of the Lehigh in Coplay, he developed a successful process for the manufacture of portland cement using a rotary kiln. Determined to take the enterprise to a much more substantial level, he identified the area immediately east of the Lehigh in Allen Township as an ideal location since it contained substantial quantities of the limestone necessary to make portland cement. Anticipating a corporate structure that would actually generate the capital to erect a cement plant, DeNavaro's son approached Kline. He entered into an agreement and purchased, utilizing a mortgage in lieu of cash, two hundred acres of the Kline farm for $100,000. This left farmer Kline one of the wealthiest farmers in the history of Allen Township through the vehicle of land as a commodity.[11]

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[11] Hadley, The Magic Power.

Over the ensuing decade, several farmers became wealthy gentlemen by making their farms part of the Atlas cement enterprise, as well as the competing Lawrence Portland Cement Company, also in Allen Township. Yet another group of farmers, including the latest of the John Kleppingers, benefitted by becoming land developers and selling building lots to provide housing for the burgeoning community of Allen Township. As indicated in the census data, the community doubled in size between 1890 and 1900.

The reality of land values remained the old truism: location, location, location. Allen Township, as well as Moore, was home to people of entrepreneurial spirit, but in the end, some of the greatest fortunes resulted from the mere fact that an individual husbandman had the good luck to own a family farm in a spot where industrial or urban development created enormous added value. This was exemplified by Josiah Kline and John Kleppinger. The husbandman recognized the worth of his land and maximized the benefits to be obtained. These opportunities never really came the way of the Moore Township husbandman, notwithstanding their best efforts. The less arable, harder to reach farms in Moore were always less valued and never produced the stunning gains made possible by industrial and urban development that occurred in Allen Township.

Not all husbandmen were successful entrepreneurs, and failure was a part of capitalism in Allen and Moore Townships. An early example was Dr. John Boyd, descendent of the first settlers in Allen Township, members of the Scotch-Irish immigrants to Weaversville. Dr. Boyd was the owner of a substantial farm and a practicing physician. Prior to his death, the doctor suffered the indignity of a Sheriff's sale of some of his properties in Moore Township. At the time of his death, his estate reflected an interesting combination of debits and credits. The good doctor had 131 creditors in the total sum of $3,200, which represented approximately 75% of the value of his estate. His personal property had produced at auction a total of approximately $1,800, and he had accounts receivable due him from various individuals equaling over $1,500. His widow and heirs

were able to hold approximately $800 of personal property as their share. But the more interesting aspect of his estate were some of the items of personal property which he held. They included a 12-volume History of England, 4-volume Eakens Chemistry, a law book, 4-volume Gibbons' Decline and Fall of the Roman Empire, 5-volume Life of Washington, 3-volume Studies on Nature, 8-volume World Displayed, 4-volume Goldsmiths' Animated Nature, two volumes of Josephus, 2-volume Life of Bonaparte, four volumes of geography, 16 volumes of Shakespeare, ten volumes of the Philadelphia Medical Journal. The doctor's total library was over one hundred books valued in excess of $200. Obviously he had focused his fortune on knowledge, but not on the economic well being of his family.

Conrad Kreider, the younger, acquired 130 acres with an operating gristmill from his father in 1803. By 1805, he had erected the stone manor house shown in Appendix B. By 1820, his financial activities caused him to borrow over $12,000 from the Easton Bank. This debt load proved excessive in the economic turmoil of the 1820s. Conrad Kreider, the younger, after owning and operating a mill property he had received from his father, Conrad Kreider, wagon master, also suffered the indignity of a Sheriff's sale. The property passed to the up and coming George Weber.[12]

A later example of the vagaries of economic survival was John Laubach, a younger brother of Peter Laubach. John, in 1848, purchased the Weber property using funds borrowed from the United Brethren. He operated successfully the two mills that he acquired throughout the ensuing almost thirty years. But the changes in the economy and the shift of the flour trade to the Midwest left Laubach in an untenable position. In 1875, with the original mortgage still unpaid, he surrendered his properties to a creditors' committee, the nineteenth century equivalent of a bankruptcy. Sadly, his son, John A. Laubach, took over the mill business from the creditors and attempted to return it to profitability. In 1885 he

[12]Probate file of John Boyd in the office of the Register of Wills of Northampton County.

followed his father's footsteps and turned over his assets, including the mill property, to a creditors' committee.

The dynamic of agrarian capitalism was not always benign as illustrated by these examples of failure. Loss of home and business were also the part of the fabric of Allen and Moore Townships.

CHAPTER 11
LEGAL CONSTRAINTS
ON PENNSYLVANIA LAND DEVELOPMENT

Pennsylvania's legal system was inherited from England. Its beginnings were the Charter of Charles II to William Penn and Penn's early efforts to create his system of government for his commonwealth. Throughout the colonial period, the dynamic of proprietors with executive power and judicial power, a popular legislature and a British colonial apparatus, revised, modified and altered the British common law tradition. Concurrently, that same common law tradition was being revised, modified and altered in England as well. The changes were sometimes similar, sometimes identical and sometimes totally different. Both the action of courts, governors, legislatures and the crown mixed and matched elements of the evolving legal system. In Pennsylvania, the primary element of economic and legal progress was land development. Land development involved the conversion of raw unoccupied lands into viable agricultural units based on individual ownership and operation. The English system remained a close derivative of the feudal when applied to land law. The English economy moved more rapidly into an industrial age. The English common law reflected these realities in the same way that Pennsylvania's legal system reflected its primitive reality.

The Revolution was the beginning point for the development of Pennsylvania law addressed in this analysis. Several critical changes were imposed on Pennsylvania's legal system during the course of the Revolution. Foremost was the removal of the proprietaries from the system and their replacement with an extremely democratic form of representative government explicated in the 1776 Constitution of Pennsylvania. The Revolution was not a total remaking of the legal system and large chunks of both the common law and British statutes were incorporated into and remained the body of the Pennsylvania legal system. Pennsylvania's popular government implemented direct changes by legislation, and the newly nominated judiciary implemented indirect changes through interpretation of the

common law. These changes would both reflect and control the desires of the Commonwealth's citizens.

The common law tradition was based on a combination of judge-made law and statutes passed by Parliament. The courts were the King, sitting as sovereign to resolve disputes. That resolution was understood to reflect the will of the sovereign and the custom of the community. As each dispute became a decision, those decisions were the precedents for resolving the next dispute. Hundreds of years of common law determinations, interspersed with the sporadic legislative efforts of the Parliament, produced the English common law tradition. Such a diverse and disparate resource, individual decisions written by a multitude of editors, judges and scriveners, presented a continuing problem of general understanding. Various of the great legal minds of the English bench and bar attempted to summarize the common law in the form of commentaries. For the revolutionary period, the greatest of these commentaries was that of William Blackstone, who published lectures that he had delivered in 1756 at the University of Oxford. Blackstone's Commentaries became the standard text for identifying English common law in America from 1765 onward.[1]

Land development in Pennsylvania, in comparison to that of England, reflected several different social and economic forces which were being addressed by the legal system. The common law of England reflected an economy of scarce land resources, abundant people, and mature economic conditions within the agricultural sector. The English system preserved an aristocracy whose wealth and power was based on ownership of large tracts of land. The majority of citizens worked lands which they could never own. The structure of master and servant permeated the family as well. The husband was lord of the household, and the wife played a role of servant with privileges. By way of contrast, Pennsylvania's new republican government would change the common law tradition, in some cases quickly, and

[1]Sir William Blackstone, Knt., Commentaries on the Laws of England in Four Books, Thomas M. Cooley, ed., Third Ed., revised, Vol. 1 (Chicago: Calahan and Codey, 1884), 21.

in some cases slowly throughout the period. In Pennsylvania, land was abundant, people few and the unimproved condition of the land meant very primitive agricultural economies. In England, owning land was an assurance of economic well being. In Pennsylvania, owning land was an opportunity for economic well being that could only be converted to assurance by the transformation of vast forests to arable land. The importance of matching the now unrestrained democratic impulses of Pennsylvania government with the economic necessity of intensive development explained the changes that occurred in Pennsylvania law. From 1780 to 1900, the economic impulse was largely directed by the laws providing for acquisition of lands. The social drive was primarily seen in the laws of inheritanceespecially those pertaining to transfer between husband and wife. The social changes were part of the breakdown of the common law feudal traditions.

The ownership of land was the penultimate objective of the rule of law in the English tradition. The land law of England descended from the principle of tenure established by William the Conqueror. In its original form all land was the property of the sovereign and tenure was the grant of authority to hold and use a portion of the king's estate. Land as a commodity required a form of ownership which would allow the sale, mortgage and clearer rights of inheritance more than the classic feudal tenure. The English system evolved toward a free market in land, and by 1650 the feudal apparatus was largely eliminated, excepting entail and primogeniture.[2]

The common law of land ownership continuously evolved, and in the American colonies that evolution was at least in part specific to each individual colony. Pennsylvania's development began with the Royal Charter granted to William Penn, Proprietary and Governor of Pennsylvania, on March 4, 1681. It granted Penn the powers to impose a government as a proprietary and to sell land:

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[2]Lawrence M. Friedman, A History of American Law, 2nd ed. (New York: Simon and Schuster, 1985), 59.

> . . .in fee simple or fee tail, or for the term of life, or lives or years, to be held of the said William Penn, his heirs and assigns, as of the said seigniory of Windsor by such services, customs and rents, as shall seem fit to the said William Penn, his heirs and assigns,. . .and not immediately of us, our heirs and successors.[3]

Section 18 of the Charter extended the right of sale to each person taking title from Penn. Section 19 returned to the feudal mode by providing for the creation of manors which could operate as independent fiefdoms with a Court-Baron, but also with the right to make fee simple conveyances to title holders within the manor.

Charles's Charter was an example of the evolution from the feudal tenure to the fee simple title of the modern era. Penn promptly entered into a Contract of Concessions with his initial group of purchasers providing for a program of land sales. A prominent condition required that each property owner plant a share of his property within three years of the purchase, failing which, newcomers could be settled thereupon.[4]

From this feudal remnant, Pennsylvania's law of land development evolved. From the charter to 1776, the sale of land was largely controlled by the proprietors. William Penn established early on basic principles which only allowed settlement on lands purchased from the native Americans.[5] The proprietors sold tracts, both large and small, usually subject to a rent service.[6] As the seventeenth century progressed, it became clear that large portions of eastern Pennsylvania were being settled without the approval of the proprietors. In 1765, the proprietors created a plan for their land office to sell any vacant land purchased from the Indians and not appropriated to the proprietor's use. Tracts were limited to no more than

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[3]Laws of the Commonwealth of Pennsylvania, 1700-1829, Smith's Laws, Section 17 of the Charter, p. 410, vol. 5, John Bioren, Philadelphia (1812). Authorized by the Pennsylvania legislature as an official compilation of the laws of Pennsylvania from 1700 to 1829. The volumes were edited by Charles Smith, Esquire, and thereafter referred to as "Smith's Laws."

[4]Smith's Laws, vol. 5, 411.

[5]Smith's Laws, vol. 2 note, 113.

[6]Smith's Laws, vol. 2 note, 140.

three hundred acres. The charge was five pounds per hundred acres, with a continuing quit rent and an allowance for time to pay. In addition, the proprietors recognized that persons possessing or claiming lands who had not submitted applications for a warrant would be allowed to do so, and the survey of the warrant would identify the land possessed.[7]

The Revolution brought an end to the proprietary system, and with the act of the Legislature known as the Divestiture Act of 1779 an end to the Penn's control of Pennsylvania. The Divestiture Act, though it preceded the federal Constitution, anticipated the right to payment for a taking of land by the Commonwealth. Section 13 of the Act provided for the payment of 130,000 pounds sterling to the Penn proprietors. In addition, the Act recognized that those tracts surveyed and deeded to the Penns individually would also be preserved as their property. The Act otherwise transferred all the property of the proprietaries of Pennsylvania to the Commonwealth, and further transferred all unpaid claims for land sold to the Commonwealth. The Act preserved and further confirmed all existing titles to lands in Pennsylvania properly established under the laws in effect in 1776. The Act also abolished quit rents entirely. It was several years after the passage of the Divestiture Act that the Penns accepted as fair compensation the 130,000 pounds appropriated, thereby concluding in an amicable matter all title issues related to real estate of the Commonwealth. Henceforth, the citizens of Pennsylvania, through their government, would determine the manner of development of the state's lands.[8]

It was not until 1784 that the legislature of Pennsylvania felt ready to reopen the vacant lands for development. On April 1 of that year, an act was passed opening the land up and providing for the disposition of unappropriated lands in Pennsylvania.[9] The Act largely followed the proprietor's procedure of twenty years earlier. Grants were limited to

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[7]Smith's Laws, vol. 2 note, 163.

[8]Smith's Laws, vol. 1, 479-483.

[9]Smith's Laws, vol. 2, 102.

no more than four hundred acres per person. All titles existing from before 1776 validly claimed from the proprietaries were reaffirmed. Mindful of the lack of available money, the Act provided two years for payment of lots claimed. It also provided that certificates of depreciation granted to Revolutionary soldiers, certificates for money loaned by the United States, and all of the other categories of indebtedness created by the Revolutionary War were to be treated as legal tender for the purchase of Pennsylvania real estate. Land was priced at ten pounds per hundred acres, with the usual fees for granting, surveying and patenting. Special allowance was made for the lands west of the Allegheny mountains, where the price was set at three pounds ten shillings per hundred acres. Preference was given to applicants who could produce a certificate showing improvement to the lands sought to be warranted.

The practical effect of the 1784 law on land development can be seen in the case of Bond v. Fitzrandolph decided by the Pennsylvania Supreme Court in May of 1797. The matter arose in Allegheny County and involved four hundred acres of land along French Creek. In 1789, Cornelius VanHorn had erected a cabin of heavy logs on the land. Bond, an officer under General Wayne, serving in the Army during the Indian War of 1792, was stationed in the immediate area. He pulled down VanHorn's cabin and erected a new cabin within a couple thousand feet of the original. Bond fenced off a field of ten acres which had been formerly cultivated by native Americans. In the spring of 1793, he planted a half acre of corn and a half acre of potatoes, and prior to his military recall from the area, located a tenant on the tract. Fitzrandolph, claiming the rights created by VanHorn, drove the tenant from the cabin and took possession of the fields. In 1794, Fitzrandolph obtained a survey of 401 acres. He continued to live on the land. He erected three other houses, cleared and fenced twenty acres of ground, and placed the whole in cultivation. Neither Bond nor his tenant returned to the county until filing the action in 1797. The court determined that Fitzrandolph was entitled to the property, since his possession was complete and uncontested physically by Bond for the several years.

Another case was noteworthy because the defendant property owner was a woman. This was also a case in Allegheny County involving four hundred acres. Plaintiff Ewald, who lived in the vicinity, crossed the Allegheny River, deadened an acre of timber, erected a cabin, planted peach stones, apple seeds and potatoes, but never resided on the land or placed tenants on it. In 1794, a survey was made of the claim. The defendant, Martha Highlands, who had previously resided with her family on the tract in question for a period of three years. The court recognized that actual settlement improvement referred to in the Act must mean personal residence. It did not consider the pretense of settlement used by the plaintiff to obtain a warrant and survey sufficient to overturn the actual residence and improvements of Martha Highlands. The court non-suited the plaintiff.

A third example, also over the issue of settlement, is found in the case of McLaughlin v. Dawson, from Allegheny County in 1800. McLaughlin grubbed a small piece of ground in 1792 which was near to a cabin erected by one Link in 1790. McLaughlin resided in Link's cabin, made improvements, and maintained a potato patch and garden. In 1793 he continued to live in the cabin, and on May 16, 1793, he obtained a warrant. On December 11, 1793, he obtained a survey of four hundred acres. In 1794, McLaughlin cleared further ground and planted four or five acres of Indian corn. From 1795 to 1797 he lived in the cabin, had cattle and raised turnips. The defendant Dawson also occupied the immediate area in April of 1792. He planted ten to fifteen hills of Indian corn, deadened seven or eight trees, and put his initials on Link's cabin. In the following months, he continued to grub ground and plow approximately two acres of fields. Eventually, he built a good block house about twelve feet square without a roof. In 1793, he added clapboard, a door and a roof to his block house, and cleared four more acres of land. From time to time, he occupied the block house. After 1793, he joined the militia for six months and then returned to the area to plant several acres of crops. At the time he generally lived with a brother some distance away. In 1796, Dawson married, moved with his wife to the block

house where he resided thereafter. He had about ten acres cleared and under good fence in the vicinity of his block house. Both parties obtained warrants for the same acreage. The court recognized that while the land office statute with later modifications required that improvements of at least two acres of every hundred in the survey and erection of a dwelling and actual residence for five years were the minimum necessary to confirm title to warranted lands, that did not entirely answer the question presented by the case. The court looked to the fact of residence and concluded that the plaintiff had actually resided continuously on the premises from 1792 throughout the period of Indian aggression, and with continuous improvement and condition to the cultivated land. The verdict was given to the plaintiff.

These cases reflect the subtle realities of Pennsylvania's law for the distribution of vacant lands. Squatters were the archetypical settler. They cleared relatively small areas of land, as little as two acres in one hundred, but laid claim to tracts of four hundred acres. Improvements consisted of log residences, a few cultivated fields, and some animal husbandry. Warrants, surveys and patents would come over a period of time, payment even later. Pennsylvania wanted settlers; it wanted the vacant lands occupied; and it wanted its citizens to be yeoman farmers, though the poverty of their condition was great.[10]

The statutes of the Commonwealth and the policies and statutes of the proprietors were not the only law that controlled and directed the development of land use in early Pennsylvania. The common law rules for inheritance also played a major role in affirming the way Pennsylvania's lands were owned and utilized. In order to understand how the laws of inheritance affected development, we must review the evolution of land laws of England and Pennsylvania. As previously discussed, English common law was primarily land law. It derived from the feudal tenure system. An example of the use of feudal tenure is the doctrine of fee tail, or entail. This particular form of title to real estate guaranteed that the eldest son of the title holder would succeed to the title in perpetual succession. No creditor

[10]Smith's Laws, vol. 2 note, 206-210.

nor deed by a title holder could impair or bar the interests of the eldest son of the next generation. The laws of descent also applied to transfer title through as many collateral heirs, younger sons, or grandsons as may be necessary to maintain title in a male heir of the progenitor. For a landed aristocracy in a world of scarce land, this system had obvious beneficial features. However, it greatly reduced the market value of land, because a purchaser acquired rights only for the life of the seller, and then the title reverted to the next generation of male heir. Equally, it provided no collateral to a creditor, since they also could only claim the land for the life of their debtor. This restraint on alienability did not work well in a colonial setting. As early as 1750, the governing body of Pennsylvania barred the entail.[11] The contest between the efforts of the feudal system to restrict land ownership to the blooded aristocracy and the needs of the colonial economy to make land freely available for sale or mortgage and a part of a market economy were obvious. The law evolved constantly over time to address the special interests of both groups. In 1794, Pennsylvania took a major step forward and broke entirely with the common law tradition.[12] For England, Blackstone, the great codifier of common law, stated the strict law of primogeniture as the standard for intestate succession to real property. Unless all the formalities were closely observed, Blackstone would overturn any will or deed that deviated from the laws of descent. The 1794 action of the Pennsylvania legislature, following on the common law decisions of Pennsylvania courts, made every effort to favor fee simple title, thus allowing maximum marketability for the real estate.

The Intestate Act of 1794 first provided for procedure to manage decedents' estates. It next addressed the issue of creditors' claims and made clear that real estate was encumbered only by those claims which remained a lien on the land of the decedent, and imposed a seven-year statute of limitations for actions against decedents' real property.

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[11] Smith's Laws, vol. 1, 203.

[12] Blackstone, Commentaries on the Laws of England.

Section 3 of the Act addressed descent. Pennsylvania provided a statutory remedy. If the intestate left a widow and lawful issue, the widow would be entitled to a one-third part of the real property for and during her natural life. The remaining two-thirds of the real property would immediately descend and be distributed to the lawful children of the intestate. The common law feudal tradition of descent was overturned. All children, regardless of sex, inherited an equal share. Their right as a tenant in common to that equal share was immediately subject to familial disposition. It was easy to see the ideal of the yeoman farmer and nuclear family in the text of this law. The family unit was kept together and power distributed equally among the members. The economic unit of the farm remained unitary. Alternate patterns of descent were provided depending upon the existence of a surviving spouse or children, but in every case, equality of right among heirs was observed. The only concession to common law was the status of a widow with no lawful issue. She received a one-half interest in the real property, including the mansion house, during her natural life. The balance descended to the husband's heirs.

Lastly, the Act addressed the problem of dispute among the heirs and provided for the process of partition, which would allow the estate to be divided among the heirs. To avoid the possibility of a non-economic unit, the law specifically required a court to determine if lands could be divided without prejudice to or spoiling of the whole. It further provided that an inquest of seven persons should make an appraisal and offer the property at the appraised price in succession, first to the eldest son, then by descent to each son, then by descent to the eldest daughter, and each successor, and then by sale to the public. The widow was limited in these instances to the income from her share and never received proceeds of sale. In 1797, the Act was altered to particularly provide for the rights of intestacy in the event that the property owner was a woman survived by a husband. The husband received his rights as a tenant by curtesy. Effectively, the husband obtained total

control of his wife's property during his life.[13] By a further amendment in 1807, the widow's share was converted to a charge upon the shares of her children and the interest was to be paid annually and regularly to the widow, and she was given rights to collect it from the children if they failed to promptly pay. The Intestate Act was a partial revision of the common law rights of husband and wife. In the common law, the wife's rights upon the death of the husband were described as dower. The wife was given a one-third life estate in the real property of the husband and a one-third outright interest in the personal property of the husband. Curtesy was the word to describe the husband's common law right if the wife predeceased. The husband received a life estate in all of the wife's real property. The husband received outright all of the wife's personal property. The most striking bias of Pennsylvania's statute was the failure to provide for a wife's intestacy if her husband survived. If the intestate had only a mother surviving, the mother received a life estate in the deceased's property. If the husband survived, his rights remained those of curtesy under the common law. The evolving changes in society, which abandoned much of the feudal aspects of common law tradition, were not extended to the relationship of husband and wife. This remained very much a continuation of Blackstone's description of the law of baron and feme.

All the efforts of the Pennsylvania legislature, reminiscent of the Acts of the Assembly during the term of the proprietors, were to create a system antithetical to the common law of descent and its feudal tradition. The system favored the nuclear family as equal participants without regard to sex. It favored the economic viability of the farming unit as opposed to endless subdivision randomly required by the number of children of a decedent. It protected the widow but used income as opposed to burdening the real property. In all respects, the law sought to maintain the marketability of the farm unit and the yeoman culture that it supported.

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[13] Smith's Laws, vol. 3, 142, notes, 167

Despite the tension between it and the perceived needs of post-Revolutionary Pennsylvania to stimulate land development, the common law retained its position of dominance in the Pennsylvania judicial system. The power of the common law derived from its origins in the English system. As Blackstone explained in the introduction to his Commentaries on the Laws of England,

> The municipal law of England. . .may with sufficient propriety be divided into two kinds: the lex non scripta, the unwritten, or common law; the lex scripta, the written, or statute law.[14]

He further described the common law as the general customs which are the universal rule of the whole kingdom. These customs were recorded in the decisions of the courts and of the judges. Blackstone identified the judges as the depositories of the laws, the living oracles who must decide in all cases of doubt. Their decisions would be based on their knowledge of the law and the precedents of earlier decisions.

Thomas M. Cooley, the editor of a notable edition of Blackstone's Commentaries in America, referred to Kent's Commentaries to provide an American definition of the common law:

> The common law includes those principles, usages and rules or action applicable to the government and security of person and property, which do not rest for their authority upon any express and positive declaration of the will of the legislature.[15]

The common law of the American states consisted of the common law of England as modified by English statutes previous to the colonization of America.[16]

The authority of the common law in Pennsylvania was recognized shortly after the Declaration of Independence by an act of the General Assembly passed January 28, 1777. The Act began by declaring that the British king and Parliament had claimed unconstitutional

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[14]Blackstone, Commentaries on the Laws of England, 37.

[15]1 Kent's Commentaries, 360

[16]Blackstone, Commentaries on the Laws of England, 37, 40.

power over the American colonies. This reference to constitutional power referred to the British Constitution, which was now set aside by the colonies declaring themselves free and independent states. Nonetheless, the legal system had to be preserved. The Assembly concluded:

> . . .that each and every one of the laws or acts of the general assembly that were in force and binding on the inhabitants of the said province on the fourteenth day of May last shall be in force and binding on the inhabitants of this state from and after the tenth day of February next.

The statute also incorporated "the common law. . .and such of the statutes-laws of England, as have heretofore been in force in the said province. They must be obeyed by every person." The notes to the official commentary in Smith's Laws cites 1 Dallas 58 for the proposition that the common law of England has always been in force in Pennsylvania. The note also provided a list of the British statutes identified by the Supreme Court in 1808-09 as extending to Pennsylvania.[17] As early as 1782, Chief Justice McKean issued an opinion that the common law of England has always been in force in Pennsylvania. The case of Morris's Lessee v. Vanderen[18] stood for the proposition that the English law, insofar as it is suitable to the condition and business of our people and consistent with the constitutional and statutory law became the law of Pennsylvania.

An interesting example of the continued tension between feudal land law and the Pennsylvania preference for marketability was found in the case of Lyle v. Richards.[19] The text of this case originated in the estate plan of a notable Philadelphian, James Hamilton, Esquire. Hamilton wrote a will devising his real estate, 153 acres known as Bush Hill, to his nephew for life with remainders to the children of his nephew. The peculiarity of the will's successive life estates was to create a version of the fee tail. James Hamilton died in 1783.

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[17] Smith's Laws, vol. 1, 429-430.

[18] 1 U.S. 64, 1 Dallas 64, 1 Lawyer's Edition 38 (Pa. 1782).

[19] 9 Sergeant and Rawle, 322, et seq. (1823).

In 1813, his nephew died. In 1814, the eldest son of the nephew, in a joint effort with his brother, utilized a legal proceeding of common recovery to defeat the fee tail provided in James Hamilton's will and allow the younger James Hamilton to sell the real property he inherited by fee simple deeds in the open market. Other family members who were being dispossessed of their reversionary rights under the fee tail sued to set aside the common recovery. The opinion of the Court and the supplementary opinions of two of the judges provide an excellent summary of Pennsylvania land law as it developed in the early nineteenth century. Chief Justice Tilghman described common recovery as a mechanism dating back to Lord Coke's time. It served the beneficial purpose of eliminating estate's tail. Justice Tilghman noted

> The house of peers adhered to the statute de donis, because it protected their estates from forfeiture, and transmitted them, unencumbered with debts, to the heir; it was vain, therefore, to expect relief from parliament. In this situation the matter stood, when the courts of justice encouraged that device of a common recovery, for barring of the estate's tail. Founded on a fiction, and not to be defended on any principles of sound reason; but it answered a good purpose and the end justified the means.[20]

Justice Tilghman went on to point out:

> Some parts of the common law, indeed, would have been altogether unsuitable to the spirit of the government about to be established in Pennsylvania and therefore, were never adopted; but there was no inconvenience in holding real property by the same kind of estates as in England.[21]

After much learned discussion of the law of the colonial era, Judge Tilghman concluded that the common recovery attempted by the younger Hamilton was successful and he could convey good estate in fee to a purchaser.

Justice Gibbons, in a lengthy dissent, nonetheless concluded:

> No freeman would hesitate to prefer the hardy features of personal independence of this most excellent system of jurisprudence, notwithstanding the subtlety of its form, and the tediousness of its administration, to the civil

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[20] 9 Sergeant and Rawle, 329.

[21] 9 Sergeant and Rawle, 353

> law the code continental Europe, under which justice may be unceremoniously snatched by hand of power. It is one of the noblest properties of this common law, that instead of molding the habits, the manners and the transactions of mankind to inflexible rules, it adapts itself to the business and circumstances of the times, and keeps pace with the improvements of the age.[22]

Judge Duncan, the third to comment in the case, stated:

> It would be a work of labor and of difficulty, for any judge to state what parts of the common law the colonists did bring with them. Some parts of the common law and the statutes of England were never used here; some of both laws were supplied, modified and altered by the legislative acts; and some were rejected in use as inconsistent with the policy of a newly-settled country.[23]

Judge Duncan extended his theme: ". . .the opinion of the first settlers, how inconsistent restraints on alienation were with the policy of our infant settlement."[24] "Our ancestors emigrated with sentiments hostile to restriction on the transfer of lands, impressed with the mischiefs of entails."[25] The priority of the common law, though, was also clear in Judge Duncan's opinion: "It is an obvious principle in the construction of statute that they are never presumed to make an alteration in the common law, further then as the statute declares; and where there is a right at common law, and the statute takes away that right, it is to be construed strictly, and not to go beyond its very words."

The common law represented the customs and traditions developed throughout the history of English, American and Pennsylvania jurisprudence. It was law based on precedent and rules which were to be followed unless flatly obscure or unjust. Moreover, it was seen by its practitioners as a law based on English liberty, because it carried through with customs probably introduced by the voluntary consent of the people.[26] The common law's great

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[22] 9 Sergeant and Rawle, 351.

[23] 9 Sergeant and Rawle, 352.

[24] 9 Sergeant and Rawle, 353.

[25] 9 Sergeant and Rawle, 358.

[26] Blackstone, Commentaries on the Laws of England, 72.

power over the legal system of early Pennsylvania was the continued perception that it was an intrinsic part of the system of a rule of law and not men. The stability, consistency and practicality of common law usage supported a stable government and society.

Pennsylvania courts made many adjustments to the common law to enhance the status of the yeoman farmer. These adjustments did not extend to the yeoman farmer's wife. Blackstone devoted Chapter 15 of Book 1 of his Commentary to the relationship of husband and wife. It was not surprising that Chapter 14 was the law of master and servant, and that it was introduced as follows: "The three great relations in private life are, (1) that of master and servant. . .(2) that of husband and wife. . .(3) that of parent and child."[27] In each case, Blackstone was describing rights and duties in private economic relations. Stripped of any romance, husband and wives were referred to as baron and feme, and marriage as a civil contract. Subsection 3 of Chapter 15 spoke of the legal consequences of marriage. First and foremost, the husband and wife were one person in the law. One person was achieved by suspending the legal existence of the wife and incorporating and consolidating it into that of the husband, under whose wing, protection and cover the wife performed everything, thus, the phrase feme-covert. Under the protection and influence of her husband, her baron, her lord, the condition during marriage was that of coverture. A woman could be an attorney for her husband, because that maintained her status as a representative of her lord. The husband, during coverture, was bound to provide the wife with the necessities, pay her debts if incurred for necessaries, and any debts she may have acquired before marriage. Any suit against the wife must include the husband. A wife could not give a deed without the joinder of her husband. It was also true that Blackstone believed that the husband might give his wife moderate correction. Notwithstanding, Blackstone concluded that the effects of coverture on the wife are for her protection and benefit ". . .so great a favorite is the female sex of the laws of England." An early commentator, Mr. Christian, published in a footnote

[27]Ibid., 421.

in Cooley's Blackstone at Page 290 provided a contradictory opinion of the benefits of English law to the female sex with particular reference to the impact of curtesy, dower and coverture.[28]

Pennsylvania law after the Revolution largely adopted the common law described by Blackstone. First, dower signified tenancy available to the widow upon the death of her husband who died the owner of land. She was entitled to a one-third part of all the lands and tenements for the term of her natural life. The dower was restated and made a part of the intestate law of Pennsylvania, which introduced some change to the common law requirements. Second, tenant by the curtesy described the rights of a man marrying a woman with real estate. The curtesy took effect if children were born of the marriage and after the death of the wife. The husband had the absolute right to all real property for the remainder of his life.[29] The means of partially broadening the rights of a wife were addressed as early as 1718 in an act concerning feme-sole traders.[30] The Act addressed the needs of a wife who was able to maintain herself by shop keeping or other means which required her to incur debts to buy goods. Additionally, it was perceived wives whose husbands were absent for extended periods were to be entrusted to manage their husbands' assets so as to support their families. The law allowed the wife to submit her status to the court and be determined a feme sole trader. Once determined a feme sole trader, she had the right to sue and be sued, all in her own name. If, after the passage of seven years, the husband was not located, then the husband's lands could be sold by the wife for the support and maintenance of herself and her children. In the colonial era, the law sought to maintain the abandoned family, enabling it to function in an economic way and to survive as a unit notwithstanding the loss of the husband provider. No further expansion of the wife's rights occurred until the Married

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[28]Ibid., 444.

[29]Ibid., 126.

[30]Smith's Laws, Vol. 1, 99.

Woman's Act of 1848 and the later Act of 1893, which effectively abandoned the common law rules of baron and feme.

Pennsylvania law supported a yeoman farmer with a nuclear family. It maintained the original common law emphasis. Yeoman farmer meant the husband, with the wife and children servants of the private economic unit managed by the husband. Pennsylvania also recognized that the failure of the husband to effectively perform his role as master of the private economic unit needed to be addressed. The feme sole trader allowed the wife to assume the role as head of the family unit to preserve the private economic state of yeoman farmer. It also enabled the market to transfer real property from economic units not capable of management to economic units better able to support the private economic entity of a yeoman farm.

The English common law system descended from the political economy of limited land resources, primitive economic development and minimal government. The land holder was given governmental powers and required to fulfill governmental roles. As the economic system developed and the role of government expanded, the rights of land owners evolved. The aristocrats, who owned the land and obtained the economic benefit, sought to retain their personal wealth, while at the same time surrendering some of the powers of government and the duties to serve in defense of their land to the new governments. In Pennsylvania, the process was accelerated by two particular forces. Most obviously, the ratio of land to persons was unlimited. Secondly, land in a state of wilderness had minimal economic value, and could be converted to agricultural use through the expenditure of much human capital. The willingness of Pennsylvania's proprietors and its republican government to give rights to 400 acres at nominal price in exchange for improvements of eight or ten acres within the whole, demonstrated vividly the importance of improvements to raw land.

The legal system needed to adjust to address the broad distribution of land ownership. There was no aristocracy. There could be no aristocracy if improvements were made by the

yeoman farmer. Penn's charter envisioned a manorial system and some of the early purchasers acquired large tracts, but it was never possible to bring a sufficiency of servants to make the improvements. The individual, by dint of his sweat equity, ruled supreme in the development of Pennsylvania agriculture. To accommodate that individual, titles were passed after improvements were made. Payment of money was deferred until economic capability supported the payment. The recognition that settlers come in waves with different skills and inclinations supported the free alienability of real estate. The early settler sought a homestead 400-acre parcel by cultivating ten or twenty of those acres and erecting a log cabin. They then sold the estate to the next wave who could afford to purchase and intended to further build the agricultural unit. Often, a second or third purchaser was the individual to finalize the patent and obtain clear title to the farming unit. The perception that economic development was integrated and supported by multiple farming units is inherent in the words of the Lyle court. Lands were to be freely alienable because free men wanted that liberty.

The original Constitution of Pennsylvania provided considerable insight into the quality and character of the expected republican citizen. The Constitution was passed by a General Convention convened July 15, 1776, which adjourned on September 28, 1776. The Constitution contained a preamble which generally explained the circumstances of the Revolution and the need for the freemen of Pennsylvania to meet to frame a government by common consent and without violence. That government was to have just rules and original principles which would best promote the general happiness of the people without partiality or prejudice against any particular class, sect or denomination of men.[31] The Constitution was then divided into two parts, Chapter 1 being a declaration of rights and Chapter 2 being the frame of government. The fourteenth right stated "...a firm adherence to justice, moderation, temperance, industry and frugality, are absolutely necessary to preserve the

[31] 5 Smith's Laws, 424.

blessings of liberty and keep a government free."[32] In Chapter 2, Section 36 "As every freeman, to preserve his independence (if without a sufficient estate) ought to have some profession, calling, trade or farm, whereby he may honestly subsist..." Having established the kind of citizen, Section 41 explained how the citizen and government should interact: "...The purpose for which any tax is to be raised ought to appear clearly to the legislature to be of more service to the community than the money would be, if not collected;..." Virtuous citizens should retain their economic benefits unless there was a clear community need which demanded government action. As an example of the open-minded approach to freemen becoming a part of Pennsylvania's development, Section 42 provided: "Every foreigner of good character who comes to settle in this state...may purchase, or by other just means acquire, hold, and transfer land or other real estate;..." The Constitution on which Pennsylvania was founded as an independent state wanted citizens who were temperate, industrious and frugal. It expected those citizens to preserve their independence and status as freemen by working at a profession, a calling, a trade or a farm. It assumed that freemen would be men of good character and that ownership of land would be a critical element for maintaining their status. In order to preserve the yeoman ideal, Section 44 required the establishment of schools to be paid for by the government to instruct youth at low prices and provide useful learning. Lastly, Section 45 created the need for laws encouraging virtue and preventing vice and immorality. A virtuous freeman was the building block of Pennsylvania government. Intrinsic to this success of freemen as citizen was ready access to land, the ability to market it, and the need to preserve it as a viable economic unit.

Throughout the nineteenth century, Pennsylvania continued to expand and develop the original rights and privileges of individual citizens. While the legislative efforts to convey vacant lands remained largely unchanged throughout the nineteenth century, the amount of desirable land available was quickly reduced. Nonetheless, acquisition by

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[32] 5 Smith's Laws, 426.

improvement continued until the Act of March 28, 1905.[33] In 1818 the Commonwealth estimated that there were 1.75 million acres of warranted land not patented. After the Civil War, a major effort was undertaken to bring about the payment of liens for properties occupied for which no patent had been finally issued. A ten-year report issued in 1874 showed over $500,000 collected but over $750,000 outstanding. By the end of the century, the Commonwealth gave up attempting to collect these liens of ancient origin, and the squatters prevailed.[34]

Two other areas of the law remained active, that of inheritance and the status of women. In 1833, the legislature revisited the law of intestate succession.[35] For the first time, the statute addressed both widow and widower and established their respective rights. A clear bias between the two remained. The widow received a one-third interest in the real estate for the term of her life, and a one-third part of the personal property outright. If the marriage had no children, then the widow received one-half of the real estate for life, including the entirety of the mansion house and one-half of the personal property. The husband, on the other hand, received the entirety of the real property for his life and the entirety of the personal property outright. The Act went on in detail to maintain total equality between children and collateral heirs should there be no children.

The next statutory effort was Act No. 53 of 1869 providing that a widow could take against a will, but she could not claim the common law dower, but only that interest provided under the intestate act. The law also provided for the Orphans' Court to deal with the real estate by partition or sale to protect and pay out the interests of the widow.[36]

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[33]John G. Stephenson, III, "Land Office Business in Pennsylvania", Villanova Law Review, Vol. 4 (1958-59), 186.

[34]Munger, Pennsylvania Land Records, 176-177.

[35]Laws of Pennsylvania, (1833) 315-320, Act 143.

[36]Laws of Pennsylvania (1869), 77-78.

The last vestige of common law feudalism remained the limitation on married women. A widow or an unmarried woman possessed the right to sell real property. The feme sole trader gave the same right to the abused wife, but the married couple remained a unitary person, and that person was the husband. Pennsylvania's first statutory modification of that common law status was the act of the legislature in 1847:

> ...that every species and description of property owned by a single woman will continue to be property of such woman as fully after her marriage as before. It will be free of levy and execution for the debts of her husband, that may not be conveyed by her husband without her written consent.[37]

This benefit was accompanied by a change in the common law burdens. The husband was no longer liable for the debts of the wife contracted before marriage. The Act also allowed the wife to dispose of her property by will. The Act did specifically preserve the husband's right as a tenant by curtesy, thus continuing the common law bias in favor of the husband. The legislature revisited the subject in 1855 by Act 456,[38] which restated the law of feme sole trader, marking it back to the colonial statute of 1718. The statute extended the abused spouse status to bar a husband who deserted, neglected or failed to maintain the wife for at least one year prior to her death from making a claim of curtesy on her property. The law also for the first time included adopted children as equal heirs under the law. Pennsylvania's legislature continued to wrestle with married persons' property acts, and the laws were modified in 1887 and 1893.[39]

Pennsylvania courts continued to struggle with a transition from the common law to the continued effort of the legislature to broaden the rights of married women and break down the coverture described by Blackstone. The Pennsylvania Supreme Court remained

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[37] Laws of Pennsylvania (1848), 536-537.

[38] Laws of Pennsylvania, (1855) 430-431.

[39] Laws of Pennsylvania, (1887) 332-333; Laws of Pennsylvania, (1893), 344-345.

firmly in the common law camp. In the case of Lancaster County Bank v. Stauffer,[40] term 1849, John Stauffer owed money to the bank. Elizabeth Stauffer, his wife, owned property. What was the status of the husband's curtesy in that property? Chief Justice Gibson, speaking for the court, said: ". . .the husband is tenant by the curtesy initiate by the marriage. . ." Relying on Blackstone, the court concluded the husband became seised of a freehold by the marriage because the wife's existence has entered into the husband's with all her rights and duties attached. . . In contemplation of law, her person is his person, and her seisin, his seisin. As soon as children are born of the marriage, the husband becomes seised of a life estate (his curtesy) in the property of his wife. The court determined that the bank should be allowed to collect the proceeds of the sale of the property allocable to the wife and hold them in trust, the income to be collected by the bank for the life of the husband; and on the death of the husband, the property to go to the heirs so entitled; or, if the wife still lived, then to the wife. The Married Woman's Act would take effect in later cases.

In Williams v. Baker, an 1872 case, the Pennsylvania Supreme Court considered the right of a wife to convey property. Nancy Baker, wife of John Baker, was an heir to real property by reason of the death of her father. She joined with her husband in a conveyance of her one-tenth interest in the inherited property, and her husband received consideration of $150. At the time, she was under the age of 21. Subsequently, she brought a suit against the purchaser seeking to recover the purchase money a second time and disavowing her signature on the deed because of her age. In the Williams case, Nancy Baker testified that she had not commenced that action, but that it had been done by her husband. Twenty years after the fact, the case was pending before the Supreme Court of Pennsylvania seeking to confirm title in the undivided one-tenth interest that Nancy Baker inherited. Judge Williams, speaking for the court, referred first to the statute of 1770 requiring that the wife acknowledge a deed after separate interview to establish that she was not under duress from her husband. The court

[40] Lancaster County Bank v. Stauffer, 10 Pennsylvania 398 (1849).

concluded that even the magistrate's certificate of her separate interview did not change the fact that she was a minor and the deed void. The court then discussed the fact of payment to the husband and concluded that it did not equate to payment to the wife. The court dismissed the idea that an action filed in 1852, again allegedly by her husband, did not constitute ratification of the deed after she was 21. Lastly, the court considered the Doctrine of Coverture. The court referred to the Married Woman's Act and concluded that the husband's seisin was limited by that Act which prohibits execution on the wife's property for the debts of the husband. The court then concluded that the husband's signature on the deed, acceptance of the proceeds and efforts to file again were all unavailing, and that the wife continued to own the one-tenth interest in the real property more than twenty years after the date of her original deed.[41]

Even the U.S. Supreme Court was called upon to address Pennsylvania's right of dower in a bankruptcy case. The matter began in 1877 when a certain Gill was adjudicated a bankrupt. Among his other assets at the time were two lots of land in Pittsburgh. The bankruptcy receiver sold the property by federal court order free and clear of liens. The bankrupt's wife challenged the action of the Bankruptcy Court, claiming a right of dower in the property. The Supreme Court of Pennsylvania ruled in favor of the wife's right to dower. The matter was then appealed to the U.S. Supreme Court. Justice Gray, speaking for the court, began his opinion by recognizing that the law of England states the wife's right of dower. The Court then looked at Pennsylvania law as far back as 1705 to make its analysis of a wife's right of dower. The court referred to an opinion of Pennsylvania Supreme Court Chief Justice Tilghman, Kirk v. Dean, 2 Binn, pp. 341, 347, where the Chief Justice concluded: "The right of creditors prevails against the right of dower." The court went on to say that in all other respects, the right of dower remained as much favored in Pennsylvania as elsewhere. Consequently, the Federal Bankruptcy Act did not cut off the wife's right of

[41] Williams v. Baker, 71 Pa. 476 (1872).

dower in lands of her husband seised during coverture; and, thus, the buyer at the bankruptcy sale took subject to the wife's rights.[42]

The last case of note discussing dower and curtesy and the rights of spouses was a Pennsylvania Supreme Court decision from 1890, Teacle's Estate. President Judge Waddell wrote the opinion of the lower court, which was affirmed. Mr. Teacle survived his spouse and chose his right of curtesy as against her will. The issue in determining his right to claim as a tenant by curtesy involved the interpretation of the Married Woman's Act passed June 3, 1887. The question before the court: Did that Act preclude the husband's right to claim a curtesy? The judge recited the common law prior to the 1833 intestate act. The interest of the husband in the real estate of his wife was considered a freehold estate divested upon marriage and became fixed at death. Judge Waddell looked back to the Married Woman's Act of 1848 which had been reviewed by the courts previously, compared it to the Act of 1887, and concluded that the right of curtesy remained. The Supreme Court per curium concluded the Married Persons Property Act of June 3, 1887, did not constitute a bar to the right of curtesy, which would enable a wife to disinherit her husband. A revision of the 1887 Act in 1893 added the specific sentence to reaffirm the court's Teacle decision.

Throughout the nineteenth century, Pennsylvania continued to evolve and expand its land laws to make property more readily available for sale or use as collateral. As the Supreme Court opinion of Judge Gibbons in Lyle pointed out, the original common law favored the aristocracy's right to hold its land in the family forever. This defied the logic of a market in land. Pennsylvania was preeminently a state interested in stimulating land ownership to promote the virtuous citizen as described in its 1776 Constitution. Concurrently, that philosophy also coincided with the nineteenth century's preference for laissez faire and the treatment of land as a commodity to be bought and sold freely or used as collateral. By the end of the period, even the paternalism of the common law had given

[42] Porter v. Lazear, 109 U.S. 84, 3 Supreme Court 58 (1883).

way to allow women to participate in the marketplace on a par with men, even within the coverture of the family.

CHAPTER 12
GENDER

Women in nineteenth century Pennsylvania had difficulty participating in the capitalist system. This was primarily the consequence of a land-based agrarian capitalism still governed by the common law of England. As discussed in the chapter on law, the rights of women were substantially restricted when applied to ownership of real property. The real property laws, as well as the intestate laws, made it very difficult for women to obtain title to real property. Since the agricultural system was land-based, few women were able to participate. The early tax records from 1795 to 1815 reflect how few of the 1,297 listed taxables in Allen Township 27 were women. Likewise, of 1,252 taxables in Moore Township, 21 were identified as women, all of them widows. Beginning in 1820, with more specific tax records, Allen Township had three taxed women landowners out of a total of 193. This reflects a different reality in agrarian capitalism from that theorized by Adam Smith. The common law recognized that the operation of a farm was primarily a matter of physical labor and believed that the producer would necessarily be a male capable of the physical labor involved. Additionally, in the European model, the farmer's role as a capitalist was that of manager of laborers. This, too, was a role reserved for men. In either case, the contemporary idea of entrepreneur was not extended to women.[1]

Those women who were identified as land holders were usually also identified as widows. Not each tax assessor used that appellation or permanently recorded ownership with a particular identification, but a majority of records make it clear that widows sometimes received control of the family farm. This necessarily meant that there was limited opportunity for those women who did become property holders by reason of their age and stage in life.

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[1]Tax assessment records of Allen and Moore Townships, see Appendix D.

There were instances of women title holders connected to situations where the husband's credit position had deteriorated. There were several examples of accommodation of creditors being filed for the male member of the household and later land holdings being titled in the wife's name. The subterfuge does not suggest women as entrepreneurs, but continued control by the ne'er-do-well husband.

Women as wealth holders at the times of their death likewise reflect very modest opportunity in the nineteenth century agrarian capitalist system. Allen and Moore Townships had a total of 719 probated estates through 1900. Of those 719 estates, 108 were the estates of women. Of those 108 estates of women, five were probated with assets in excess of $10,000, while seventeen had assets between $2,000 and $10,000. Thus, few women had any property at the time of their death, but even fewer had any significant amount[2]

The trend, as reflected in changes in the legal system, did show a gradual transition toward a more independent status for women. By the end of the period, there were 74 women identified as land owners in Allen Township, 89 total females identified as taxable, one of whom was a hotel operator. In a total of 2,564 taxables, women represented less than five percent of the total. Moore, the more distinctly agrarian township, had 53 women subject to tax out of a total of 936 taxables. The march of progress was slow to the point of insignificance. The status of women as participants in an agrarian capitalist economy remained limited.[3]

Another area of consideration was women as participants in the credit markets. Approximately 240 mortgages were obtained by women borrowers in the nineteenth century in Allen and Moore Townships. This represents a little more than ten percent of the mortgages issued during that time period. In like manner, women issued mortgages, approximately 210 in the same time period. The mortgages granted to women averaged

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[2]Allen and Moore Township probate records.

[3]Tax assessment records of Allen and Moore Township, see Appendix D.

about $1,000 and the mortgages given by women averaged approximately $1,250. Compared to the big picture, women represented both smaller than average loans and smaller than average capital invested in loans, as well as being only ten to fifteen percent of the overall market participants. The vast majority of borrowing done by women was done subsequent to 1870. Only 37 of the mortgages obtained by women were prior to 1870, and only 39 of the mortgages granted by women predated 1870. In like manner as participants in the ownership of real property, women's progress as small capitalists, as both borrowers and lenders, was primarily a function of the last thirty years of the nineteenth century, and still remained a limited part of the marketplace.[4]

There were always exceptions to be considered. At least two women from Allen Township exemplified the exceptional woman's position in an agrarian economy. Elizabeth Laubach died in 1871 at the age of 91 leaving an estate in excess of $10,000. Her assets consisted largely of notes to her various children, as well as other members of the community. Elizabeth was the widow of the early entrepreneur Peter Laubach. Peter will be remembered as the largest property owner in Allen Township throughout the first half of the nineteenth century. He was a man of considerable capacity, having been a blacksmith, a store owner, a gristmill owner and a contractor providing substantial supplies for the construction for dams on the Lehigh Canal and other business activities. He and Elizabeth had twelve children and in her will, she bequeathed her wealth to the nine children who survived or had children surviving them. Elizabeth survived her husband by fourteen years and in this time functioned as the family bank, using the cash that had been her share of Peter's estate to make loans to her children, most of whom were involved in the various enterprises that her husband had assembled in his life. Like most of the women with taxable estates, her status was a direct consequence of her husband's achievements. Indeed,

[4]Mortgag records of Allen and Moore Townships.

Elizabeth was probably illiterate, since her will, carefully drafted, was signed with a mark, indicating that the preparer was a lawyer and that her directions were oral.[5]

A different example of a woman of wealth would be Helena Rader, wife of Steven D. Rader. Steven was a brick maker and a merchant. He must have been an extremely enterprising individual, but not one who met with uniform success. Theodore Howell, son of John Howell, the operators of one of the gristmills along the Hokendauqua, received a transfer of land in lieu of foreclosure in 1880 from Steven and Helena Rader to pay a mortgage debt Rader owed to his father, John Howell. Beginning in the 1880s, suggestive of Steven Rader's credit problems, the real estate purchased by the couple was always conveyed to Helena Rader. The Raders were very active in the buying and selling of real estate in the 1880s and 1890s in the village of Siegfrieds. They had some notable success in buying properties, making improvements and selling them for substantial gains. This reflected the enormous growth that occurred in the village of Siegfrieds, the area of Allen Township which became home to the cement industry. A review of Helena's will offers substantial insight into the method for protecting assets from creditors. Helena predeceased her husband, and her will particularly provided for his benefit. All her assets were placed in trust in the hands of her son and son-in-law as trustees. The trust was to provide for her beloved husband, Steven. She also gave her husband authority with the trustees to manage the assets of her estate. Most importantly, Helena provided that her husband "shall have the right to dispose of by will of such of the trust estate which may be left at his death to and amongst the heirs of his body, their heirs and assigns, respectively, in such manner and in such proportion as he may see fit." During her life and after her death, Helena served as title holder and capitalist of record, but clearly she was a cipher functioning as a shield, imbuing her husband with the authority to manage the family property, while at the same time avoiding interference by any claimants against him personally. The use of the trust after

[5]Probate records of Elizabeth Laubach.

death left Steven in total control of the assets, but not the owner; and, therefore, they remained immune to claims of his creditors.[6]

These two examples of very wealthy women, by the standards of nineteenth century rural Pennsylvania, illustrate the real position of most women. A successful marriage could provide substantial assets to a widow depending on how she and her husband addressed her dower rights. Equally, the power of the common law, allowed men who had mixed success as capitalists to use their wives as insulation against creditors in those instances where they were able to revive their enterprises and regain a capital position worth preserving.

In summary, the stereotype of women as subordinate to their spouses and non-participants in the official and legal capital economy appears confirmed. The rigors of an agrarian capitalist, the stringency of the common law governing real estate, and the culture of the time meant that few women were independent land holders or capital holders, and the vast majority of women who filled those roles were widows or faithful spouses protecting the family interest.

[6]Probate records of Helena Rader.

CHAPTER 13
RELIGION

The religious experience of the residents of Allen and Moore Townships throughout the nineteenth century was an integral part of agrarian capitalism. As Adam Smith described the process in The Wealth of Nations in 1776 at the beginning of the study period, Max Weber's The Protestant Ethic and the Spirit of Capitalism provided a postscript to the period. Weber argued that the Protestant sects, particularly the Calvinists, Presbyterians and others, were advocates of a religion and culture of hard work and economic advancement. He contrasted this to the Roman Catholic attitude of work sufficient for the station in life of the workman, combined with antipathy to the profit motive. As Weber said, the Protestant ethic provided "...a duty of the individual to work toward the increase of his wealth, which is assumed to be an end in itself." Weber's attention was focused largely on the English Puritans, who represented the same Calvinist reformed branch of Protestantism as the Dutch and German Reformed churches. Weber talked about the goal of Puritan asceticism being to lead a watchful, aware and alert life and to limit the indulgence in pleasures. Weber identified the yeoman farmer as one of the important branches of the capitalist system.[1]

The Scotch-Irish Presbyterians were the first major religious group in Allen Township. They were followed and largely supplanted by German settlers who largely occupied both Allen Township and Moore Township, almost exclusively, sometime later. While some of the smaller sects were present in the community, the dominant religious groups were the German Lutheran and German Reformed sects. In a characteristic example of economy before theology, these groups united to build joint churches, which were presided over on alternate Sundays by the respective Lutheran or Reformed minister available. These churches administered not only to the religious, but also the social needs

[1]Max Weber, The Protestant Ethic and the "Spirit" of Capitalism, Eds. Peter Baehr and Gordor C. Wells (Penguin Books, 2002).

of the citizens. The church buildings represented community facilities in an era when no other institutions existed in these rural communities.

Despite the difficulties of travel, one of the first major union churches, Zion's Stone, was located at the border of Allen and Lehigh Townships, close by to Moore Township, allowing for congregants from all three. The church was founded in 1771, originally constructed as a log church. The actual process of that construction is a reflection of the capitalist economy at work in even the earliest circumstances. The congregants identified individuals to be representatives of the church, and through subscription, raised funds to buy land for the building. Thereafter, in 1772, they again, by subscription, raised the funds from the congregants to enable them to enter into a contract for construction of the log church. The contract was made with two individuals to do the carpentry work for a value of 46£, one to do the cabinetry work for a value of 51£, and the third to do the masonry work with a value of 45£. The land cost 3£, and amounted to approximately two acres. All of the early ministers to these churches were immigrants from Germany who had been trained and ordained before arriving in the United States. With the passage of time, the church grew to such an extent that, by the 1830s, three additional churches, one in Allen, one in Moore, and one in what would become East Allen Township, had broken off from the mother church. The great expansion in the population of the townships, almost entirely by the growth of families over several generations, was the basis for these additional churches.

The ministers who led the Stone Church were extreme examples of the importance of the individual in an agrarian society. An early Lutheran minister was Frederick W. Meendsen. He was an immigrant from Oldenburg, Denmark, who arrived in America in 1805. He took up the study of theology in Philadelphia and was ordained a minister in 1810. Immediately thereafter he undertook the call to serve the churches in Northampton County, including Stone, Indian Land, Moorestown and Egypt. He also served a church in Towamensing and two other churches in what would become Carbon County, as well as the

break off Christ Church in Moore Township. The Reverend held his post with Stone Church from 1810 to 1852. During those forty odd years, he preached two to four times every Sunday and typically traveled thirty to forty miles on horseback to visit his various congregations. He was also married and the father of eleven children. He lived to be ninety and died on a farm that he owned in Moore Township. In addition to the preaching of the Gospel, the Reverend purchased two separate farms during his life. When he ceased to own and manage the farms, he became a mortgage holder. His last active pastoral position ended in 1859.[2]

At the same time, the Reformed side of Stone Church was also served by an exceptional minister. The Reverend Jacob C. Becker, son of a Reformed minister, was born in Germany, but was brought to America with his parents. His father was a very active leader of the Reformed Church, who in the era before German Reformed seminaries was the tutor of fourteen young men ordained in the ministry, including his son Jacob. While ordained at the relatively young age of eighteen, Jacob Becker did not limit his education to theology and for several years studied medicine. In 1812, he moved from Maryland to Kreidersville and became the Reformed minister at Stone Church. He too served as many as eight congregations at one time, including the Howertown church in Allen Township, which he co-founded in 1835. Throughout a ministry that lasted until 1852, the Reverend Becker provided much to his community besides ministering to the flock. He married a local girl, Susan Dreisbach, with whom he had ten children, two of whom followed him into the ministry. One followed him as a physician. Throughout his active life, he served not only as a minister, but as a doctor. He too owned and managed a large farm located midway between the Stone Church and the Howertown church. Like his father, the Reverend Becker was also given to theological instruction, and prepared several men to the ministry. Indeed, in 1839, when the Reformed Church in eastern Pennsylvania was founding its theological

[2]History of Zion Stone Church 1836-1936.

seminary, the Reverend Becker was elected as the professor, but he declined the call and remained in Allen Township.[3]

The Reverend Becker's multiple activities included the drafting and publication of an original Church Catechism in 1833. The study of this document offers substantial insight into a living embodiment of Max Weber's Protestant ethic. The Reformed Church of Germany was the creation of Ulrich Zwigli and later John Calvin. In the 1660s, the Heidelberg Catechism was published to provide a statement of faith for the Protestant churches in Germany, both Lutheran and Reformed. Reverend Becker's 1833 Catechism reflects a substantial evolution in Protestant thinking. The Heidelberg Catechism is built closely around the Apostle's Creed and the Ten Commandments. While Rev. Becker included both these foundational documents in his Catechism, the broad text of the document reflects a more liberal and more individualized creed. The Rev. Becker believed that God created man to be happy and content, and to achieve this preferably through the Christian religion. Unlike the Heidelberg Catechism, he never categorically attacked Catholicism or any other faith. The Rev. Becker's ecumenical outlook was in keeping with the enlightened view of religious freedom of the founders. His answer to the question "What obligation did the believers in Jesus Christ have?" is the following:

> It obligates the believer of the teaching of Jesus to tolerate one another, to love one another and to serve one another, even though there may be differences in various church terms in which they believe.

The Rev. Becker's Catechism also focused on the individual duty to lead the proper life. The standards which the Reverend applied fit well with Weber's Protestant ethic. He posed the question "If we want to take care of our current and eternal welfare, what duties do we have?" The answer:

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[3]James I. Good, D.D., The History of the Reformed Church in the United States (New York: The Board of Publication of the Reformed Church, 1891); History of Zion Stone Church 1836-1936.

> We have to stress the moderateness, sobriety, soberness, abstinence and chastity. We have to work, and be thrifty, loyal and ambitious in our careers and be concerned with our love for order and contentedness.

Identifying the virtues which Christians should be concerned with, the Reverend stated: "Patience, moderateness, humility and eagerness to serve as much as possible. We should attempt to live in peace and harmony with everyone." In another section the Reverend discussed the duties of a Christian to his government, the subject a far reach from anything contemplated in the Heidelberg Catechism. Indeed, the Reverend said the Christian should

> ...obey the orderly laws of the government, pray to God for their welfare, and pay their taxes properly. A Christian is expected to love his country and to prove that love, apply stringent obedience of the laws of the land, contribute towards making a living and faithfully carry out our duties with respect to our jobs. Be ready and willing to defend and protect the same.

In 1833 in the western reaches of Northampton County, the local minister was putting in print a remarkable theology epitomizing the Protestant ethic. The same minister was living his words by teaching and preaching to eight different congregations, maintaining a homeopathic medical practice throughout his community and owning and operating a one hundred acre farm. As a sidebar, he ran a tutorial program for seminarians, which included two of his own sons.

The importance to an agrarian capitalism of religion should be obvious. The yeoman farmer followed an ethic which he heard in his church as well as his community, which was a part of the fabric of his life and followed closely what Adam Smith had described. Perfect liberty, which enabled capitalism, required a profit, an ethic of work and saving to create a capital. R. H. Tawney in Religion and the Rise of Capitalism provides historic perspective to Weber's thesis. Tawney developed the dichotomy between the medieval church's preference for commonwealth over the individual in society.[4] Neither the church of Christ

[4]R. H. Tawney, Religion and the Rise of Capitalism (Mentor Books, Third Ed., Harcourt Brace & Co., 1926), 61.

nor a Christian commonwealth ought to tolerate those who prefer private gain to the public weal or seek it to the hurt of their neighbors. He also quoted Luther:

> There can be no better instructions in...all transaction in temporal goods than that every man who is to deal with his neighbor present to himself these commandments. "What ye would that others should do unto you, do ye also unto them."[5]

In contrast, Tawney talked about the Calvin Institutes as the beginning of the redirection from the common weal to the individual. He also, like Weber, emphasized the Puritan evolution in his thought. A puritan is "a spiritual aristocrat who sacrificed fraternity to liberty, he drew from his idealization of personal responsibility a theory of individual rights, which, secularized and generalized, was to be among the most potent explosives that the world has known."[6] "The Christian life in short must be systematic and organized, the work of an iron will and a cool intelligence."[7]

Tawney remembered the earlier writers of Puritanism, Baxter and Bunyan, who recognized that their social theory had been designed for an age of petty agriculture and industry, in which personal relationships had not yet been superseded by the cash nexus, and the craftsman or peasant farmer was but little removed in economic status from the half a dozen journeymen or laborers whom he employed. Tawney sought to argue that the individualism, reflective of the Reverend Becker and incorporated in the later writings in support of capitalism, as well as Jefferson's yeoman democracy, was not the only possible Christian model. In this respect, he was trying to compare wealth versus commonwealth in a religious context that Henry Demerest Lloyd wrote about in the economic context. The reality of the nineteenth century agrarian economy was that the cash nexus arrived and thrived even though the husbandman, at least until the middle of the nineteenth century, lived

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[5]Ibid., 88.

[6]Ibid., 191.

[7]Ibid., 202.

in a social order very similar to that of Bunyan and Baxter. The difference in Pennsylvania was the free ownership of land and the free mobility of the worker. Those restrictions and limitations which froze community and bound individuals to their neighborhoods and to their lot in life did not exist in Pennsylvania. Because land was a commodity freely alienable and because labor was a commodity, both alienable and portable, the only glue to economic activity was the cash nexus to which Tawney referred. Again, we see Adam Smith's clairvoyance at work. If the conditions were provided for the perfect liberty which would allow the development of capitalism, then that would be the outcome, and Pennsylvania, as reflected by Northampton's Allen and Moore Townships, was a test case. The Reverend Becker's writings anticipated Weber's conclusions that an element of the culture that derived from the enlightened thinking of an Adam Smith or the founders and their constitution is the Protestantism of individual responsibility and self-determination.

The community's need for churches and the importance for the community of churches is reflected in the growth of the religious institutions in Allen and Moore Townships. The union churches responded to population growth and the difficulties of transportation. Ultimately, there were three union churches in Moore Township, two founded before the Revolution, one of which merged into Stone Church and then revived as a separate church in 1850. The other founded in 1855 was a split off from Stone Church. In Allen Township, in addition to the early influence of the Presbyterian church, there was also a Mennonite church which existed for several generations, though always small in number of congregants. When urban growth came to Allen Township, it brought with it a large influx of non-German Protestants who ultimately created their own churches, though little of that development occurred until after 1900. Another notable factor was the change in church pastors. Unlike the great founders, Meendsen and Becker, the successors were rarely responsible for more than three parishes, and usually two. This reflected both the energy of the pastors, the responsibilities of a pastorate, and the ability of the individual

congregations to fund their pastors. Where Meendsen and Becker owned and operated farms in addition to preaching to multiple congregations and performing other occupations, the later ministers were largely practitioners of their profession and able to support themselves in that manner.

The religion of the citizens of Moore and Allen Townships reflected their peculiar ethnic backgrounds and the founding principles of Pennsylvania. Penn believed in liberty of conscience in matters of religion. To that end, he offered neither state support nor oppression to worshipers in Pennsylvania. There was nonetheless a strong preference for Protestants. In the fundamental constitution of Pennsylvania in 1681:

> Every individual shall have and enjoy the free possession of his or her faith and exercise of worship toward God in such a way and manner as every person shall in conscience is most acceptable to God.

In the second frame of government issued in 1682:

> All persons living in this province...shall in no way be molested or prejudiced for their religious persuasion or practice in matters of faith and worship...

This offer, strikingly similar to Adam Smith's perfect liberty, invited those persecuted for their faith to come to Pennsylvania. Not surprisingly, the two earliest churches in Moore and Allen Townships were a Presbyterian church in the Scotch-Irish community in Allen Township founded in 1728, and a Reformed/Lutheran union church in Moore Township founded in 1723. The free practice of religion preceded the free ownership of the land on which the congregants had settled. The passage of time brought about further evolution in the makeup of churches. At the beginning of the study period, the German element clearly predominated in the townships, and the Reformed/Lutheran churches were by far the largest and most substantial. Zion's Stone church in Allen Township had been established in 1772. A German Mennonite church also existed in Allen Township. Likewise, the Reformed/Lutheran union church had a congregation in Moorestown, and the old original congregation continued in the local schoolhouse at Emmanuelsville. A close look at the history of the individual churches reflects the consequences of freedom to choose.

Stone church, originally conceived in 1771, represented the amalgamation of three groups scattered along the Hokendauqua watershed in Lehigh, Moore and Allen Townships. Two of the groups had been conducting religious services in rough buildings or private houses with itinerant ministers. In an effort to bring stability and a higher level of ministry, they proposed to join together and erect a church in Allen Township. They represented both the Reformed and Lutheran sects. German farmers were gradually taking over both townships, and it was their religious and cultural needs that prevailed. By majority vote, the congregants agreed to join as one and to erect a church. Capitalism prevailed in the manner and method of implementing the group effort. First, baumeisters were elected by each sect to act as the managers of the project. The baumeisters then entered into agreements with the carpenters, the cabinetmaker, and the masons. Each contractor was responsible to provide labor only. The property was located along the Koenigstrasse (King's Road). The church records provide substantial detail on the almsgiving of the congregants, which over the period of seven years amounted to 409£ and enabled the payment in full of all the debts incurred in the actual construction of the church. Over one hundred members and families contributed up to 21£ per individual to support the effort. The vast majority of contributors were in the range of 5£ or less. The effort to create a church was a communal act. The method to build and maintain was equally an amalgam of capitalism and democratic undertaking. Each step of the progress was approved by a majority of the participants and ultimately underwritten by voluntary contribution. The contractors performed the work at risk depending upon the good faith of the congregation to ultimately generate the funds necessary to pay in full. This propensity to do work on credit was an intrinsic element in the economics of agrarian capitalism.[8]

The leadership of the churches reflected another aspect of the agrarian community. Goods and services were provided from within in most instances. People of talent could be

[8]History of Zion Stone Church 1836-1936.

found performing in multiple capacities. An example of such was the Rev. Jacob C. Becker, the reformed minister of Stone church beginning in 1811. The community to which the Rev. Becker preached from 1811 to 1852 was a community that supported itself by the integrated efforts of the citizenry. Agriculture provided sustenance, and the artisans and professionals provided the goods and services which enabled all members to share in the general productivity. In each instance the industry the Reverend spoke of was the industry of the individual workman, husbandman or craftsman. While capital was necessary to buy land, build mills, divert streams to provide water power, remove the forest and create arable lands, the primary producer was the workman. Most all jobs involved a great deal of physical labor or varying degrees of skill applied with limited use of tools and equipment. The sober, diligent, production-oriented individual described in Rev. Becker's catechism was the critical element in the successful agrarian economy.[9]

[9]Ibid.

CHAPTER 14
JEFFERSONIAN YEOMAN IDEAL

The premise of the Jeffersonian yeoman ideal was the continued existence of a balanced allocation of property among the practitioners of husbandry. The farmer had to have a sufficiency of land to be a viable economic unit, but a yeoman society assumed that no one landowner or group become dominant and disproportionate landholders. The history of Allen and Moore Townships over the entire nineteenth century confirmed that agrarian capitalism worked and produced the yeoman ideal. In 1820, the year with the earliest available records, there were 16,632 taxable acres in Allen Township. The average unit size was 86 acres and there were 193 taxable owners. By 1840, the number of owners had increased, and the average size had decreased to 76 acres. By 1870, the average size was 59 acres; and in 1900, the average size was 45 acres. Moore experienced a parallel development. In 1820, 17,865 acres were owned by 216 owners and an average of 82 acres. By 1840, the average was down to 56 acres; by 1880, 36 acres; and by 1900, it was 35 acres. In Moore, the more rural and slower to develop township, the total number of owners increased from 216 to a total of 607 over the course of the century. This suggests rather than consolidation and inequality, the agrarian community experienced a continued expansion of land ownership and a continued growth in the number of husbandmen able to own and operate effective economic units.[1]

When viewed from the perspective of individual holdings, in 1820 the largest Allen Township landowner had 433 acres, with the median holding 71 acres. In 1840, the largest had 373 acres, with the median holding 70 acres. In 1880, the largest landowner had 194 acres and the median had declined to 44 acres. By 1900, the largest landowner had 175 acres, and the median had declined to 31 acres. When viewed only from the perspective of an active farmer, the largest landholding in 1820 was 433 acres and the median was 106

[1]Tax assessment records of Allen and Moore Townships, see Appendix D.

acres. In 1840, the largest farmstead was 300 acres, and the median was 100. In 1880, the largest farmstead was 188 acres and the median was 63 acres; and by 1900, the largest landholding had declined to 109 acres with the median of 43 acres. Those taxed as laborers were not precluded from landholding. While the township remained rural, the laborers holding land were relatively few: none in 1820, six in 1840. Beginning in 1860, the number of laborers increased and the ownership of a house and lot appeared in the tax records. The 94 laborers of 1860 owned 26 houses or lots. By 1880, the 451 laborers owned 76 houses and lots; and by 1900, 1,775 laborers were the owners of 269 houses and lots. The 1900 numbers show a distinct inequality in the ownership of real property by laborers. It is also reflective of the impact of industrialization over a short period of time, creating large demand for laborers, but not immediately providing the ability to acquire real property. Overall, the agrarian community remained stable, diversified and reasonably balanced.[2]

Moore Township was constant in its balance of land holdings and diversification in the community. In 1820, 78 farmers had farms ranging from 475 acres to 20 acres, with a 104-acre median. By 1840, there were 147 farmers with farms ranging from 264 acres to 7 acres, with an 80-acre median. In 1880, there were 229 farmers with farms ranging from 370 acres to 2 acres, with a 50-acre median. By 1900, there were 260 farmers, with the largest holding of 228 acres, the smallest 2 acres, and the median 43 acres. Laborers in Moore were also substantial landowners. In 1840 there were 122 laborers, 51 of whom owned land ranging from 360 acres down to 3 with a median of 12. In 1880, there were 268 laborers holding lands varying from 58 acres to 2 with a median of 10. In 1900, there were 259 laborers with holdings ranging from 152 acres to 1, with a median of 12. While a laborer was obviously disadvantaged economically compared to the farmer, he was nonetheless a substantial landowner and readily includible as an equal member of the yeomanry.[3]

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[2]Ibid.

[3]Ibid.

In part, the consistent movement to more smaller farms was the consequence of the changes in agricultural production and the technology that produced them. The early farmer was the owner of large land holdings with relatively small portions subject to regular cultivation. The production was consumed primarily on the farm, with perhaps twenty percent available for sale for cash or other goods and services. At the end of the period, though the individual farm unit was much smaller, the cultivated portion was much larger and the individual family farmer, with the aid of a laborer, was able to produce much greater levels of product, requiring only a minimal amount of production to be consumed on the farm. The farmer had become part of the market economy, not only as a producer, but also as a consumer of goods and services. A reflection of the economic development of agriculture, the individual producer continued to be an independent capitalist and landowner. The holdings may have declined in terms of total acreage, but the rough proportion between the various members of the township communities remained the same. No one individual became a dominant economic force and a disproportionate owner of land. Rather, the ability to farm economically a forty, fifty or sixty-acre parcel produced a continuous movement in the direction of more moderate farm units, each supporting the yeoman husbandman.

Looking at the statistics for Northampton County produced by the Census Bureau beginning in 1860, countywide agricultural development followed a similar pattern to that of Moore and Allen Townships. In 1860, there were 2,498 farms in Northampton County with an average acreage of 75. The individual acre was valued at $75, and the individual farm at $5,700. In 1870, the number of farms had increased to 2,972. The size had decreased to 63 acres. The value per acre had increased to $112 and value of the average farm to $7,062. The 1870 census provided somewhat larger detail, including per acre valuations for the Allen Township and Moore Township farms. Allen was valued at $143 per acre, while Moore remained backward at $85 an acre, the two bracketing the county average. In 1880, a peak was reached. The total number of farms was 4,000, with the

average acreage of 55. Values had begun to decline. The average was $97 an acre, with the average farm valued at $4,597. 1890 and 1900 witnessed the same decline as was observable in Moore Township and among the farming community of Allen Township. The number of farmers declined. The average size of the farm remained more or less stable, but the overall values declined. In 1890, there were 3,396 farms with a 57-acre average. The value per acre was $81 and the value per farm $4,663. By the turn of the century, there were 3,538 farms with a 54-acre average. But the value had declined to $70 per acre, or $3,789 per farm.

Viewed in the aggregate, Northampton County had a thousand farms over twenty acres by the turn of the century. Only five hundred farms were over one hundred acres, but none as large as five hundred existed in the county. The ability of a producer to operate effectively on relatively small acreage was the result of specialization, technology and commercialization in the agrarian community. While these trends supported and expanded the yeoman community, they did not produce greater wealth in the form of land value. Rather, land values declined, reflecting the general trend of the economy at the end of the nineteenth century, as well as the growing difference in the ability to create value in industrial settings, which diminished the demand for agricultural lands. The farmers who achieved exceptional economic success from land values were those who benefitted from location. Josiah Kline sold his farms to DeNavaro for $500 an acre, six times the county average for agricultural lands in 1890. John H. Kleppinger, the fifth generation to hold the family farm, became the first to sell building lots in large numbers. Likewise, John Smith, who had purchased his farm in 1866, recorded a plan of lots in 1898 identifying his intention to cash out based on urbanization of his neighborhood.[4] As demonstrated, the agrarian economy supported higher land values in Allen Township than in Moore. The arable lands of Allen Township were more productive and greater in extent. Moore's husbandmen were

[4]Plan of Lots, attached as Appendix A; census records of Northampton County, see Appendix D.

always hampered by the hilly topography, the thin soils and the large areas not conducive to husbandry. By the 1860s, two examples of industrialization had occurred, which presented particular contrast. In Moore Township, the natural resource of slate created substantial value for lands that could be mined successfully. The Borough of Chapmans was carved out of Moore Township to support the slate industry. While it remained a relatively small enterprise when compared to other forms of industry of the middle and late nineteenth century, it was a substantial and significant enterprise in an agrarian community like Moore Township. Initially, Allen did not have a natural resource-based industry. Rather, creation of first a canal then a railroad along the banks of the Lehigh gave impetus to industry based on transportation infrastructure. As discussed, Allen became home to the Lehigh Car Company, a substantial employer whose owners attempted to profit from the company's location and connection to the Jersey Central Railroad. The Stems owned not only the car company, but they were also the principal owners and developers of the community known as Stemton and sought to profit from substantially increased value of land saleable as building lots.

The final explosion of land value occurred in Allen Township at the very end of the nineteenth century as a result of a new industrial enterprise that was resource based. From the very earliest settlement, Allen was recognized as a limestone soil agriculture. From the time of the original canal, a very small industry developed to support the canal's construction, being the manufacture of hydraulic cement utilizing the local limestone deposits. Hydraulic cement had limited value because it was not load bearing. Portland cement, an extremely useful building material, came to Allen Township when the deNavarro family identified it as the ideal location for a major cement plant. This touched off a competition with other industrialists, resulting in a surge of land values of those areas which would become quarries or plant sites. As previously discussed, Josiah Kline is the preeminent example of a man who became a wealthy agrarian capitalist, not as a result of his

husbandry, but as a result of a new highest and best use for his primary commodity, land. Several other members of the Allen Township community benefitted the same way. Value was not limited to the industrial sites. Farmers on adjoining lands realized that urbanization inevitably followed, because of the large labor force required to man the mills.

Land as a commodity is valued at its highest and best use. In an agrarian economy, the highest and best use is arable land capable of producing crops. Accessory uses involve other types of improvements to the land, the building of structures, the creation of races, dams or other artificial changes to the landscape which allow additional uses. Industrialization changes land values, emphasizing resource recovery or location relative to transportation infrastructure. The Levan family, occupants for more than a century, put a quarter of their farm into the urban marketplace with the plan of Levan Park recorded in 1899. Speculators also participated by purchasing agricultural lands for development. The Catasauqua Land Company recorded a plan in 1894 for a development along the Lehigh River, as did T. S. Wiltbank in 1899. The plans are attached as Appendix C.

Agrarian capitalists always understood that their most substantial asset was ownership of land. They also always recognized that the land's highest and best use varied according to the circumstance of natural resources and transportation infrastructure. Industrialization and urbanization in the nineteenth century were tied to both conditions. Industry required access to resources and markets. Industry required large labor forces accessible to the factory. The available transportation systems largely dictated the outcome of location.

Both the slate and cement industryies required the coalescence of three components--accessible natural resources, adequate transportation, and available labor–to be successful. The preferred location for the Moore Township-based slate industry was along the stream bed which allowed the construction, initially of a road and then the railroad, for transportation to market. Likewise, the Allen Township-based cement industry required the

limestone resource as its principal commodity, but the manufacturer of portland cement required, who substantial fuel, in the form of coal, and a form of transportation adequate of handle the immense material weight. It also required a significant labor force. Allen Township provided an ideal location for the cement industry, as Moore Township did for the slate industry. The difference in the impact on the larger community was the scope of enterprise. Allen Township had two major cement companies, the Atlas and the Lawrence, by 1896. Each owned hundreds of acres of land for their industrial plant sites. Each required a labor force numbering in the thousands, depending upon the season. The urbanization that accompanied the cement industry changed the face of Allen Township. A portion of the township closest to the river in the limestone belt became an urban community totally different from the traditional agrarian community that it replaced. To a large extent, the chosen few husbandmen who owned land in the right locations enjoyed a capitalist profit not unlike the industrialists. The rest of the agrarian community saw a change in their condition based on the enhanced value of agriculture occurring close to and in support of strong urban industrial markets. This created the demand for higher value agricultural products, which enhanced profitability of the agrarian base.

Smith's perfect liberty was given an empirical test in eastern Pennsylvania from the founding to the end of the nineteenth century. That test demonstrated that capitalism will produce a steady flow of improvement, a regular increase in value, a possibility of better conditions. However, the challenge posed by Malthus was answered by the technology and the creation of new and better methods of production. It changed completely the agrarian community that Smith had studied and on which he based his analysis of the best economic systems.

CHAPTER 15
NATIONAL TRENDS

One of the difficulties of a local study is comparing the local trends with those observed at the national level. Is the experience in Moore and Allen Townships an accurate template of general farming in a capitalist economy from the founding to the end of the period? The Mid-Atlantic states witnessed a productive agrarian-based capitalism. The farm communities of the Mid-Atlantic and the study area developed and responded to their environments in similar ways. The growth of the agrarian community was constant, albeit slowing, throughout the study period. The growth of the Northwest region and New England presented contrasting pictures. The old Northwest was an area of dynamic growth in husbandry and its related industries. New England was an area of steady decline or abandonment of the agrarian economy. The South remained a substantially agrarian economy, but the twin distortions of slavery and monoculture export agriculture produced a measurably different type of agrarian capitalism.

Natural resources and the ecological conditions were the initial determining factors in the agriculture of our study area. Allen Township, built on limestone soils and a valley topography, had a substantial productive advantage over the shale soils and hilly topography of Moore Township. This was regularly reflected in productivity and land values. Obviously, climactic conditions were identical. In comparing regions, the Mid-Atlantic had much better soil conditions and topography than New England, but was readily trumped by the vastly better soils and topography of the old Northwest. Climactic condition again disfavored New England with its shorter growing season, but the Northwest adapted its agricultural practices to fully utilize soils despite variations in seasonal conditions. The agricultural development comparable to the Mid-Atlantic states ceased on the western barrier of arid lands.

The basis of agrarian capitalism is land and its ownership. Throughout the Untied States during the study period, land was a commodity with its greatest value being the ability

to sell in fee simple. The North was generally built around an agriculture of small producer-owned farms, and the study area is an example of the viability of that model. In New England, farms were abandoned and only gradually transferred into the hands of non-producers. There was little consolidation on an agrarian basis, since producers chose economic alternatives. The old Northwest experienced constant growth and development throughout the study period, starting from a zero base. The two areas followed the model of producer-owned units. The South was different because slave capital lent itself to large land units. This created the dichotomy between the agrarian entrepreneurs who were able to assemble large capital holdings of slaves in combination with large land holdings and the small producer yeoman. This allowed an agrarian model similar to eastern Europe that had large land holdings and captive labor forces. The tendency of these systems was to produce large cash crops with very low productivity, low technology, labor-intensive and land destructive type of husbandry. The France observed by Adam Smith pre-Revolution and his emphasis on the 40-shilling freeholder as the difference between English and French agrarian economies was another example. Labor which lacked mobility, or in the case of slaves, any opportunity to exercise even the smallest version of Adam Smith's perfect liberty, had no incentive to produce beyond survival. The consistently low rates of production in eastern Europe and the American South are confirmation of this thesis. In the American South, a large majority of the land was small producer owned, but their culture and economic development remained controlled by the slave capitalists. After the Civil War, the ability to restrict the mobility of the now free slave population and the culture of the sharecropper system, combined with the emphasis on cotton as the cash crop, continued to support a low productivity/low technology/labor intensive and land destructive agrarian capitalism throughout the South.

The key to analyzing and understanding these outcomes is to recognize that land as a commodity and total freedom of movement by both producer and laborer would cause

constant change in an agrarian economy based on markets, transportation and available technology. The science of husbandry was understood at a practical level throughout the period studied. The farmers of Allen and Moore Townships brought to Pennsylvania a high level of skill in husbandry, combined with the high level of work ethic inherent in their Protestantism. They were generally recognized as America's best farmers.[1] They understood the need to preserve their soils, to use the natural conditions to best advantage in terms of products on the market. Science would come as the period study came to a close. It allowed the husbandman the ability to enhance productivity apart from technology, but the effect of knowledge in Allen and Moore Townships was chiefly the ability to farm without loss the same lands more and more intensively over the hundred plus year period of transition from virgin forest to pastoral garden spot.

New England and the Northwest present a contrast to this theme. New England experienced substantial abandonment of improved lands during the period. This was a recognition that the New England farmer was not able to overcome the difficulties of soils, topography and growing seasons that made him not competitive with the Mid-Atlantic or Northwest regions. A small producer might well own his farm, but if he could make a better living for himself or his family in town or in the Northwest, he could seize the opportunity. New England's husbandmen moved, and in their moving, accepted that their land values would decline measurably and for some their capital would be lost. The Mid-Atlantic farmers stayed and continued to expand the number of farms and amount of improved lands. The population stagnated as husbandmen reached equilibrium between the ability to support the producer unit and the opportunities to move elsewhere for the same purpose. After 1870, they too experienced a decline in values of their land and a loss of capital. In the Northwest, expansion was continued and in raw numbers, both improved lands, farms and population steadily increased. This was the consequence of the huge available resource of land and the

[1]Gates, The Farmer's Age, 43.

relatively slow influx of producers responding to the availability of transportation. In each instance, the ability of the producer to buy the land, to be the exclusive possessor of the fruits of his labor and capital, drove the decision making process. The opportunity to be the yeoman farmer of Jeffersonian lore, to be an independent producer, to be the master of all you survey, represented the possibility of a version of Adam Smith's perfect liberty. Also, there was the possibility of a version of Adam Smith's expectation that each man will endeavor to produce for his own benefit. But the ability of the American worker, whether an independent producer, a tenant farmer, a laborer, an artisan with his own land holdings, to move was always the other critical element in agrarian capitalism. The huge natural population growth of the nineteenth century took place primarily on the farm. Yet unlike Europe, that population did not stay in the community of its birth. Migration from the beginning of the study period was twofold, urban and west. Those who wished to remain husbandmen could succeed in their own communities or move west. Those who desired to escape the harsh conditions of physical labor, weather exposure and isolation, and erratic return on investment moved to urban areas and the burgeoning industrial economies located there. Not only did George Weber's granddaughter live in Chicago and found Hull House, but two of her fellow citizens were the children of the Reverend Meendsen. One of George Weber's sons became a minister in rural Iowa, while the other practiced engineering in Norristown, Pennsylvania. By the end of the nineteenth century, only one of the Rev. Meendsen's ten children remained in Northampton County and none of George Weber's children were in the county. Mobility has to be understood as the combination of Smith's economic self-interest and the natural inclination of people to a career they desired or were suited to, wherever that may take them.

The early husbandmen owned land in excess of his ability to farm it on an annual basis. That land represented a capital reserve which could be used as part of future production. Production included removal of the forest as a product, lumber, fencing, fuel and

fertilizer. It meant production of new arable lands necessary to substitute for lands made fallow by continuous grain production. The small producer's ability to pay for lands was limited by lack of credit or a banking system but was supported by the Protestant ethic of industry and frugality by both the producer-owner and by the members of the community who had reached a stage in life where they could extend credit. The value of land tended to increase because of the physical improvements and the ability to generate more saleable products from larger areas of arable land. The tendency of a portion of the excess population to migrate in response to opportunities for land ownership was constant. The Kleppinger family is an illustration. The first Kleppinger spent his entire life in Pennsylvania accumulating capital sufficient to buy a 300-acre farm. Two of his sons accumulated sufficient capital to buy that farm from their father. The third son used his industry and frugality to buy farms in the immediate vicinity of the father. The three other sons moved to the middle part of Pennsylvania, itself the frontier of the 1770s, to establish farms of their own. One son, after acquiring half of his father's farm, decided to migrate anyway and joined his brothers in Cumberland County. The ability to produce, the ability to retain the surplus and the ability to move were characteristics of Adam Smith's perfect liberty suitable to this type of agrarian economic development.

The contrast to Europe is clear. The rentier could not sell the lands encumbered by entail and primogeniture. The rents created a perpetual annuity. The farmer who invested his capital and bore the market risk could never own the land and build value. The laborer, whose mobility was restricted, could only work in a captive market that prevented wage increases and capital accumulation.

Northern U.S. agriculture, being of the general husbandry grain-producing type, continued to support the smaller producer ethos. An individual husbandman was the most effective economic unit. Production was largely dependent upon individual effort, individual knowledge and individual management. There were no economies of scale to be obtained

from consolidating land holdings in that type of general farming economy prior to the technology of the twentieth century.

The South presented a contrast to the North because of slave capital and the ability to produce cash crops of high value. Throughout the first half of the nineteenth century, the capital invested in slaves was on a par with the capital invested in land. It far exceeded the capital invested in equipment and inventory. This level of investment required the slave owner to utilize the slaves in a productive manner. Large land holdings enabled the slave owner to employ slaves effectively. The great southern cash crops, cotton, rice and sugar cane were low technology labor-intensive, land destructive in their husbandry. It was the ability to obtain value from the capital investment in the slave that offset the other disabilities and allowed the South's version of agrarian capitalism to expand.

Beginning with the period a generation before the Civil War, agriculture throughout the United States enjoyed an economic boom. The growing urban population, the demands of the European export market, and the movement of people to new lands in the West created dynamic markets for agricultural products. Farmers saw production increase, the value of their lands increase, and their personal wealth and disposable income increase. At the same time, the reciprocal effect of the urban industrial expansion was the production of new equipment which would dramatically change agrarian husbandry in the general farming sector. By the time of the Civil War, most of the great breakthroughs in farm equipment had been developed and were in the stage of production where they had broad national impact. The regional price of enhanced production, greatly improved labor productivity, greater income, and reduced toil was a sectional transition in an agrarian capitalism. New England was not an effective competitor and transitioned from agriculture to an urban-based industrial economy. The Mid-Atlantic states maintained their agricultural segment, but their growth and expansion was in the urban industrial sector. The old Northwest enjoyed continuous expansion in both the agrarian rural areas and the urban industrial areas. The South did not

transition because technology played a small role in their husbandry. The primary cash crops, particularly cotton, remained low technology and labor-intensive. Since a large segment of the population were slaves who had no mobility, there was no migration to urban industrial areas. The European migrant avoided the South. The southern agrarian capitalist focused surplus capital on the acquisition of slaves and land to the exclusion of technology or industrial production. By the time of the Civil War, the economic divergence north and south was becoming obvious. The future of agrarian capitalism in both sections would be very different.

The intervention of the Civil War exacerbated both trends. The North saw large price increases, the loss of labor and the need for technology to continue production. Coincident with the demands of the military, England experienced crop failures which required ever greater imports of American agricultural products. The prior intersectional trade north to south to feed slave capitalism turned outward to Europe and inward to the military machine. In the South survival became the dominant course followed by the disappearance of the slave capital. The southern reaction was to preserve its low technology labor-intensive land-destructive agriculture by various schemes to restrict the movement of the labor force. The sharecropper system as practiced in the South typified this effort.

Following the Civil War, the agricultural communities north and south began a long period of economic stagnation. The inflated growth and income brought about by the Civil War and the European crop failures was followed by a period of overproduction relative to market demands. The continued growth of the urban industrial market maintained the basic strength of the American economy. The general farm agriculture of the North continued to produce ever increasing amounts of food products. Diets included increasing amounts of meat, dairy products, fruits and vegetables, as well as bread. Southern agriculture continued to produce increasing quantities of cotton for textiles. The relative advantage of the agrarian community declined. The agrarian economy, while growing in absolute terms, declined

relative to the industrial sector. In the East particularly, population growth exceeded the ability of the agrarian capitalist to support the additional entrants to the labor force. On a relative basis a better living could be had elsewhere, and land values declined accordingly. While the East never participated in the agrarian unrest, the Populist movement typified the response of the old Northwest and the South to the economic decline of agriculture in the latter third of the nineteenth century. Eastern agriculture responded by transitioning to an emphasis on supporting urban markets by producing products that did not transport well. Dairy, horticulture, orchard and poultry became the growth sectors for eastern agrarian capitalism.

The townships of the study area, Allen and Moore, were slow to respond to this market change. The general rule of thumb was a 40-mile radius from the urban core for the new agriculture. Northampton County, prior to 1900, had no large urban areas, and the agrarian community of Allen and Moore only experienced the earliest effects of changing their agricultural patterns to support local urban markets. As a result, they experienced the continuous decline in values and share of economic growth prevalent throughout the rest of agrarian America prior to 1900.

The Pennsylvania agrarian community that existed in Moore and Allen Townships from the founding to 1900 represented the same ideal outlined in the Pennsylvania Constitution of 1776. These were the freemen who preserved their independence having a profession, a calling, a trade or farm that enable them to honestly subsist. They applied themselves. Over the course of this time, they built farms and businesses that enabled them to grow their population substantially and subsist. They converted a wilderness to a substantial agrarian landscape based on ideas of Adam Smith. Men would respond in an economically effective way given the opportunity to exercise their capacities for their own benefit. Similarly, they reflected the ideas that Max Weber stressed and the Constitution also identified: moderation, temperance, industry and frugality, all being necessary to preserve

the blessings of liberty. The same ideas made them the yeomen that Jefferson believed critical to the future of the republic. They applied themselves at their best interests individually and for their families. They accumulated capital to enable expansion of their own enterprises, the future of their families' enterprises and the benefit of their own retirements.

At the end of the nineteenth century, farmers remained the largest single element in the United States. But the future clearly lay with the industrial world. The nineteenth century was, in fact, the century of the agrarian capitalist as Adam Smith had predicted. The legal system had evolved to support and extend the authority of the individual economic unit, as landowner, as producer and as capital accumulator. The extensive system of transportation and the industrial world that developed from it remained tied to, dependent upon and direct supporters of the agrarian capitalist. They were the market that consumed the production of the farmer. They were the industrialists who provided the equipment that made possible the level of productivity needed to feed the urban markets on which the industrial base was built. The transportation system created by the railroads tied all the pieces together and made urbanization and industrialization feasible. The husbandmen of 1900 answered Malthus' challenge of the beginning of the century. Huge improvements in productivity on the farm were the answer to the inevitable growth of the human population. Malthus could not image what the farmer was ultimately able to do, bringing us back to Adam Smith and his essentially optimistic view that man left to his own devices would be able to address the challenges he faces.

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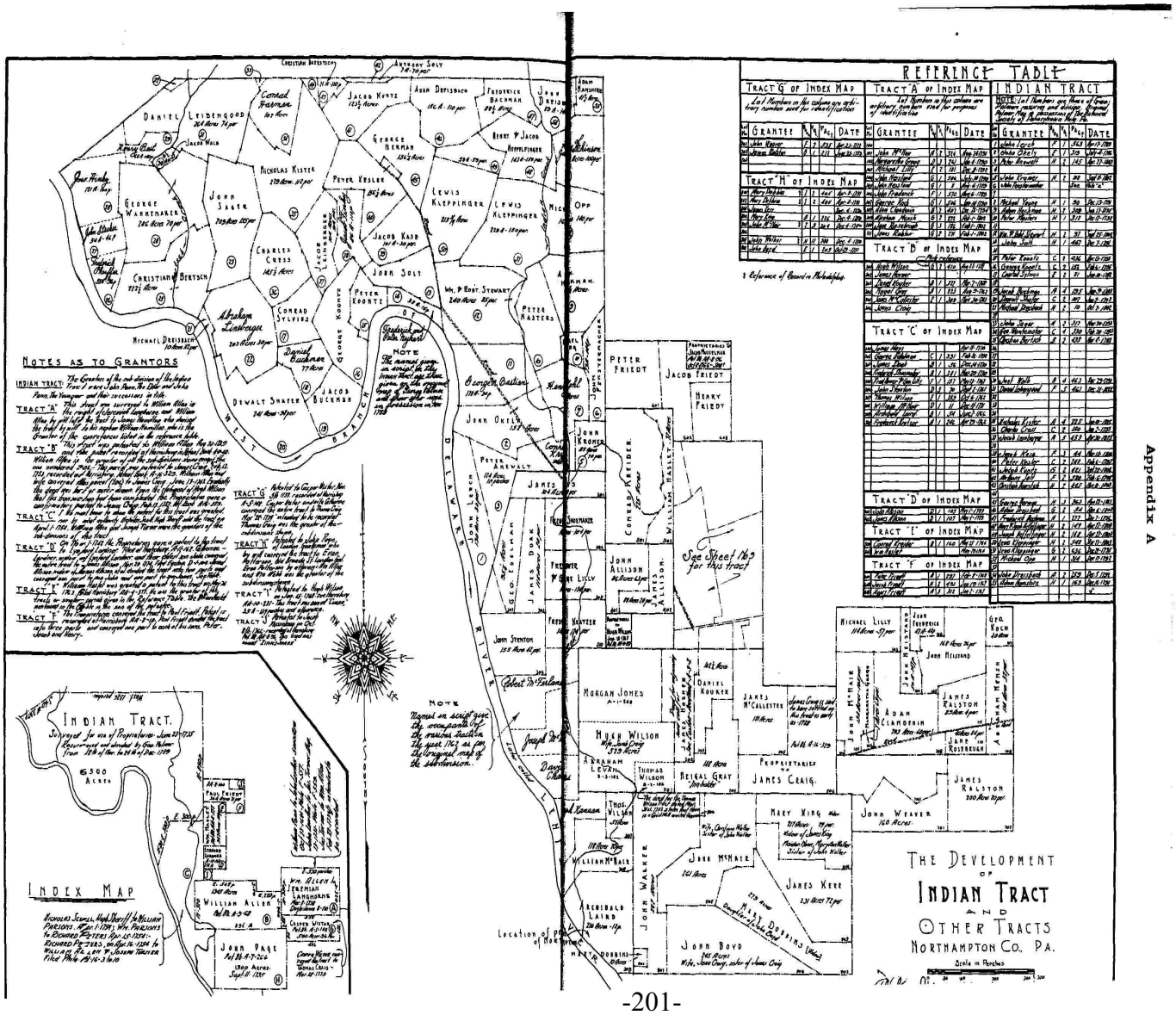
Appendix A


REFERENCE TABLE
INDIAN TRACT
NOTES AS TO GRANTORS
INDEX MAP
INDIAN TRACT.
6300 ACRES
THE DEVELOPMENT OF INDIAN TRACT AND OTHER TRACTS NORTHAMPTON CO. PA.
Scale in Perches
Appendix A

Appendix B
Pictures

1. Depicts a c. 1762 log cabin with a c. 1800 addition utilizing native stone, the Lerch farm.

2. A typical stone manor house utilizing shaped stones, built by Conrad Kreider in 1805.

3. A typical stone barn c. 1830, the Lerch farm, the third generation's capital improvement.

4. Reflecting the building boom of the 1850s, utilizing a manufactured building product, brick.


STOP

Appendix C


GRANT AVENUE
MAIN AVENUE
AVENUE
STREET
LAWRANCE AVENUE
JOHN STREET
BELLAVILLE AVENUE
MILL RACE
ROAD
HOOKENDAUQUA CREEK
PLAN OF
VAN PARK
AT
SIEGFRIED'S BRIDGE
NORTHAMPTON CO., PA.
SCALE—100 FT—1 IN.
NOV. 1ST, 1888.
BIRGE PEARSON C.E.

Appendix D

TABLE A
Land Distribution

Year	Allen Township		Moore Township	
	No. of Landowners	Median Acreage	No. of Landowners	Median Acreage
1820	193	71	216	50
1830	176	70	254	45
1840	206	100	332	38
1850	184	84	410	26
1860	130	70	451	29
1870	128	75 90 houses & lots	570	20
1880	70	63 191 houses & lots	601	20
1890	37	50 236 houses & lots	612	20
1900	45	43 431 houses & lots 50 double houses	607	20

TABLE B
Tax Distribution

	Allen		Moore	
Year	Taxables	Landowners	Taxables	Landowners
1820	321	193	269	216
1830	444	216	505	254
1840	537	206	490	332
1850	327	184	614	410
1860	346	130	745	451
1870	558	218	865	570
1880	864	261	934	601
1890	1,070	273	973	612
1900	2,564	526	936	607

TABLE C
Farm Employment

	Allen		Moore	
Year	Farmers	Laborers	Farmers	Laborers
1820	121		78	
1830	144	89	86	73
1840	156	109	137	122
1850	64	71		157
1860	64	94	223	215
1870	79	242	142	249
1880	63	451	229	268
1890	80	534	263	265
1900	87	1,774	260	259

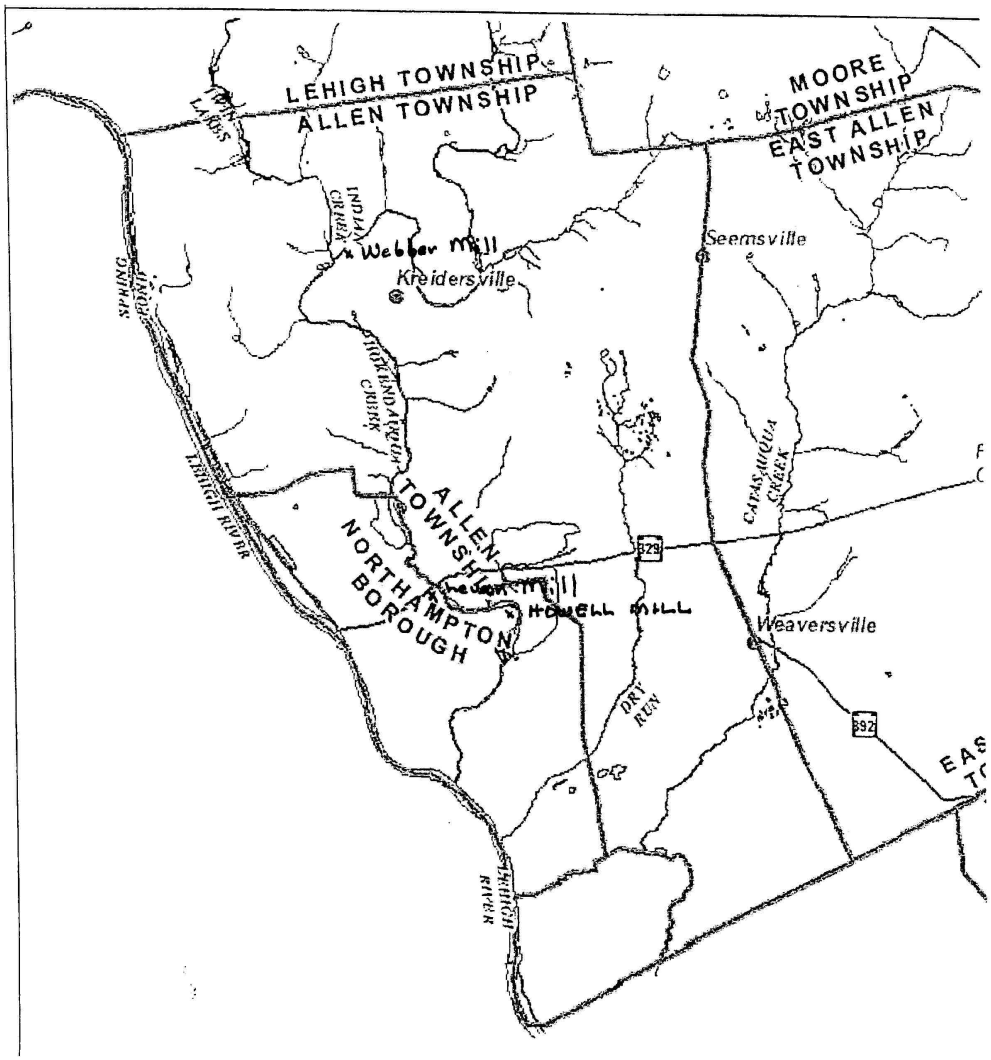
TABLE D
Population

Year	Moore	Allen
1800	881	1,257
1810	939	1,291
1820	1,645	1,847
1830	1,853	2,106
1840	2,389	2,547
1850	2,615	1,156**
1860	2,897	1,335
1870	2,938	2,040
1880	2,728	2,602
1890	2,293	3,474
1900	2,544	6,541

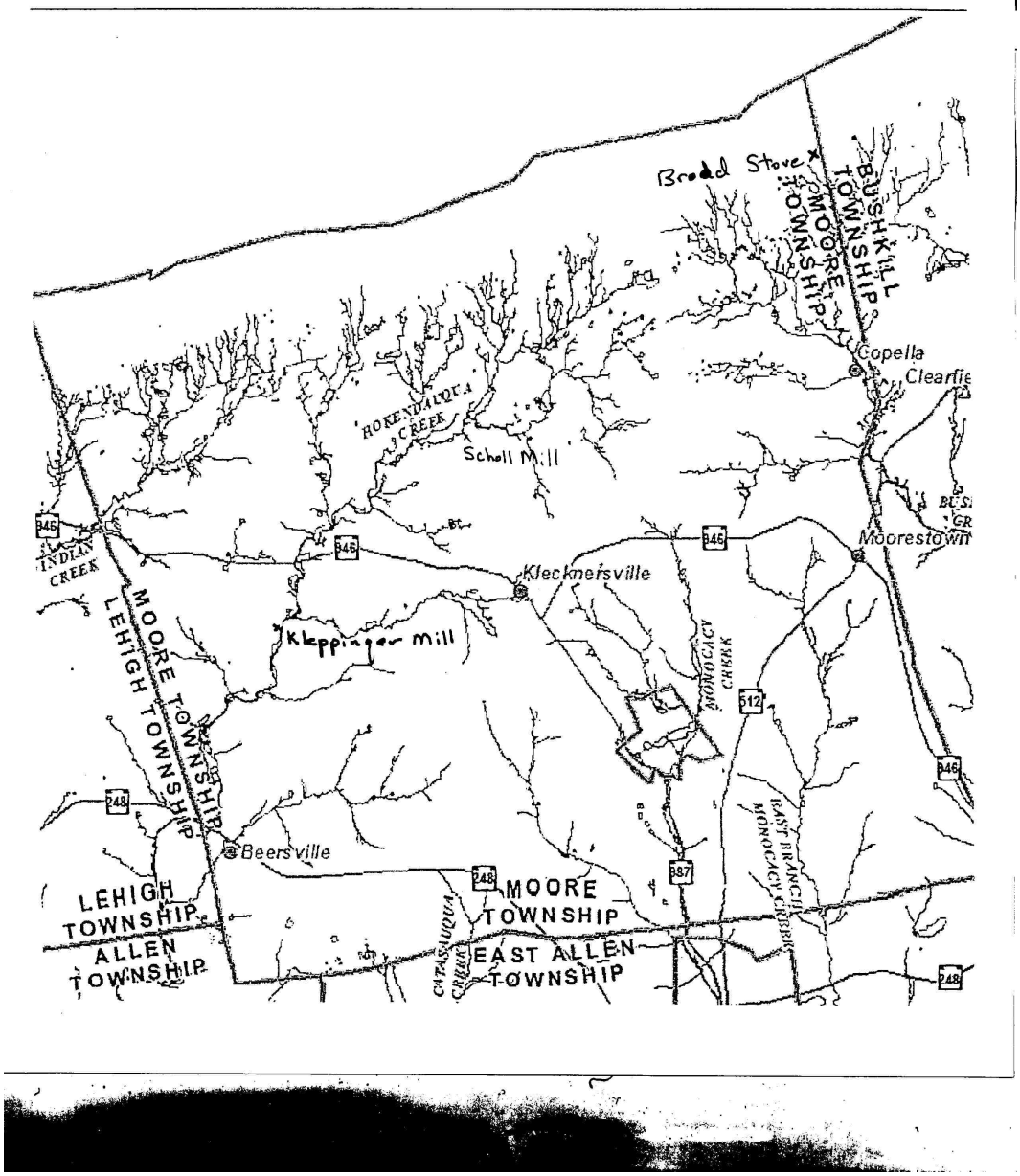
**East Allen Township formed in 1845.

Appendix E

Map of Allen Township



Map of Moore Township



Vita
Alfred S. Pierce

Alfred S. Pierce graduated with a B.A. degree in history from Lafayette College in 1968 and a M.A. degree in history from Lehigh University in 1971. He received his J.D. degree from Temple University in 1975. He was admitted to the Northampton County Bar in 1975, and joined the firm of Teel, Stettz, Shimer & DiGiacomo, Ltd., until the firm's dissolution in 2000. Pierce is currently a member of the firm Pierce & Dally, LLC.

Pierce served in the military as an infantry officer on active duty in Vietnam from 1969 through 1970 and was awarded the Bronze Star, Purple Heart and Combat Infantryman's Badge. He was discharged as a Captain.

Currently he is solicitor to the Borough of Nazareth, the Nazareth Borough Municipal Authority and the Nazareth Borough Volunteer Ambulance Corps. He is currently a supervisor on the Allen Township Board of Supervisors and is a member of the Planning Commission of Allen Township. He is Treasurer of Zion's Stone United Church of Christ. He previously served as President and Secretary of the Northampton Rotary Club, Board member of the Allen Township Municipal Authority, and Director of the Nazareth Area Chamber of Commerce.