The Economic Geography
of
York, Pennsylvania
A City of
Diversified Industries

By
RAYMOND E. MURPHY

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Dedicated to the exploration, development, and conservation of Pennsylvania's natural mineral resources, and their preparation, processing, and efficient utilization.

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The Economic Geography
OF YORK, PENNSYLVANIA

A City of Diversified Industries
General air view of York, looking northeast. (Courtesy of the Gazette & Daily, York, Pa.)
The Economic Geography
of York, Pennsylvania
A City of Diversified Industries

By

RAYMOND E. MURPHY
Assistant Professor of Economic Geography
School of Mineral Industries
The Pennsylvania State College

School of Mineral Industries
State College, Pennsylvania
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Preface

THE present publication is one of a series being devoted to various aspects of Pennsylvania's geography. "The Mineral Industries of Pennsylvania," published by the Greater Pennsylvania Council in 1933, presented one phase of the State's economic geography. "The Geography of Johnstown, Pennsylvania—an Industrial Center," a bulletin published in 1934, was, in contrast, a study of a single city, the first of a series of regional studies. The second number of this regional series is the present bulletin: "The Economic Geography of York, Pennsylvania—a City of Diversified Industries."

Though both Johnstown and York are industrial cities, they present striking contrasts. Johnstown's development has depended upon its mineral resources; while York has built principally upon a good location and upon unusually good labor conditions. Johnstown's industries are primary, consisting principally of the processing of mineral raw materials; while those of York are preponderantly secondary, the making of finished products from materials that have already been processed beyond the raw stage. Thus they are fundamentally different types of industrial cities.

The field work upon which the present bulletin is based was carried on during the summer of 1934. At the same time statistical information was obtained from the Bureau of Statistics, Pennsylvania Department of Internal Affairs, Harrisburg. For the courtesy shown him at the Bureau of Statistics the writer wishes to express his great appreciation.

It was thought advisable to use the latest industrial data available, those for 1933, although it was realized that employment figures were probably abnormally low for that year. This fact should be taken into account by the reader of the following pages.

Finally, the author wishes to express his sincere appreciation to the people of York for their courteous cooperation, without which this study could not have been carried to completion.

RAYMOND E. MURPHY.
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The Economic Geography of York, Pennsylvania
A City of Diversified Industries

Upon looking at a map of northeastern United States, that quarter of the country which ranks among the world’s most industrialized segments, the eye automatically picks out such great cities as New York, Philadelphia, Baltimore, and Boston. But the map is dotted with smaller cities which do much to build up the background of industrial activity. One such small city is York, Pennsylvania, lying about 85 miles west of Philadelphia and 50 miles north of Baltimore (Fig. 1). Though York and its suburbs muster a population of only 70,000, nearly a quarter of this number is employed in manufacturing plants; and the remarkably diverse products of this little city are marketed over all the world.

York’s Natural Setting

That part of Pennsylvania lying east of South Mountain and south and east of the hills which stretch northeastward from Reading is known as the Piedmont Region, because although hilly the topography is dis-

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Fig. 1.—York in relation to neighboring urban centers. Plus signs near York mark the sites of neighboring satellite boroughs of less than 5,000 population. Farther away only the larger urban centers are shown, the dot areas being approximately proportional to population, which ranges from 11,000 for Columbia to 1,950,000 for Philadelphia. For York itself the approximate outline of the geographic city is used.
tinctly more subdued and the general elevation lower than is the average in the mountain sections toward the northwest. The highest portions of this Piedmont Region reach an elevation of 800 and, locally, even 1000 feet and are relatively rugged; but there are wide stretches where softer rocks have been downfolded or faulted into the hard crystalline materials and have been eroded to give more level lowlands.

Such is the case along the western margin of the Piedmont Region where an area of relatively soft sandstones and shales has been reduced to a broad, gently undulating surface known as the Gettysburg Plain. Farther east several belts of easily-eroded, infolded limestones have resulted in level stretches of lowland. Two of these limestone lowlands, Chester Valley and the Lancaster Plain, lie east of the Susquehanna River; while a third, York Valley, essentially a continuation of Lancaster Plain, extends from Wrightsville on the Susquehanna across York County to a little beyond Hanover near the Maryland line.
York Valley, long and relatively narrow, with an average width of three to five miles, forms an asymmetrical trough which rises abruptly three or four hundred feet along its southeastern side to a rolling upland surface, but, toward the northwest, grades less sharply into hills (Fig. 2). The floor of this attenuated valley is not composed entirely of limestone. Here and there shale beds outcrop, giving rise to low rounded hills which stud the limestone plain. Strangely enough the lowland, although shaped much like a stream valley, has no stream flowing longitudinally throughout its length. Instead, it is used locally by several different streams, while the general stream trend is athwart the valley.

The long narrow trough of York Valley is bisected at about half its length by Codorus Creek, which breaks through the southern rim and diagonals across into the hills which form the northern border. This is the largest stream cutting across the valley, and the floor at this point is etched out into a shallow basin which is lower than those parts of the valley immediately to the northeast or southwest. In this basin which Codorus Creek forms as it crosses the valley lies the city of York.

But topography, though important, is only one of the elements of the natural setting of this small industrial city. There are others which must be considered if a complete picture of York’s site is to be obtained.

Many industrial cities owe a large part of their prosperity to the ready availability of critical mineral resources, but this has not been the case with York. A large supply of limestone, the dominant bed rock of York Valley, and a moderate supply of a clay suitable for the making of building brick are the only local mineral resources that have proved to be of real economic value, and these can scarcely be said to have been fundamental to the city’s well being.

York is located in a region of fair to good soils. The soils of the valley itself, derived as they are largely from limestone, are excellent, but those of the country to the north and south are only fair. The general air of agricultural prosperity that pervades most of York County is probably more a tribute to the energy and thrift of its farmers than to inherent soil worth.
The climate of York is much like that of Philadelphia though York shows the effect of being 90 miles farther inland and several hundred feet higher (Fig. 4). It is a little cooler than Philadelphia in summer, and a little colder in winter. The growing season, 169 days, is 40 days shorter than Philadelphia's and a greater proportion of York's winter precipitation falls as snow.

Probably the most important element of York's natural setting is its location. The site chosen for the city was in the northeastern quarter of the United States which was destined to go far commercially and industrially; it was in a general region where low relief and superior to fair soils favored agriculture; and it was within 45 miles of tidewater.

![Climatic chart](chart.png)

*Fig. 4.—Climatic chart. The broken line shows temperature conditions; the vertical bars indicate precipitation. Averages are to end of 1930. (Data from United States Weather Bureau.)*

The present city of York, with all its complexity of features, is the result of a slow process of change operating through many years. Man cleared away the original forest and laid out a town, adding more and more to the picture until the city of today was evolved. The following section is a description of the gradual unfolding of this city.

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1 The recording elevation at York as given by the United States Weather Bureau is 400 feet; that at Philadelphia, 114 feet.
Evolution of an Industrial City

THE WILDERNESS

Before the coming of colonists to the Susquehanna Valley the rolling, wooded hills about York were little used by man. The Indians much preferred to be located near the major streams, where good fishing and a ready means of transportation were assured them. Consequently, while it is known that there were several Indian villages along the banks of the Susquehanna, no evidence has been found of encampments away from the river. However, the Indians did roam the country inland on numerous hunting expeditions, and knew the terrain well enough to have established several trails leading from their own villages along the Susquehanna to other tribal encampments on the Potomac and in the Cumberland Valley.

One such trail followed the natural depression now known as York Valley from the Susquehanna at Wrightsville southwestwardly across the county to the Maryland line and the Potomac River beyond. This route, first traced by the Indians, has again and again proved its feasibility as transportation has evolved from travel afoot to travel by railroad and automobile. The mode of travel has changed, but the route as in many other instances in Pennsylvania history has remained practically the same.

The first white settlers to invade the region, arriving even while it was still technically Indian territory, came from Maryland. Lord Baltimore's colony had been established nearly one hundred years earlier, and choice lands facing the many indentations around Chesapeake Bay were becoming scarce. Newcomers, no longer able to locate on tidewater, were forced to go farther and farther inland along the many streams that emptied into the bay. Several of these families even went so far as to settle along the Susquehanna River in what is present-day Pennsylvania, and were promptly removed by the Penns who asserted piously that the land was as yet Indian territory, and, less piously, that it would not belong to Maryland in any event.

The question of the exact location of the boundary between Pennsylvania and Maryland had been debated since the founding of Pennsylvania in 1683. Lord Baltimore's colony claimed that the fortieth parallel had been designated as their northern limit, while William Penn justly pointed out that the fortieth parallel was really farther north than people had first believed it to be, since it was north of the junction of the Schuylkill and Delaware rivers where Philadelphia had already been located. Obviously an error had been made and the exact location of the line would have to be settled in England. The two colonies quarrelled bitterly over the matter for nearly eighty years, while one English king after another tried to settle things in such a way that neither colony should be offended. Finally, in 1763, two surveyors, Mason and Dixon, were sent to mark out the line, which was set a quarter of a degree farther south. In the meantime settlers were never sure which colony had the right to sell the land, and cheerfully solved matters for themselves by asserting squatters' rights. The average settler could not understand
why money should be paid to anyone, Indians, Maryland, or Pennsylvania, since he and he alone had wrestled with the wilderness to make his clearing and build his home.

This account of bickering between the two colonies so long ago would not be worth relating in this connection were it not for the fact that it epitomizes the whole struggle between Philadelphia and Baltimore, from early days up to the present, to tie the York region commercially to one or the other of the two cities. Baltimore is closer, and there are no major physical features which make trade with Baltimore difficult. Philadelphia, on the other hand, although it lies beyond the Susquehanna, has always been the larger city and a better seaport.

In spite of difficulties between Maryland and Pennsylvania, and in spite of the fact that there had as yet been no negotiations with the Indians for the land, settlers established themselves in various parts of what was later to become York County during the second quarter of the eighteenth century. From the first a sorting of nationalities took place. The Germans located largely on the fertile limy soils of York Valley. The English Quakers chose the brownstone region to the north, while the Scotch-Irish settled the relatively poor, thin soils on the shaly hills of the southeast and extreme northwest. Linking the various communities were crude wagon roads which made possible a certain amount of communication and trade. One road in particular, the Monocacy Road which followed the old Indian trail along York Valley, became an important trading route leading to the Potomac River.

Just as soon as the Pennsylvania proprietary government had decently concluded the treaty with the Indians which gave them title to the lands west of the Susquehanna, the Penns hastened to set aside a huge tract of land for themselves. Springettsbury Manor, as this tract was called, was wisely located to include the whole eastern end of the fertile York Valley, and extended westward twelve miles including the site of what is now York.

The Penns were far-seeing men, who advanced upon the wilderness with grandiose schemes. In Pennsylvania, as was equally true in Maryland, cities and boroughs were laid out well in advance of any possible need for them. Towns did not grow up spontaneously at unexpected places wherever commerce and an accumulation of population demanded them, but were planted arbitrarily in the wilderness. Citizens were tempted and often coerced into living in them. In spite of these artificial methods many of the towns so planned, although premature at the time, eventually developed into important places. The others have dwindled away into oblivion.

The population west of the Susquehanna was still small and quite self-sufficing when the Proprietary Government at Philadelphia decided to establish a city where the well-travelled Monocacy Road crossed Codorus Creek. Accordingly a surveyor was sent in 1741 who laid out the nucleus of a town east of the stream, using the checkerboard pattern already introduced in Philadelphia sixty years earlier. As in the plans for Philadelphia and Lancaster, and later in the plan for Reading, two main streets running at right angles to each other were laid out; and, where the two streets crossed, a central square 110 feet each way was set aside
for public use, for buildings of importance, and for a market place. The two wide streets were George and High streets, the latter becoming Market Street in later years.

The new town, named for York in England, was English in all of its skeletal plans. George, High, King, Queen, Princess, and Duke reproduced favorite English street names which were used again and again in eastern Pennsylvania and Maryland. The irony of it was, however, that when this perfect English city was all laid out it was settled largely by people from the Rhine Valley who walked about the good English streets speaking German, busily establishing a German culture. Today, York is a paradox, a city of German flesh and blood built upon an English skeleton.

A FRONTIER COMMUNITY

At first, as might have been expected, the little village of York grew slowly. The earliest settlers, like those elsewhere in eastern North America, made use of the abundance of good timber to build log houses, but in York in many cases the customary fireplaces were dispensed with in favor of Dutch stoves characteristic of the home land. As the more available timber was cleared away to build the houses, a suitable clay for building brick was found, and an enterprising citizen began to produce a few hand-made bricks. Clay was stripped from neighboring unclaimed lots of the town, and large areas were cleared of their trees which were cut to burn the crude, roughshapen bricks. In 1749 the land west of the Susquehanna was formed into a new county with York as the county seat, and a new brick court house was built in the central square, giving an impetus to the infant industry. Still bricks do not seem to have been used extensively for building purposes in early York, for in 1754 when there were 210 dwellings only three were built of brick and two of stone.²

The town was for the most part self-sufficing, serving the surrounding country as a market place and making largely goods needed by the local farmers. Shoemakers, gunsmiths, carpenters, weavers, harness makers, and manufacturers of tools and implements carried on their businesses in small shops adjoinging their residences. In 1745 a grist mill was erected on the Codorus a short distance northeast of York, while a saw mill and another grist mill were built south of town. An early tendency toward artisanship gave rise to the making of old-fashioned clocks and the famous Pennsylvania Riffe.

In the meanwhile the excellent farm land in Lancaster and York counties had been rapidly occupied by a great number of hard-working, skillful German farmers. Many English and Scotch-Irish came also, but they were greatly outnumbered by the Germans. Gradually, the trees were cleared away, their places to be usurped by prosperous, well-kept fields of corn, wheat, and rye. So outstanding did this section become as a farming region that when General Forbes planned his campaign against Ft. Duquesne (later Pittsburgh) in 1758 he saw to it that his line of march crossed and remained in contact with what was termed the "Bread Basket of America." Load after load of grain passed westward out of York County, dragging its slow, tortuous way over the mountains to Pittsburgh. Gradually, the military supply road became the accepted

way westward, and many a pioneer outfitted himself at Lancaster or York with wagons and supplies to establish his new home farther west. Some turned southward from Carlisle along the Great Valley, working their way through the mountains and Cumberland Gap via the Wilderness Road into Kentucky; others continued westward from Carlisle to the Pittsburgh district and the lands between.

York and Lancaster were at this time the last outposts of the comparatively well-settled East, and owing to this strategic situation the two grew to be the largest inland towns in the colonies. It is not surprising, then, that during the Revolutionary War, when British troops occupied Philadelphia, Lancaster and York were considered as possible havens for the seat of the Continental Congress. Lancaster being nearer to Philadelphia was chosen first, but later the Congress deemed it wiser to put the Susquehanna River between itself and the British troops. For nearly ten months during the most crucial days of the Revolution the little brick court house in the center of York’s square was the capital for the hard-pressed American colonies (Fig. 5). Today, the court house is gone, but the name “Continental Square” remains to remind one of the days when the great men of the rebelling colonies walked its muddy streets.

Fig. 5.—An artist’s conception of Continental Square in Revolutionary War days. Note the court house then in center of square. (Reproduction of a print in the possession of York County Historical Society.)
After the Revolution, when the colonies settled down to the vast undertaking of settling their only half-filled possessions, more and more travellers moved westward over the old Forbes Military Road. It became so well-travelled and important that the new state of Pennsylvania decided that it should be improved to serve as a better link between Philadelphia and the western part of the state, now fairly well filled with settlers. Bridges were built, and the road straightened, graded, and ditched. The new road became known as the Pennsylvania Road, and over it a vast volume of freight and many travellers moved to the Ohio country. It was the most important way westward until the canal-building epoch, and, later, railroads, deflected a large part of the travel. Taverns sprang up along the road, and York did a thriving business in outfitting the pioneers with wagons, guns, and agricultural implements.

This was a period of great road expansion. Travel was chiefly by coach and wagon, so it was to be expected that in well-settled sections of the country road building would become important. Everywhere in the East turnpike companies were formed, and well-built, paved roads were supported financially by many toll gates. Not until after 1800 was the country again to see such a period of road building as the first quarter of the nineteenth century. After that time canals and then railroads dominated the public mind, and road building was largely neglected until the beginning of the automobile era.

Several turnpike companies were organized to build roads, which radiated out from York like the spokes of a wheel. One stretched eastward along the Pennsylvania Road to Wrightsville; another turnpike extended southeastward to the Peach Bottom District, source of much of the slate for roofing houses in southern Pennsylvania during the early days. The Baltimore Pike continued out George Street to the south, and a pike to Hanover led to the southwest along the route originally used as an Indian trail. To the westward ran a road to Gettysburg, and to the northwest the road to Carlisle, a segment of the Pennsylvania Road. A road to the northeast touched the river at York Haven, where arks and keel boats floating down the Susquehanna were forced to stop, owing to the Conewago Falls. Here, in the early days, lumber and supplies from the upper Susquehanna changed to wagon trains which carried the goods to York and on to the south to Baltimore. As Harrisburg grew in importance after it became the capital of the state, the road was extended from York Haven along the west bank of the Susquehanna to cross by ferry and later by bridge to the Harrisburg side of the river. These roads, widened and improved in many respects and without their numerous toll gates, make up a part of the state highway system of today, one hundred years after they were built.

During this period York, although having a population of several thousand, was still a small country town serving a prosperous agricultural region. In this capacity it had three functions, i.e., it was the county seat, and as such had quite a large amount of business due to its political and legislative position; it served the surrounding countryside as a market place where farmers might purchase the small equipment needed on the farms in those days; and it was a processing place for the surplus goods of
the surrounding region. Due to this latter function, three industries developed which shipped their finished products to Baltimore. These were tanning, distilling, and paper making.

Originally the York region, like most of eastern United States, was heavily wooded with a mixed hardwood forest. Trees were everywhere abundant. At first, colonists near the coast or on navigable streams shipped lumber and lumber products to European countries whose home supply was nearing exhaustion, but inland colonists had no means of getting their timber to market. However, whenever there were enough cattle grown in a given region to furnish a surplus of hides, then simultaneously there was a need for tan bark, and in this way the cattle and lumbering industries worked hand in hand to support the tanning industry in York. Wagon loads of bark were hauled to York from all parts of the county, and hides from cattle grown on the surrounding farms were tanned to make the leather which played such an important role in clothing the people of that time. The cured hides were sent by the wagon load to Baltimore to be made into shoes, leather clothing, and harness for the well-settled Chesapeake Bay region.

The second industry, distilling, grew out of the need of converting the large surplus of grain grown in the York region into a more compact and valuable product which would better repay the long expensive haul over the road to Baltimore. Whiskey has always been one of the first manufactured products to be made on the frontier for this reason, and during the first quarter of the nineteenth century York County is said to have made more whiskey than any other county in Pennsylvania. Similar conditions gave rise to distilleries in Lancaster County on the other side of the Susquehanna River, but there the product was shipped to Philadelphia and Wilmington rather than to Baltimore.

The third industry which grew up at York as a means of converting a local surplus into a more compact and valuable product was paper making, but the industry was not, as might be supposed, based upon local timber supply. The raw material upon which paper making depended was not the forests, as it is today, but rags from old cotton or linen clothing. Since the supply of cotton and linen rags was in direct proportion to the size of the population, paper mills grew up at many scattered points wherever water and water power were available near a population large enough to insure a steady supply of rags. In 1800 York had 2,500 citizens, and a populous farming region tributary to it. The time had come to establish a paper mill. The market for paper in the United States in the early days was always good, since not nearly enough was made in this country, and much had to be shipped in from the more populous European countries. Accordingly, Philip J. King started the Codorus Paper Mill on the banks of Codorus Creek southwest of town, where water from the creek could be obtained for the paper-making process, and the stream could furnish the small power requirements. Fine writing paper was made and marketed locally as well as in Baltimore and Philadelphia.

Previous to 1800 there were no large blast furnaces or foundries in York. Such iron as was needed by wagon makers, blacksmiths, and gunsmiths was brought in as bar iron from the forge at Spring Grove and from another at the mouth of the Codorus. Most of the tools and utensils
Fig. 6.—Retouched daguerreotype of York from the Harrisburg Road in 1852. Note train at right side of picture beyond stream and canal boats being towed on Codorus Creek at left edge of picture. Note, also, that the houses are flush with the streets. (Reproduction of a print in the possession of York County Historical Society.)
for the home and farm were made in small shops scattered here and there throughout the town. However, in 1820 Phineas Davis and Israel Gardner established a foundry and forge west of the Codorus, and began to make a variety of products. Three years later they decided to erect a blast furnace as well, to make the pig iron necessary for their operations. York was well started on its career of metal manufacturing.

During this period York became more and more closely affiliated with Baltimore as a market center for its leather goods, whiskey, flour, and paper. The direct road connection was augmented by the Susquehanna water route, and in 1832 a canal was constructed utilizing Codorus Creek which gave York water transportation all the way to Baltimore. Lumber and coal were brought by barge down the Susquehanna and up the Codorus Canal to York where the abundant local grain was loaded and shipped out. So alarmed became Philadelphia by the steady flow of goods down the Susquehanna to Baltimore that they financed the building of a railroad in 1834 which tapped the Susquehanna at Columbia, and joined Philadelphia with the vast system of internal waterways connecting Pittsburgh with the eastern seaboard. Baltimore business men responded with the Tidewater Canal which provided a better waterway along the west side of the Susquehanna, and eventually joined the Pennsylvania Canal by means of a covered towpath bridge across the river from Wrightsville to Columbia. It was then possible for Baltimore not only to receive goods from up the river but to send return cargoes as well.

Scarceley had the system of canals become well established when a newer, faster method of transportation began to be used. Railroads had served already to link parts of the canal system where a water route had proved infeasible, as between Philadelphia and the Susquehanna River and again over the high divide from Hollidaysburg to Johnstown. Business men at Baltimore decided to build a railroad northward from their city to the Pennsylvania line, and a group at York cooperated by building a road to join with it which wound its way up the Codorus and over the hills south of York. As early as 1838 York was in direct rail connection with Baltimore. Five years later this railroad was extended eastward along York Valley to Wrightsville across the river from Columbia, the western end of the railroad from Philadelphia. For years both passengers and freight moving between Philadelphia and Baltimore ferried the river at this point and continued the rail journey on the other side.

In 1850 a railroad was completed from York northeastward to York Haven and thence northward to Harrisburg, and through rail travel was then possible from Harrisburg to Baltimore passing through York. This line, which eventually became known as the Northern Central Railway, grew northward up the Susquehanna Valley into New York State, carrying a vast amount of traffic to Baltimore, and serving that city in much the same fashion as had the Susquehanna River in the days of water travel.

AN EMBRYO INDUSTRIAL CENTER

The Civil War marked a turning point in American economic life as well as in its political life. Hitherto the country had been largely agricultural, raising excess crops of cotton and grains which were shipped abroad
in exchange for manufactured products from the more densely peopled European countries. It was not that there was no manufacturing at home. As a matter of fact, nearly every community had its flour mills, its distilleries, its tanneries, and its small charcoal iron furnaces; while large population centers such as New York, Philadelphia, and the New England towns had textile mills, shoe factories, and sweat shops. But in spite of all this, most of the highly fabricated commodities were still made abroad. After the Civil War, the United States as a whole and the northeastern part in particular turned gradually toward industrialization, making more and more of the manufactured goods required by the country.

York on a smaller scale made a similar change from serving a prosperous agricultural county to manufacturing for outside markets. Population had increased, not only in York itself but in the county as well. Nearly all of the land suitable for farming had been cleared. Families were large, and it was necessary to find something for the younger generation to do. Many of the sons and daughters of the Scotch-Irish settlers in southeastern York County, with the love of adventure characteristic of such people, went west where there was new land to be had. The German youths, however, preferred to be nearer home where large groups of Mennonites and Dunkards operated their peaceful, orderly communities in the way they felt to be best, with little fear of contaminating influences from the outside world. As the Scotch-Irish and English began to leave their farms for lands farther west, or for the urban centers as their tastes dictated, more and more of the land fell into the hands of the “Pennsylvania Dutch.” Still the families were large, there was not land enough for all, and gradually a surplus labor supply began to appear. Men who wished to

Fig. 7.—Continental Square about time of Civil War. View looking southeast. Note old market sheds in center of Square. (From plate owned by C. W. Simon.)
start industries in York found an abundance of cheap, intelligent, and industrious labor near at hand.

York still maintained its function as a county seat and urban district for the farmers of York County. The old market houses in Continental Square (Fig. 7) where farmers and town folks met to exchange their wares were torn down and new, larger ones were built at various points in the city. The streets had been lighted by gas, giving aid as well as safety to night travel. The water company, established as early as 1816, when it distributed spring water through wooden pipes, was forced to increase the supply, and drew water from Codorus Creek above town for its mains.

Industrially and commercially the town had changed in many ways. Travellers westward now went by rail and river steamer to St. Louis where they outfitted themselves for the long wagon trip farther west. Although York no longer shared in this emigrant trade, it continued to thrive because it was the center of a prosperous agricultural region. Flour milling still furnished a market for large quantities of locally grown wheat, while brewing and distilling remained as important users of surplus grain. The tanning industry had exhausted the local supplies of tan bark, but large quantities were shipped into York from northern and western Pennsylvania. The paper industry continued, using rye straw from local farms and cotton waste shipped in from the South, as well as cotton and linen rags as it had formerly. A new paper mill took the place of the old Spring Grove iron forge which could no longer compete with the better ore and better transportation facilities of other districts. Thus, York maintained in part the features of its earlier industrial picture even though there were many newcomers in the industrial field.
York and the nation were becoming industrial. The age of mechanical invention was ushered in, and York along with many other places started a number of industrial plants based on the inventive genius of its citizens. One man invented a turbine water wheel, another a corn sheller, and still another an especially fine piano; and from these humble beginnings rose manufacturing concerns which grew with the expanding industrial development of the country at large. York's position as a railroad center gave rise to the making of railroad coaches of all types, from passenger coaches and freight cars to coal hoppers for the anthracite region. As in the other industries local inventive genius played its part when the first coal burning locomotive in the United States was made at York by Phineas Davis in 1831.

These industries in turn gave an impetus to all sorts of kindred wood-working and metal-working establishments. Furniture plants had their start at this time, as well as many others. As manufacturing in York increased, the need for skilled, industrious labor was augmented, and more and more workers were attracted to the city. The population increased by leaps and bounds as the city expanded its territorial limits (Fig. 9). Men moved in from the farms, and German immigrants arrived in York to settle among folks of their own speech and customs. Row upon row of

![Graph showing population growth of York from 1780 to 1930.](image-url)

*Fig. 9.—The growth in population of incorporated York since 1780. Estimated for 1780 and 1790; United States Census data thereafter. (Compare with Figure 39.)*
brick houses were built flush with the sidewalks, in the manner of the
cities the people remembered in Europe. The long back yards were
enclosed with high board fences, and frugally tilled to aid in keeping living
expenses down. Each laborer's primary objectives were to provide
simple, plain food for his family and to own his own home. Some, more
ambitious than their fellows, saved for the time when they could start
manufacturing in plants of their own.

The brick industry, which had its humble beginning when the town
was first laid out, suddenly expanded into prosperity in its efforts to
supply enough brick for the dozens of new factories that were going up
and for the hundreds of new homes that the increasing population was
making necessary. The lime industry also prospered in this building boom,
and lime burned from the abundant limestone of York Valley not only
was used locally but also was shipped to towns along the Northern Central
Railway from Baltimore to Sunbury.

One other industry reached importance after the Civil War, and
attracted large numbers of laborers. This was the manufacture of tobacco
products, particularly cigars. During the early days Pennsylvania, unlike
most of the other colonies, did not raise much tobacco. It was not until
well after 1800 that tobacco began to be raised along the bottom lands
and on the islands of the Susquehanna on the rich sandy loam soils. The
tobacco first produced was of an inferior variety. The leaves were narrow,
resulting in a product that was black and stringy. Very cheap cigars were
made from it, known derisively as "tobies," which sold for as little as
four for one cent. So cheap were they, that they found a market at the
taverns where they were presented to customers free with meals.

About 1837 an enterprising York tobacconist and farmer named
Benjamin F. Thomas experimented with raising tobacco from seed sent
to him from Cuba. The imported seeds did fairly well in their Pennsyl-
vania environment, and he distributed seed to a number of his tobacco-
raising friends in the Susquehanna Valley, both in York County and
Lancaster County. The crop, when cured, packed, and sent to
Philadelphia proved considerably better than the earlier tobacco, and was
considered nearly on a par with Connecticut tobacco.

Owing to Mr. Thomas' connection with the tobacco growers, it was
natural that he should buy and pack most of the crop, and in this way
nearly all of the packing and warehousing was done at York. With labor
abundant both in York and on the farms in the surrounding country, it
soon became apparent that cigar manufacturing could be successfully
started. Men, women, and children rolled cigars in their own homes at odd
moments, and were paid on a piece-work basis. In this way the cigars
could be made very cheaply and found a ready market as a cheap cigar,
much better than the old time "tobies," but inferior to the best cigars
made from Cuban tobacco.

By the end of the nineteenth century, ground work was laid for the
city of York as we see it today. The secondary metal industries were well
established, and had begun their various lines of specialization. The cigar
industry was rapidly reaching its peak. Textile industries, always seeking
a favorable labor supply, were beginning to appear, inaugurated at first

\footnote{Prowell, op. cit., p. 631.}
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FIG. 10. Land utilization in the geographic city, 1934.
by local men. The food products industries were expanding with growing local markets, better transportation, and higher standards of living; and a variety of other industries including wood-working, brick and pottery making, and the making of wrapping paper and paper board were represented. York still served a prosperous farming region as a market and civic center, but this function had become of minor importance to the city as a whole. The city now dominated the farming region around it, and the character of the farming was gradually changing from pure grain farming to specialization in dairying, fruit, poultry, and vegetables to supply the growing demands of York.

Toward the end of the century York was turning more and more toward Philadelphia as a trading center. As foreign shipping became more important, Philadelphia proved her superiority over Baltimore as a port. Then, too, markets were increasing more rapidly in the North than in the South, and the great advantages of New York City were shared in no small part by Philadelphia.

YORK SINCE THE TURN OF THE CENTURY

The twentieth century has brought advancement and change to York. The city's population has grown rapidly, and its industries have expanded almost beyond belief, establishing a record for diversity. Highway traffic has risen as a serious competitor of the railroads. Residential York has spread and many beautiful homes have been built, as the early monotony of house building has given place to individuality. Specialty agriculture has become more and more dominant. But no detailed discussion of this twentieth century growth is included here, since the story of these latest developments is reflected in the picture of present-day York.

Present-Day York

GENERAL PICTURE

The shape of present-day York reflects to a marked degree the influence of the two roads which intersect at its central square (Fig. 10). The Lincoln Highway, following the course of York Valley east of York and diverging from it only slightly west of the city, has always been the more important of the two roads, so it is not surprising to find the main body of the city trending with the valley in a northeast-southwest course. Thus the star shape, so commonly assumed by cities developing in regions of subdued topography, has been distorted by the dominance of a great highway following a lowland; and it is only along its southeastern edge that the city has begun to climb out of its natural berth (Fig. 2). The York of today has approximately the shape of an elongated ellipse from which extend narrowing tongues or spurs of city, northeast and southwest along the Lincoln Highway and northwest and southeast along the Harrisburg-Baltimore Road.

The city's street pattern, too, shows conformance to the trend of York Valley. A large area near Continental Square and extending some distance to the south and west of the square exhibits a regular and

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4 The longest northeast-southwest street shown on Figure 10 is Market Street, the route of the Lincoln Highway through York; the longest northwest-southeast street is George Street, part of the Susquehanna Trail. Their intersection is known as Continental Square. For names of railroads appearing on map see Figure 1.
consistent right-angled pattern, with one direction paralleling the course of the valley. Outside of this regularly laid out area lie other pieces of the city, which, though having for the most part right-angled patterns, show greater individuality. Each trends differently from its neighbors and from the older central section of the city. These non-conforming sections have for the most part grown up later than the central area. Many of them are outside of the incorporated city or at least developed originally as separate units, and have street patterns based upon the roads which radiated from the original borough of York.

Unlike many cities, York does not readily divide into distinct, separate sections dominated by one or another use. There is, it is true, a commercial core at the center of the city, with branches of commercial development extending out from it along the major streets, but such regional specialization is uncommon. There are no large sections devoted entirely to manufacturing; while, on the other hand, it is unusual to find a considerable area entirely free from manufacturing plants. These plants appear at first glance to be scattered all over the city, entirely without order; but most of them are in reality strung out along the railroads, the radiating courses by which the latter leave the center of the city accounting for the seemingly haphazard arrangement. Finally, lying between the radiating railroads and interspersed with isolated commercial establishments are the residential sections of the city.

INDUSTRIAL YORK

Manufacturing plants seldom occupy very much of a city's area, few having a proportion as high as 10 per cent. Thus the fact that 8 per cent of the area of geographic York is utilized by manufacturing plants stamps the city as industrial, a conclusion that is amply borne out by employment data. In 1933, a particularly bad year, nearly one-fourth of the people of the geographic city were employed by manufacturing plants. When the families dependent upon these workers are considered as well as the many commercial establishments depending upon wages paid by the manufacturers, it becomes apparent that manufacturing is the very life blood of York.

Strangely enough, in view of its remarkable industrial development, York has had no underlying coal deposits to fire its boilers, no water-fall to harness, no nearby ores to give it the materials of industry. Its rise as a manufacturing center has been due, instead, to good location, to good labor conditions, and probably to a third, less tangible factor—to a combination of ambition and vision on the part of some of its early citizens.

A glance at a population map will show why location in northeastern United States is an asset to any city and has been an asset to York. True, the center of population has been moving westward, but northeastern United States remains an area of dense population and New York is still the country's greatest urban center. Hence, cities in this

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5 The term "geographic city" refers to the complete contiguous built-up or urban area, regardless of political lines.
6 This remarkably high proportion is explainable in part by the employment of female labor in the textiles and textile products industries.
7 With the exception of a little nearby iron ore of early and temporary significance.
northeastern section, and, in particular, cities east of the Appalachians, have had and still do enjoy important locational advantages. The city of York, lying less than 50 miles from Baltimore, about 85 miles from Philadelphia, and 155 miles from New York, is in this category.

A thrifty German working class furnished the principal settlers of the York region, and, as the city and its industries have grown, labor has been drawn chiefly from this original stock. There is little doubt but that availability of such people with the traditions which they had has been important, both from the standpoint of a labor supply and in supplying the vigor and energy that have pushed the city along. So fully has the local region been able to supply labor demands, that York today presents the anomaly of an eastern industrial city with less than 3 per cent of its population foreign born. Doubtless because of their local origin, an unusually large number of York's laboring class own their own homes. This homogeneity of the laboring group and the widespread ownership of homes have given a stability to York's labor which has always been considered one of the city's principal elements of attraction for industries.

Since the city is the center of a rich agricultural region, it might be assumed that living costs would be lower than in the larger cities. Although this may be questionable as applied to present-day York, it was undoubtedly the case in the early days of the city's industrial development. Moreover, there seems long to have been a habit of frugality in York's laboring group. Possibly because of the stock from which they sprang or possibly because of their location in a small town, these people were long content with simpler fare and with fewer luxuries and amusements than people in many other cities. Naturally, this has permitted a reasonable wage scale.

It is difficult to evaluate even in qualitative terms the third factor mentioned, the importance of ambition and vision on the part of many of the early residents of the city. Perhaps these qualities may be explained in part by habits and traditions of the settlers, but the qualities existed, whatever their origin, and have been manifested in the inception and progress of the city's industries, most of which were local creations brought to their present size under the direction of local men.

With the assets described, it is not surprising that extreme diversity is characteristic of the York industrial picture. A good location, an inexpensive and efficient labor supply, ambition and vision—these are of great importance in any line of industry. On the other hand, there were no large local supplies of raw material such as have frequently formed the basis for specialization, no conditions that favored one industry any more than a number of others. Even so, some industry might have grown to far overshadow its fellows, but fortunately this has not been the case. The largest of the two hundred fifty or more York manufacturing industries listed by the Bureau of Statistics, Pennsylvania Department of Internal Affairs, for 1933 employed only about 12 per cent of the city's industrial wage earners; the next largest, 4 per cent. The great diversity which this distribution indicates has been a decided advantage. A city dominated by one industry is likely to stagnate when its major industry suffers, but in a city of many industries the gains of some make up for the losses of others.
The typical manufacturing plant of York is a large, massive, brick building or a group of such buildings frequently surmounted by an elevated water storage tank (Fig. 11). Great smoke stacks belching forth smoke, part of the picture of many factory districts, are rare indeed in York. Instead, most of the city’s industries are secondary in character as is to be expected in a city remote from sources of raw material, and most of the plants are operated with purchased electric power. For the most part these industries consist of the fabricating of finished products from materials which have already undergone the primary stages of manufacture, and it is of these primary stages that smoke and dirt are such characteristic accompaniments. Skilled labor is an important item in the selling price of York’s manufactures and their value is high enough in proportion to their bulk that they may be sent far, in a number of instances reaching a world-wide market.

This preliminary characterization of York’s industries will be reflected again and again in the more detailed analysis which follows. Industry after industry will be found to have had much the same history. Some were started by local citizens, frequently using the skill acquired by years of work for someone else; others were started by people who came to York to begin their operations; while still others are merely local units of companies which have plants in many cities. But in every instance location and labor supply have functioned—either in guiding the beginning of the industry, or in fostering its later growth, or both.

TYPES OF INDUSTRIES

Occupying half of the total area used by manufacturing plants in York are the metal products industries. Next in area occupied comes the clay, glass, and stone-products group; and this is followed by paper and printing; textiles and textile products; wood working; chemicals and allied products; tobacco products; and a group of miscellaneous industries. But area occupied, though significant, is not entirely satisfactory as a basis for comparing industries. Some types of industry sprawl over large areas but do a relatively small business and employ few workers. Nor is it feasible to determine with very great exactness the area which should actually be credited to each manufacturing plant.
Fig. 12.—A graphical comparison of the various types of industry represented in York, as to persons employed in 1933 and as to areas occupied. (Employment data from Bureau of Statistics, Pennsylvania Department of Internal Affairs; areas calculated from Figure 13.)

Available statistics permit a more careful comparison of industries on the basis of persons employed (Fig. 12). On this basis, too, the metal products group leads (with 32 per cent of the city's manufacturing wage earners in 1933) but the order of the other types of manufactures is different. Textiles and textile products, industries well known for their small utilization of area, are second with nearly one-fourth of the manufacturing wage earners; and they are followed in order by paper and printing; food and kindred products; tobacco products; wood working; clay, glass and stone-products industries; and several less important types.

In the predominance of metal industries York reflects the condition of the State as a whole in which metals and metal products are far in the lead. On the other hand, in the prominence of its textiles and textile products the city reflects conditions in Philadelphia, Reading, Allentown, Lancaster, and other cities of eastern Pennsylvania in which this group is more important than the metals.

**Distribution of the Manufacturing Industries**

A glance at Figure 13 will reveal the principal elements of York's industrial pattern. The railroads are obviously the controlling factor for most of the manufacturing plants, factories being strung out along the several lines. This is particularly true of the heavy industries. Tobacco products and textiles and textile products, on the other hand, do not require access to railroads for the bringing in or shipping of heavy materials, so they do not, ordinarily, conform to the general pattern. Food products are another exception to the general rule, since they
Fig. 13.—Location of principal manufacturing plants in the geographic city, 1934.
cater more largely to local demand and are widely scattered throughout the city. In addition, such industries as limestone quarrying and crushing, and lime manufacture are primarily controlled by the availability of the necessary bed rock and by relatively low land valuation rather than by the presence of a railroad, although they may be reached by spurs. The scattered distribution of these latter industries together with the strung-out nature of the railroad-controlled industries gives character to the York industrial picture. There is no one industrial district, but many scattered plants. To the visitor driving around the city, manufacturing plants seem to appear without warning here, there, and everywhere.

**Metal Products**

It is of interest to note that the metal industries which play such a large part in York's industrial picture are in no case primary metal industries. Instead, they are typically the fabrication of products from steel, pig iron, and similar materials which reach York by rail. Almost without exception these plants require such heavy raw materials that location on one of the railroads has been a necessity. From a nucleus at the center of the city five arms or strips of these plants extend, corresponding to the courses of the various railroads.

**The York Ice Machinery Corporation.**—The largest of York's metal products companies both on the basis of area occupied and persons employed is the York Ice Machinery Corporation (Fig. 14); and this

![Pie chart](image)

**Fig. 14.**—A graphical comparison of York's various metal products manufacturers for 1933 on the basis of persons employed. Figures given are percentages of all people employed by the group, the total amounting, in 1933, to approximately 5,000 persons. (Data from Bureau of Statistics, Pennsylvania Department of Internal Affairs.)
company has the distinction, also, of being the largest manufacturing concern of any kind in the city. Its West York plant occupies 20 acres along the Western Maryland Railroad and the Frederick-Lancaster division of the Pennsylvania Railroad about three-fourths of a mile west of Continental Square; its other unit, the Grantley Plant, occupies 80 acres on the Harrisburg-Baltimore division of the Pennsylvania Railroad, a mile southwest of the Square (Figs. 15 and 16).

The story of this firm is similar to that of many of York’s industries. Beginning in 1874 as the York Manufacturing Company with a small plant and a total force of 14 employees, the company at first made such products as steam engines, washing machines, and paper mill machinery. About ten years later ice machines were added to this line of products, but it was not until near the end of the century that the company began to specialize in ice machinery and kindred products.

The years that have followed have witnessed great growth and expansion, the company changing its function with the times until now its emphasis is upon mechanical cooling equipment rather than upon ice-machinery. But specialization has not meant restriction of the company’s activities to the making of a few products; instead, it has resulted in a tremendous variety of specialized products. The space needs of the company grew, first requiring the building of the West York plant; and finally, in 1923, the large Grantley plant was built to supplement the West York plant. In 1927 the company merged with several smaller companies, becoming the York Ice Machinery Corporation. York remains the manufacturing center, but the corporation maintains factory branches in
seventy-one United States cities and it has twenty-three foreign agencies. The local working staff was about 1800 (exceptionally low) in 1933, but the total staff at York and elsewhere was considerably more than twice that figure.

Foundries, machine shops, welding shops, lumber storage sheds, boiler shops, and a number of other specialized buildings make up the two plants of the York Ice Machinery Corporation which are a part of York’s industrial picture. Pig iron, sheet steel, steel plates, forgings, lumber, pipe, and cork products are but a few of the semi-finished “raw” materials which must constantly be brought to York by rail to satisfy the needs of these plants; while the railroads also serve to start on their journey toward consumers the many types of mechanical cooling equipment which result.

The York Ice Machinery Corporation, like nearly all York’s other metal products plants, is completely independent of local sources of material and of local markets. Its presence is the result of initiative of local people in starting an industry in a well-located city where labor conditions were good.

Other Metal Products Industries.—Substantial factory buildings similar to those of the York Ice Machinery Corporation, though in progressively smaller groups, house the many other metal products industries of York. In many instances the story is one of a small beginning some time during the last 25 or 50 years, of steady growth under the stimulus of a good
Fig. 17.—One of the three York units of the American Chain Company. The widespread, low buildings are typical of the city's metal products plants.

location and a good labor supply, of increasing specialization with products changing to keep pace with current progress, but ever increasing in number as the field of specialization has been more thoroughly developed. In all cases iron and steel, iron and steel products, or other metals are brought to York for fashioning into the finished products in which each company specializes; while local sources are depended upon chiefly for water, for power, and for a labor supply. Particularly impressive is the vast variety of products which have resulted from steady expansion in so many different fields.

The American Chain Company is second to the York Ice Machinery Corporation in size, although it employed less than one-third as many men in 1933. York is but one of the scenes of operation of this company which has its head office at Bridgeport, Connecticut. Locally, it has three separated "divisions" or groups of factory buildings (Fig. 17)—two along the Maryland and Pennsylvania Railroad in southeastern York and the other in West York—which began as local concerns but were later absorbed by the American Chain Company. A variety of specialized products are fabricated in these plants including welded and weldless chains, hydraulic elevators and hoists, and a complete line of automobile accessories and garage equipment. The McKay Company with a factory near the Grantley Plant of the York Ice Machinery Corporation (Fig. 18) and the International Chain and Manufacturing Company with a plant on the Maryland and Pennsylvania Railroad are two other important representatives of the chain business in York.

The York Safe and Lock Company, employing about 350 person in 1933, is usually ranked third in size among York's metal products plants. Beginning about 50 or 60 years ago as a result of local initiative this company now has a large plant along the Pennsylvania Railroad northeast of the center of the city. All kinds of safes and bank protective equipment are manufactured, products which reach a world-wide market.

A. B. Farquhar Company, Ltd., is one of the city's oldest industrial concerns, having been established near the middle of the last century.
Location of the company's plant about two blocks northeast of Continental Square reflects the early development of the industry, since most of the large plants developed within recent years have been located near the edge of the city or outside the city limits. The company makes such products as engines, boilers, hydraulic cider presses, and portable conveyors for coal dealers, but it specializes particularly in agricultural implements for which it finds its chief markets in eastern and south-eastern United States. Raw materials for the industry have never been obtained locally, but there has always been some marketing advantage in being located in a rich agricultural district.

The S. Morgan Smith Company has a plant in York adjoining that of the York Ice Machinery Corporation. Begun by the inventor of a turbine water wheel for the manufacture of his product, the company now makes hydro-electric equipment that is used all over the world.

Wire cloth for screens and kindred uses is an important product at York. The New York Wire Cloth Company, with a factory one-half mile east of Continental Square, is the largest plant engaged in manufacturing this speciality. Up to the present time, wire has been brought to the city for the looms of this industry, but the company has just constructed a wire mill in York and will in the future fill its own wire needs. Heilig Brothers and the Standard Wire Cloth and Screen Company are two smaller companies in this field; while a much larger concern, the American Wire Fabrics Corporation, operates at Mt. Wolf some eight or ten miles north of York.

The Hardinge Company, together with its operating subsidiary the Steacy-Schmidt Manufacturing Company, makes mining machinery and industrial grinders and mixers. It began operation in Denver, but, as an increasing part of the firm's business came from the industrial field, a location in eastern United States was sought. York was chosen because of
its location with respect to industrial markets and because of its reputation for having favorable labor conditions.

Many of York's manufacturing concerns have changed their exact form of specialization to meet the opportunities developed by current progress. The York Corrugating Company, with a plant in West York, is a good example of this tendency. Incorporated near the beginning of the century it made at first only eave troughs and conductor pipe. Now the company specializes in sheet metal parts for automobiles, radios, and aeroplanes.

The origin and progress of the Read Machinery Company is typical of the career of a number of York's industries. Starting with a mixing machine for bakeries, an invention of the founder of the company, this concern has so thoroughly covered its specialty that it now makes a complete line of bakery equipment, and has, in addition, invaded other fields of industry with its industrial mixers.

The stories of the many other metal products manufacturers do not differ materially from those given above in some detail. The diversity of products represented is striking indeed. The General Electric Company uses asbestos to insulate copper wire; George F. Motter's Sons make boilers, tanks, engine stacks, and special machinery; the Wm. H. Otto-miller Company makes screw machine products and special machinery; the Martin-Parry Corporation specializes in plated metal molding for automobiles, cabinets, and the like; the Brandt-Warner Manufacturing Company and the Manley Products Corporation make automobile parts; iron castings are made by the Eyster-Weiser Company; the York Oil Burner Company specializes in the product which its name implies; the Smyser-Royer Company makes ornamental iron and steel; the B. M. Root Company makes wood-working machinery; and a number of smaller plants might be added, plants that make structural iron and steel; saws; machine tools; floor waxing machines; brass, bronze, copper, and aluminum castings; bed springs; and a number of other special products.

TEXTILES AND TEXTILE PRODUCTS

The presence of textile and textile products industries in York is not surprising in view of the city's location. Northeastern United States is an important textile region, and nearly every borough and city in eastern Pennsylvania has one or more textile or textile products plants. An early start, nearness to a large consuming population, and easy access to immigrant labor probably account for the general textile area; but in many inland towns the bringing in of immigrant labor has never been necessary. Such is the case with York.

The textile and textile products industries in many eastern Pennsylvania towns are parasitic, developing after the heavy industries and depending for labor upon the wives and daughters of the workers in these heavy industries. To a certain extent this is true of York, where the metal industries give employment to men but not to the female portion of the population.

Textiles and textile products employed about 3600 persons in 1933 or 23 per cent of York's industrial wage earners, and on this basis were not very far behind the metal products group; but they are far less striking
in the city's industrial picture, occupying only about 8 per cent of the city's industrial area. The heavy nature of the machinery and products of the metal products plants often precludes the use of a second or third floor as is possible with textiles and textile products; while the actual floor space needed per person employed, too, averages less in the textile and textile products groups, being particularly small in the latter.

There are several other reasons for considering these industries not to be of great significance in the city's industrial picture. The large proportion of women employed means that the industries do not support as many families as the 23 per cent would seem to indicate. There is the fact, too, that although many of the textile and textile products plants were begun by local people these industries are now largely in the hands of outsiders, many of the plants being branches of larger concerns with headquarters elsewhere. Both the moving of such companies to York and their location of branches at York seem to be due to the city's reputation for having good labor conditions and to the city's combination of good location and low land values.

It should not be assumed in speaking of textiles and textile products that they constitute a homogeneous group. Instead, the industries included differ considerably in their type of operations, in their products, and in their problems.

The Weaving Mills.—Thirty-eight per cent of all the wage earners in the textile and textile products group in 1933 were employed in the weaving of silk and other cloth.

Aside from the Orinoka Mills, specializing in tapestry, and the Narrow Fabrics Company, which makes cotton tape, York's weaving mills are all engaged in the making of silk goods. Before it reaches the York mills, the raw silk from Japan must first pass through throwing mills, a phase of the industry not now represented at York, in which several strands are twisted into a thread. The silk goods manufacturers located in York, arranged approximately according to the number of local employees, are as follows: Blue Bird Silk Manufacturing Company; Tioga Silk Company; Century Ribbon Mills; David Silks; Atlas Silk Mills of Pennsylvania;

![Figure 19](image-url)
Kroy Silk Corporation; H. W. G. Silk Company; and the Rutland Silk Company. Silk dress goods, silk ribbons, silk lining material, and necktie silks are among the specialties of these silk mills.

There is no single type location for the silk weaving mills. As has been pointed out earlier, since there are no heavy raw materials to be assembled or heavy products to be shipped away location on a railroad is unnecessary, so these plants are scattered throughout the city. Requiring more space than clothing factories they are without exception more than one-half mile from the central square of the city, far enough out to enjoy the advantage of lower rent. Some of the buildings in use are old but others are well-lighted and modern.

The Knitting Mills.—A second subgroup of the textile and textile products industries is represented by the knitting mills. Employing 27 per cent of all wage earners in the textile and textile products industries, these knitting mills are engaged entirely in hosiery manufacture. Philadelphia, it will be recalled, is an important hosiery center, and there are hosiery mills scattered all over eastern Pennsylvania giving the state first rank in hosiery production.

There is no typical location for the city’s knitting mills, the several plants being widely scattered. Most of the buildings are modern and so designed as to take advantage as far as possible of natural light (Fig. 20). In these respects they are distinctly superior to the average weaving mill.

Of York’s four hosiery mills, two, E. Sutro & Sons and Triumph Hosiery Mills, with a combined working staff of 600 in 1933, specialize in ladies’ silk hosiery. Both are branch factories with main offices elsewhere, and are not the “home-grown” industries so typical of York. As in the weaving mills, the silk used by these hosiery factories comes from throwing mills, but the thread used for hosiery making is softer, not having been given as high a “twist” as the thread for the weaving mills.

The other two knitting mills make cotton and woolen hosiery. Joseph Black & Sons Company, the larger of these two concerns, with over 300 employees in 1933, began the hosiery business in Philadelphia but moved to York in 1900. The company specializes in men’s hosiery, while the Codorus Hosiery Mill makes a more general line of cotton and woolen hosiery.
Clothing Manufacture.—Clothing manufacture consists of cutting and sewing cloth into finished garments. The clothing industry requires less space than the other branches of the textile industry, so a number of the factories are near the center of the city or elsewhere in congested commercial districts, often occupying upper floors or the rear rooms of buildings. Some, it is true, occupy large separate buildings some distance away from the center of the city which compare favorably in size and type with those of other industries, but in most cases the buildings used are old and in marked contrast to the efficient-looking structures which house the city's hosiery industry. Probably this situation is explainable in part by the marginal character of clothing manufacture, an industry in which wages and prices have been proverbially low.

Not many of the clothing factories are local in the sense that many of the city's other industries are local; that is, few of these industries have been conceived and developed by natives of this vicinity. Much more often they are factories which have either been moved here or else developed here by people from elsewhere, who have been attracted by the good labor conditions for which York has always been famous.

Women are the principal employees, so it may be said that the clothing factories are more largely parasitic on the heavy industries than are the other branches of the textile group. Employing over 1200 persons in 1933, clothing manufacture accounted for 35 per cent of all wage earners in the textile and textile products group.

Shirt manufacture is the most important type of clothing industry represented in York. The individuals and companies engaged in this branch of the textile industry in 1933 were Philberne, Inc.; I. Unterberg & Company; Trio Manufacturing Company; Penn Shirt Factory; Superior Sewing Company; Standard Shirt Factory; Samuel Nirenberg; and the Trafalgar Shirt Company.

Diversity is characteristic of the other clothing industries of the city, which employed in total about 600 workers in 1933. Of the two largest companies, Chock-Horowitz, Inc., makes pajamas and night shirts; while William Bernstein combines the manufacture of shirts, night shirts, and dresses. The others, none employing over 100 persons, display something of the diversity so characteristic of York's industrial structure. The D. and D. Sewing Company specializes in boys' suits; the Diehl Sewing Company, in children's garments in general; Jacobs Brothers, in nurses and maid's uniforms; the Louis Marcus Corporation, in ladies coats and suits; and the York Garment Company, in dresses.

Paper and Printing Industries

Third in importance among York's types of manufacturing industries on the basis of persons employed comes paper and printing, with some 13 or 14 per cent of the city's industrial wage earners in 1933. On the basis of area occupied these industries, with 9.4 per cent of the total industrial area of the city, outstrip textiles and textile products. The group includes the manufacture of paper board and wrapping paper; the making of roofing paper; wall paper manufacture; printing; and several minor industries.

Paper Board and Wrapping Paper.—There is no writing paper or book paper manufactured in the geographic city of York at the present time,
the nearest approach to a primary paper industry being the manufacture of paper board and wrapping paper. Instead of using rags or wood, however, this local paper industry uses waste paper as its principal raw material, and is thus in reality a reconversion process. Whereas a primary paper industry often occupies some remote stream near or in a forest, the paper board industry as found in York today depends upon just the opposite conditions, upon the presence of population agglomerations, for its supply of waste paper. This need is brought out by the appearance of the plants, their most distinctive feature being the piles of baled waste paper near the buildings.

The Schmidt & Ault Paper Company, the largest operator in this field, has a plant lying between Codorus Creek and the Harrisburg-Baltimore Division of the Pennsylvania Railroad. Here 185 persons were employed in 1933 in the manufacture of boxboard, building paper, indented paper, wrapping paper, and some other paper specialties. Although the Schmidt & Ault Paper Company property has been in the hands of its present owners only since 1897, it is of interest that some form of the paper industry has occupied this site ever since the beginning of the eighteenth century, when Philip J. King erected a mill for making very high grade, handmade, note and letter paper.

The Penn Fibreboard Corporation, with about half as many employees as the Schmidt & Ault Paper Company in 1933, has a factory at the southeast edge of the geographic city where paper board for boxes is made.


*Roofing Paper.*—A second modern form of the paper industry at York is represented by the several roofing paper companies—Certain-teed Products Corporation, Keystone Roofing Manufacturing Company (Fig. 11), and the Ford Roofing Products Company—which in 1933 employed a total of over 400 workmen in the making of asphalt shingles and roofing. The largest of these, the Certain-teed Products Corporation, makes its own felt paper stock; the others purchase felt paper stock in rolls from paper companies. A system of rollers in the plants permits this felt paper first to be saturated with thin asphalt, then given a coating of thick asphalt, and, finally, coated with slate granules. Quarries at Delta, in the Peach Bottom District, some 25 or 30 miles southeast of York, furnish most of the slate granules. Some of the product is sold as sheets, and some is cut into various shapes as shingles.

Markets for the products of this group of industries are mostly in eastern and southern United States. The roofing industry has developed at York chiefly because of the good market situation and favorable labor conditions. There is nothing particularly distinctive about the appearance of the roofing plants, they are merely long brick buildings like those housing many other industries, but since their space needs are fairly large it is not surprising to find them located near the edges of the city.

*Wall Paper.*—Another form of the paper industry at York is the manufacture of wall paper. For this industry, paper is purchased in rolls and the business of the wall paper factories is the printing on of the pattern which gives wall paper its distinctive character.

Four companies manufacture wall paper at York at the present time. The United Wall Paper Factories (York Card Division) is an industry
which was started locally and then absorbed by a larger company, so it is now the York factory of a corporation with its head office at Jersey City. In addition to this leading company, which employed nearly 300 persons in 1933, there are three other wall paper factories in York, all local concerns. The largest of these, the York Wall Paper Company, employs about half as many persons as the first company mentioned; while the Barnes Wall Paper Company and the Gilbert Wall Paper Company are considerably smaller. A process of branching off from an original company, in which workmen trained by the company began a factory of their own, accounts for the presence of the several factories making the same product.

Printing.—The printing industry is represented in York by two newspapers, the Dispatch and the Gazette and Daily, each with a staff of a little over 100 persons; by two fairly large printing companies; and by a number of smaller operations. The newspaper plants are located near the heart of the city; the other printers have no typical location.

The Maple Press Company is the larger of the two major commercial printing companies. Employing over 200 persons in 1933, its chief business is the printing of technical and medical books for publishing companies in the large eastern cities. The other company, the York Printing Company, with about half as large a force, specializes in job printing, doing, for instance, the advertising printing for a number of York firms and for a large cork and linoleum factory in Lancaster.

Publication of the Poultry Press, though employing only four persons in 1933, is of special interest in reflecting an important phase of agriculture in the vicinity of the city; while another operation of particular interest is that of the General Cigar Company. Formerly this company made cigars at York, but now the small staff that remains is employed in printing the company’s cigar labels. A number of small job-printing shops, employing from one to a dozen persons each, are scattered throughout the city.

Other Paper and Printing Industries.—Several small engraving concerns none of which employed over 10 persons in 1933; an electrotype company; three small paper box factories; and two very small book binding shops are further elements of the picture of the paper and printing industries.

Food and Kindred Products

Approximately 9 per cent of York’s industrial wage earners are employed in the so-called “food and kindred products” industries, and these industries occupy 5½ per cent of the city’s total industrial area. Many of the plants included supply only local, daily needs, so are hardly comparable to the other lines of manufacturing which have been discussed; but others in the group manufacture products which are sent all over the United States. The food and kindred products plants have no typical location, but are, instead, scattered over the city. Moreover, so great is the diversity within the group that no factory building can be described as being at all typical of the group as a whole.

Bakery Products.—Half of all the workers in the food and kindred products group are engaged in the manufacture of bakery products. York, like any city of its size, has a number of ordinary bakeries engaged
in supplying the current needs of the city and the surrounding smaller towns. Though several of these bakeries are in the commercial core, others are scattered over the city, neither a central location nor location on a railroad being required. Four of these general bakeries—J. B. Fishel's Bakery, the Edward Fox Baking Company, the Hershey Baking Company, and E. P. Minnich—employ over 50 persons each, and these companies naturally reach farther with their products than do the eight or ten smaller concerns. Part of the flour used by these bakeries is made by mills at Red Lion and elsewhere in this section of the state.

A more specialized form of baking and one that reaches much farther afield for its markets is represented by the plant of the National Biscuit Company, employing nearly 300 persons, and by D. F. Stauffer Biscuit Company, with about half that large a staff.

The National Biscuit Company with headquarters in New York has factories in a number of different cities. Its York plant is engaged solely in the making of pretzels. The company markets this product chiefly in the East but to some extent reaches to the Middle West and elsewhere. Two small local companies are also in the pretzel manufacturing business but market their product near at hand.

The Stauffer Biscuit Company is a local concern which began operation about sixty years ago. Cookies, crackers, and pretzels are made and distributed both in bulk and in package form.

These biscuit companies like the general bakeries buy at least part of their flour in this general neighborhood; while the nearness of New York, Philadelphia, and Baltimore is a distinct advantage in marketing their products.

Confectionery.—Several companies manufacture confectionery products in York. They are chance developments, which have found nearness to the large urban population of the East and good local labor conditions distinct assets.

The York Caramel Company, employing 130 persons in 1933, makes a complete line of caramels, the product being shipped all over the United States and some exported. The Laffan Candy Company, a much smaller general candy concern, depends chiefly upon local trade. A third confectionery maker, the York Cone Company, manufactures ice cream cones, fancy biscuits, and several types of candy bars.

Commercial Mixed Feed Products.—The preparation of mixed feeds is represented by several companies at York. J. W. Eschelman & Sons have the largest mill of this kind, employing between fifty and sixty persons; but the Anderson Grain & Feed Company, Hespenheide & Thompson, Owings Brothers, D. E. Horn & Company, and several smaller concerns make similar products.

The importance of the mixed feed industry is a result of the agricultural practices of this region. The poultry industry, dairying, and steer fattening are all important in the vicinity of York, and all require mixed feeds. Corn is brought from the Middle West for these grinding mills while some of the grain used, particularly some of the wheat, is produced in Pennsylvania. Mixed feeds from York are shipped to points in adjacent states as well as all over eastern Pennsylvania, and this fact, together with the necessity for bringing in grain by rail, has required location of these plants on railroads.
Other Industries of the Food and Kindred Products Group.—A variety of other industries of the food and kindred products group are represented in York. Several factories make ice cream locally among them being Arnold Ice Cream Company, Green’s Dairy, and F. H. Bierman & Son; while some ice cream distributors make their product elsewhere. Penn Dairies, Inc., has a large plant north of the center of the city where, in addition to bottling and distributing ordinary milk, chocolate milk is bottled, and a condensary prepares condensed skimmed milk for the poultry industry and condensed skimmed sugar milk for bakeries and candy factories. Green’s Dairy, also, bottles and distributes milk, manufactures ice cream, and makes a dry skimmed milk powder which is consumed by bakeries and by ice cream manufacturers.

A large flour mill with national distribution, the York Roller Mills, is located north of the city, while a smaller flour mill is in operation near the southern edge, and a slaughtering and meat packing industry is an adjunct to one of the city’s meat markets. Ice plants, several small soft drink plants, and two breweries are other minor representatives of the food and kindred products group.

**Tobacco Products**

Though the manufacture of tobacco products employed approximately 9 per cent of York’s industrial wage earners in 1933, the space occupied by tobacco products plants is only 1 per cent of the city’s industrial area. Thus in economy of space the manufacture of tobacco products resembles clothing manufacture. One of the city’s tobacco products concerns, the David Forry Tobacco Company, employs from 25 to 30 persons in the making of chewing and smoking tobacco, but otherwise the tobacco products referred to are cigars.

![Fig. 21.—Tobacco field about five miles northeast of York.](image-url)
The cigar industry for which York, and, even more, Red Lion and other small urban centers of York County, have long been famous is not, as might be supposed, based entirely upon the tobacco in which the neighboring county of Lancaster specializes (Fig. 21). Such tobacco is used in large quantities, it is true, but it is a rather low grade filler tobacco. For the best cigars made, the filler comes from Cuba or Puerto Rico and the wrappers from Sumatra.

With ready access to the local, low-grade filler tobacco it is but natural that the York region should specialize in low-priced cigars. Few nationally known brands are represented. Instead, five cent cigars and even "two-for-fives" are characteristic of the region, cheap cigars which are not usually bought by brand.

Recent years have seen this venerable industry in a state of flux. For a long time cigars were made only by hand. Labor costs were high, but five cent cigars could be made profitably none the less. So long did this hand-made cigar industry continue that it developed a large class of cigar makers, skilled in the hand making of this product. It meant, too, an industry consisting of many small shops, some with only one or two workers, since there was little or no machinery investment and anyone could start in the business.

Then cigar-making machines began to invade the field. With their lower labor costs, factories using these machines could sell at two for five cents the same kinds of cigars that had been selling at five cents straight. Thereupon began the conflict between the old and the new, a conflict which is still going on, but a conflict in which the hand methods are gradually having to give way to the newer, more efficient machine methods. One by one the small one- or two-man shops are closing, while even the larger shops making the hand-made product are having difficulties. And coincident with this struggle there has been a general gradual decline in the use of cigars, a decline which began twenty or twenty-five years ago.
Both types of plants are represented in York. The making of cigars by hand still is carried on in some homes with but one or two workers. The hand-made industry is also carried on in several small factories in the city, the largest employing about 100 persons but the average employing a much smaller number. Usually the hand-made factories are old buildings, reflecting the antiquity of the business, and are distinctly marginal operations, meeting with difficulty the competition of the factories using machines.

Representative of the machine-made cigar industry is the Webster-Eisenlohr Company, with its head office in New York and two factories in York, the only factories in the county in which cigars are made by machine; but even this company makes its most expensive cigars by hand methods. The factories of the Webster-Eisenlohr Company are large brick buildings (Fig. 22), which, as is true of many of York's other factories, betray little outward evidence of the industry which they house. The company employs between 700 and 800 persons at York, their operations being on a much larger scale than that of the average factory for making cigars by hand. In 1933 this company was second only to the York Ice Machinery Corporation in number of persons employed, though it occupied only a small fraction of as large an area.

WOOD-WORKING INDUSTRIES

The making of various products in which wood is the dominant material employed 4.6 per cent of York's wage earners in 1933 and occupied nearly 7 per cent of the city's industrial area.

The Furniture Industry.—Manufacture of furniture is the principal wood-working industry of York. It is not an old industry, having its origin near the turn of the century, but it is now well represented in the vicinity, Red Lion, Gettysburg, Glen Rock, and other neighboring centers having furniture factories some of which are much larger than York's plants. Location of this group of plants in York and vicinity seems to have been a response to the good market situation and good labor conditions, and not to the presence of raw material, since from the beginning the wood used had to be brought from other parts of the country.

The Pennsylvania Furniture Company, in West York, and the Home Furniture Company, a few blocks southeast of the center of the city, each with a staff of about 100 in 1933, are engaged in the manufacture of dining and bed room suites. A much smaller concern makes upholstered furniture, and there are three or four other small furniture factories.

Commercial Auto Bodies.—The making of commercial automobile bodies represents another important wood-working industry in York, although of course sheet steel and other materials are used in addition to the lumber.

The York-Hoover Body Corporation, the only important company in this field, employed about 200 persons in 1933, but its staff is ordinarily considerably larger. The present corporation resulted from the consolidation of several of the city's early wagon- and carriage-making companies, and it is because of this method of development that operations are in three widely-separated plants. The company also makes caskets through a subsidiary, the York Casket Company, which had 80 employees in 1933.
Planing Mill Products.—A third type of wood-working industry, represented in York as in most cities, is the operation of planing mills in connection with lumber retailing companies. George A. Wolf & Sons, John H. Myers & Son, and Herman Noss Sons are examples of this combination of large lumber yards with wood working. They are not concentrated in any particular section of the city, and, since they serve York’s building trades, they are primarily of local significance. In this respect they are comparable to many of the plants of the food and kindred products group and to the newspapers and smaller printing companies.

Other Wood-working Industries.—Several minor industries of this group are of particular interest. A. Kauffman & Brother, employing 33 persons in 1933, manufacture cigar boxes. This company formerly made many more of these boxes than it does now, even though there were then other cigar box companies in York. At that time small cigar box factories furnished boxes to the many individuals and small factories making cigars by hand; but with the decline of small-scale cigar making the cigar box industry has declined too, since the large cigar companies buy their boxes through their main city offices.

Another small company, the Split Coach Motor Corporation, is classified with the wood products group, although lumber is only one of the materials which it uses. Employing 10 persons in 1933, this concern makes automobile trailers which are completely equipped as living quarters.

A veneer company, several small pattern shops, a cooperage company, and a few other small concerns complete the list of the city’s wood-working industries.

Clay, Glass, and Stone-products Industries

York is not well supplied with mineral resources, but it does have one valuable resource of this kind, limestone. Moreover, it had and still does have a fair grade of clay. On these two natural resources are based
most of the industries of York's "clay, glass, and stone-products group," which includes the crushing and use of limestone and the manufacture of brick, pottery, and some glass products. Though employing only 4 per cent of the city's manufacturing wage earners in 1933, this group of industries occupies about 15½ per cent of the city's industrial area; and these same large space needs are reflected in the location of the plants of the group. They do not compete with more intensive uses of the land characteristic of the best-located parts of the city, but, instead, most of them occupy land at the very edge of the geographic city, well outside of the corporate limits.

The Limestone Industries.—Limestone is quarried at a number of places at the edge of the city. Four or five companies quarry the stone and crush it, the crushed stone being the product that is marketed (Fig. 24). The operation being an exceedingly simple and primary one, these rock-crushing plants are hardly to be classed with the city's many highly specialized factories. They are occupied with only the very first stage of processing.

In several cases, however, the treatment of the stone goes farther. For instance, the Universal Gypsum & Lime Company, a Chicago concern, has a limestone mine and a lime plant in West York. This company, with 130 local employees in 1933, mines the stone and burns it into lime at the mine (Fig. 25). The J. E. Baker Company, though not operating within the geographic city, has quarries in this vicinity and a lime plant at Thomasville, just west of York, and is prominent in the crushed limestone and lime industries.

Just north of the Universal Gypsum and Lime Company operations in West York tall smoke stacks and storage bins mark the property of the Medusa Portland Cement Company (Fig. 26) whose head office is in Cleveland. This concern, which had 185 employees in 1933, has a white
cement plant and a gray cement plant, side by side. The making of white, non-staining Portland cement was begun in 1906, using a pure white clay from Cumberland County and a limestone quarried at York, the quarry lying just west of the geographic city. The market for the white Portland cement is national or even international, since very few plants make this product. The gray Portland cement plant, on the other hand, makes the ordinary Portland cement so common in all modern construction. For its manufacture, limestone is obtained from the company’s quarry just as for the white cement, but the necessary clay in this case can be obtained from the same quarry, occurring as an overburden on the limestone. Gray Portland cement being a common product, the standard “Portland cement” of commerce, its market area is distinctly local as compared with white cement.

Fig. 25.—The mine and lime plant of the Universal Gypsum & Lime Company.

Fig. 26.—The Medusa Portland Cement Company’s operations at the west edge of York. One of the few York industries related to local mineral resources.
Any city as large as York is sure to have several concrete products companies, and five or six of these operate in York, making such products as building blocks and vaults.

Clay-products Industries.—The making of brick is a very old industry in York, but is represented by only two companies at the present time. Their clay pits, burning kilns, and storage yards give ready evidence of the function of these two plants (Fig. 27). Both are in the eastern part of the city and both dig the clay they use from pits on their property. This precludes location of such plants anywhere except on the city's edge, and has meant in the past a gradual migration with the growth of the city.

The Spring Garden Brick & Clay Products Company, with about 35 employees in 1933 and some fifteen or twenty more in 1934, makes colonial brick and common brick, much of their production being for government use. The colonial brick in which the company specializes is brick to which roughness and color irregularity are deliberately given in the burning to simulate the brick of colonial times, special kilns being used.

W. H. Grothe, the other brick maker, with a smaller plant and fewer employees, makes chiefly common or "soft mud" brick.

The Pfaltzgraff Pottery Company, with about 100 employees in 1933, makes flower pots, earthenware, and artware. When this company first started operations over 100 years ago clay was obtained locally; now the clay is brought from western Pennsylvania, from New Jersey, and elsewhere. Fuel oil is used in burning the pottery at the present time. The chief market for the products is in eastern United States, particularly in the general vicinity of York where there are few plants of this nature.

Glass Products.—The primary phase of the glass industry, that is, the actual making of glass, is not represented at York. The York Mirror & Glass Company, with 23 employees in 1933, purchases plate glass and manufactures mirrors from it; while two smaller concerns make miscellaneous glass products. The York Optical Company, its manufacturing
operation consisting chiefly of the grinding of lenses, should also be mentioned with this group.

**CHEMICALS AND ALLIED PRODUCTS**

A group of industries which may be classified as “chemicals and allied products” accounted for a little less than one per cent of York’s industrial employees in 1933, while occupying about two per cent of the city’s industrial area. The plants of this group are all small, none with more than 30 employees, but they are of interest since they bear out still further the extreme diversity which characterizes York’s industrial picture.

The York plant of the Molybdenum Corporation of America, which is one of this group, makes something like 80 per cent of the country’s total production of salts of tungsten and molybdenum, which are used in the making of dyes and in other industrial processes. Like many of York’s manufacturing plants this factory originated locally, and was later merged with the corporation of which it is now a part.

The North Metal and Chemical Company, a smaller chemical plant, makes various chemical specialties such as dyes. The York Chemical Works treats phosphate rock and other raw materials in the making of commercial fertilizers. The Keystone Color and Paint Company, another concern in this general group, manufactures paints and pigments.

A company which specializes in patent medicines and another making drug store supplies are other members of this group.

**MISCELLANEOUS MANUFACTURING INDUSTRIES**

There are a number of manufacturing plants which do not fit into any of the foregoing groups.

The Dentist’s Supply Company of New York has a factory in south-western York which is the largest of its kind in the world. With 533 employees in 1933 and occupying about 1 per cent of the city’s industrial area, this factory specializes in the making of artificial teeth. The use of gold, silver, and platinum in this work has required the development of a metallurgical department which has attained such a favorable reputation that it is frequently called upon to supply these metals to manufacturers of scientific instruments and similar products.

The Weaver Piano Company, a much smaller concern, was founded in 1870 by a local music teacher. It is worth pointing out again here that a number of York’s companies have had this same basis—some special talent on the part of its founder. In some cases this took the form of inventing an engine or some piece of machinery; in the present case it manifested itself in the making of an especially fine piano. The Weaver Piano Company has never extended its manufacturing operations outside of York and its staff is small, consisting of about 50 employees in 1933. It has never produced great quantities of its products, but has specialized in high-priced pianos which require very careful workmanship, much of it by hand. At present the company makes radios as well as pianos, but the latter has always been more of a specialty.

The Pennsylvania Gas and Electric Company has a plant on the west bank of the Codorus not far from the center of the city in which gas is manufactured for distribution to its consumers. Natural gas now reaches
the city by pipe line, and this is purchased by the gas company and used to enrich the manufactured gas. York has the distinction of being one of the first cities to install a gas manufacturing plant, the city's first operation of this kind beginning in 1849.

Exercising apparatus, advertising novelties, mattresses and bedding, signs, and other minor products are made in the small plants which complete the list of York's industries.

**Small Neighboring Industrial Centers**

There are a number of smaller urban centers within a radius of some ten or fifteen miles of York, many of which have industries similar to those within the city and all of which depend upon it to some degree.

Some of these neighboring urban centers have several types of manufacture while others depend almost entirely upon a single industry. Thus Red Lion, the largest of York's satellite towns, with a population of between four and five thousand, has cigars and furniture as its principal products but has several minor manufactures also; while Spring Grove, southwest of York, has just one outstanding industry, the large paper manufacturing plant of the P. H. Glatfelter Company (Fig. 28). Dallastown, with cigar and furniture industries; Mt. Wolf, with a large wire cloth factory; and a number of minor centers with small cigar industries are other examples of these little neighboring towns in which manufacturing vies with the business of serving an agricultural section.

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**Fig. 28.**—Airplane view of the P. H. Glatfelter Company plant at Spring Grove. Pulp wood from Maryland and Virginia and carefully selected, old books and magazines form the raw materials for the manufacturing process; while book paper, bond paper, and writing paper are the principal end products. (Copyright by Aero Service Corporation, Philadelphia, Pa.)
THE COMMERCIAL CITY

It is impossible to compare in definite terms the importance of the various functions of a city. Areal extent is one basis for comparing these functions, but it is obviously inadequate, since areal extent does not take account of the intensity of utilization. Thus, commercial establishments occupied only 6 per cent of the geographic city of York in 1934, but the commercial function is far more important than this percentage would seem to indicate. True, York is primarily a manufacturing city, but in addition to this industrial activity, and partly because of the presence of manufacturing plants, the city has a large retail trade, and, to a lesser extent, a wholesale business; while large railroad and truck movements are necessitated.

COMMERCIAL PATTERN

Commercial Core.—The original plan of York predetermined the position of the city's commercial core (Fig. 29). The central square of this plan, located a short distance east of Codorus Creek, was obviously intended as the city's commercial center, and it has since amply fulfilled this destiny. At first this point, the Continental Square of later years, had to share importance with the actual stream crossing about a quarter of a mile farther west, and this influence is reflected in the dimensions of the present commercial core. Of the four projections of commercial development extending from Continental Square, the longest is toward

Fig. 29.—Central York, looking south, showing the commercial core as it is today. Note the angularity of the street pattern. Note, also, Continental Square surrounded by the city's tallest buildings. (Photograph by Clay Shannon, Photographer of York Flying Service, Inc., operators of York Airport.)
the southwest, following the Lincoln Highway nearly a quarter of a mile beyond Codorus Creek; while the projections to the northwest, southeast, and northeast are much shorter.

As the commercial importance of this section around Continental Square grew, it became increasingly attractive as a focus for further commercial development. When York’s several railroad lines were built, they naturally had their terminus as near as possible to this strategic area, still further promoting its development.

The commercial core district, being within the area covered by the original plan of York, has the definitely rectangular pattern used in the original plan. The buildings of this regularly laid out core district are not high, the tallest being only nine stories, and very few exceeding five. York is situated in relatively flat country where there has been little necessity for crowding, and this may in part account for the non-metropolitan aspect of this climactic section of the city.

The commercial core offers the services typical of similar areas in other cities. In the core are the city’s three medium-sized department stores; the city’s principal hotels; most of the city’s cinemas; and an assortment of drug stores, dress shops, hat shops, shoe stores, men’s clothing stores, restaurants, barber shops, storage garages, and other somewhat similar establishments. Of the city’s ten banks, six are within a block of Continental Square and two others are within the area properly designated as commercial core. Characteristic, too, of this commercial core area is the use of the upper floors of many of the higher buildings for offices, nearness to the Square seeming to measure the desirability of buildings for this purpose. A county court house has inherited its commercial core location from an earlier day, while scattered throughout the commercial core and now seeming sadly out of place are a number of old churches, which have remained almost unchanged while commercial development

![Fig. 30.—Continental Square in 1934.](image-url)
has surged around them. The city post office, too, comes within the core area, being a facility which requires a very accessible location.

While the city's retail functions center particularly on the Square, the peak of wholesale development lies farther north, between the Square and Codorus Creek. Here is the major focus of the railroads and here are several wholesale houses including the general wholesale business of the P. A. & S. Small Company which dates back more than a century. Although this railroad terminal district is York's nearest approach to a wholesale area, there are a few wholesale plants elsewhere as well. On the whole, however, there is no really important wholesale district. This is chiefly because of the nearness of Philadelphia and Baltimore which usurp the wholesale functions of such neighboring small cities as York.

The edges of the commercial core show an increase in residential use. Within a block of Continental Square use of the upper floors of buildings for offices gives place to residential use, while, farther out, residences replacing ground-floor commercial use mark the edge of the district. About at the edge, too, are three of the city's four markets, the fourth being within a block of the commercial core. For such a use, location near Continental Square is desirable, but the space needs of markets are so great that these edge sites are more economically feasible. Finally, seeming to shoulder their way into the edges of the commercial core, are some of the city's manufacturing plants, largely residual, and dating from an earlier day in the city's history.

Outlying Commercial Areas.—Scattered over the city, but separated from the core by areas where residential use dominates, are other commercial areas. Sometimes these consist simply of a single concern, but again several stores may occur together.

The most common locations for these minor areas of commercial development are on George Street and Market Street, east, west, north, or south of the commercial core and separated from it and from each other by areas of residential development and perhaps, interspersed with these, other secondary commercial districts. Prospect Street, too, extending diagonally southeast from the core district; Queen Street, which lies about two blocks east of George Street and roughly parallels it; and one or two others have small secondary commercial districts of this kind. Present or past political individuality accounts for some of these secondary commercial districts, as those of North York and West York; others are at the junction of two important streets; while in still other cases mere location a sufficient distance from the commercial core has made profitable the existence of retail establishments.

Probably the most common type of store of these secondary commercial districts is the chain grocery, the striking green fronts of the Yorktowne Groceries being particularly characteristic. Such stores are rare in the commercial core, though a few occur near its edges. For grocery stores, distance from the commercial core means not only lower rent and lower taxes but some actual advantage through nearness to consumers. Refreshment parlors are another common type of store represented in these outlying commercial districts; butcher shops, drug stores, and garages sometimes occur; while, at prominent street corners, filling stations are characteristic.
Transportation Net.—But the commercial picture of a city does not end with the distribution of its wholesale and retail establishments. Even more important are the railroads and their spurs and the network of streets and highways occupying in total nearly one-third of the area of geographic York. These are the arteries that give life to the commercial picture (Fig. 1).

Highways of a sort served York long before the coming of the railroad, and the paved roads of today perform a remarkable service both in the movement of passengers and of freight. The major highways radiate out from the city, a natural enough development since there are no very serious topographic obstacles. Their courses determined in the early days of York’s history, these roads served to guide the street pattern in some of the later-developed parts of the city.

Undoubtedly, the most important present-day road is the Lincoln Highway which follows York Valley from Wrightsville to York, and then, west of the city, leaves the valley to take an almost straight course to Gettysburg. A second United States Highway, the Susquehanna Trail, crosses the Lincoln Highway almost at right angles on its way from Harrisburg to Baltimore, this crossing taking place at Continental Square. State highways running north to Manchester and York Haven, east to East Prospect, southeast to Red Lion and Delta, southwest to Hanover, and northwest to Dover and ultimately to Carlisle are other elements of the radiating pattern.

The railroads serving York radiate almost as strikingly as do the highways, although they show a much closer relationship to topography. The most important line serving the city is the Baltimore Division of the Pennsylvania Railroad which, following the easy gradient of Codorus Creek Valley, passes through York on its way from Harrisburg to Baltimore and Washington. This was formerly part of the old Northern Central system, and the same was true of a second Pennsylvania line which passes through York and connects Frederick, Maryland, and Hanover, Pennsylvania, with the main east-west line of the Pennsylvania at Lancaster, making use of the relatively easy grades of York Valley. Another line, a branch of the Western Maryland with its terminus at York, follows York Valley in connecting the city with Hanover and Gettysburg, Pennsylvania, and with various Maryland points. Finally, another line, the Maryland and Pennsylvania, reaches York from the southeast by way of Mill Creek Valley and connects the city with Red Lion, Delta, and Baltimore.

The radiating pattern which results has its focus about two or three blocks north of Continental Square, just south of the Codorus. Here are the Pennsylvania and the Western Maryland depots, and here, too, these lines are reached by a connecting line from the Maryland and Pennsylvania Railroad which has its York depot at the point where the railroad crosses East Market Street. From each one of the radiating lines, spurs and sidings serve the city’s industrial plants, wholesale houses, and other large users of rail facilities.

York’s Trade Activities

The forms described are the tangible evidences of the movement of trade, without which no city can exist. Such trade includes the commercial
activities of the industries represented in York, the trade of the city of York with larger cities, and York's retailing and wholesaling of merchandise to its own citizens and to the surrounding small towns and country—all made possible through the medium of an adequate transportation system.

*Industrial Trade.*—To a city with two hundred fifty manufacturing plants the actual serving of these plants means a large amount of trade. York's industries have been described as using, with few exceptions, materials brought to York from other parts of the country, in most cases materials which have already undergone primary processing. The bringing in of these materials is in itself a large commercial movement. Moreover, few of the plants are strictly local in the sales of their products. Much more often they distribute over eastern Pennsylvania and neighboring states, and the products of not a few of the plants reach world-wide markets. This, in itself, means a large freight movement from York.

*York's Relations to Larger Cities.*—Present-day York is, in a sense, in the shadow of Philadelphia and Baltimore. The nearness of these two cities has undoubtedly limited York's importance as a retail center; and, even more, has curtailed its wholesale function.

The other side of the picture is the competition between Philadelphia and Baltimore for York's wholesale trade. Although the city is nearer to Baltimore and has better rail connections with that city, it has closer trade relations with Philadelphia, probably because of the much greater size of the latter. In furnishing produce, however, Baltimore dominates; while certain other lines of wholesale trade, such for example as furnishing ice cream, are shared by the two cities. Finally, for some lines of wholesale trade, New York City is more important than either Philadelphia or Baltimore.

*York's Market Area.*—Any city as large as York constitutes in itself a large market. Of considerable importance, too, however, is the market furnished by the surrounding country.

Delimitation of a city's trade area is an exceedingly difficult task. In these days of automobiles, people from the country around York and from such neighboring small towns as Thomasville, Dover, Emigsville, Stony Brook, Jacobus, and others are able to do a considerable part of their buying in York, although they may depend for their daily necessities upon small village stores which are supplied wholesale from Baltimore or Philadelphia. Larger boroughs, such as Red Lion, supply more of their own local necessities, and compete somewhat for the rural trade, but even residents of Red Lion find visits to York the most satisfactory solution of their needs for cinema entertainment and for certain lines of merchandise. Hanover, a borough fifteen miles southwest of York with a population of about twelve thousand, competes more seriously for the trade of its neighborhood, and it is probable that few Hanover residents shop in York. On the east the Susquehanna River with a high bridge toll forms a division line between the York and Lancaster tributary areas; to the north nearness to Harrisburg limits the extent of York's trade area; while to the south and southwest nearness to Baltimore is the limiting factor.

*York as an Agricultural Center.*—In its early days York was an agricultural center. Now its manufacturing has carried it far beyond this early stage, but there are still many evidences of the importance of the
agricultural land which surrounds the city. The widely heralded York County Fair, the importance of the mixed feed grinding establishments, and the presence of four market houses suggest something of the significance of York's agricultural hinterland.

The farmers' markets, particularly fine for a city the size of York, are of especial interest. Once the city maintained a market in Continental Square and depended entirely upon the neighboring country for its produce. Now there are four markets, operated for the most part on different days. They are privately owned and stalls are rented, but dependence is no longer entirely upon the surrounding country. Instead, many of the stall operators get fruit and produce by truck from Baltimore to supplement what is brought from the farms. The lack of large fruit and vegetable stores in York suggests that this function is fulfilled by the markets, and increasingly this is true. Undoubtedly, there is still much produce brought directly from the countryside, and Mennonite bonnets and dresses suggest that the operators of the stalls are still predominantly country people, but as the years pass the enterprise is less and less related to the country around York.

Farm practices in the vicinity of York are of interest in that they form the setting for York's function as an agricultural center. Corn, hay, and winter wheat are of almost equal importance, and these form the basis for poultry (Fig. 31), dairy, and swine production. Fruit is fairly common, and it is interesting to note that the York Imperial apple originated in this district (Fig. 32). Near the city the importance of dairying increases somewhat, and the raising of vegetables for sale is slightly more important than in more remote areas. All in all it is a prosperous land, the prosperity partly accounted for by the presence of fertile York Valley, but related, too, to the thrift and painstaking care of the German farmers.

![Poultry farm near York. The raising of poultry is one of the agricultural specialties of the region.](image-url)
Fig. 32.—Apple orchards occupy a number of hillside sites near York, though apples are not as important a crop as they are farther west near Gettysburg and on the slopes of South Mountain.

The Role of Transportation.—Railroads have long been the primary instruments of commerce in York. The north-south Pennsylvania line has the greatest freight movement, but this company’s east-west line, though a less important route, is of value to York in connecting the city with points toward the east. The Western Maryland Railroad, in addition to its general freight movement, is important as a carrier of bituminous coal from western Maryland; while the Maryland and Pennsylvania is an important feeder line bringing agricultural produce and manufactures to the other lines at York.

Another system of freight movement, truck haul, has now been made possible by the country’s rapidly improving highways. Regular movement of freight by motor trucks is chiefly a post-War development, but it has been increasing rapidly. All over the country this growth of trucking has been going on.

In York, the motor truck business is represented by two large companies, York Motor Express Company and Motor Freight Express Company, and by a number of smaller ones. The York Motor Express Company, a fair example of this type of carrier, operates 135 trucks with terminals in most of the large eastern cities but with its head office at York. The company’s trucks run on regular schedule, at definite times between scheduled cities. Through arrangements with trucking companies operating in areas where this company’s trucks do not go, shipments can be sent to any part of the country and received from any part. Moreover, the company does an important business in hauling freight for ocean shipment. They will, for example, accept freight from central Pennsylvania for shipment to Oregon, this movement consisting of truck haul to Baltimore or Philadelphia to connect with a ship for the Pacific
Coast, and, finally, delivery by a cooperating trucking company at the end of the shipment.

For long hauls, as to the Middle West, railroads have an advantage over trucks; but for short hauls trucks have the advantage since the mobility of their service permits store-door or factory-door service. In recognition of the growing threat of this competition the Pennsylvania Railroad now advertises that it will collect and deliver on short rail hauls.

In addition to the organized trucking service there is a considerable movement of privately owned and operated trucks bringing produce from Baltimore. Such movement being interstate is not subject to the same regulations as movements within the State.

Transportation has functioned in another way in York’s commercial development. The position of the city on the Lincoln Highway has meant a large movement of automobiles through the city enroute from east to west. Since they of necessity must pass through the city, usually over Market Street, some business is brought to the city which is unrelated to its industries or to the agriculture of the country around York. But the city is too near Philadelphia and Baltimore to have a very large tourist trade.

**RESIDENTIAL YORK**

In nearly all cities residences occupy a large proportion of the land. This is true in York where the proportion is a little over 30 per cent or nearly one-third of the geographic city.

In the picture of residential York, bricks play a prominent part. Street after street consists of rows of red brick houses, often a series under a single roof, flush with the sidewalks in some of the older sections, fronted by small yards in more recently developed areas. But whether in uniform rows or standing out as individuals, whether with yards or without yards, brick is the dominant material. Only the newest residential sections have escaped this tyranny of brick; while dominance of another building material, stone, characterizes only the particularly fine residential section west of George Street at the southern edge of the city.

It is difficult to give a regional picture of residential York. Many manufacturing cities have large areas of run-down, smoke-begrimed, cheaply-built houses around their manufacturing plants which are segregated in a definite portion of the city; while the best or even the medium-grade residential districts are in quite a different part of the city. In York lack of regional concentration of the manufacturing plants has precluded such simple division, and has given a mixed industrial-residential character to all except the most exclusive residential areas.

It is commonly said that most manufacturing cities of central and eastern United States have their best residential sections in the west and southwest portions of the city, and certainly many of our cities do show this arrangement. Our dominant winds being from the west and southwest, much of the smoke and dirt of the city is thus avoided. York, in defiance of this general principle, has its best residential areas in the southern and eastern parts of the city.

Several facts help to explain this situation. It has been pointed out that York’s manufacturing industries are not types that give rise to much
Fig. 33.—Part of York’s finest residential section, Wyndham Hills, on the south side of York Valley.

smoke or dirt. Hence, a careful selection of the sites for the best residential sections was unnecessary. Moreover, the western edge of the city suffered from several handicaps which must have helped to deter high-grade residential development there. At the time of the city’s greatest expansion, West York already had industrial plants, including two which would have made particularly bad neighbors for a high-grade residential district, a cement plant and a lime plant. In that section, too, bed rock is particularly close to the surface, making the digging of foundations, pipe line ditches, and the like very difficult.

Unquestionably, the finest residential district of today is in the southern part of York, south of the main area of urban development and on the north-facing slope of the south side of the valley. Beautiful white stone houses on spacious grounds are characteristic of this section (Fig. 33). Beyond and to the south is the Country Club, and nearer the city in this same general section lies the Outdoor Club, both having golf courses. Elevated above most of the city, with a fine view, and far enough south to be out of the path of any smoke or dirt that might be blown from industrial plants in western York, this section undoubtedly furnished an excellent site for what has developed into the city’s finest residential area.

North of this superlative residential section the houses are set closer and closer together, and individuality gives place to uniformity. Thus the gradation is made into ordinary residential sections.

In East York on either side of East Market Street is another superior residential section, as is true also in Elmwood, just southwest of East York. These areas are characterized by larger and finer houses than the average for the city, by larger yards, and by a general lack of commercial development; but neither of these sections nor any of the scattered spots of better residential development elsewhere in the city is comparable to the area described on the south edge of the valley.

Outside of these premier residential sections, medium-grade houses alternate with commercial and manufacturing areas. Most of the houses are of brick and are substantially built though they are not infrequently monotonously alike. Very low grade residential areas, the “slums” of
many industrial cities, are generally lacking in York. This may be in part because labor has always been predominantly local and therefore no cheaply-built, frame company houses have ever been necessary, but the mere fact of brick being the dominant house material has militated against the existence of slums, since brick houses do not show the effects of age as rapidly as do frame houses. The lack of smoke and dirt has doubtless been another factor in house preservation. Hence, although one or two streets share the reputation of being the “toughest” or worst in town, the houses do not look nearly as dilapidated as those in the factory districts of many industrial cities.

The dominance of brick seems to have been natural for this section at the time the houses were built. The presence of suitable clay made brick available at York as well as in the general region around York, while the timber was cut away at an early date. Hence, brick rather than frame was the normal type of construction just as it was in much of Baltimore and Philadelphia and in the smaller urban centers of the vicinity.

House types are of particular interest in York. Noticeable at once to a visitor from the Middle West are the long rows of brick houses under a single continuous roof. In a number of cases these are built without setback from the sidewalk, with occasional little wooden door steps out on the sidewalk, and sometimes with a projecting porch or balcony three or four feet above the sidewalk level and guarded by a railing (Figs. 34, 35, and 36).

The crowding of these houses against the street and against each other seems to represent a habit acquired in Europe, where this type of construction is common in the older residential sections. In eastern United States it is not unique to York, but is common as well in Baltimore, in parts of Philadelphia, in Reading, and in other neighboring cities. No doubt there was some economy in building multiplex houses rather than rows of individual houses, and certainly it is found today that they require less heat per home than houses of the same size standing alone. The building of these monotonous house blocks was not, as might be supposed, restricted to the very early days of the city. Instead, some were built even as late as the beginning of the present century.

Nearly all full blocks in York are split by narrow alleys. Frequently these are paved or partly paved and some of them are lined with houses.
Fig. 35.—Another monotonous row of brick houses, flush with the sidewalk, showing the small projecting porches which characterize some streets.

flush with the alley edge giving a hollow-shell character to the enclosed area. Such residential use of alley frontage is, however, not common.

In the more recently built sections of the city the multiplex houses give place to rows of houses of modern construction, but still frequently with all houses in the row exactly alike (Fig. 37). Again economy probably dictated the similarity, the rows frequently being built by one man or company developing a subdivision. Of course there are some medium-grade residential sections where houses do not resemble their neighbors, but such resemblance is the characteristic thing. It is only in the superior residential sections earlier described that individuality dominates.

In almost every direction from York single rows of houses project beyond the average edge of the city, bordering the major highways. Interrupted by occasional filling stations or other minor commercial establishments, they are veritable levees of urban development along these streams of traffic.

Commercialization of York's residential function has not taken the form of the building of apartment houses. The lack of such structures

Fig. 36.—Another case of many houses under a single roof. Covered porches and very small front yards give these houses an advantage over those built out to the sidewalk.
Fig. 37.—Even in some of the more recently built, better residential areas similarity of house types prevails. This is unusual, however, in the newer sections of the city.

carries out the same story that may be gleaned from other sources. York is not a city of transients. Its labor is recruited locally, its workers own their own homes, and there is little demand for apartment facilities.

York’s Population

The people that occupy residential York constitute another and a very critical part of the geographic picture.

Though incorporated York had a population barely exceeding 55,000 in 1930, it is probable that the geographic city exceeds that figure by at least 15,000. West York and North York together total nearly 8,000, and when the unincorporated surburbs, too, are considered a total of 70,000 does not seem improbable.

The most striking characteristic of York’s population is its remarkable homogeneity. Germans were the leading element in early York and they still are far in the lead, with names like Glatfelter, Geesey, Pfaltzgraff, Yinger, Yost, Helfrich, and Klinefelter appearing often on the city’s rolls. The proportion of foreign born, 2.3 per cent for the incorporated city in 1930, is remarkably low for an industrial city, contrasting favorably with Philadelphia’s 18.9 and Baltimore’s 9.2. Persons of foreign parentage are almost equally few, and it is of interest to note that Germany is well in the lead among the source countries of recent comers. The proportion of negroes, too, is low, 4.1 per cent of the incorporated city’s population in 1930 as compared with Philadelphia’s 11.3 and Baltimore’s 17.7.

York’s population picture might be summed up by saying that the city early acquired a predominantly German population, that this German population has in recent years been increasing fast enough to make immigration unnecessary, and that the few immigrants who do arrive are predominantly German, attracted no doubt by the German flavor of the city.

Other Use Types

Of course manufacturing, commercial development, and residential use are not the only forms of land utilization in York. There is the usual
array of public buildings such as schools, churches, a court house, and a post office; while particularly striking in this group is a large new city hospital (Fig. 38) occupying a commanding position high up in the southern part of the city, well away from the nearest industrial plants. In addition, several parks, many public playgrounds, a large outdoor swimming pool, the county fairgrounds, and several cemeteries are notable elements of the picture. Everywhere, the beginning of agricultural land marks the edge of the geographic city.

TECHNICAL SOCIETIES AND BUSINESS ORGANIZATIONS

The requirements of York's diversified industries demand much specialized and technical help. A number of the plants maintain their own laboratories and research departments, which accounts for the large percentage of technically trained among York's population.

The community supports a number of local and national technical organizations. The Engineering Society of York, a member of the Federated American Engineering Societies, is composed of well over two hundred members. Another professional society of local character is the University Club, and among the national organizations is the Susquehanna Section of the American Society of Mechanical Engineers and the York Chapter of the American Society for Metals. Branches of the American Institute of Electrical Engineers and the American Chemical Society are in the process of formation.

In the general field, there are two organizations, both of long standing, which represent business. One is the Manufacturers' Association, housed in its own building. Its membership is open to manufacturers only. The other is the Chamber of Commerce, whose membership is broader in scope, being open to manufacturers, retailers, wholesalers, and professional men.
Fig. 39.—Political structure of the geographic city. 1, is the borough as incorporated in 1787; 2, additions to borough prior to incorporation of York as a city in 1887; 3, additions to the city since 1887; 4, boundary of political city in 1934; and, 5, approximate edge of geographic city in 1934. No attempt has been made to show the outlines of West York or North York boroughs, or to show Elmwood, Green Hill, Villa Green, Wyndham Hills, or other unincorporated suburbs. (Based on data from City Engineer’s office.)

POLITICAL STRUCTURE

The political structure of a city is a critical part of its picture (Fig. 39). It is not something that can be readily observed, like the nature of the land utilization, but it is an important factor in the lives of the people and one that not infrequently has resulted in observable things, such as differences in utilization or differences in street pattern in parts of a city which are politically separated.

In most cities political control lags behind actual urban growth. Such is the case in York, the geographic city or built-up area being considerably larger than the incorporated or political city. West York and North York, two independent boroughs, form part of the unincorporated geographic city, which includes, also, Elmwood, Windsor Park, East York, Green Hill, Wyndham Hills, and several other suburbs. In most instances there is no actual physical break between incorporated York and these contiguous urban areas, and it is only a matter of time until the city’s boundaries will be extended to include them.

YORK’S WATER SUPPLY

The water needs of any city and particularly those of an industrial city are very large. Of the two and one-half to three billion gallons consumed annually by the city of York, it is estimated that over 55 per cent
is normally used for industrial and commercial purposes; the remainder, for domestic purposes.

The essential function of furnishing water to the city is carried on by the York Water Company, a privately owned concern incorporated in 1816. At first a spring was the source of supply, and water reached the consumers by gravity through log pipe lines. Now the picture is much more complicated. A 950-million gallon reservoir on the East Branch of the Codorus some four or five miles south of York is the accumulation point for the present water supply (Fig. 40). Orderly rows of trees, mainly evergreens, clothe between seven hundred and eight hundred acres of land draining into the reservoir. The reforestation project which this represents has been carried on by the water company partly to protect the purity of the water and partly to equalize the flow of streams feeding the reservoir. Other steps in carrying water to the consumer are represented by a pumping station and intake dam 3 miles downstream from the impounding reservoir; two filter plants on the upland just south of the geographic city; 2 cast iron force mains connecting the pumping station with the filter plants; four district pumping stations; filtered water distribution reservoirs; and a complete system of piping for distribution. Finally, in the city just east of Continental Square is the office building where the company's business operations are carried on.

The resulting water supply has proved adequate even for the driest periods. It is excellent in quality, soft and non-corrosive, and the quantity seems to be adequate to take care of expansion and to provide for any emergency.

POWER AND HEAT

Electric power for household and commercial use and for turning the wheels of York's industries is distributed by two companies. The Metropolitan-Edison Company manufactures electricity at Middletown, York Haven, and one or two other points; but at York the company is engaged only in distributing power to manufacturing plants. The Edison Light and Power Company has a local plant in which electric power can be generated in an emergency, but ordinarily it buys all of its power and is engaged in the distribution of this power to homes, to commercial establishments, and to some manufacturing users.

Another source of power and heat for York is gas, distributed by the Pennsylvania Gas & Electric Company for domestic, commercial, and industrial use (see page 42). Very little coal is used for power by York's industries, but some is used for heating. Bituminous coal from Appalachian fields is the dominant type used both by manufacturing plants and for commercial heating; but anthracite is the most common household fuel. A special type of commercial heating is represented by the York Steam Heating Company, which renders a district steam service to over 300 buildings in the center of the city, keeping this section relatively free from smoke.

THE CODORUS CREEK PROBLEM

Winding its way through York and dividing the city almost in half is Codorus Creek. Normally this stream flows along placidly (Fig. 41), hardly covering the bottom of its channel; and it is hard to realize that
Fig. 40.—The reservoir south of York from which the city draws its water supply. Note the planted evergreen forest clothing the reservoir slopes. (Copyright by Aero Service Corporation, Philadelphia, Pa.)
the Codorus was once classified as a navigable stream and that this early classification still stands. Once, indeed, a canal followed the Codorus as far upstream as York, in places making use of the river itself; but all that was long ago, and time has obliterated nearly every vestige of this early transportation system.

Since its waters are too polluted even for manufacturing use the Codorus of today is of little value to the city. On the other hand it has upon occasion proved an actual handicap. Like many another stream of the vicinity, it carries a large load of sediment and has been unable to maintain an adequate channel. In periods of heavy rain the stream rises to the tops of its banks, and on several occasions record-breaking rains have sent it tumbling over the lower sections of the city. Such was the case in August, 1933; there was a similar inundation in 1884; and there are records of other, earlier floods. The property damage in the highly-developed city of 1933 was great, a fact that demanded action. It was agreed that some provisions had to be made to prevent a recurrence of the disaster.

Two lines of attack were planned. The first had for its objective the widening of the channel of Codorus Creek just below the city, within the city, and for several miles upstream. About half of this work, the widening of the channel from the center of the city northeastward, has already been completed as a Civil Works Administration project; while it is hoped that similar cooperative aid will make it possible to continue the widening work. It is believed that this widening of the channel will mean a definitely lower flood level, but even with this improvement another stream rise like that of 1933 would inundate the lowest parts of the city.

A committee studying the situation has concluded that while widening of the channel will be of benefit, complete flood control will require the construction of two retention dams. One of the sites suggested is on the
East Branch of the Codorus just above the impounding basin of the York Water Company, the other on the West Branch of Codorus Creek just above Spring Grove. In normal times water would be allowed to pass through gates in these dams almost without interference, but in times of rising waters the gates would be closed and the water allowed to accumulate behind the retention dams. When the period of high water was over the accumulated supply would be allowed gradually to drain out again. The Federal Government is being asked to undertake the construction of these dams on the grounds that the Codorus is classified as a navigable stream and hence is under government supervision; and eventually, whatever the source of funds, it seems probable that some such system of flood control will have to be adopted.

The Future of York

The geographic picture of a modern city such as York represents an intricately woven pattern of cultural and natural features. It has been brought about through the action of a constantly changing set of cultural forces upon a somewhat more stable natural environment. Looked at from this angle, the future of any city is a question of the persistence of the forces that have been in operation.

York has been described as a flourishing industrial city with its prosperity dependent chiefly, at the present time, upon a good location and upon good labor conditions. Added to these now is the inertia of established industry which helps always to maintain the status quo.

To what extent will these same forces continue to operate? The locational advantages that have served York in the past seem likely to
continue to be effective, and to this extent the city's future seems secure. The inertia of established industry, too, should operate at least to prevent any great diminution of industrial activity.

Some hold that the good labor conditions, so important in York's past, may prove to be an unstable element in the present-day picture. It is no longer an isolated industrial city, for modern facilities of fast transportation and communication are putting it upon a competitive basis as to current wages and costs of living. The codes established by the Federal Government, if uniformly enforced throughout the nation, will finally equalize whatever competitive wage advantage York may have had in the past. This process has, of course, been going on for a number of years, and the codes have probably been as effective here as elsewhere. To date, however, York has seemed to suffer less during the current years of depression than the average industrial city.

York's population is essentially homogeneous and of native stock, and, though wages may not be as high as in larger cities, labor has in general been contented because of the rather favorable living conditions.

When all things are considered York seems to have an unusually promising industrial future. The city's industries weathered well the lean years of the early 1930's, and York has a record of ten banks in operation and no bank losses. The city's assets are enduring ones with the possible exception of its proverbially favorable labor conditions, and even there it is merely a question of whether York can maintain an advantage which it now enjoys as compared with most other industrial cities.
PUBLICATIONS OF THE MINERAL INDUSTRIES EXPERIMENT STATION

Research results of the Experiment Station are disseminated through the following publications: (1) Bulletins which present the proceedings of technical conferences, and the detailed results of experimental studies of a comprehensive problem. (2) Information circulars which present in non-technical language the results of studies which are given in greater detail in other publications, statistical data, or pertinent information gathered from other sources. (3) Technical papers consisting of bound copies of papers published in scientific journals, of progress reports, and of results of experimental studies representing isolated phases of research later to be published in bulletin form.

A few of the publications are listed below. These may be obtained from the Director of Mineral Industries Research, The Pennsylvania State College, State College, Pennsylvania at the price stated.


BULLETIN 13—The Geography of Johnstown, Pennsylvania—An Industrial Center, by Raymond E. Murphy, Assistant Professor of Economic Geography, 1934, 51 pages, with 28 illustrations. Price, 50 cents.

BULLETIN 17—The Economic Geography of York, Pennsylvania—A City of Diversified Industries, by Raymond E. Murphy, Assistant Professor of Economic Geography, 1935, 62 pages with 42 illustrations.

CIRCULAR 1—The Economic Outlook for the Basic Industries of Pennsylvania, 1929, 24 pages with 1 illustration. Free.


CIRCULAR 3—Opportunities in Pennsylvania's Basic Industries, 1932, 36 pages with 38 illustrations. Free.