

SECTION 1

PENNSYLVANIA PAST AND PRESENT



Several hundred years ago, great numbers of shad regularly traveled more than 600 miles from the sea, up the Chesapeake, and eventually to the Susquehanna's tributaries and headwaters to spawn. Since the creation of the Susquehanna and Tidewater Canal, dams along the Susquehanna River blocked the migration of shad to their spawning grounds upriver. Industrial development degraded water quality and along with over-fishing virtually eliminated the shad.

In the 1970s and 1980s, state and federal fishery agencies and environmental groups joined forces to clean up the river. The first major fish lift for shad was constructed at Conowingo Dam in 1991. Today, there is a system of fish lifts and ladders at dams along the river, allowing the fish to complete their journey upstream. The populations of shad, alewife, and blueback herring in the river are increasing.

The 100-foot-high and nearly 1-mile-wide Conowingo Dam traps massive quantities of sediment, phosphorus, and nitrogen from across Pennsylvania and New York that would otherwise be flushed by the Susquehanna River into the Chesapeake.

SECTION 1 – PENNSYLVANIA PAST AND PRESENT

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PHYSICAL AND NATURAL PROPERTIES

William Penn, as proprietor of Penn's Woods, was an aggressive and active promoter of his new land. "The country itself," he wrote, "its soil, air, water, seasons, and produce, both natural and artificial, is not to be despised." Pennsylvania still contains a rich diversity of natural and geological features.

One of the original thirteen colonies, Pennsylvania is today surrounded by the states of New York, New Jersey, Delaware, Maryland, West Virginia, and Ohio. It has a land area of 44,820 square miles and 1,239 square miles of water surface. It ranks thirty-third in area among the fifty states. Pennsylvania has an average width of 285 miles, east to west, and an average north-to-south distance of 156 miles.

Only the Delaware River on the east and about 40 miles of Lake Erie in the northwest corner form natural boundaries. Elsewhere borders are based on those prescribed in the charter granted to William Penn by King Charles II of England, although it was 1787 before land and border disputes were settled and Pennsylvania took clear title to the land envisioned by the charter. The most famous border dispute was with Maryland and was ultimately settled when the English Crown accepted the Mason-Dixon Line in 1769, a border which, in subsequent years, became the symbolic demarcation in the United States between the North and the South.

A dissected plateau covers Pennsylvania's northern and western sections, ranging from about 2,000 feet above sea level in the northern tier of counties to about 1,200 feet south of Pittsburgh. A broad belt of wide valleys, alternating with narrow mountains, stretches across the state from the south-central boundary to the northeast corner. To the east of this section is the Great Valley, which is divided into southern, central, and eastern sections – the Cumberland, Lebanon, and Lehigh valleys, respectively. Further to the east is a line of discontinuous mountains, as well as lowlands of irregular form and a deeply dissected plateau of moderate height, which gradually slopes to the Delaware River. There is also lowland along the shores of Lake Erie. Pennsylvania's highest peak is Mount Davis in Somerset County, which has an elevation of 3,213 feet above sea level.

Pennsylvania has three major river systems – the Delaware, the Susquehanna, and the Ohio. The Delaware's important tributaries are the Schuylkill and Lehigh rivers. The Susquehanna has north and west branches as does the Juniata River. In the west, the Ohio River begins at the confluence of the Allegheny and the Monongahela, and its tributaries include the Youghiogheny, Beaver, and Clarion rivers. The Ohio system provides 35 percent of all the water emptying into the Gulf of Mexico.

The state has a great variety of soils, ranging from extremely rich in Lancaster County to very poor in the mountain regions. Through advanced agricultural methods, a large part of Pennsylvania soil which was only marginally fertile has been made very productive. Originally Pennsylvania was a transition zone between northern and southern primeval forests. In the northern plateau area the original species were white pine and hemlock, mixed with beech and sugar maple. In the southern region, white oak, American chestnut, hickory, and chestnut oak dominated. Innumerable forest fires and storms, unrecorded by man, led to gradual change because they altered the soil composition and the degree of shade from sunlight. Because much land was later cleared by settlement and by lumber operations, very little virgin timber remains, but even today half the state is wooded.

Animal and bird life, including the wild pigeon, panther, black bear, and Canadian lynx, was abundant in the primeval forest. The first of these is now extinct, the second has been exterminated, and the last two are no longer abundant. Raccoons, squirrels, rabbits, skunks, and woodchucks are still common, as are most of the smaller birds. Today, deer, pheasants, rabbits, ducks, and turkeys are popular with hunters. Pennsylvania's rivers were originally filled with sturgeon, shad, salmon, trout, perch, and surprisingly, mussels. State and federal agencies keep streams and ponds well stocked, and trout, salmon, and walleyed pike are caught in large numbers.

Pennsylvania ranks tenth in value of mineral production among all the states. Coal and cement are principal products. Others are fire clay, iron ore, lime, slate, and stone.

In spite of its proximity to the ocean, Pennsylvania has a continental climate because the prevailing winds are from the west. This makes for extremes of heat and cold but not with so marked a variation as in the central states. There are minor climatic differences within the state because of altitude and geological features. The frost-free period, for example, is longest in southeastern Pennsylvania, in the Ohio and Monongahela valleys in southwestern Pennsylvania, and in the region bordering Lake Erie. The higher lands have only three to five months free from frost. Rainfall throughout the state is usually adequate for temperate zone crops.

Pennsylvania's location and its characteristics of climate, waters, minerals, flora, and fauna helped shape the growth not only of the state but of the entire nation. Midway between the North and the South, the fledgling colony prospered and became the keystone of the young nation.

SYMBOLS

“Commonwealth”

Pennsylvania shares with Virginia, Kentucky, and Massachusetts the designation “Commonwealth.” The word is of English derivation and refers to the common “weal” or well-being of the public. The State Seal of Pennsylvania does not use the term, but it is a traditional, official designation used in referring to the state, and legal processes are in the name of the Commonwealth. In 1776, our first state constitution referred to Pennsylvania as both “Commonwealth” and “State,” a pattern of usage that was perpetuated in the constitutions of 1790, 1838, 1874, and 1968. Today, “State” and “Commonwealth” are correctly used interchangeably. The distinction between them has been held to have no legal significance.

“Keystone State”

The word “keystone” comes from architecture and refers to the central, wedge-shaped stone in an arch, which holds all the other stones in place. The application of the term “Keystone State” to Pennsylvania cannot be traced to any single source. It was commonly accepted soon after 1800.

At a Jeffersonian Republican victory rally in October 1802, Pennsylvania was toasted as “the keystone in the federal union,” and in the newspaper *Aurora* the following year the state was referred to as “the keystone in the democratic arch.” A nineteenth-century quarrel, as yet unresolved, presented the argument that “keystone” was a Masonic symbol built into the Rock Creek Bridge in Washington D.C. in 1792 against the view that it described John Morton’s deciding vote for independence at the Continental Congress on July 2, 1776. The modern persistence of this designation is justified in view of the key position of Pennsylvania in the economic, social, and political development of the United States.

State Seal



The State Seal is the symbol used by the Commonwealth to authenticate certain documents. It is impressed upon the document by an instrument known as a seal-press or stamp. The State Seal has two faces: the obverse, which is the more familiar face and the one most often referred to as the “State Seal,” and the reverse, or counter-seal, which is used less frequently. The State Seal is in the custody of the Secretary of the Commonwealth. When Pennsylvania was still a province of England, its seals were those of William Penn and his descendants. The transition from this provincial seal to a state seal began when the State Constitutional Convention of 1776 directed that “all commissions shall be . . . sealed with the State Seal,” and appointed a committee to prepare such a seal for future use. By 1778 there was in use a seal similar to the present one. The seal received legal recognition from the General Assembly in 1791, when it was designated the official State Seal.

The obverse of the seal contains a shield, upon which are emblazoned a sailing ship, a plough, and three sheaves of wheat. To the left of the shield is a stalk of Indian corn; to the right, an olive branch. The shield’s crest is an eagle, and the entire design is encircled by the inscription “Seal of the State of Pennsylvania.” These three symbols – the plough, the ship, and the sheaves of wheat – have, despite minor changes through the years, remained the traditional emblems of Pennsylvania’s State Seal. They were first found in the individual seals of several colonial Pennsylvania counties, which mounted their own identifying crests above the existing Penn Coat of Arms. Chester County’s crest was a plough; Philadelphia County’s crest was a ship under full sail; Sussex County, Delaware (then attached to provincial Pennsylvania) used a sheaf of wheat as its crest. The shield of the City of Philadelphia contained both a sheaf of wheat and a ship under sail. It was a combination of these sources that provided the three emblems now forming the obverse of the State Seal. The reverse of this first seal shows a woman who represents liberty. Her left hand holds a wand topped by a liberty cap, a French symbol of liberty. In her right hand is a drawn sword. She is trampling upon Tyranny, represented by a lion. The entire design is encircled by the legend “Both Can’t Survive.”

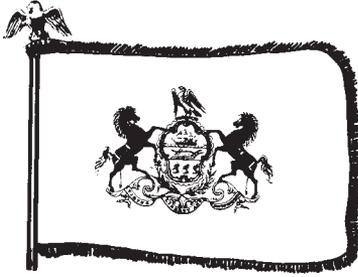
Coat of Arms



Pennsylvania’s Coat of Arms, while not used in the same official capacity as the State Seal (although it contains the emblems of the seal), is perhaps a more familiar symbol of the Commonwealth of Pennsylvania. It appears on countless documents, letterheads, and publications, and forms the design on Pennsylvania’s State Flag. Provincial Pennsylvania’s coat of arms was that of the Penn family. A state coat of arms first appeared on state paper money issued in 1777. This first coat of arms was nearly identical to the State Seal, without the inscription. In 1778, Caleb Lownes of Philadelphia prepared a coat of arms. Heraldic in design, it consisted of a shield, which displayed the emblems of the State Seal – the ship, plough, and sheaves of wheat; an eagle for the crest; two black horses as supporters; and the motto “Virtue, Liberty and Independence.” An olive branch and a cornstalk were crossed below the shield. Behind each horse was a stalk of corn, but these were omitted after 1805.

Numerous modifications were made to this coat of arms between 1778 and 1873, chiefly in the position and color of the supporting horses. In 1874, the legislature noted these variations and lack of uniformity and appointed a commission to establish an official coat of arms for the Commonwealth. In 1875, the commission reported that it had adopted, almost unchanged, the coat of arms originally designed by Caleb Lownes 96 years earlier. This is the coat of arms in use today.

State Flag



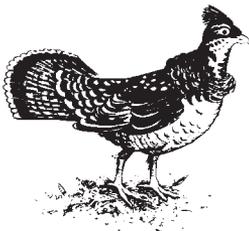
Pennsylvania's State Flag is composed of a blue field, on which is embroidered the State Coat of Arms. The flag is flown from all state buildings, and further display on any public building within the Commonwealth is provided for by law. The first State Flag bearing the State Coat of Arms was authorized by the General Assembly in 1799. During the Civil War, many Pennsylvania regiments carried flags modeled after the U.S. Flag, but substituted Pennsylvania's Coat of Arms for the field of stars. An act of the General Assembly of June 13, 1907, standardized the flag and required that the blue field match the blue of Old Glory.

State Animal



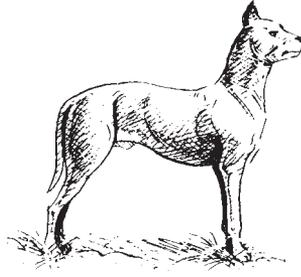
The Whitetail Deer is the official state animal, as enacted by the General Assembly on October 2, 1959.

State Game Bird



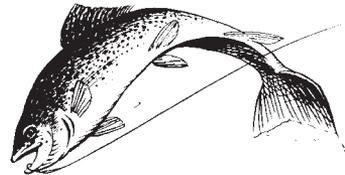
The Ruffed Grouse is the state game bird, as enacted by the General Assembly on June 22, 1931. The Pennsylvania ruffed grouse, sometimes called the partridge, is distinguished by its plump body, feathered legs, and mottled reddish-brown color. This protective coloring makes it possible for the ruffed grouse to conceal itself in the wilds.

State Dog



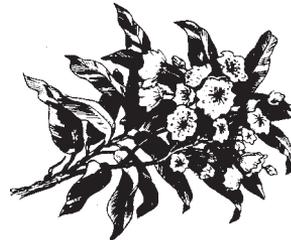
The Great Dane is the state dog, as enacted by the General Assembly on August 15, 1965.

State Fish



The Brook Trout is the state fish, as enacted by the General Assembly on March 9, 1970.

State Flower



The Mountain Laurel is the state flower, as enacted by the General Assembly on May 5, 1933. The mountain laurel is in full bloom in mid-June, when Pennsylvania's woodlands are filled with its distinctive pink flower.

State Insect



The Firefly is the state insect, as enacted by the General Assembly on April 10, 1974. Act 130 of December 5, 1988, designated the particular species of firefly "Poturris Pennsylvania De Geer" as the official state insect.

State Beverage



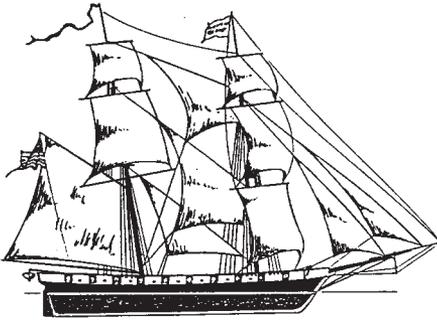
Milk is the official state beverage, as enacted by the General Assembly on April 29, 1982.

State Tree



The Hemlock is the state tree, as enacted by the General Assembly on June 23, 1931.

State Ship



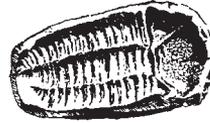
The restored United States Brig Niagara is the Flagship of Pennsylvania, as enacted by the General Assembly on May 26, 1988. The Flagship Niagara, under Commodore Oliver Hazard Perry, was decisive in the Battle of Lake Erie, defeating a British squadron September 10, 1813. Its home port is Erie.

State Plant



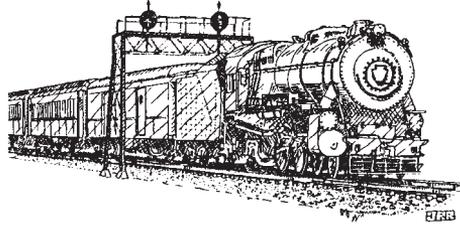
The Pennsylvanian Crownvetch is the official beautification and conservation plant, as enacted by the General Assembly on June 17, 1982.

State Fossil



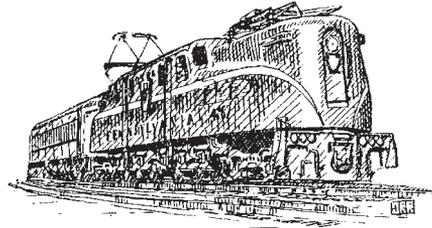
Phacops rana (a small water animal) is the state fossil, as enacted by the General Assembly on December 5, 1988.

State Steam Locomotive



The Pennsylvania Railroad K4s is the state steam locomotive, as enacted by the General Assembly on December 18, 1987. More than four hundred models of this class of locomotive were built between 1914 and 1928. This type of engine served as the main power for Pennsylvania Railroad passenger trains for thirty years. The two surviving K4s locomotives are owned by railroad museums in Strasburg and Altoona.

State Electric Locomotive



The Pennsylvania Railroad GG1 Locomotive Number 4859 is the state electric locomotive, as enacted by the General Assembly on December 18, 1987. Built at Altoona in 1937, this high-speed engine powered regular passenger trains and World War II troop trains, as well as coal, freight, and commuter runs in later years, remaining active until 1979. Restored in 1986, it is on display at the Harrisburg Transportation Center.

STATE SONG

Enacted by the General Assembly on November 29, 1990, "Pennsylvania" was written and composed by Eddie Khoury and Ronnie Bonner and is the official song for all public purposes.

PIANO *mf poco a poco cresc.*

VOICE *(with expression and ad. fast)*

PENN-SYL - VA - NIA, PENN-SYL - VA - NIA, Might - y ia, your
 PENN-SYL - VA - NIA, PENN-SYL - VA - NIA, Blessed by God's own

name, Steeped in glo - ry and tra - di - tion, Ob - ject of ac -
 tion, Birth - place of a might - y na - tion, Key - stone of the

claim, Where brave men fought the foe of free - dom,
 land, Where first our coun - try's flag un -

fold - ed,
 Ty - ran - ny de - creed, 'Til the bell of in - de -
 pendence rang, Free - dom to pro - claim, May the val - iant of to -

pendence mor - row
 mor - row glo - ri - fy your name, PENN-SYL -
 PENN-SYL -

VA - NIA, PENN-SYL - VA - NIA, May your lu - xure
 VA - NIA, PENN-SYL - VA - NIA, May your lu - xure

be filled with hon - or
 be filled with hon - or
 er - er - last - ing
 er - er - last - ing

as your his - to - ry, PENN-SYL -
 as your his - to - ry, PENN-SYL -

poco rall.

PENNSYLVANIA (2)

CAPITOL



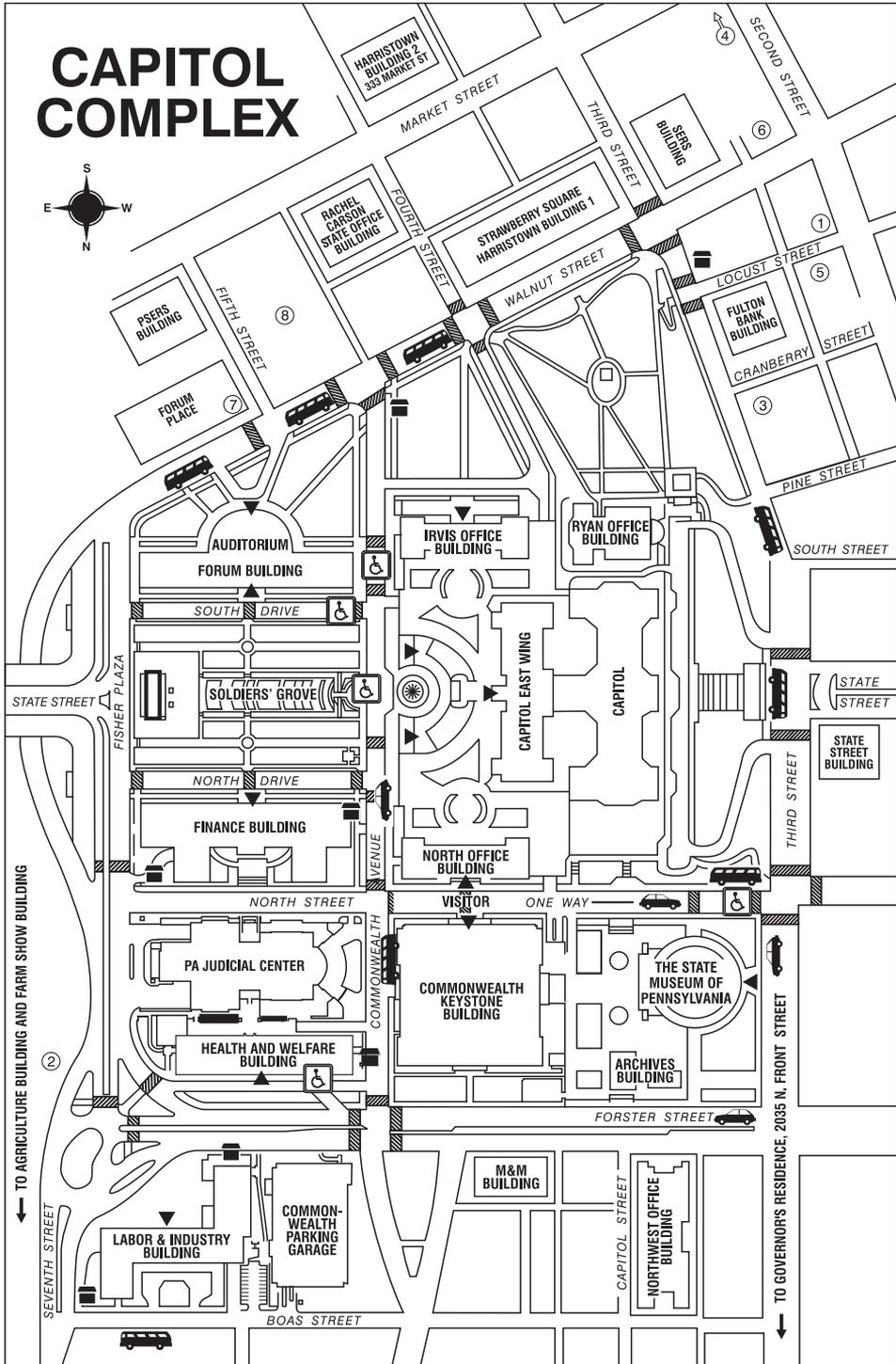
The Capitol sits in the middle of a large complex of Commonwealth buildings and represents the seat of state power. Harrisburg has been the capital of Pennsylvania since 1812, by authority of an act of February 21, 1810. Philadelphia and then Lancaster were earlier capital cities. The present Capitol was dedicated in 1906, after an earlier building was destroyed by fire in 1897.

THE GOVERNOR'S RESIDENCE



Built in 1968, the Governor's Residence is the home of Pennsylvania's first family. Extensively damaged during a flood in 1972, the building and grounds have been restored and refurbished.

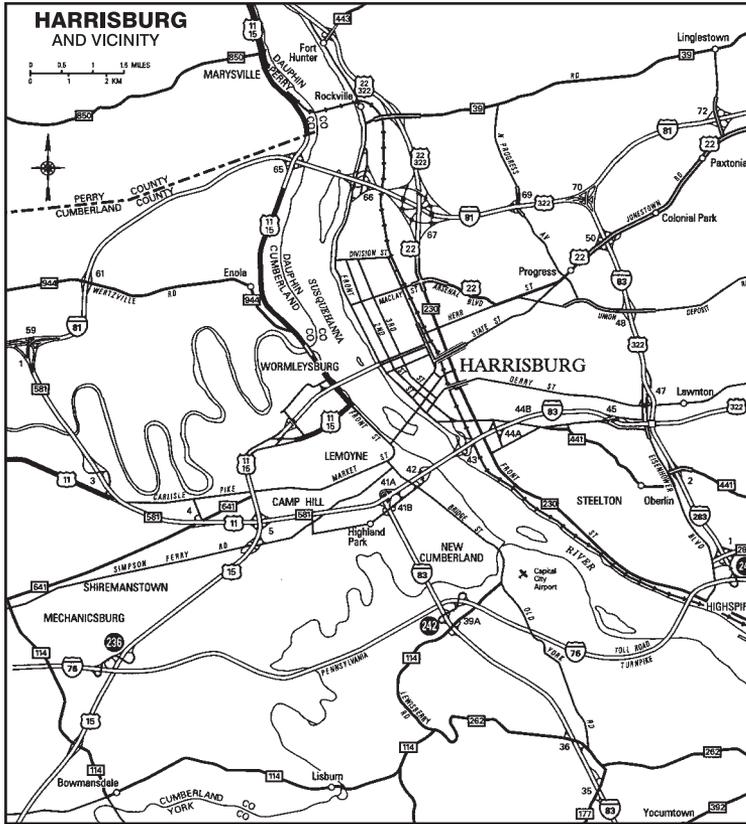
CAPITOL COMPLEX



-  VISITOR SPACES FOR PERSONS WITH DISABILITIES
-  ON-STREET PARKING
-  BUS STOP
-  PUBLIC ENTRANCES
-  PEDESTRIAN CROSSING AREAS
-  AVAILABLE PARKING
-  BUS SHELTER
-  PENNSYLVANIA WAR VETERANS MEMORIAL FOUNTAIN

THE PENNSYLVANIA MANUAL
HARRISBURG AND VICINITY

HARRISBURG AREA MAP/PARKING INFORMATION



Free and Metered Parking

There are several visitor spaces on Commonwealth Avenue between North Drive and Walnut Street. All Capitol Complex visitors' spaces have a one-hour limit; designated spaces for individuals with disabilities have a two-hour limit.

Parking Lots and Garages Around the Capitol Complex

See map on previous page for locations

1 Locust Street
 Surface Prkg.

PRK-MOR, Inc.
 Second & Locust Streets
 Telephone: 717/236-8283

2 Seventh Street Garage
 Harrisburg Parking Authority
 Seventh & Forster Streets
 (Directly off the State Street
 Bridge)
 Telephone: 717/255-3099

3 Third & Cranberry Sts.
 PRK-MOR, Inc.
 (Across from the Capitol
 Building)
 Telephone: 717/236-8283

4 Third & Chestnut Sts.
 PRK-MOR, Inc.
 220 Chestnut Street
 (3rd & Chestnut Streets)
 Telephone: 717/236-8283

5 Locust Street
 Garage
 Harrisburg Parking Authority
 214 Locust Street
 Telephone: 717/255-3099

6 Walnut Street
 Garage
 Harrisburg Parking Authority
 215 Walnut Street
 Telephone: 717/255-3099

7 Fifth Street Garage
 Harrisburg Parking Authority
 5th & Market Streets
 Telephone: 717/236-8283

PENNSYLVANIA HISTORY

PENNSYLVANIA ON THE EVE OF COLONIZATION

PREHISTORIC ORIGINS OF THE ENVIRONMENT

Approximately 12,600 years ago ice glaciers had receded from the area that became Pennsylvania, and about 10,000 years ago (8000 B.C.) a period of warming began in which the rivers and coastlines of Pennsylvania started to take their modern form. The earliest known human remains have been found at the Meadowcroft Rockshelter, thirty miles southwest of Pittsburgh. They are evidence of a food gathering culture in existence probably between 12,000 and 14,000 years ago.

THE NATIVE AMERICANS, OUR INDIGENOUS PEOPLE

When first discovered by Europeans, Pennsylvania, like the rest of the continent, was inhabited by groups of people of Mongoloid ancestry long known as American Indians. Today they are proudly designated the Native Americans. The culture reflected their Stone Age background, especially in material arts and crafts. Tools, weapons, and household equipment were made from stone, wood, and bark. Transportation was on foot or by canoe. Houses were made of bark; clothing from the skins of animals. The rudiments of a more complex civilization were at hand in the arts of weaving, pottery, and agriculture, although hunting and food gathering prevailed. Some Indians formed confederacies such as the League of the Five Nations, which was made up of certain New York-Pennsylvania groups of Iroquoian speech. The other large linguistic group in Pennsylvania was the Algonkian, represented by the Delawares (or Lenape), Shawnees, and other tribes.

The **Delawares**, calling themselves Lenape or "real men," originally occupied the basin of the Delaware River and were the most important of several tribes that spoke an Algonkian language. Under the pressure of white settlement, they began to drift westward to the Wyoming Valley, to the Allegheny, and finally to eastern Ohio. Many of them took the French side in the French and Indian War, joined in Pontiac's War, and fought on the British side in the Revolutionary War. Afterward, some fled to Ontario and the rest wandered westward. Their descendants now live on reservations in Oklahoma and Ontario. The Munsees were a division of the Delawares who lived on the upper Delaware River, above the Lehigh River.

The **Susquehannocks** were a powerful Iroquoian-speaking tribe who lived along the Susquehanna in Pennsylvania and Maryland. An energetic people living in Algonkian-speaking tribes' territory, they engaged in many wars. In the end, they fell victim to new diseases brought by European settlers, and to attacks by Marylanders and by the Iroquois, who destroyed them as a nation by 1675. A few descendants were among the Conestoga Indians who were massacred in 1763 in Lancaster County.

The **Shawnees** were an important Algonkian-speaking tribe who came to Pennsylvania from the west in the 1690s, some groups settling on the lower Susquehanna and others with the Munsees near Easton. In the course of time they moved to the Wyoming Valley and the Ohio Valley, where they joined other Shawnees who had gone there directly. They were allies of the French in the French and Indian War and of the British in the Revolution, being almost constantly at war with settlers for forty years preceding the Treaty of Greenville in 1795. After Wayne's victory at Fallen Timbers (1794), they settled near the Delawares in Indiana, and their descendants now live in Oklahoma.

The **Iroquois Confederacy** of Iroquoian-speaking tribes, at first known as the Five Nations, included the Mohawks, Oneidas, Onondagas, Cayugas, and Senecas. After about 1723, when the Tuscaroras from the South were admitted to the confederacy, it was called the Six Nations. The five original tribes, when first known to Europeans, held much of New York State from Lake Champlain to the Genesee River. From this central position they gradually extended their power. As middlemen in the fur trade with the western Indian nations, as intermediaries skilled in dealing with the whites, and as the largest single group of Native Americans in northeastern America, they gained influence over Indian tribes from Illinois and Lake Michigan to the eastern seaboard. During the colonial wars their alliance or their neutrality was eagerly sought by both the French and the British. The Senecas, the westernmost tribe, established villages on the upper Allegheny in the 1730s. Small groups of Iroquois also scattered westward into Ohio and became known as Mingoes. During the Revolution, most of the Six Nations took the British side, but the Oneidas and many Tuscaroras were pro-American. Gen. John Sullivan's expedition up the Susquehanna River and Gen. Daniel Brodhead's expedition up the Allegheny River laid waste to their villages and cornfields in 1779 and disrupted their society. Many who had fought for the British moved to Canada after the Revolution, but the rest worked out peaceful relations with the United States under the leadership of such chiefs as Cornplanter. The General Assembly recognized this noted chief by granting him a tract of land on the upper Allegheny in 1791.

Other Tribes, which cannot be identified with certainty, occupied western Pennsylvania before the Europeans arrived, but were eliminated by wars and diseases in the seventeenth century, long before the Lenapes, Shawnees, and Senecas began to move there. The Eries, a great Iroquoian-speaking tribe, lived along the south shore of Lake Erie but were wiped out by the Iroquois about 1654. The Mahicans, an Algonkian-speaking tribe related to the Mohegans of Connecticut, lived in the upper Hudson Valley of New York but were driven out by pressure from the Iroquois and from the white settlers, some joining the Lenapes in the Wyoming Valley about 1730 and some settling at Stockbridge, Massachusetts. Two Algonkian-speaking tribes, the Conoys and the Nanticokes, moved northward from Maryland early in the eighteenth century, settling in southern New York, and eventually moved westward with the Delawares, with whom they merged. The Saponis, Siouan-speaking tribes from Virginia and North Carolina, moved northward to seek Iroquois protection and were eventually absorbed into the Cayugas. In the latter part of the eighteenth century there were temporary villages of Wyandots, Chippewas, Mississaugas, and Ottawas in western Pennsylvania.

EUROPEAN BACKGROUND AND EARLY SETTLEMENTS

The rise of nation-states in Europe coincided with the age of discovery and brought a desire for territorial gains beyond the seas, first by Spain and Portugal and later by England, France, the Netherlands, and Sweden. Wars in southern Germany caused many Germans to migrate eventually to Pennsylvania. The struggle in England between the Crown and Parliament also had a pronounced effect on migration to America. The Reformation led to religious ferment and division, and minorities of various faiths sought refuge in America. Such an impulse brought Quakers, Puritans, and Catholics from England, German Pietists from the Rhineland, Scotch Calvinists via Ireland, and Huguenots from France. Also, great economic changes took place in Europe in the seventeenth century. The old manorial system was breaking down, creating a large class of landless people ready to seek new homes. An increase in commerce and trade led to an accumulation of capital available for colonial ventures. The Swedish and Dutch colonies were financed in this way, and William Penn's colony was also a business enterprise.

Exploration – The English based their claims in North America on the discoveries of the Cabots (1497), while the French pointed to the voyage of Verrazano in 1524. The Spanish claim was founded on Columbus' discovery of the West Indies, but there is also evidence that Spanish ships sailed up the coast of North America as early as 1520. It is uncertain, however, that any of these explorers touched land that became Pennsylvania. Captain John Smith journeyed from Virginia up the Susquehanna River in 1608, visiting the Susquehannock Indians. In 1609 Henry Hudson, an Englishman in the Dutch service, sailed the Half Moon into Delaware Bay, thus giving the Dutch a claim to the area. In 1610 Captain Samuel Argall of Virginia visited the bay and named it for Lord de la Warr, governor of Virginia. After Hudson's time, the Dutch navigators Cornelis Hendricksen (1616) and Cornelis Jacobsen (1623) explored the Delaware region more thoroughly, and trading posts were established in 1623 and in later years, though not on Pennsylvania soil until 1647.

The Colony of New Sweden, 1638-1655 – The Swedes were the first to make permanent settlement, beginning with the expedition of 1637-1638, which occupied the site of Wilmington, Delaware. In 1643 Governor Johann Printz of New Sweden established his capital at Tinicum Island within the present limits of Pennsylvania, where there is now a state park bearing his name.

Dutch Dominion on the Delaware, 1655-1664, and the Duke of York's Rule, 1664-1681 – Trouble broke out between the Swedes and the Dutch, who had trading posts in the region. In 1655 Governor Peter Stuyvesant of New Netherlands seized New Sweden and made it part of the Dutch colony. In 1664 the English seized the Dutch possessions in the name of the Duke of York, the king's brother. Except when it was recaptured by the Dutch in 1673-1674, the Delaware region remained under his jurisdiction until 1681. English laws and civil government were introduced by *The Duke of York's Laws* in 1676.

THE QUAKER PROVINCE: 1681-1776

THE FOUNDING OF PENNSYLVANIA

William Penn and the Quakers – Penn was born in London on October 24, 1644, the son of Admiral Sir William Penn. Despite high social position and an excellent education, he shocked his upper-class associates by his conversion to the beliefs of the Society of Friends, or Quakers, then a persecuted sect. He used his inherited wealth and rank to benefit and protect his fellow believers. Despite the unpopularity of his religion, he was socially acceptable in the king's court because he was trusted by the Duke of York, later King James II. The origins of the Society of Friends lie in the intense religious ferment of seventeenth century England. George Fox, the son of a Leicestershire weaver, is credited with founding it in 1647, though there was no definite organization before 1668. The Society's rejections of rituals and oaths, its opposition to war, and its simplicity of speech and dress soon attracted attention, usually hostile.

The Charter – King Charles II owed William Penn £16,000, money which his late father Admiral Sir Penn had lent him. Seeking a haven in the New World for persecuted Friends, Penn asked the king to grant him land in the territory between Lord Baltimore's province of Maryland and the Duke of York's province of New York. With the duke's support, Penn's petition was granted. The king signed the Charter of Pennsylvania on March 4, 1681, and it was officially proclaimed on April 2. The king named the new colony in honor of William Penn's father. It was to include the land between the 39th and 42nd degrees of north latitude and from the Delaware River westward for five degrees of longitude. Other provisions assured its people the protection of English laws and, to a certain degree, kept it subject to the government in England. Provincial statutes could be annulled by the king. In 1682 the Duke of York deeded to Penn his claim to the three lower counties on the Delaware, which are now the state of Delaware.

The New Colony – In April 1681, Penn made his cousin William Markham deputy governor of the province and sent him to take control. In England, Penn drew up the *First Frame of Government*, his proposed constitution for Pennsylvania. Penn's preface to *First Frame of Government* has become famous as a summation of his governmental ideals. Later, in October 1682, the Proprietor arrived in Pennsylvania on the ship *Welcome*. He visited Philadelphia, just laid out as the capital city, created the three original counties, and summoned a General Assembly to Chester on December 4. This first Assembly united the Delaware counties with Pennsylvania, adopted a naturalization act, and, on December 7, adopted the Great Law, a humanitarian code that became the fundamental basis of Pennsylvania law and which guaranteed liberty of conscience. The second Assembly in 1683 reviewed and amended Penn's First Frame with his cooperation and created the *Second Frame of Government*. By the time of Penn's return to England late in 1684, the foundations of the Quaker Province were well established.

Three hundred years later, William Penn and his wife Hannah Callowhill Penn were made honorary citizens of the United States by act of Congress. On May 8, 1985, they were also granted honorary citizenship by Pennsylvania.

POPULATION AND IMMIGRATION

Native Americans – Although William Penn was granted all the land in Pennsylvania by the king, he and his heirs chose not to grant or settle any part of it without first buying the claims of the Native Americans who lived there. In this manner, all of present Pennsylvania except the northwestern third was purchased by 1768. The Commonwealth later bought the Six Nations' claims to the remainder of the land in 1784 and 1789, and the claims of the Delawares and Wyandots in 1785. The defeat of the French and Indian war alliance by 1760, the withdrawal of the French, the crushing of Chief Pontiac's Indian alliance in 1764, and the failure of all attempts by Native Americans and colonists to live side by side, led the Native Americans to migrate westward, gradually leaving Pennsylvania.

English – Quakers were the dominant English element, although many English settlers were Anglican. The English settled heavily in the southeastern counties, which soon lost frontier characteristics and became the center of a thriving agricultural and commercial society. Philadelphia became the metropolis of the British colonies and a center of intellectual and commercial life.

Germans – Thousands of Germans were also attracted to the colony and, by the time of the Revolution, comprised a third of the population. The volume of German immigration increased after 1727, coming largely from the Rhineland. The Pennsylvania Germans settled most heavily in the interior counties of Northampton, Berks, Lancaster, and Lehigh, and in neighboring areas. Their skill and industry transformed this region into a rich farming country, contributing greatly to the expanding prosperity of the province.

Scotch-Irish – Another important immigrant group was the Scotch-Irish, who migrated from about 1717 until the Revolution in a series of waves caused by hardships in Ireland. They were primarily frontiersmen, pushing first into the Cumberland Valley region and then farther into central and western Pennsylvania. They, with immigrants from old Scotland, numbered about one-fourth of the population by 1776.

African Americans – Despite Quaker opposition to slavery, about 4,000 slaves had been brought to Pennsylvania by 1730, most of them owned by English, Welsh, and Scotch-Irish colonists. The census of 1790 showed that the number of African Americans had increased to about 10,000, of whom about 6,500 had received their freedom. The Pennsylvania Gradual Abolition Act of 1780 was the first emancipation statute in the United States.

Others – Many Quakers were Irish and Welsh, and they settled in the area immediately outside of Philadelphia. French Huguenot and Jewish settlers, together with Dutch, Swedes, and other groups, contributed in smaller numbers to the development of colonial Pennsylvania. The mixture of various national groups in the Quaker Province helped to create its broadminded tolerance and cosmopolitan outlook.

POLITICS

Pennsylvania's political history ran a rocky course during the provincial era. There was a natural conflict between the proprietary and popular elements in the government that began under Penn and grew stronger under his successors. As a result of the English Revolution of 1688, which overthrew King James II, Penn was deprived of his province from 1692 until 1694. A popular party led by David Lloyd demanded greater powers for the Assembly, and in 1696 "Markham's Frame of Government" granted some of these. In December 1699, the Proprietor again visited Pennsylvania and, just before his return to England in 1701, agreed with the Assembly on a revised constitution, the "Charter of Privileges," which remained in effect until 1776. This guaranteed the Assembly full legislative powers and permitted the three Delaware counties to have a separate legislature. It made Penn's earlier assurances of religious liberty absolute and irrevocable.

During the colonial period, William Penn and his heirs were both Proprietors and Governors of Pennsylvania within the British Empire. However, except for the 44 months when William himself resided in Pennsylvania, government affairs were administered here by deputy or lieutenant governors (termed "Governor" within Pennsylvania), who were chosen by the Proprietors and obedient to them. The last two resident lieutenant governors, who were in office from 1763 until the Revolution, were grandsons of William Penn. In 1773, the older grandson, John Penn (the 2nd), became both a Proprietor and the resident executive in Pennsylvania, and he was styled "Governor and Commander in Chief."

William Penn's heirs, who eventually abandoned Quakerism, were often in conflict with the Assembly, which was usually dominated by the Quakers until 1756. One after another, governors defending the proprietors' prerogatives battered themselves against the rock of an Assembly vigilant in the defense of its own rights. The people of the frontier areas contended with the people of the older, southeastern region for more adequate representation in the Assembly and better protection in time of war. Such controversies prepared the people for their part in the Revolution.

COLONIAL WARS

As part of the British Empire, Pennsylvania was involved in the wars between Great Britain and France for dominance in North America. These wars ended the long period when Pennsylvania was virtually without defense. The government built forts and furnished men and supplies to help defend the empire to which it belonged. The territory claimed for New France included western Pennsylvania. The Longueuil and Celoron expeditions of the French in 1739 and 1749 traversed this region, and French traders competed with Pennsylvanians for Indian trade. The French efforts in 1753 and 1754 to establish control over the upper Ohio Valley led to the last and conclusive colonial war, the French and Indian War (1754-1763). French forts at Erie (Fort Presque Isle), Waterford (Fort LeBoeuf), Pittsburgh (Fort Duquesne), and Franklin (Fort Machault) threatened all the middle colonies. In 1753 George Washington of Virginia failed to persuade the French to leave and in 1754 they defeated his militia company at Fort Necessity. In the ensuing war, General Edward Braddock's British and colonial army was slaughtered on the Monongahela in 1755, but General John Forbes recaptured the site of Pittsburgh in 1758. After the war, the Native Americans rose up against

the British colonies in Pontiac's War, but in August 1763, Colonel Henry Bouquet defeated them at Bushy Run, interrupting the threat to the frontier in this region.

COLONIAL PENNSYLVANIA'S TENUOUS RELATION TO THE THREE COUNTIES OF DELAWARE

In 1674, for the second time, England captured from the Dutch the area that became the state of Delaware and the Duke of York made an undocumented assertion that it was part of New York, a colony that he was clearly entitled to govern because of charters from the king. The English land on Delaware Bay was organized as three counties: New Castle, Kent, and Sussex. William Penn's Charter from King Charles II made no mention of them, although the duke completed grants that assumed he could legally convey the area to Penn. In 1682 the Pennsylvania Assembly, which had Delaware representatives, approved an Act of Union that made the Pennsylvania Charter applicable to the three counties, but Delaware leaders resented domination by Pennsylvanians. Pennsylvania's Charter of Privileges of 1701 allowed the union to be dissolved if assemblymen of both colonies agreed to do it. But Delaware leaders refused to acknowledge the Charter of Privileges unless they received as many Assembly seats as the Pennsylvania counties. When the Pennsylvanians would not accept this, Governor Gookin in 1704 convened a separate Assembly for the Delaware counties, which continued to exist until 1776. Delaware and Pennsylvania had separate Assemblies but shared the same governor until 1776, although many Delawareans insisted that the Penn family had no proprietary rights in their counties and that Pennsylvania's governors had authority in Delaware only because they were royal appointees. At the beginning of the American Revolution, the connection of the governorship function was dissolved when both colonies became states.

ECONOMICS

Agriculture – From its beginning, Pennsylvania ranked as a leading agricultural area and produced surpluses for export, adding to its wealth. By the 1750s an exceptionally prosperous farming area had developed in southeastern Pennsylvania. Wheat and corn were the leading crops, though rye, hemp, and flax were also important.

Manufacturing – The abundant natural resources of the colony made for early development of industries. Arts and crafts, as well as home manufactures, grew rapidly. Sawmills and gristmills were usually the first to appear, using the power of the numerous streams. Textile products were spun and woven mainly in the home, though factory production was not unknown. Shipbuilding became important on the Delaware. The province gained importance in iron manufacturing, producing pig iron as well as finished products. Printing, publishing, and the related industry of papermaking, as well as tanning, were significant industries. The Pennsylvania long rifle was an adaptation of a German hunting rifle developed in Lancaster County. Its superiority was so well recognized that by 1776 gunsmiths were duplicating it in Virginia, Georgia, North Carolina, and Maryland. The Conestoga wagon was also developed in Lancaster County. Capable of carrying as much as four tons, it was the prototype for the principal vehicle for American westward migration, the prairie schooner.

Commerce and Transportation – The rivers were important as early arteries of commerce and were soon supplemented by roads in the southeastern section. By 1776, stagecoach lines reached from Philadelphia into the southcentral region. Trade with the Indians for furs was important in the colonial period. Later, the transport and sale of farm products to Philadelphia and Baltimore, by water and road, formed an important business. Philadelphia became one of the most important centers in the colonies for the conduct of foreign trade and the commercial metropolis of an expanding hinterland.

SOCIETY AND CULTURE

Arts and Learning – Philadelphia was known in colonial times as the "Athens of America" because of its rich cultural life. Because of the liberality of Penn's principles and the freedom of expression that prevailed, the province developed a conspicuous variety and strength in its intellectual and educational institutions and interests. An academy that held its first classes in 1740 became the College of Philadelphia in 1755, and ultimately grew into the University of Pennsylvania. It was the only nondenominational college of the colonial period. The arts and sciences flourished, and the public buildings of Philadelphia were the marvel of the colonies. Many fine old buildings in the Philadelphia area still bear witness to the richness of Pennsylvania's civilization in the eighteenth century. Such men of intellect as Benjamin Franklin, David Rittenhouse, John Bartram, and Benjamin West achieved international renown. Newspapers and magazines flourished, as did law and medicine. Pennsylvania can claim America's first hospital, first library, and first insurance company.

Religion – Quakers held their first religious meeting at Upland (now Chester) in 1675, and they came to Pennsylvania in great numbers after William Penn received his Charter. Most numerous in the southeastern counties, the Quakers gradually declined in number but retained considerable influence. The Pennsylvania Germans belonged largely to the Lutheran and Reformed churches, but there were also several smaller sects: Mennonites, Amish, German Baptist Brethren or "Dunkers," Schwenkfelders, and Moravians. Although the Lutheran Church was established by the Swedes on Tinicum Island in 1643, it only began its growth to become the largest of the Protestant denominations in Pennsylvania upon the arrival of Henry Melchior Muhlenberg in 1742. The Reformed Church owed its expansion to Michael Schlatter, who arrived in 1746. The Moravians did notable missionary work among the Native Americans. The Church of England held services in Philadelphia as early as 1695. The first Catholic congregation was organized in Philadelphia in 1720, and the first chapel was erected in 1733; Pennsylvania had the second largest Catholic population among the colonies. The Scotch brought Presbyterianism; its first congregation was organized in Philadelphia in 1698. Scotch-Irish immigrants swelled its numbers. Methodism began late in the colonial period. St. George's Church, built in Philadelphia in 1769, is the oldest Methodist building in America. There was also a significant Jewish population in colonial Pennsylvania. Its Mikveh Israel Congregation was established in Philadelphia in 1740.

PENNSYLVANIA'S BORDERS

The southern boundary, especially the famous Mason-Dixon Line dividing Pennsylvania and Maryland, which was surveyed and marked by the English team of Charles Mason and Jeremiah Dixon in 1767 and approved in Britain two years later, ended arguments begun when Charles II had issued Pennsylvania's Charter in 1681. Maryland's Charter of 1632 extended to the Delaware River above Philadelphia, and the boundary description in the Pennsylvania Charter was obscured by ambiguous terms and its creators' limited knowledge of geography. In 1685 King James II determined that Maryland would not have the three counties of Delaware, but it was not until 1732 that Maryland's proprietor agreed that the longitudinal line separating his colony from Pennsylvania would run from a point fifteen miles south of the most southern point in Philadelphia. Within a year he changed his mind, so that lengthy High Court of Chancery proceedings in England and armed clashes between Maryland and Pennsylvania settlers had to occur before a chancery decree in 1760 authorized the final settlement, a refinement of the 1732 bargain. Mason and Dixon were called in when American surveyors were unable to calculate boundary lines that matched the authorized specifications.

The 1681 Charter's provisions for Pennsylvania's western expanse clashed with the land description in Virginia's older charter. From 1773 until the opening of the American Revolution, Virginia's governor, Lord Dunmore, controlled southwestern Pennsylvania as a district of Virginia, and irregular warfare took place between his followers and settlers loyal to Pennsylvania. Pennsylvania's northern boundary was also undetermined, and settlers from Connecticut, organized as the private Susquehanna Company, arguing on the basis of both Connecticut's colonial charter and a questionable land purchase deed made from some Iroquois chiefs in 1754, occupied the Wyoming Valley and had hopes of obtaining much of northern Pennsylvania. Both Pennsylvania and Susquehanna settlers were forced out of the Wyoming area during the French and Indian War and the Native American Insurgency of 1763. At the Treaty of Fort Stanwix (or "Old Purchase") in 1768, Pennsylvania purchased from the Iroquois a vast expanse of the land included within the 1681 Charter. Arguing that this confirmed their 1754 deed, the Connecticut settlers re-entered northeastern Pennsylvania. In 1774, Connecticut's government decided to officially support the Susquehanna Company settlers, and by the beginning of the American Revolution they had defeated the neighboring Pennsylvania settlers in several campaigns known as the Yankee-Pennamite Wars.

Also dating back to an ambiguity in the Charter of 1681, and overlapping with the dispute with Connecticut, was the question of the longitudinal line separating New York and Pennsylvania. On the assumption that Charles II had really meant to give William Penn three full degrees of north-south latitude (about 180 miles), Pennsylvania argued for the 43° parallel, placing the border above the site of Buffalo, N.Y. At about the same time the Mason-Dixon Line became official, Pennsylvania's proprietors yielded to New York and accepted the 42° parallel as the northern border. The intervening controversy with Connecticut and the Revolutionary War delayed surveying and marking the line until 1787.

THE ERA OF BENJAMIN FRANKLIN, 1727-1790

The career of the versatile genius and popular leader Benjamin Franklin spans Pennsylvania's history from his first appearance in Philadelphia until his death in 1790. He led the way to the establishment of beneficial civic institutions including newspapers and other popular publications, a fire company, a circulating library, a hospital, paper money, and a postal mail system. The persuasiveness of his popular writings imbued the public with common sense, public morality, and optimism. His scientific research explored natural phenomenon, and his inventions enlarged human mastery of the environment. His political leadership was critical to the movement for independent establishment of governments intended to operate for the best interests of humanity. As an outstanding example of an individual rising through his own abilities, Franklin has always been upheld as a model for Americans.

PENNSYLVANIA ON THE EVE OF THE REVOLUTION

By 1776, the Province of Pennsylvania had become the third largest English colony in America, though next to the last to be founded. Philadelphia had become the largest English-speaking city in the world next to London. There were originally only three counties: Philadelphia, Chester, and Bucks, but by 1773 there were eleven. Westmoreland, the last new county created before the Revolution, was the first county located entirely west of the Allegheny Mountains.

The American Revolution had urban origins, and Philadelphia was a center of ferment. Groups of Philadelphia artisans and mechanics, many loyal to Benjamin Franklin, formed a grassroots revolutionary leadership. Philadelphia had been a center of resistance to the Stamp Act in 1765, and it moved quickly to support Boston in opposition to Britain's Intolerable Acts in 1774.

FROM INDEPENDENCE TO THE CIVIL WAR: 1776-1861

PENNSYLVANIA IN THE REVOLUTION

Pennsylvanians may well take pride in the dominant role played by their state in the early development of the national government. At the same time that Pennsylvania was molding its own statehood, it was providing leadership and a meeting place for the people concerned with building a nation.

Philadelphia was the nation's capital during the Revolution, except when the British threat caused the capital to be moved successively to Baltimore, Lancaster, and York. While Congress was sitting in York (October 1777 to June 1778), it approved the Articles of Confederation, the first step toward a national government. After the war, the capital was moved to New York, but from 1790 until the opening of the District of Columbia in 1800, Philadelphia was again the capital. In 1787, the U.S. Constitutional Convention met in Philadelphia.

The Declaration of Independence – The movement to defend American rights grew into the movement for independence in the meetings of the Continental Congress at Carpenters' Hall and the State House (Independence Hall) in Philadelphia. The spirit of independence ran high, as shown by spontaneous declarations of frontiersmen in the western areas and by the political events that displaced the old provincial government.

The War for Independence – Pennsylvania troops took part in almost all the campaigns of the Revolution. A rifle battalion joined in the siege of Boston in August 1775. Other units fought bravely in the ill-fated Canadian campaign of 1776 and in the New York and New Jersey campaigns. The British naturally considered Philadelphia of key importance and, in the summer of 1777, invaded the state. On September 22, they captured the capital. The battles of Brandywine and Germantown were important engagements of this period. Following these battles, Washington went into winter quarters at Valley Forge from December 1777 to June 1778. News of the French alliance, which Benjamin Franklin had helped to negotiate, and a British defeat at Saratoga caused the British to leave Philadelphia in the spring of 1778. Washington's little army emerged from Valley Forge reorganized and drilled for battle. Frontier Pennsylvanians suffered heavily from British and Indian raids until they were answered in 1779 by John Sullivan's and Daniel Brodhead's expeditions against the Six Nations Indians. Pennsylvania soldiers formed a major portion of Washington's army, and such military leaders as Arthur St. Clair, Anthony Wayne, Thomas Mifflin, and Peter Muhlenberg gave valuable service. Pennsylvania also aided in the creation of the Continental navy, with many ships being built or purchased in Philadelphia and manned by Pennsylvania sailors. The Irish-born John Barry became first in a long list of Pennsylvania's naval heroes.

The Arsenal of Independence – The products of Pennsylvania farms, factories, and mines were essential to the success of the Revolutionary armies. At Carlisle, a Continental ordnance arsenal turned out cannons, swords, pikes, and muskets. The state actively encouraged the manufacture of gunpowder. Pennsylvania's financial support, both from its government and from individuals, was of great importance. By 1780, the state had contributed more than \$6 million in paper money to the Congress and when the American states had reached financial exhaustion, ninety Philadelphians subscribed a loan of £300,000 in hard cash to supply the army. Later, in 1782, the Bank of North America was chartered to support government fiscal needs. Robert Morris and Haym Salomon were important financial supporters of the Revolution.

FOUNDING A COMMONWEALTH

A Pennsylvania Revolution – Pennsylvania's part in the American Revolution was complicated by political changes within the state, constituting an internal Pennsylvania revolution of which not all patriots approved. The temper of the people outran the conservatism of the Provincial Assembly. Extralegal committees gradually took over the reins of government, and in June 1776 these committees called a state convention to meet on July 15, 1776.

The Constitution of 1776 – The convention superseded the old government completely, established a Council of Safety to rule in the interim, and drew up the first state constitution, adopted on September 28, 1776. This provided an Assembly of one house and a Supreme Executive Council instead of a governor. The Declaration of Rights section has been copied in subsequent constitutions without significant change.

Many patriot leaders were bitterly opposed to the new Pennsylvania constitution. Led by such men as John Dickinson, James Wilson, Robert Morris, and Frederick Muhlenberg, they carried on a long fight with the Constitutional party, a radical group. Joseph Reed, George Bryan, William Findley, and other radicals governed Pennsylvania until 1790. Their most noteworthy accomplishments were the act in 1780 for the gradual abolition of slavery and an act of 1779 which took ownership of the public lands away from the Penn family (but with compensation in recognition of the services of the founder). The conservatives gradually gained more strength, helped by the Constitutionalists' poor financial administration.

The defeat of a mob of undisciplined militia and poor laborers who attacked James Wilson's private Philadelphia home on October 4, 1779, known as the "Fort Wilson riot," was a turning point because Constitutional radical leaders like the Supreme Executive Council's president, Joseph Reed, repudiated the rioters and thus acknowledged that sound financial policies, rather than mob attacks on businesses and commercial entrepreneurs, were needed to win the revolution and preserve a worthwhile society.

The Constitution of 1790 – By 1789 the conservatives felt strong enough to rewrite the state constitution, and the Assembly called a convention to meet in November. In the convention, both the conservative majority and the radical minority showed a tendency to compromise and to settle their differences along moderate lines. As a result, the new constitution embodied the best ideas of both parties and was adopted with little objection. It provided for a second legislative house, the State Senate, and for a strong governor with extensive appointing powers. In 1791 the State Supreme Court, in deciding a property dispute, implied that it had the power to dismiss acts of the legislature which it deemed unconstitutional. The court has asserted this important principle of judicial review ever since.

FOUNDING A NATION

Pennsylvania and the United States Constitution – Because of a lack of central power, as well as insurmountable financial difficulties, the Articles of Confederation could no longer bind together the newly independent states. As a result, the Federal Constitutional Convention met in Philadelphia in 1787. The structure that evolved remains the basis of our government today.

The Pennsylvania Assembly sent eight delegates to the Federal Convention. Four of these had been signers of the Declaration of Independence. The delegation included the venerable Benjamin Franklin, whose counsels of moderation on several occasions kept the convention from dissolving; the brilliant lawyer and aristocrat from New York, Gouverneur Morris, who spoke more often than any other member; and the able lawyer James Wilson who, next to Madison of Virginia, was the principal architect of the Constitution. Pennsylvania's delegation supported every move to strengthen the national government and signed

the finished Constitution on September 17. The conservatives in the Pennsylvania Assembly took swift action to call a ratifying convention, which met in Philadelphia on November 21. The Federalists, favoring ratification, elected a majority of delegates and, led by Wilson, made Pennsylvania the second state to ratify, on December 12, 1787. When ratified by nine of the thirteen states on June 21, 1788, the Constitution went into effect.

POPULATION AND IMMIGRATION

Large areas of the northern and western parts of the state were undistributed or undeveloped in 1790, and many other sections were thinly populated. The state adopted generous land policies, distributed free "Donation Lands" to Revolutionary veterans, and offered other lands at reasonable prices to actual settlers. Conflicting methods of land distribution and the activities of land companies and of unduly optimistic speculators caused much legal confusion. By 1860, with the possible exception of the northern tier counties, population was scattered throughout the state. There was increased urbanization, although rural life remained strong and agriculture involved large numbers of people. The immigrant tide swelled because of large numbers of Irish fleeing the potato famine of the late 1840s and Germans fleeing the political turbulence of their homeland about the same time. As a result of the Gradual Emancipation Act of 1780, the 3,737 African American slave population of 1790 dropped to 64 by 1840, and by 1850 all Pennsylvania African Americans were free unless they were fugitives from the South. The African American community had 6,500 free people in 1790, rising to 57,000 in 1860. Philadelphia was its population and cultural center.

ACHIEVING FINAL STATE BORDERS

The establishment of a national government during the Revolution helped resolve lingering border controversies. In 1776, Virginia's new constitution accepted the 1681 Pennsylvania Charter's land provisions. An agreement between Pennsylvania and Virginia was signed in Baltimore at the end of 1779, leading to the extension of the Mason-Dixon Line westward to the full five degrees of longitude from the Delaware River promised in the Charter. It was also agreed that Pennsylvania's western border would be a meridian line traced directly north to Lake Erie from the point on the Mason-Dixon Line five degrees west of the Delaware.

The Continental Congress convened a special tribunal at Trenton, N.J. in 1782, which resolved the territorial dispute between Connecticut and Pennsylvania by accepting Pennsylvania's 1681 land entitlement over the claims of Connecticut and the Susquehanna Company. The status of land titles already granted in northeastern Pennsylvania by the Susquehanna Company and Connecticut was not fully resolved until 1809.

The last major acquisition to the state and the only one not foreshadowed by William Penn's Charter of 1681 was the Erie Triangle. Colonial New York, on the basis of treaty arrangements with the Six Nations of the Iroquois, claimed land up to Lake Erie and west of it, into Ohio. In 1780, New York State ceded these claims to the national government to form a national domain. But the western border of New York was unstated until its legislature decided that it would be a meridian drawn south from the most western point of Lake Ontario. The land west of this and south of Lake Erie became the Erie Triangle. When Pennsylvania's 42° parallel border was marked all the way to the lake in 1787, Pennsylvania realized that it had received only four miles of virtually unusable lakefront, so spokesmen convinced Congress to sell the state the Triangle, which had a natural harbor. Congress insisted that the area must be surveyed and Indian claims of ownership satisfied. Working with United States' negotiators, Pennsylvania obtained a surrender deed from the Seneca Chief Cornplanter in 1789, although other Iroquois did not accept Cornplanter's right to sign a deed. In 1791 Pennsylvania again purchased the Triangle from Cornplanter and paid the United States by canceling Revolutionary War debts the national government owed the state. On March 3, 1792, President Washington issued Pennsylvania a deed for the Triangle. This gave Pennsylvania her total present expanse, although Native Americans were again paid to relinquish claims to the Triangle at the Treaty of Canandaigua, N.Y. in November 1794.

POLITICAL DEVELOPMENTS

Reaction Against the Federalist Party – From 1790 to 1800, Philadelphia was the capital of the United States. While Washington was president, the state supported the Federalist Party, but grew gradually suspicious of its aristocratic goals. From the beginning, Senator William Maclay of Pennsylvania was an outspoken critic of the party. When Thomas Jefferson organized the Democrat-Republican Party, he had many supporters in Pennsylvania. Thomas Mifflin, Pennsylvania's first governor under the Constitution of 1790, was a moderate who avoided commitment to any party but leaned toward the Jeffersonians. The Whiskey Rebellion in Western Pennsylvania in 1794 hastened the reaction against the Federalists and provided a test of national unity. The insurrection was suppressed by an army assembled at Carlisle and Fort Cumberland and headed by President Washington. Partly as a result, Jefferson drew more votes than Adams in Pennsylvania in the presidential election of 1796. It was a foreboding sign for the Federalists, who were defeated in the national election of 1800.

Jeffersonian and Jacksonian Democratic Dominance – In 1799 Mifflin was succeeded by Thomas McKean, a conservative Jeffersonian Democrat-Republican, who governed until 1808. McKean's opposition to measures advocated by the liberal element in his party led to a split in its ranks and an unsuccessful attempt to impeach him. His successor, Simon Snyder of Selinsgrove, represented the liberal wing. Snyder, who served three terms, 1808 to 1817, was the first governor to come from common, non-aristocratic origins. In this period, the state capital was transferred from Philadelphia to Lancaster in 1799 and finally to Harrisburg in 1812. During the War of 1812, Pennsylvanians General Jacob J. Brown and Commodore Stephen Decatur were major military leaders. Born a Quaker in Bucks County, Brown showed the skill to effectively command the headstrong American militia. He successfully defended Sackett's Bay from British invasion in 1813 and commanded the American army that defeated the British at Lundy's Lane in July 1814. Oliver Hazard Perry's fleet, which won the Battle of Lake

Erie on September 10, 1813, prepared the way for defeat of the British and their Indian allies under Chief Tecumseh in the battle of the Thames, twenty-four days later. Perry's fleet was built at Erie by Daniel Dobbins, a native Pennsylvanian. Today, the Historical and Museum Commission has extensively restored Perry's flagship, the U.S. Brig *Niagara*, which may be appreciated by the public when visiting Erie. Pennsylvania militia and volunteers formed a large contingent in the force that defended against a British invasion of the Chesapeake in the summer of 1814. Stephen Girard, Albert Gallatin, and Alexander James Dallas helped organize the nation's war finances, and Gallatin served as a commissioner negotiating the Peace of Ghent. In 1820, a coalition of Federalists and conservative Democrats elected Joseph Hiester governor, whose non-partisan approach reformed government but destroyed his own supporting coalition. The election of 1820 marked the end of the use of caucuses to select candidates and the triumph of the open conventions system. The Family Party Democrats elected the two succeeding governors, John Andrew Shulze (1823-1828) and George Wolf (1829-1834), who launched the progressive but very costly Public Works system of state-built canals. Attitudes toward President Andrew Jackson and his policies, especially that concerning the Second Bank of the United States, altered political alignments in Pennsylvania during this period. In 1834, Governor Wolf signed the Free School Act, which alienated many, including Pennsylvania Germans, so that the Democrats lost the next governorship to the Anti-Masonic Joseph Ritner, who also had the support of the Whig Party. In a dramatic speech on April 11, 1835, Representative Thaddeus Stevens persuaded the Assembly not to repeal the Free School Law. But the Assembly's subsequent investigations of Freemasonry's secret activities, instigated by Stevens, proved to be ludicrous, and the Democrat David R. Porter received 5,000 more votes than Ritner in the 1838 election. Ritner's followers claimed fraud, and violence nearly erupted in the "Buckshot War," until several of Ritner's legislative followers bolted and placed Porter in office.

The Constitution of 1838 – In 1837, a convention was called to revise the state's laws and draft a new constitution. The resulting constitution, in 1838, reduced the governor's appointive power, increased the number of elective offices, and shortened terms of office. The voters were given a greater voice in government and were better protected from abuses of power. However, free African Americans were disenfranchised despite protests from blacks in Pittsburgh and Philadelphia. The burning of Pennsylvania Hall in Philadelphia, a new center intended for holding many reform activities, in the same year showed that the new constitution coincided with an awakened hostility toward abolition and racial equality.

Shifting Political Tides and the Antislavery Movement – After the adoption of the new constitution in 1838, six governors followed in succession prior to the Civil War, two of whom were Whigs. State debts incurred for internal improvements, especially the canal system, almost bankrupted the state, until the Public Works were finally sold in 1857. The search for a sound banking and currency policy and the rising political career of James Buchanan dominated this period. It was marred by the tragic religious riots of the Native American Association at Kensington in 1844.

The annexation of Texas and the war with Mexico which ensued in 1846 were generally supported in Pennsylvania. Two Pennsylvania regiments became part of General Winfield Scott's expedition in 1847, taking part in the landing and battle at Vera Cruz in March, the battle of Cerro Gordo, the capture of Pueblo, and the September 13 capture of the citadel of Chapultepec that completed the taking of Mexico City. The number of men serving in the two regiments was 2,415, although far more had tried to volunteer. However, many Pennsylvanians were opposed to expansion of slavery into the territory taken from Mexico. David Wilmot of Bradford County became a national figure in 1846 by his presentation in Congress of the Wilmot Proviso opposing slavery's extension, and his action was supported almost unanimously by the Pennsylvania Assembly.

The Quakers had been the first group to express organized opposition to slavery. Slavery had slowly disappeared in Pennsylvania under the Gradual Emancipation Act of 1780, but nationally the issue of slavery became acute after 1820. Many Pennsylvanians were averse to the return of fugitive slaves to their masters. Under an act of 1826, which was passed to restrain this, a Maryland agent was convicted of kidnapping a fugitive in 1837, but the United States Supreme Court declared the act unconstitutional in 1842. The state forbade the use of its jails to detain fugitive African Americans in 1847. The Compromise of 1850, a national program intended to quiet the agitation over slavery, imposed a new Federal Fugitive Slave Law, but citizens in Christiana, Lancaster County, rioted in 1851 to prevent the law from being implemented. Opposition to slavery and the desire for a high tariff led to the birth of the Republican Party in Pennsylvania, first identified by that name in November 1854. A major national party by 1856, much of its national organization was formulated in Pennsylvania.

But the state elections of October 1854 were marked by extremism and bizarre events. In May 1854 Congress passed the Kansas-Nebraska Act, which cancelled the national compromise over the extension of slavery, known as the "Missouri Compromise" or "Compromise of 1850," and made the vast Kansas and Nebraska Territories eligible for slavery. The major political parties both split over the issue. Governor William Bigler, a Democrat, sought re-election on his record of opposing the graft involved in the state-owned canal system, but Bigler aligned himself with the shady Simon Cameron, an opponent of slavery, and broke his ties with veteran politician James Buchanan. Meanwhile, the Know-Nothing Party, opponents of Catholicism, sprang up and conducted a secret campaign. They supported the free-soil Whig James Pollock for governor and many of them later drifted into the infant Republican Party. At the root of their rise in Pennsylvania had been their resentment against Bigler's and Buchanan's insistence that President Franklin Pierce appoint the Catholic jurist James Campbell to be the U.S. Postmaster General. As their methods involved secret pledges from both known Whigs and Democrats to oppose Catholicism, the extent of their voting strength and number of members they controlled in the General Assembly was never clear, but Pollock won the governorship.

In 1856, the Pennsylvania Democrat James Buchanan was elected President because of a deadlock over the slavery issue among the other major politicians, and he then announced a policy of non-interference with slavery in the states and popular sovereignty (choice by the electorate) in the federal territories. Because of controversy over the admission of Kansas as a state, Buchanan lost the support of most Northern Democrats, and the resulting disruption within the Democratic Party made possible Abraham Lincoln's election to the Presidency in 1860.

The Civil War followed. The expression "underground railroad" may have originated in Pennsylvania, where numerous

citizens aided the escape of slaves to freedom in Canada. Anna Dickinson, Lucretia Mott, Ann Preston, and Jane Swisshelm were among Pennsylvania women who led the antislavery cause. Thaddeus Stevens was an uncompromising foe of slavery in Congress after he was re-elected to the House of Representatives in 1859. Pennsylvania abolitionist leaders were both African American and white.

African Americans – African American leaders included those who made political appeals, like James Forten and Martin R. Delany; Underground Railroad workers Robert Purvis and William Still; publication activist John B. Vashon and his son George; and the organizer of the Christiana Riot of 1851 against fugitive slave hunters, William Parker.

African Americans made several cultural advances during this period. William Whipper organized reading rooms in Philadelphia. In 1794, Rev. Absalom Jones founded St. Thomas African Episcopal Church, and Rev. Richard Allen opened the Mother Bethel African Methodist Episcopal Church, both in Philadelphia. The first African American church in Pittsburgh was founded in 1822 by a congregation of the African Methodist Episcopal (A.M.E.) Church.

Women – Courageous individual women worked not only for their own cause but also for other reforms, although the status of the whole female population changed little during this period. Catherine Smith, for example, manufactured musket barrels for the Revolutionary Army, and the mythical battle heroine Molly Pitcher was probably also a Pennsylvanian. Sara Franklin Bache and Ester De Berdt Reed organized a group of 2,200 Pennsylvania women to collect money, buy cloth, and sew clothing for Revolutionary soldiers. Lucretia Mott, a Quaker preacher and teacher, was one of four women to participate at the formation of the American Anti-Slavery Society in Philadelphia in 1833, and became president of the Female Anti-Slavery Society. With Elizabeth Cady Stanton she launched the campaign for women's rights at Seneca Falls New York, in 1848. Jane Grey Swisshelm, abolitionist and advocate of women's rights, used newspapers and lectures. In 1848, she launched her abolitionist paper, *The Saturday Visitor*, which featured antislavery propaganda and women's rights advocacy. Also during that year, her essays influenced the state legislature to grant married women the right to own property.

ECONOMY

By 1861, the factory system had largely replaced the domestic system of home manufacture, and the foundation of the state's industrial greatness was established. The change was most noticeable after 1840 because of a shift to machinery and factories in the textile industry. By 1860, there were more than two hundred textile mills. Leather making, lumbering, shipbuilding, publishing, and tobacco and paper manufacture also prospered in the 1800s.

Pennsylvania's most outstanding industrial achievements were in iron and steel. Its production of iron was notable even in colonial times, and the charcoal furnaces of the state spread into the Juniata Valley and western regions during the mid-1800s. Foundries, rolling mills, and machine shops became numerous and, by the Civil War, the state rolled about half the nation's iron, aiding the development of railroads. The Baldwin Locomotive Works were established in Philadelphia in 1842, and the Bethlehem Company was organized in 1862. The Cambria Iron Works at Johnstown were established in 1854 and, by the end of the Civil War, were the largest mills in the country. William Kelly, a native of Pittsburgh, is regarded as the true inventor of the Bessemer process of making steel.

Although much importance is given to the discovery of gold in California, the discovery and development of Pennsylvania's mineral and energy resources far overshadowed that event. Cornwall, in Lebanon County, provided iron ore from colonial times, and ore was also found in many other sections of Pennsylvania in which the charcoal iron industry flourished. The use of anthracite coal began on a large scale after 1820 with the organization of important mining companies and acceptance of new ways to use the coal.

Labor – After the Revolution, the use of indentured servants sharply declined. The growth of industrial factories up to 1860, however, enlarged the gulf between skilled and unskilled labor, and immigrants were as much downtrodden by this as they had been under indentured servitude. Local, specialized labor unions had brief successes, especially in Philadelphia where, in 1845, a city ordinance placed a ten-hour limit on the laborer's day. In 1827, the country's first city-wide central labor union was formed in Philadelphia. Depression years following the panic of 1837 caused many trade unions to collapse, but the formation of the Iron Molders' union under William H. Sylvis in 1859 signified a renewed spirit within organized labor. The state's mechanics' lien law of 1854 was another victory for the rights of labor.

TRANSPORTATION

Roads – The settlement of new regions of the state was accompanied by provisions for new roads. The original Lancaster Pike connecting Philadelphia with Lancaster was completed in 1794. By 1832, the state led the nation in improved roads, having more than 3,000 miles. The National or Cumberland Road was a major route for western movement before 1850. Between 1811 and 1818 the section of this road in Pennsylvania was built through Somerset, Fayette, and Washington counties. It is now part of U.S. Route 40.

Waterways – Most of the state's major cities were built along important river routes. In the 1790s, the state made extensive studies for improving the navigation of all major streams, and canals began to supplement natural waterways. Canals extending the use of the Delaware and Schuylkill rivers were chartered before 1815, and the Lehigh Canal was completed in 1838. The vast system named the State Works of Pennsylvania soon overshadowed privately constructed canals. The system linked the east and the west by 1834, but the expense nearly made the state financially insolvent. The belief that the canals brought economic progress to distant regions, however, seemed to provide ample justification for the high cost.

Although canals declined rapidly with the advent of the railroad, Pennsylvania's ports and waterways remained active. The steamboat originated with experiments by John Fitch of Philadelphia from 1787 to 1790, and Lancaster County native Robert Fulton developed it as a practical medium of transportation on the Ohio, Allegheny, and Monongahela rivers.

Railroads – Rail transport began in 1827, operated at first by horse power or cables. The tracks connected anthracite fields with canals or rivers. The Columbia and Philadelphia Railroad, completed in 1834 as part of the State Works, was the first ever built by a government. Pennsylvania's first railroad built as a common carrier was the Philadelphia, Germantown, and Norristown Railroad, completed in 1835.

Major railroads chartered in the state included the Philadelphia and Reading (1833) and the Lehigh Valley (1846, reincorporated 1853). However, the most important of all was the Pennsylvania Railroad, chartered April 13, 1846, and completed to Pittsburgh by 1852. It absorbed so many short railroad lines by 1860 that it had nearly a monopoly on rail traffic from Chicago through Pennsylvania. And whereas Pennsylvania had reached its maximum of 954 canal miles by 1840, total railroad trackage grew by 1860 to 2,598 miles. In miles of rail and in total capital invested in railroads, Pennsylvania led all other states on the eve of the Civil War.

CULTURE

Education – The most lasting gift of state government to Pennsylvania's society was the establishment of the public education system. The 1790 constitution told the legislature to provide schools throughout the state capable of providing a free education to children of the poor. But only a paupers' school system was created until passage of the Free Schools Act of 1834. By special legislation state funds had earlier assisted individual schools, and Philadelphia's Central High School was created as a school district by the legislature in 1818, but that was not the comprehensive system intended by the constitution. A state common school fund was created in 1831, but the school system itself was only enacted in 1834 with the compromise provision that any local unit could opt not to have schools. State Senator Samuel Breck of Philadelphia was the architect of the compromise. Initially only 51 percent of all the local governments chose to enter the system. Opposition was so strong that repeal seemed certain in 1835, but Representative Thaddeus Stevens of Adams County spoke so eloquently against repeal that it was defeated. The Common Schools system was at first administered by the Secretary of State, who also held the title of Superintendent of Schools. Gradually more localities opted to have schools; finally an act of 1849 removed local governments' right to opt out. An act of 1854 made major changes, strengthening both the local school districts and the state's powers. School districts received corporation powers and became in effect strong bureaucracies operating side by side with the civil governments of cities, boroughs, and townships. The school districts' boards of directors could choose classroom subjects and text books, were allowed to define grade levels, and could expel disruptive students. County superintendents were also created and appeared at first to be merely inspectors. But in time they became very powerful and were considered to be agents of the state government. They enforced the teaching of six specific, required subjects (called "the branches"), but their power was most obvious in choosing and certifying all the teachers. The 1854 education act also required separate schools for African Americans whenever at least twenty black pupils could be accommodated in a locale. This was repealed in 1881, although many of the segregated schools that had been created continued in later years.

In 1857 the office of Superintendent of Common Schools was separated from the Department of State. A statute that year also authorized creation of normal schools, predecessors of the state teachers' colleges, to train teachers, although they were to be privately owned and only partially funded by the state. The first of these, at Millersville, was chartered in 1855 and accepted under the statutory normal school requirements in 1859. Two dynamic leaders in the pre-Civil War state education movement were Thomas R. Burrowes, who had been Secretary of State under Governor Ritner, and James P. Wickersham, who was Lancaster County's supervisor. Both reached out to schools statewide by publishing educational journals and materials, and they lent their influence to movements to expand state involvement into secondary education, teacher training, and school buildings, as well as extending the number of mandatory annual school attendance days. Public high schools existed at first only in urban communities or areas where special arrangements had been included in school charters. The specialized Farmers' High School, predecessor of The Pennsylvania State University, was opened in rural Centre County in 1855, exclusively for training farmers.

Science – The traditions of scientific inquiry established in Pennsylvania by Benjamin Franklin, David Rittenhouse, and the Bartrams continued. The American Philosophical Society was the first of many organizations founded in Philadelphia to encourage science. The Academy of Natural Sciences was founded in 1812 and the Franklin Institute in 1824. The American Association of Geologists, formed in Philadelphia in 1840, later grew into the American Association for the Advancement of Science. The scientific leadership of Pennsylvania was represented by many individuals, a few examples of whom can be mentioned. James Woodhouse (1770-1809) pioneered in chemical analysis, plant chemistry, and the scientific study of industrial processes. Isaac Hayes (1796-1879) of Philadelphia pioneered in the study of astigmatism and color blindness. The Moravian clergyman Lewis David von Schweinitz (1780-1834) made great contributions to botany, discovering more than twelve hundred species of fungi.

Literature and the Arts – Charles Brockden Brown of Philadelphia was the first American novelist of distinction and the first to follow a purely literary career. Hugh Henry Brackenridge of Pittsburgh gave the American West its first literary work in his satire *Modern Chivalry*. Philadelphia continued as an important center for printing with J.B. Lippincott taking the lead and, for magazines, with the publication of *The Saturday Evening Post*. Bayard Taylor, who began his literary career before the Civil War, published his most notable work in 1870-71 – the famous translation of Goethe's *Faust*.

In architecture, the red brick construction of southeastern Pennsylvania was supplemented by buildings in the Greek Revival style. The New England influence was strong in the domestic architecture of the northern tier counties. Thomas U. Walter and William Strickland gave Pennsylvania an important place in the architectural history of the early 1800s. Walter designed the Treasury Building and the Capitol dome in Washington. The nation's first institution of art – the Pennsylvania Academy of the Fine Arts – was founded in Philadelphia in 1805, although by then such painters as Gilbert Stuart, Benjamin West, and the Peale family had already made Philadelphia famous.

Philadelphia was the theatrical center of America until 1830, a leader in music publishing and piano manufacture, and the birthplace of American opera. William Henry Fry's *Lenora* (1845) was probably the first publicly performed opera by an American composer. Stephen Foster became the songwriter for the nation.

Religion – In the years between independence and the Civil War, religion flourished in the Commonwealth. In addition to the growth of religious worship, religious attitudes led to the enlargement of the educational system. In this period, churches threw off European ties and established governing bodies in the United States. In 1789 John Carroll of Maryland became the first Catholic bishop in America, and Pennsylvania's Catholics then looked to that see for guidance. Philadelphia became a separate diocese in 1808, Pittsburgh in 1842, and Erie in 1853. The Russian Prince, Demetrius Augustine Gallitzen, entered the priesthood and served the Catholics of central Pennsylvania's mountain district for thirty years. In 1820 the establishment of a national Lutheran synod was the last of the breaks from Europe by a major Protestant denomination. Some new churches were formed: Jacob Albright formed the Evangelical Association, a Pennsylvania German parallel to Methodism; Richard Allen formed the African Methodist Episcopal Church in 1816; and John Winebrenner founded the Church of God in Harrisburg in 1830. Rabbi Isaac Leeser, whose works laid a foundation for Conservative Judaism in America, performed his ministry, editing, and writing in Philadelphia from 1829 to 1868. Presbyterianism, which was the largest Protestant denomination before 1860, drifted westward and had its stronghold in western Pennsylvania. Quakers, although decreasing in number, led many humanitarian and reform movements. Although anti-Catholic riots occurred at Kensington in 1844, German and Irish immigrants enlarged the number of Catholics in the state.

THE ERA OF INDUSTRIAL ASCENDANCY: 1861-1945

After 1861 Pennsylvania's influence on national politics diminished gradually, but its industrial complex grew rapidly.

THE CIVIL WAR

During the Civil War, Pennsylvania played an important role in preserving the Union. Southern forces invaded Pennsylvania three times by way of the Cumberland Valley, a natural highway from Virginia to the North. Pennsylvania shielded the other northeastern states.

Pennsylvania's industrial enterprise and natural resources were essential factors in the economic strength of the northern cause. Its railroad system, iron and steel industry, and agricultural wealth were vital to the war effort. The shipbuilders of Pennsylvania, led by the Cramp Shipyards at Port Richmond, Pettys Island, and Palmer Street, enlarged the Navy and merchant marine and pioneered in building ironclad warships. The Phoenixville Iron Company produced over a thousand Griffen rifled cannons, using a superior rolling process to prevent the barrels from bursting. Heavy artillery was produced in Pittsburgh. Rear Admiral John A. Dahlgren made innovations in ordnance which greatly improved naval fire power. Cavalry units raised in Pennsylvania were widely praised, and by 1863 could stand up in battle to Confederate cavalry, Thomas Scott, as Assistant Secretary of War, directed telegraph and railway services. Engineer Herman Haupt directed railroad movement of troops and was personally commended by President Lincoln, and Philadelphian Montgomery C. Meigs as the Union's Quartermaster General was the logistical genius who brought victory. Jay Cooke helped finance the Union cause, and Thaddeus Stevens was an important congressional leader whose efforts made the large appropriations for military operations possible with minimal disruption to the nation's economy. Simon Cameron was the Secretary of War until replaced in January 1862 amid suspicions of his dishonesty. The nationally pre-eminent medical institutions of Philadelphia gave the Union war effort a distinct advantage, and such outstanding doctors as Silas Weir Mitchell advanced knowledge of gunshot wounds and the nervous system.

No man made a greater impression as a state governor during the Civil War than Pennsylvania's Andrew Gregg Curtin. At his first inaugural he denied the right of the South to secede, and throughout the war he was active in support of a national draft. In September 1862, he was the host in Altoona to a conference of northern governors who pledged support to Lincoln's policies.

Nearly 350,000 Pennsylvanians served in the Union forces, including an estimated 8,600 African American volunteers. At the beginning of the war, Lincoln's call for 14 regiments of volunteers was answered by 25 regiments. In May 1861, the Assembly, at Governor Curtin's suggestion, created the Pennsylvania Reserve Corps of 15 regiments enlisted for three years' service. They were mustered into the Army of the Potomac after the first Battle of Bull Run, and thousands of other Pennsylvanians followed them. Camp Curtin at Harrisburg was one of the major troop concentration centers of the war. Admiral David D. Porter opened the Mississippi, and Army leaders from Pennsylvania were numerous and able, including such outstanding officers as George B. McClellan, George G. Meade, John F. Reynolds, Winfield Scott Hancock, John White Geary, and John F. Hartranft.

After the Battle of Antietam in September 1862, General J.E.B. Stewart's Confederate cavalry rode around General George McClellan's Union army and reached Chambersburg on October 10. There they seized supplies and horses, burned a large storehouse, and then withdrew as rapidly as they had come.

In June 1863, General Robert E. Lee turned his 75,000 men northward on a major invasion of Pennsylvania. The state called up reserves and volunteers for emergency duty. At Pittsburgh the citizens fortified the surrounding hills, and at Harrisburg fortifications were thrown up on both sides of the Susquehanna. Confederate forces captured Carlisle and advanced to within three miles of Harrisburg; the bridge at Wrightsville had to be burned to prevent their crossing. These outlying forces were recalled when the Union army under General George G. Meade met Lee's army at Gettysburg. In a bitterly fought engagement on the first three days of July, the Union army threw back the Confederate forces, a major turning point in the struggle to save the Union. Not only was the battle fought on Pennsylvania soil, but nearly a third of General Meade's army was made up of Pennsylvanians. Governor Curtin led the movement to establish the battlefield as a national memorial cemetery.

Eleven regiments and one independent company of the United States Colored Troops (USCT) were raised and trained as Pennsylvania volunteers at Camp William Penn, near Philadelphia, between July 1863 and February 1865. Eight of the regiments saw heavy combat duty, largely in Virginia, South Carolina, and Florida. They served with distinction in the Overland Campaign and the lengthy operations against Richmond and Petersburg. The 43rd Regiment was engaged in Battle of the Crater at Petersburg, July 30, 1864. Although the statistics are incomplete and perhaps not entirely accurate, there is a record of 400 combat deaths from the enlisted ranks of these eight units. About 500 other Pennsylvania African Americans had joined two Massachusetts regiments before the Camp William Penn recruiting system was begun. Twenty-six from this group, who were in the famous 54th Massachusetts Regiment, were killed in the attempt to capture Fort Wagner, July 18, 1863. Sergeant Stephen Swails of the 54th, from Columbia, Lancaster County, was decorated for valor and became the first African American to receive a commission in the Massachusetts regiments. Dr. Martin R. Delany, raised in Chambersburg, who had fostered African nationalism and Pan Africanism while living in Pittsburgh, actively recruited USCT enlistments and was commissioned major in the 104th USCT in South Carolina in 1865.

In 1864, in retaliation for Union raids in Virginia, a Confederate force under General John McCausland advanced to Chambersburg and threatened to burn the town unless a large ransom was paid. The citizens refused, and Chambersburg was burned on July 20, leaving two-thirds of its people homeless and causing damage of almost two million dollars.

REPUBLICAN DOMINANCE AND DEMOCRATIC ABEYANCE

From the Civil War until 1934 the Republican Party had an advantage over the Democrats. The Democratic reformer Robert E. Pattison served two terms as governor (1883-1886; 1891-1894) because disunity within the Republicans made it possible, but from 1894 until the Great Depression, Republican electoral majorities were seldom challenged. Republican voter superiority tended to empower a single state political manager or boss until 1922, although these individuals always had critics, rivals, and enemies. Three personalities held the position successively: Senator Simon Cameron until 1877; Matthew S. Quay (a senator from 1887 on) from about 1879 until his death in May 1904; and Senator Boies Penrose from 1905 until his death in December 1921. Usually they controlled the state Republican Party in addition to the power they held in the U.S. Senate. They placed their weight behind big business and Pennsylvania's industrial growth, and had little interest in social improvements or government public services. "Prosperity for all" and "the full dinner pail" were the public perceptions that were used to defend bossism. Republican city bosses, especially in Pittsburgh and Philadelphia, often rebelled and harassed them. The state bosses manipulated the nominations of most of the Republican gubernatorial candidates, although several governors whom they misjudged or had only grudgingly endorsed crossed them by advancing enlightened, public-spirited reforms. Some of these improvements were so obviously necessary that the state bosses simply did not care to intervene. Progressive legislation was also brought about by inspired legislators willing to face the consequences of reprisals from the bosses and special interests.

The period from 1895 to 1919 saw spirited reform movements in Pittsburgh and Philadelphia, although significant victories were not frequent before 1910. Corruption in city utilities and public service contracts stimulated reform sentiment in both cities, although Pittsburgh's reform arose from the exposure of the wretched living conditions that unbridled industrial growth had spawned. Philadelphia's reform, by contrast, arose to confront exploitation of minorities, dishonest elections, venality in office, and a general disregard for the law.

Although the Democratic Party bore the stigma of past association with pro-slavery advocates and Southern states' rights, those memories gradually receded. Nevertheless, Pennsylvania's Democratic Party had other problems. There was a serious urban-rural internal division, and the Pennsylvania Democrats did not conform to national Democratic party themes of tariff reduction and a soft money system intended to benefit western farmers and debtors. Pennsylvania exhibited little enthusiasm for the Populist movement, which arose in the West and South, and Pennsylvania Democrats regretted their party's amalgamation with the Populists' People's Party in the 1896 presidential election. Furthermore, they did not entirely support the rising demands of industrial labor.

From 1861 to 1883, Republicans held the governorship. Then, a factional split within the Republicans led to the election of the reformed Democrat Robert E. Pattison, and his re-election in 1891. After that, Republicans held the governor's office until 1935. The death of Senator Penrose on the last day of 1921 ended the era of Republican state bosses who sat in Congress.

The Constitution of 1874 – The fourth constitution of the Commonwealth was partly a result of a nationwide reform movement in the 1870s and partly a result of specific corrections to the previous (1838) constitution. A constitutional amendment in 1850 had made all judgeships of courts of record elective by the voting population, a concession to longstanding criticism of gubernatorial appointments. In 1872 another amendment made the office of State Treasurer also popularly elective, an early expression of the reform sentiment that brought on the state constitutional convention of 1873. The resulting new constitution provided for the popular election of the Auditor General and a new official, the Secretary of Internal Affairs, whose department combined old duties of the Surveyor General with potential power to regulate many areas of the economy. The office of Lieutenant Governor was also created. The head of the public school system received the title of Superintendent of Public Instruction, and the General Assembly was required to provide efficient public education at a cost of no less than one million dollars per year. The Governor's term was lengthened from three to four years, but he could no longer succeed himself. He was empowered to veto individual items within appropriations bills. The General Assembly's powers were limited in several ways. Special and local legislation falling within 26 specified subjects was prohibited, and pre-announcement to the public was required before any legislative vote on local legislation. Also, there was a constitutional debt limit, and a number of other legislative subjects were prohibited. Sessions of the General Assembly were to be held every other year, replacing the annual sessions, and the size of the legislature was doubled on the theory that greater numbers would make it impractical for special interests to buy legislators' votes. The House was increased to two hundred members and the Senate to fifty. Provisions were included to thwart such tricks as the introduction of amendments to bills that contradicted the original purpose of the bill, writing ambiguous appropriations bills,

and habitually sloughing over the required three readings of all bills. Several provisions were directed against the urban political machines: required numbering on all election ballots; the repeal of Philadelphia's unfairly partisan 1869 Registration Act; and halting the exorbitant fees that had been demanded by officials of Philadelphia and Allegheny counties. The 1838 constitution's provision against African American voting, by 1870 already illegal under the Fifteenth Amendment of the U.S. Constitution, was removed from the state constitution. In addition to imposing a state debt ceiling, cities were limited in their freedom to operate under deficit financial arrangements. Also, an important political concept that many believed already existed in the abstract, the "police powers of the state," was specifically mentioned – and thus sanctioned – by a provision that the power of corporations could not abridge the state's police power.

Democratic delegates to the constitutional convention had been nearly as numerous as Republicans, and the constitution guaranteed minority party representation on both the Supreme Court and local election boards. In contrast with the 1838 constitution, which had been only narrowly approved by voters, 70 percent of voters approved the constitution of 1874.

Since the convention and the ratifying vote took place before the end of 1873, the new constitution has often been referred to as the constitution of 1873, but an act of the General Assembly has made "Constitution of 1874" the correct title.

The Spanish-American War – By 1895 the island of Cuba was in a state of revolution, its people desiring to break away from Spanish rule. News of harsh methods used to suppress Cuban efforts to achieve independence aroused anger in the United States. When the battleship USS *Maine* blew up in Havana Harbor in 1898, war became inevitable. Congressman Robert Adams of Philadelphia wrote the resolutions declaring war on Spain and recognizing the independence of Cuba. President McKinley's call for volunteers was answered with enthusiasm throughout the Commonwealth. At the first call for volunteers, 70 percent of the Pennsylvania National Guard came forth, consisting of 592 officers and 10,268 enlisted men. At the second call, 6,370 more were enlisted. Pennsylvania's military leaders included Brigadier General Abraham K. Arnold, Brigadier General James M. Bell, and Major General John R. Brooks, a native of Pottsville who served as military governor in Cuba and Puerto Rico. Although no Pennsylvania troops fought in Cuba, the 10th Volunteer Regiment was the first American organization to engage in land combat in the Philippine Islands and remained for the Filipino Insurrection. The 4th and 16th Regiments fought in the Puerto Rican campaign.

A New State Capitol and a Shocking Scandal – In the closing decades of the nineteenth century the gradual increase in state government services exceeded the office capacity of the original 1822 Capitol Building and surrounding satellite buildings. Governor Hastings had just addressed the legislature on the problem when, unexpectedly, the 1822 building burned down on February 7, 1897. An excellent architectural plan for a new capitol was produced by architect Henry I. Cobb, but skimpy funding resulted in a pathetically inadequate structure that led, in turn, to the best architects refusing to take on another state contract. A talented but inexperienced architect, John M. Huston of Philadelphia, was awarded the contract for a new building to be completed in 1906. The deadline was met and the offices were occupied early in 1907, but Huston's arrogance and multiple administrative bungles led to what was known as the Capitol Graft Scandal. Laws and regulations meant to produce an honest, efficient project went awry. It became clear that the state's competitive purchasing system was flawed. A Capitol Building Board and a Grounds and Building Commission contradicted each other and duplicated each other's authority. Despite safeguards written into the legislation, the Grounds and Building Commission was allowed to cover construction costs and absorb expenses that spilled over the appropriation limits established by the legislature. Also, new government units were created by the General Assembly after the building was in blueprints, and they were promised headquarters space within a building not designed to accommodate them. Unexpectedly, public suspicion that a series of Republican State Treasurers had been dishonest led to a Democrat, William H. Berry, being elected State Treasurer in 1905. He quickly realized the furnishings of his offices in the new Capitol had cost far too much. While he waited to gather evidence, Huston and his contractors rushed millions of dollars of payments through the approval system. Inklings of scandal reached the public before the 1906 general election. Outgoing Governor Pennypacker arranged a lavish building dedication on October 4, at which President Theodore Roosevelt spoke, and then he also organized railroad excursions so the public could tour the beautiful new building. Incoming Governor Edwin S. Stuart fulfilled a campaign promise to authorize a thorough investigation of the building project. Those revelations led to indictments, convictions, and judgments, both criminal and civil, for conspiracy to defraud the state. Although payments directly to public officials were never proven, prison sentences were imposed on Huston, his principal furnishing contractor John Sanderson, one former State Treasurer, and a former Auditor General. An incumbent congressman was also seriously implicated. All verdicts were based on illegal administration of the furnishings contracts, not the building's construction. The total cost of the building and furnishings was about \$12.5 million, and reliable estimates indicate that the state had been overcharged by about \$5 million. By 1911, Huston and Sanderson had made financial restitution of about \$1.5 million.

On the fifth anniversary of the Capitol's dedication, the magnificent symbolic statues at the main entrance, the work of sculptor George Grey Barnard, were unveiled in an inspiring ceremony. At the same time, former Governor Pennypacker published his defense of the entire Capitol project, *The Desecration and Profanation of the Pennsylvania Capitol*. He argued that political restrictions placed on his executive powers by a bumbling legislature were responsible for the state being overcharged. But he insisted that the total cost was not unreasonable in comparison with other major government structures at the time, and that the long future of efficient governance that could be expected to take place in the Capitol's halls fully justified such a high price.

At the Capitol 1906 dedication, President Theodore Roosevelt admired the new edifice but did not comment on the events involved in its creation. Instead, he advertised the new form of social progress he hoped to achieve through political leadership. His remarks epitomized his version of the optimistic goals of the nation's Progressive Movement, a widespread public attitude that flourished between about 1890 and the end of World War I. He vigorously exclaimed:

The extraordinary industrial changes of the last half a century have produced a totally new set of conditions, under which new evils flourish; and of these new evils new remedies must be devised ... We need to check the

forces of greed, to insure just treatment alike of capital and of labor, and of the general public, to prevent any man, rich or poor, from doing or receiving wrong, whether this wrong be one of cunning or of violence. Much can be done by wise legislation and by resolute enforcement of the law. But still more must be done by steady training of the individual citizen, in conscience and character, until he grows to abhor corruption and greed and tyranny and brutality and to prize justice and fair dealing.

Theodore Roosevelt was always popular in Pennsylvania, and in the presidential election of 1916 he carried a plurality of the state's electorate presumably because they preferred his "Bull Moose" Progressivism over the traditional goals of the Republican Party – which had refused to nominate him – and over the Democratic Party's Progressivism (termed "New Freedom"), which was articulated by its candidate, Governor Woodrow Wilson of New Jersey. However, Wilson won the election and became president.

New State Services – Although the new constitution was detailed, it allowed flexibility for creation of new agencies. Thus in 1873, even while the new constitution was being discussed, the Insurance Department was established to supervise and regulate insurance companies. Also, the judicial branch of government was soon enlarged by the creation in 1895 of the Superior Court, which soon achieved its intended purpose by relieving an enormous case backlog from the shoulders of the Supreme Court. In the following years, many other agencies were created, sometimes as full-fledged departments and sometimes as boards, bureaus, or commissions, while existing agencies were often altered or abolished. For example, the Board of Public Charities (1869), the Committee on Lunacy (1883), the Mothers' Assistance Fund (1913), and the Prison Labor Commission (1915) were consolidated into the Department of Welfare in 1921. Also, the Factory Inspection Act of 1889 provided a foundation for the Department of Labor and Industry that was created in 1913. Not only did this new agency moderate labor disputes, but it acquired duties under the Mine Safety Act in 1903, Factory Conditions Act of 1905, Foundry Act of 1911, Fire Drills Law of 1911, Mattress Act of 1913, Women's 54-hour Work Week Law passed in 1913, and the Workmen's Compensation Act of 1915. Also created in 1913 was the Public Service Commission. The state government's workforce grew during and immediately following World War I, but the administration of Governor William C. Sproul left his successor, Governor Gifford Pinchot, 139 government agencies with few coordinating links among each one and little central direction. Nonetheless, through his Administrative Code of 1923, Pinchot, in the spirit of the Progressive philosophy, placed the agencies under fifteen departments and three independent commissions, all responsible to him, and he made the governor's budget a mandatory step in preparing the state budget during each regular session of the General Assembly. The Administrative Code also standardized purchasing procedures and civil servants' salaries and duties. Although the Code was criticized, it was re-enacted with amendments in 1929. Although amended periodically after that, it still stands as the state's Administrative Code today. A Fiscal Code enacted in 1927 did still more to systematize bureaucratic methods. It created a separate Department of Revenue so that the collection of money due the state – taxes, fees, and other charges – was centralized.

The First World War – Pennsylvania's resources and manpower were of great value to the war effort of 1917-1918. The shipyards of Philadelphia and Chester were decisive in maintaining maritime transport. Pennsylvania's mills and factories provided a large part of the war materials for the nation. The railroad, coal, and steel industries in Pennsylvania may each be said to have reached all-time maximum output under stimulation of wartime demand. Nearly three thousand separate firms held contracts for war supplies of various types. Pennsylvanians subscribed to nearly three billion dollars' worth of Liberty and Victory Bonds, and paid well over a billion dollars in federal taxes during the war. Civilian resources were organized through a State Defense Council with local affiliates. Pennsylvania furnished 324,115 men for the United States Army, of whom 226,115 arrived through the Selective Service System and 28,000 through the National Guard. There were 45,927 Pennsylvanians in the Navy and Marine Corps. Pennsylvania's soldiers suffered 10,278 combat deaths and 26,252 of them were wounded. The Pennsylvania units were engaged on the combat lines in France from July to the end of the struggle on November 11. The 28th Division served with distinction; it suffered 3,077 casualties. The Second Battle of the Marne, the Saint Mihiel drive, and the Argonne offensive were the major campaigns in which Pennsylvania troops took part. General Tasker H. Bliss, a native of Lewisburg, was appointed chief of staff of the Army in 1917, and later was made a member of the Supreme War Council and the American Peace Commission. He was succeeded as chief of staff by another Pennsylvania West Point graduate, General Peyton C. March, originally from Easton. Admiral William S. Sims, a Pennsylvania graduate of the U.S. Naval Academy, was in charge of American naval operations.

War's Turbulent Aftermath (1918-1922) – Exactly two months before the armistice that ended the combat, a new mutation of influenza virus emerged at Philadelphia Naval Yard when sailors who had just arrived there from Boston fell ill. The city soon experienced the worst ravages in the United States of the unexplained and misunderstood worldwide pandemic. Confusion and panic prevailed, magnified by the impotence of the city government. Coincidentally, Philadelphia patricians led by George Wharton Pepper had recently pushed the Vare bothers' political machine into a corner and had won Senator Penrose to their side. Now the reformers stepped in to set up emergency health services. Still, even medical experts did not understand the disease, and the death toll was only partially contained by isolating the living and promptly burying the dead. Peak mortality occurred the week of October 16 when 4,579 died. By February 1919, the virus had subsided in Philadelphia and moved to the nation's southeast. The incompetence of the city health system and a mistaken belief that neglect of street cleaning had contributed to the pandemic helped to convince the state legislature to approve a new city charter in June 1919. This removed many impractical features and attempted to thwart graft and corruption, although it achieved only some of these goals. The pandemic had raged over the entire state, killing disproportionate numbers in the crowded cities, and striking very hard at people in their years of greatest physical strength, between ages 18 to 45.

A brief depression followed the war's end, as the nation's economy adjusted to its peacetime functions. An unsuccessful steel strike of 1919 was part of the adjustment process. Although the workers were not granted collective bargaining, in 1923 company owners granted an eight-hour day and pay increases. In general, the idealism of Woodrow Wilson's goals of domestic and

international progress lost its popularity, and the nation chose, instead, the administration of President Warren G. Harding, which sought to restore "Normalcy." Unfortunately, this was soon marred by corruption and scandal. At the same time, a nationwide fear of militant communism, the "Red Scare," led to a rebirth of the Ku Klux Klan's terrorism, and it spread to Pennsylvania and other northern states.

Senator Penrose's demise on December 31, 1921, left Pennsylvania Republicans with four rivaling factions: The Vare brothers' system in Philadelphia which relied largely on city business, the wealthy Mellon family interests, Joseph Grundy of Bristol and his Pennsylvania Manufacturers Association, and forester-politician Gifford Pinchot, who perpetuated the Theodore Roosevelt "Bull Moose" Progressive spirit. With Grundy's support, Pinchot was elected Governor in 1922, something Penrose would probably have been able to block. Pinchot appealed to women voters, prohibitionists, the farm vote, public utility customers, election reformers, nature lovers, and those who wanted more honest and efficient government operations.

POPULATION

There was ever increasing urbanization, although rural life remained strong and agriculture involved large numbers of people. The immigrant tide continued after the Civil War and brought about a remarkable change in the composition of the population. While most of the state's pre-1861 population was composed of ethnic groups from northern Europe such as the English, Irish, Scotch-Irish, and Germans, the later period brought increased numbers of Slavic, Italian, Finn, Scandinavian, and Jewish immigrants. At the height of this "new immigration," between 1900 and 1910, the Commonwealth witnessed the largest population increase of any decade in its history. African American migration from the South intensified after 1917, when World War I curtailed European immigration, and again during World War II. By World War II almost five percent of the state's population was African American. In 1940 the Commonwealth was the second largest state in the nation with a population two-thirds that of New York.

WOMEN

The status of women began to improve by the 1860s. In 1861, the first school for nurses in America opened in Pennsylvania. Pennsylvania played a prominent part in the suffrage movement, and Philadelphia was generally a hotbed of feminist agitation. In 1868, women in Philadelphia organized a Pennsylvania Women's Suffrage Association. On July 4, 1876, Susan B. Anthony read her famous "Declaration of Rights for Women" at the Washington statue in front of Independence Hall. Well-known Pennsylvania feminists such as Lucretia Mott, Ann Davies, Florence Kelley, Ann Preston, and Emma Guffey Miller were all active in the long battle which culminated in women receiving the right to vote.

The General Assembly approved a women's suffrage amendment to the state constitution in 1913 and again in 1915, but Pennsylvania's male voters rejected the amendment by fifty-five thousand votes. On June 4, 1919, the Nineteenth Amendment to the U.S. Constitution was approved by Congress. Just ten days later, Pennsylvania became the seventh state to ratify it. By August 1920, the amendment became law and women could vote.

Florence Kelley was a Philadelphia-born lawyer and social worker who championed the fight for better working conditions for women and children. For thirty-two years she was the leader of the National Consumers League, which demanded consumer protection as well as improved working conditions. Isabel Darlington was the first female lawyer admitted to practice before the Pennsylvania Supreme and Superior Courts.

Mother M. Katherine Drexel, Philadelphia heiress to part of the Drexel family's banking millions, founded the Sisters of the Blessed Sacrament for Indians and Colored People, worked diligently on their behalf, and gave generous amounts of her fortune to found homes and alleviate suffering among Native Americans and African Americans. She was canonized as St. M. Katherine Drexel by Pope John Paul II in 2000, thirty-five years after her death.

Sarah C.F. Hallowell was active in directing the Philadelphia Centennial Exposition, and was in charge of a newspaper, *The New Century*, published by the Women's Executive Committee and staffed entirely by women who worked as editors, reporters, correspondents, and compositors.

When the ten greatest American painters of all time were exhibited in a special section of the 1933 Chicago Century of Progress Art Exhibition, Mary Cassatt was the only woman represented. Born in Allegheny City, she received her only formal training at the Pennsylvania Academy of the Fine Arts. The Pennsylvania Academy has always regarded her as one of its most important alumnae, granting her its gold medal of honor in 1914.

From 1893 to 1906, Ida Tarbell, from Erie, worked for the publisher S.S. McClure as a feature writer and editor of *McClure's Magazine*. It was during this time that she published her *History of the Standard Oil Company*, a muckraking account which brought her to the forefront of her profession. Marianne Moore, who was educated at Bryn Mawr College and taught at the United States Indian School in Carlisle, was a famous poet and the winner of many international awards.

Because of the Quakers' traditional belief in women's profound intelligence and vast capabilities, Philadelphia had long been a center for female education. The founding of Women's Medical College there in 1850 led to the entrance of women into the medical profession. Hannah E. Myers Longshore was the first female with a medical degree to establish a successful private practice. Beaver College in Jenkintown was the first women's college of higher education in the state. Women were very successful in the teaching profession. Mollie Woods Hare pioneered in teaching the mentally retarded before World War I. In 1887, Ella M. Boyce was made school superintendent of Bradford, the first woman to hold such a position in the United States. Martha Carey Thomas became dean of Bryn Mawr College in 1884, the first woman college dean in the United States, and was president of Bryn Mawr from 1894 to 1922. She was also a leader of the organized social services the college provided for distressed working-class women.

LABOR

Pennsylvanians played an important role in the development of the labor movement, and the Commonwealth was the site of some of the largest strikes in the history of American labor. William H. Sylvis, from Indiana County, was a founder of the Iron-Molders' International Union, and he later led the National Labor Union in 1868-69. Uriah Stephens of Philadelphia and Terence V. Powderly of Scranton were leaders of the Knights of Labor. Originally organized as a secret society, the Knights emerged publicly in 1881 and were the largest union in the United States until 1886. The organization enrolled workers from almost all occupations, without regard to skills or crafts. Under Terrance V. Powderly, the Knights worked for humanitarian legislation and were reluctant to strike. In 1886 both their failure to win a railroad strike and the nation's hostile mood following Chicago's violent Haymarket Riot caused the Knights to fall apart. In the same year, the American Federation of Labor (AFL) was formed by the amalgamation of many trade unions, an organizing principle just the opposite of the Knights' system.

Although production demands caused by the Civil War favored labor, there was discrimination against Irish miners in northeastern Pennsylvania's anthracite region. In 1862, resistance to the military draft further angered some Irish miners. Several clandestine murders of mine operators and bosses were publicly attributed to an Irish secret society, the Molly Maguires. After the war a union, the Workingmen's Benevolent Association (WBA), developed strength in the anthracite district, but a rival, the Miners' National Association, stole much of its membership in 1874. The WBA was not strong enough to outlast the coal companies in its "Long Strike" of 1875, and railroad magnate Franklin B. Gowen convinced courts that the WBA was associated with the Molly Maguires. Gowen employed a spy, James McParlan, who infiltrated both the union and the Molly Maguires and gave evidence that resulted in the execution of twenty men for the murders. The legal procedures used in these arrests, trials, and convictions have received much criticism, as has Governor Hartranft for failing to consider commuting the execution of the Molly Maguire leader Jack Kehoe. A posthumous pardon was issued for Kehoe by Governor Milton J. Shapp's administration in 1978.

Continued trouble in the anthracite region, reverberating into the expanding bituminous mining region, gave rise to the United Mine Workers (UMW) in 1890. A massacre of protesting Slavic miners in 1897 at the Lattimer Mine was followed by rapid growth of the UMW. At first a union for skilled miners opposed to immigrant mine laborers, under the leadership of John Mitchell it grew to encompass all coal mine workers. The anthracite strike of 1902, in which President Theodore Roosevelt intervened, set the pattern for non-violent arbitration in labor relations. After Mitchell, John L. Lewis led the union for many years and membership spread throughout the bituminous areas. Intervention in the anthracite strikes of the 1920s by Governor Gifford Pinchot brought the eight-hour day but no permanent end to labor discontent; many anthracite customers began to shift to other heating sources at that time. Mine owners as well as some owners of iron and steel plants started using private police units, authorized by Pennsylvania laws, to arrest, harass, and assault laborers who expressed discontent and to protect industrial property. These were known as coal and iron police. Governor Pennypacker's administration took steps to minimize the licensing of these organizations, and in 1929 they were subjected to higher standards of conduct.

The Great Railroad Strike of the summer of 1877 was a national movement, but its climax took place at the Pennsylvania Railroad Company's properties in Pittsburgh. The several unions of skilled railroad workers, the railroad brotherhoods, provoked the strike because of wage cuts, but large groups of citizens unassociated with the railroads took up the strikers' cause. Although federal troops eventually quelled the riots, the unions remained intact. In the similarly bloody Homestead Strike of 1892, however, the Amalgamated Iron and Steel Workers' Association was forced to capitulate to the Carnegie Company and its executive, Henry C. Frick. As a result, the steel industry was not effectively unionized until the late 1930s. In 1919, on the tail of World War I's high production accomplishments, workers at steel plants throughout the state struck for the eight-hour day and the right to collective bargaining. In 1923 the major steel companies were shamed into granting the eight-hour workday, but it was not until the late 1930s that most steelworkers were legally organized. Western Pennsylvania was the area for the formation of the Steel Workers Organization Committee (SWOC), which in 1942 became the United Steelworkers of America. Since the labor legislation of President Franklin D. Roosevelt's New Deal in the 1930s, unions have flourished and workers have received fairer treatment. It was a dispute over the right of SWOC to organize workers at the Aliquippa plant of Jones and Laughlin Steel Corporation that led in 1936 to the U.S. Supreme Court's decision upholding the constitutionality of the Wagner Labor Relations Act and its agency, the National Labor Relations Board. This was a major advance for the cause of labor. President Roosevelt's federal New Deal was mirrored in miniature by the Pennsylvania Democratic "Little New Deal" between 1937 and 1939, as discussed below.

INDUSTRY AND COMMERCE

Finance – In the period from 1865 to the end of the century, Philadelphia gradually ceased to be the competitive rival of New York City in finance, as the Wall Street complex rose to become the titan of world capitalism. Among the factors involved were the geographical superiority of New York harbor, the New York Stock Exchange that standardized its system of operation in 1817, the opening of the Erie Canal in 1819 giving New York access to the hinterland unblocked by the Allegheny Mountains, and the telegraphic ticker tape first put into operation in 1867. The parallel careers of Philadelphia's Anthony J. Drexel and Jay Cooke were part of the shift to Wall Street. Cooke's superior salesmanship enabled him to market most of the bonds that financed the Union's Civil War efforts, but his infatuation with the Northern Pacific Railroad led him into risky debt ventures that in turn produced the Panic of 1873, a national economic depression lasting for six years. Meanwhile, Drexel became the leading strategist for his family's investment banking house in Philadelphia and grew stronger through associates in Paris, London, and San Francisco, while investing more diversely than Cooke and not in western railroads projected into virtually uninhabited spaces. In 1871 Drexel merged with the powerful John Pierpont Morgan of New York City, and Drexel's satellite office in Manhattan became Drexel Morgan's busiest work site. Today it is believed that for the rest of his life the unpretentious Drexel was secretly the guiding genius of the firm until his death in 1893.

Manufacturing – The manufacture of iron and steel products was the largest single industry. The lives of Andrew Carnegie, Henry Clay Frick, Charles M. Schwab, Eugene Grace, Henry Phipps Jr., Henry W. Oliver, and other “iron men” of Pennsylvania in large measure tell the story of modern American business. Concentrated for the most part in western Pennsylvania, but with important centers also at Bethlehem, Harrisburg, Lewistown, Carlisle, and Morrisville, Pennsylvania’s steel industry furnished the rails for the nation’s railway empire, the structural steel for its modern cities, and the armament for national defense.

The career of Andrew Carnegie, a Scotch immigrant, coincided with the rise of Pennsylvania’s steel industry. Starting as a telegrapher for the Pennsylvania Railroad, he handled messages for the Army during the Civil War and entered railroad management thereafter. In 1873 he began to build new steel mills. His success in steel went on and on. Carnegie balanced his own success and ability by pledging to pay the world back through benevolent distribution of his wealth. In 1901 he sold Carnegie Steel Corporation to J.P. Morgan’s new giant corporation, U.S. Steel, and spent the rest of his life managing his enormous charitable foundation.

Charles M. Schwab was born in Williamsburg in Blair County and attended St. Francis College. He taught himself metallurgy in a chemistry lab in his own basement and rose to be Carnegie’s managing president. Schwab decided that he preferred to invest his own savings, so he bought Bethlehem Steel Company. He successfully advanced its interests until his death in 1939, making sure that the giant he had helped spawn, U.S. Steel, always had strong competition.

U.S. Steel Corporation was concentrated within a 100-mile radius around Pittsburgh. By sheer size it set industry standards, its ownership spilling over into the coal, coke, limestone, and iron ore industries. By 1900, the steel industry had begun its inevitable migration west of Pennsylvania, but 60 percent of the nation’s production still came from our state. This slipped below 50 percent by 1916, but our steel industry received new life as a result of World War I. In the 1920s the growth of the auto industry gave steel renewed vigor, and World War II revived the industry once again. By that time, the aluminum industry was also growing in western Pennsylvania, where Andrew W. Mellon was the main financier of the giant Alcoa Corporation.

In the nineteenth century, textiles and clothing manufacturing, especially worsteds and silk, grew from a base in Philadelphia, so that the state led the nation in production by 1900. Willingness to invest in new technology and new styles was largely responsible. Philadelphia’s “merchant prince” John Wanamaker led the way in producing ready-made stylish clothing and their retail distribution on a very large scale. By the 1920s, however, competition from the South and overseas made inroads into textile production. In 1900 the state also led the nation in tanning leather.

Food processing grew into a major industry – 1905 was the year of the Hershey Chocolate factory and the incorporation of the H.J. Heinz Company. Henry J. Heinz, known as “The Good Provider,” led a movement for model factories based on the principle that workers deserved clean, pleasant work conditions with some chance for self-improvement. Also, he fought for federal legislation outlawing commercially processed foods that had false labels and harmful chemical adulterations. This culminated in the passage of federal legislation in 1906.

During this period, Pennsylvania dominated the manufacture of railroad equipment. In the twentieth century, electrical equipment manufacture also became prominent. George Westinghouse was a leader in both these fields. His air brake, patented in 1869, revolutionized railroading and was followed by his numerous inventions of signals, switches, and other safety features for trains. His Union Switch and Signal Company was formed in Pittsburgh in 1882, and about that time he turned to improving natural gas transmission and control. Then he turned to improving the nation’s utilization of electricity by perfecting a means for generating large amounts of power in a more practical form, alternating current. Soon this replaced its predecessor, direct current, throughout the nation. Eventually all Westinghouse’s laboratory and manufacturing plants were moved out of Pittsburgh to nearby Turtle Creek Valley.

Representative of America’s “Management Revolution” was the Philadelphia genius Frederick Winslow Taylor, who abandoned a law career because of poor eyesight and worked as a laboring mechanic. He excelled at organizing workshops. Soon he advanced to making improvements in the organization of major corporations like Bethlehem Steel, for which he worked from 1898 to 1901. While there he developed a revolutionary method for producing fine tool steel. He set up his own management consulting company in Philadelphia, becoming America’s first efficiency engineer. His crowning achievement was the publication in 1911 of *Scientific Management*.

Although the period from 1920 until the stock market crash of October 1929 was one of great monetary and material growth, Pennsylvania experienced temporary declines during these years in three basic economic sectors: coal, agriculture, and textiles. Bituminous coal and agriculture yielded to strong competition from states to the west, and the textiles industry lost ground to factories in southern states. Some of this was geographically inevitable as the nation expanded. Pennsylvania’s infant auto industry, however, lost out to Michigan largely due to the daring and initiative of such innovators as Henry Ford.

Lumber, Petroleum, Natural Gas, and Coal – Pennsylvania has exercised leadership in the extractive industries of lumber, petroleum, natural gas, and coal. Many of the natural stands of timber were exhausted before conservation concepts were recognized. In the 1860s the state led the nation in lumber production, but by 1900 it had dropped to fourth. During that period, Williamsport’s log boom on the Susquehanna had been the world’s largest lumber pile. Twentieth-century timber conservation planning owes much to Gifford Pinchot, the nation’s first professional forester. Actual replanting of trees and the state’s purchase of land that had been denuded by private lumber enterprisers were programs initiated in the late 1930s and the post-World War II periods.

Following the discovery of oil near Titusville in 1859, the production and marketing of Pennsylvania oil grew. The oil-producing counties extended from Tioga west to Crawford and south to the West Virginia line. By 1891 Warren, Venango, and McKean counties established leadership in production. Once practical methods of transmitting and burning natural gas were developed, Pennsylvania also became a leading producer in that area. John D. Rockefeller’s Standard Oil Company was always foremost in the refining and marketing petroleum. The early lead Pennsylvania achieved in oil made the Keystone State the natural battleground for competing investors. Rockefeller founded Standard Oil in 1868 and, as a result of a freight price rebate

deal with the New York Central Railroad, it grew to be the world's largest refinery by 1870. To overwhelm Pennsylvania's small independent refiners, he engaged in secret agreements with such powerful interests as the Pennsylvania Railroad. He allowed the independent refiners to survive – they finally merged into the Pure Oil Company just before 1900 – as long as they did not undersell Standard Oil. The corporate organizing of refiners in Pennsylvania before 1900 is one reason the state would long continue to be a leading refining area even though the crude oil had to be almost entirely imported. Natural gas, more dangerous to harness for industrial or household use than oil, was also used extensively as soon as ways to transmit it were developed. The plate glass industry got a major boost because gas ignition could so rapidly produce the high temperatures the glass process needed. But in a few years the great abundance of gas subsided.

Anthracite coal was the main fuel used to smelt iron until the 1880s, when the manufacture of coke from bituminous coal was developed to a degree that it replaced anthracite. Coke was used both to smelt iron and to make steel from iron. But production of anthracite continued to increase because it was used for heating and other purposes. The bituminous and coke industries were responsible for the late nineteenth century industrial growth of western Pennsylvania; the iron ore deposits there would not alone have merited such growth. World War I caused two years (1917-1918) of the largest production of both types of coal the state has ever seen. In the 1920s a new coke-making process produced valuable by-products, making the old beehive coke ovens obsolete. The new coke plants were built, in many cases, outside of Pennsylvania. A declining market for coal in the 1920s caused business and labor problems. These increased in the 1930s during the nation's economic depression. Production demands in World War II revived the coal industry for those few years. In its heyday the industry was notorious for its work hazards. Between 1902 and 1920, mine accident deaths occurred on an average of 525 per year.

Agriculture – The prosperous farms of the Pennsylvania Germans have always been a bulwark of our agricultural economy. The settlement and development of western and northern Pennsylvania initially occurred because of agriculture. Cereals and livestock continued to be the mainstays of the farmer. The rise of agricultural societies such as the Grange and of county fairs led to improvements in farm methods and machinery. Pennsylvania turned toward a market-oriented approach in the mid-1800s. While the number of farms has declined since 1900, farm production has increased dramatically to meet consumer demands.

After 1880, the pattern of increasing total area farmed in Pennsylvania, which began in the colonial period, ended. Total farm acreage has declined ever since, but this trend has been outweighed by improved farming methods. In 1874 a dairymen's association was formed; in 1876 a State Board of Agriculture was created which was transferred into the Department of Agriculture in 1895. In 1887 the federal government established an agricultural experiment station at the Agricultural College of Pennsylvania, in Centre County (the predecessor of The Pennsylvania State University), and cooperation between the college's faculty and working farmers, so important for improving production, began. In 1895 a State Veterinarian was appointed, who eventually eliminated bovine tuberculosis. The nature of farm products changed because of competition from expanding agriculture in the West, distances from markets, and changing patterns of the American diet. The first statewide farm products show was held in Harrisburg in January 1907. The State Farm Show became an annual event beginning in 1917, and the present Farm Show Building was completed in 1931. The decade of the 1920s was one of adjustment for the state's farm economy. Improvements in food preservation, especially large canning operations and refrigeration, enabled the agricultural abundance of areas all the way to the Pacific to be competitive in the large U.S. eastern cities. Although Pennsylvania's dairy industry declined, it did not fall as much as field crop production. The demand for dairy products and meat refrigeration led to a shift toward livestock and increased pasture areas and away from ground crops. In 1919, Pennsylvania agreed to merge its plan for control of bovine tuberculosis with that proposed by Congress, and in 1923 the General Assembly began appropriating amounts large enough to pay for the widespread cattle testing this required. After a long struggle, in 1935 all cattle in the state were under control for tuberculosis and the results were verified by the U.S. Department of Agriculture in 1936. In June 1936 the State Supreme Court upheld a statute that gave the State Milk Control Commission the power to fix milk prices, and the "Little New Deal" legislation of 1937 gave the Commission power to control the entire milk process. Under stimulation of a federal meat inspection law of 1903, Pennsylvania passed a state inspection law covering meat processes extending from butchering to the retail markets.

TRANSPORTATION

Railways – Pennsylvania pioneered in early rail development. By 1860 railroad mileage had increased to 2,598 miles, and the Reading, Lehigh, and Pennsylvania systems were developing. The Pennsylvania Railroad, chartered in 1846, reached Pittsburgh in 1852. Alexander Cassatt, Thomas Scott, and John A. Roebling, who was the surveyor of the Pennsylvania's route, were leaders in its development. After 1865 Pennsylvania extended its lines to New York, Washington, D.C., Buffalo, Chicago, and St. Louis, becoming one of the great trunk-line railroads of the nation, and developed a network of subsidiary lines within the state. The Reading and Lehigh Valley systems also expanded to become great carriers of freight and important links in the industrial economy of the Middle Atlantic region. Numerous smaller lines were built to serve districts or special purposes. For example, the Bessemer and Lake Erie carried Lake Superior ore to the steel mills of Pittsburgh. All the important trunk lines of the eastern United States passed through Pennsylvania and had subsidiary feeders within the state. At its peak, the Commonwealth had more than 10,000 miles of railroad track. By 1915 the state's railroads had ceased to expand, and after World War I both passenger and freight service were reduced.

Urban Transit – Pennsylvania has a long tradition of urban public transport, beginning with horse-drawn cars in Pittsburgh and Philadelphia in the 1850s. The first of many Pittsburgh inclines – two of which operate today – opened in 1870. Philadelphia's first streetcar system began in 1892, and the Market Street Elevated train began operation in 1907. The Market Street Subway, which is still in operation, was one of the first in the nation. Transit use increased steadily in Pennsylvania until the end of World War II.

Roads – Although 1,700 state-owned bridges were built before 1900, road building activity had lapsed during the canal and railroad era. It sprang anew with the advent of the automobile. Charles and Frank Duryea experimented with automobiles

in Reading, and on March 24, 1898, Robert Allison of Port Carbon became the first purchaser of an automobile. Between 1903 and 1911 Pennsylvania took the lead in creating a modern road system, establishing a Department of Highways, requiring automobile licenses, and taking over more than 8,000 miles of highway for maintenance and improvement. Operators' license fees, fines for violation of driving regulations, and a gasoline tax swelled the Motor Fund, making the motoring public the chief funder of the system. Most highway construction consisted of improvements to existing routes, including widening, laying hard surfaces, and relocating routes to eliminate sharp curves and grades. Repair garages and filling stations became numerous. The world's first "drive-in gas station" opened in Pittsburgh in 1913. An outstanding road was the Lincoln Highway. Designated in 1913, it connected the state's two largest cities and stretched from New York City to San Francisco. In 1916 the federal government instituted grants to states for highway construction, beginning a great primary highway construction effort which peaked in the 1930s. By 1928 the transcontinental system of U.S.-numbered through highways was in use in Pennsylvania, and at about the same time an expanded state-numbered system came into being. Governor Gifford Pinchot promised in his 1930 campaign to "get the farmers out of the mud." The following year, the state took over 20,156 miles of township roads and began paving them, using light construction costing less than \$7,000 a mile. As the economic depression deepened, this road-building program became an important means of providing relief work. Special federal programs also benefited the state's highways during the Depression. In 1940 Pennsylvania opened the first high-speed, multi-lane highway in the country, the Pennsylvania Turnpike, which set the pattern for modern super-highways throughout the nation. The turnpike initially connected Pittsburgh and Harrisburg, and was later expanded from the western boundary to the Delaware River, as well as northward into the anthracite region.

Aviation – In 1925 Philadelphia Congressman Clyde Kelly introduced the Airmail Act, which set the American aviation industry on the road to progress. In 1927 Governor Pinchot created a State Bureau of Aeronautics. In 1939, All American Aviation, a Pennsylvania company, was licensed to carry mail to 54 communities in Pennsylvania, Ohio, Delaware, and West Virginia. All American entered a period of rapid expansion and became Allegheny Airlines. By the beginning of World War II passenger service was still in its infancy, although the very reliable DC-3 plane had been developed. Hog Island was developed in the late 1930s, with city and federal Works Progress Administration assistance, and it became the Philadelphia International Airport.

SOCIETY AND CULTURE

Pennsylvania made rapid progress in social and cultural fields by expanding educational and cultural opportunities. Although Philadelphia lost the preeminent position it had earlier enjoyed as a center for new enterprises, the wealth and position of the state as a whole exerted a powerful influence in almost every phase of the nation's social and cultural development.

Communication, Performing Arts, and the Media – Philadelphia was the birthplace of many publications and served as the center of publishing in the early national period. By 1840 Pennsylvania was the home of more newspapers than any other state. In the first half of the twentieth century, economic pressures forced many newspapers and magazines into bankruptcy, failure, or consolidation, but all county seats and most manufacturing communities were well served daily by reasonably accurate newspaper service.

Telegraph and telephone spread rapidly after the Civil War. Following Samuel Morse's development of the telegraph in the 1840s, the state was interlaced by a network of telegraph lines. Alexander Graham Bell's telephone was first demonstrated publicly at the Philadelphia Centennial Exhibition in 1876. By the end of the century, the telephone had become universal. Pennsylvanian Daniel Drawbaugh claimed to have invented a working telephone ten years before Bell, but his claim did not hold up in patent litigation.

Pennsylvania played a key role in the development of a major twentieth-century contribution to the dissemination of ideas and information – the radio. The first commercial broadcast station in the world was KDKA in Pittsburgh, which started daily schedule broadcasting on November 2, 1920. The first church service broadcast by radio occurred on KDKA a year later, and the first public address by radio was made by Herbert Hoover at the Duquesne Club in Pittsburgh in 1921. Radio quickly became a fixture in most homes, but lost its dominance in the broadcasting market with the advent of television in the 1950s.

Philadelphia, which had been the theatrical capital of America before 1830, continued to be a leader in music publishing and piano manufacture and was the birthplace of American opera. Edwin Forest, Joseph Jefferson, the Drews, and the Barrymores were important stage actors in the late 1800s and the early 1900s. The first all-motion-picture theater in the world was opened on Smithfield Street in Pittsburgh on June 19, 1905, by John P. Harris and Harry Davis. The term "nickelodeon" was coined there. The Warner brothers, who would become major Hollywood movie producers, began their careers in western Pennsylvania.

Education – The major elements of our contemporary education system evolved during this period. The public common schools gained such respect that they received special treatment in the state constitution of 1874. An annual appropriation of \$1,000,000 was guaranteed for education of all children above age six, a figure 24 percent higher than any previous appropriation and an announcement of what a major financial burden schools would be in the future. The system was tightened up: sectarian schools would no longer be supported, school district indebtedness was limited, the state superintendent was renamed Superintendent of Public Instruction, he was exempted from partisan removal, and laws concerning school management and school buildings were required to apply to all school districts. In 1895, compulsory attendance became the law, although resistance and evasion persisted for many years. In the same year, every school district was authorized to operate a public secondary or high school, and in 1903 districts still without high schools had to pay for their resident children to attend a high school in another district. From the late nineteenth century through the first decades of the twentieth century, rivalry between secondary schools that were academies and the high schools was rampant. Academy backers insisted that upper grade education was not intended for all adolescents. Public high schools eventually prevailed. As high school standards improved, many families decided not to pay both academy tuition and school district taxes.

The retreat of academies and growth of public high schools are associated with the rise of the theory that all education in public schools must be useful and practical. This was suggested by William Penn's Frame of Government of 1683: "children ... shall be taught some useful trade or skill, to the end that none may be idle, but the poor may work to live, and the rich, if they become poor, may not want." However, the establishment of vocational curriculum in the public schools began in the late nineteenth century because the indentured apprentice system of teaching trades largely disappeared when huge factories replaced small craft shops. Manual training – later dignified as "industrial arts," which, in turn, has been replaced by "vocational-technical" curriculum – then took its place beside training in farming basics in the public schools. "Domestic Science" was the authorized equivalent for girls. In 1913 the Showalter Act set up a statewide program by establishing Agricultural and Industrial Divisions.

The Schools Code of 1911 was a major compilation of measures which largely prevailed until the alterations created by the Edmonds Act of 1921, the reforms of Superintendent Thomas E. Finegan. The 1911 Code created classifications for school districts, types of high schools, and teaching certificates. Salaries were scaled according to the certification classifications, and the act set up a Board of Education to oversee the school system. It was empowered to purchase the state normal schools, and it owned 13 by 1920. Governor Sproul appointed the New York educator, Dr. Thomas E. Finegan, who reorganized the Department of Public Instruction into ten bureaus and drafted the Edmonds Act. That statute created a State Education Council which consolidated the duties of the Board of Education and the Council of Colleges and Universities. Major changes involved the state agency taking full control of certification and beginning to prescribe minimum curriculum standards in detail, as well as rules for attendance, sanitation, and construction. Equalization between rich and poor districts and urban and rural districts became a policy goal. A degree of resentment arose at the local level. The completion of the Education Building in Harrisburg in 1929 capped this period of progress, and reduction of the number of districts as well as elimination of one-room rural schools were envisioned. However, during the Depression of the 1930s, major funding reductions were necessary which had long-term effects on the quality of teaching and the physical plant. During World War II vocational training for industries essential for the struggle were emphasized, but understaffing and structural deterioration occurred.

Science and Invention – Scientific leadership in Pennsylvania was exhibited by many individuals. Isaac Hayes of Philadelphia pioneered in the study of astigmatism and color blindness. The four Rogers brothers of Philadelphia were a remarkable scientific family. James and Robert were noted chemists; William was the state geologist of Virginia and later president of the Massachusetts Institute of Technology; and Henry directed the first geological survey of Pennsylvania. Spencer Baird of Reading was a leader in the natural sciences and the secretary of the Smithsonian Institution. Joseph Saxton of Huntingdon was the father of photography in America.

Pennsylvanians also led in invention and the application of science in industry and daily life. John A. Roebling, who came to America in 1839 and spent most of his active life in Pennsylvania, led in the development of steel wire rope and steel bridges, and his engineering work was carried forward by his son, Washington. William Kelly exhibited leadership in invention. Edward G. Acheson, chemist and inventor, contributed to the development of carborundum as an abrasive and graphite as a lubricant. Henry P. Armsby, director of the Pennsylvania State University Agricultural Experiment Station, was internationally known for his contributions to nutritional science. Edgar Fahs Smith of the University of Pennsylvania was a leading American chemist and helped to found the American Chemical Society. In the field of medicine, the Hahnemann Medical College, Jefferson Medical College, and the University of Pennsylvania Medical School made Philadelphia one of the outstanding medical centers of the nation. Medical colleges were established at the University of Pittsburgh in 1885 and at Temple University in 1901. These institutions made noteworthy contributions to medical science.

John A. Brashear of Pittsburgh was important in the development of astronomical precision instruments, which made great contributions to knowledge. The inventor George Westinghouse, while not a native of the state, spent the greater portion of his life here. The earliest successful experiment of Thomas A. Edison with electric lighting was made in Sunbury. John R. Carson and Dr. Harry Davis of Pittsburgh were notable for contributions to the development of radio. Elihu Thomson, one of the founders of General Electric, continued the Franklin tradition in electrical science. The world's first computer was developed at the University of Pennsylvania. In recent times, the engineering schools of the state's universities and such institutions as the Franklin Institute and the Mellon Institute have placed Pennsylvania in the forefront of modern industrial invention.

THE GREAT DEPRESSION, "LITTLE NEW DEAL," AND REPUBLICAN RETURN

The stock market collapse of 1929 soon turned into the nation's greatest depression, and Pennsylvania suffered more than other states because of its large industrial labor force. In November 1931, one year after Gifford Pinchot had been returned to the governorship, 24 percent of the state's work force was unemployed. By 1933 unemployment reached 37 percent. Gradual recovery followed until 1937 when there was a second downturn. Only the war-related production demands of World War II, which began in Europe in 1939, restored vitality to the economy. Combining his trademark progressive solutions with strong advocacy of financial payments to help the destitute and unemployed survive, the Governor struggled with a conservative State Senate that insisted that the old poor relief system was adequate. After the federal New Deal of President Franklin D. Roosevelt appeared in 1933, Governor Pinchot drew most of Pennsylvania's relief funds from that source. He succeeded in placing all relief funds, state and federal, under a State Emergency Relief Board which won praise for honesty and efficiency, but Pinchot's other suggestions for alleviating suffering were largely repudiated by the State Senate and other influential conservatives. Democratic Governor George H. Earle III took office in 1936, but it was not until the Democrats elected a majority in the Senate in 1937 that he achieved most of the goals of his "Little New Deal," policies modeled on Roosevelt's sweeping changes at the federal level. The heaviest state tax burden was shifted from real estate to corporations, and new safeguards stopped individuals from shifting taxable assets out of state. Large federal appropriations were made for schools, bridges, post offices, parks, and dams, and state officers

administered these projects. A "Little Wagner Labor Act" restricted labor injunctions, and outlawed company unions as well as such unfair labor practices as planting spies among the workers and blacklisting workers who supported union activities. A Public Utilities Commission empowered to set utility rates replaced the weak Public Services Commission, as Pinchot had wanted. A "Little Agricultural Adjustment Act" was also imposed. Such state projects as reforestation, soil conservation, flood control, clean streams, and the beginning of the Pennsylvania Turnpike improved circumstances for all citizens and at the same time provided employment. Yet, for reasons that are still debated, Pennsylvania voters elected a conservative Republican, Judge Arthur H. James of Luzerne County, to the governorship in 1938, rather than voting approval of the "Little New Deal." Much admired for his humanity, impeccable honesty, and sympathy for laborers, Governor James, ironically, did not need to attack the innovations provoked by the Depression because the return to full employment, arising from World War II, gradually eliminated the need for many of those state and federal programs.

THE SECOND WORLD WAR

In June 1945, two months before the end of World War II, 1,171,127 Pennsylvanians were serving or had served in the wartime armed forces. Pennsylvania was second only to New York in the number who served, and it can be said that one out of every seven members of the armed forces was a Pennsylvanian. In June 1945, Pennsylvania placed about 667,000 men and 12,913 women in the Army, 49,926 men and 7,444 women in the Navy, 39,466 men and 1,530 women in the Marine Corps, and 11,669 men and 843 women in the Coast Guard. About four-fifths of the men who entered the Army had been drafted. The chief of staff, General of the Army George C. Marshall, was a native of Uniontown, and the commander of the Army Air Forces was General of the Army Henry H. Arnold, born in Gladwyne. Pennsylvania also had three full generals: Jacob L. Devers, from York, commander of the Sixth Army Group; Joseph T. McNarney, from Emporium, Deputy Allied Commander in the Mediterranean; and Carl Spaatz, from Boyertown, commander of the American Strategic Air Forces in Europe. Lieutenant General Lewis H. Brereton, from Pittsburgh, commanded the First Allied Airborne Army, and Lieutenant General Alexander M. Patch, from Lebanon, commanded the Seventh Army. The Chief of Naval Operations at the outbreak of hostilities was Admiral Harold R. Stark, from Wilkes-Barre, who later became commander of American naval forces in European waters. Admiral Richard S. Edwards, from Philadelphia, was deputy chief of naval operations, and an adopted Philadelphian, Admiral Thomas C. Kinkaid, commanded the Seventh Fleet in the South Pacific.

Altogether, there were 130 generals and admirals from Pennsylvania. More Medals of Honor were awarded to Pennsylvanians than to citizens of any other state. There were 40 military and naval installations in Pennsylvania, including two large camps, Indiantown Gap and Camp Reynolds. All the Army's doctors received training at Carlisle Barracks, and the Navy's photographic reconnaissance pilots were instructed at the Harrisburg Airport. The Philadelphia Navy Yard built two of the world's largest battleships and many lesser vessels. Among a dozen military depots in the state were Mechanicsburg Naval Supply Depot, Middletown Air Depot, Letterkenny Ordnance Depot, Frankford Arsenal, and the Philadelphia Quartermaster Depot.

Pennsylvania's industrial resources made it the "Arsenal of America." Planes, tanks, armored cars, guns, and shells poured out of its factories. Ships were launched in the Delaware and Ohio rivers and on Lake Erie. Steady streams of war goods flowed over its railroads and highways. Pennsylvania oil lubricated the machines of war, and its coal kept the steel mills going. Food from its fields fed war workers and soldiers. In total war production Pennsylvania ranked sixth among the states, in shipbuilding fifth, and in ordnance fourth. It furnished almost one-third of the nation's steel. More money was spent to expand production capacity in Pennsylvania than in any other state. Three hundred Pennsylvania firms were honored with production awards. Pennsylvanians paid over two billion dollars a year in taxes and were second only to New Yorkers in the purchase of war bonds. Under the leadership of the State Council of Defense, more than a million and a half people were organized to protect the state against enemy attack and to aid in the war effort.

MATURITY: 1945-2015

When World War II finally came to an end on September 2, 1945, adult Pennsylvanians welcomed an end to the dual adversity of economically depressed conditions and wartime sacrifices. The nation entered an era of change that is arguably the most significant since the end of the American Civil War.

POPULATION

Pennsylvania's population was determined in 2010 by the U.S. Census Bureau to be 12,702,379, a 3.4 percent increase since the 2000 Census which recorded a population of 12,281,071. Pennsylvania had long been the second most populous state, behind New York, but in 1950 it fell to third due to the growth of California. In 1980 Texas also exceeded our population, as did Florida in 1987 and Illinois in 1990. Our present national rank is sixth. In density of population, Pennsylvania ranks eleventh, and in terms of the federal government's definition of metropolitan statistical areas, Pennsylvania is tied with Texas and Illinois for having the fourteenth highest percent of state population residing in metropolitan areas. Women outnumbered men by 51.3 percent, or 330,261 in 2010. Pennsylvania's population has continued to age. The median age was 40.1 years in 2010, up from 38 years in 2000. In 2010, Pennsylvania, with 15.4 percent, had the second oldest state population, behind Florida, with 19 percent, as measured by percentages of population over 65. The Census Bureau's projections for 2020 place Pennsylvania and Vermont in a tied position as having the fourth oldest state population. Further projections show Pennsylvania's population will peak in 2025 at 12,801,945, and then drop to 12,768,184 in 2030. If so, that will be the first decrease in recorded state history. Eighty percent of Pennsylvania's population growth now comes from international immigration, and only 20 percent from the excess of births over deaths within the population already residing here. Since the number of other states' residents migrating

into Pennsylvania each year is less than the number of Pennsylvanians who leave, entrants from other states are not a positive factor in our state's present overall population growth.

Population trends that have been noticeable since 1980 have generally persisted up to the Census Bureau's estimates that were completed to July 1, 2006. In western Pennsylvania, only Butler County experienced robust growth, and only six other western counties have escaped net population decline since 2000. Allegheny County has lost an estimated 58,255 in this six-year period; Pittsburgh lost an estimated 21,744. Estimates for July 1, 2006, show that all the southeastern counties except Philadelphia continued to grow, as did Monroe, Pike, and Wayne. All the other northern tier counties and most of the contiguous counties immediately to the south of them had net population losses except Forest, as did five of the anthracite mining counties: Lackawanna, Luzerne, Schuylkill, Northumberland, and Montour. Philadelphia is estimated to have lost 69,166 residents since the Census of 2000.

Minorities and Racial Composition – In 2000 the U.S. Census, for the first time, allowed individuals to classify themselves as belonging to more than one race. Only 1.15 percent of Pennsylvanians chose that option, as compared to 2.4 percent of the nation's population.

The 2010 Census recorded 10.8 percent of Pennsylvania's population to be African American, an increase from 9.97 percent in 2000, less than the national average of 12.69, which increased from 12.3 percent in 2000.

Pennsylvania's Hispanic or Latino population in 2010 was 5.7 percent, up from 3.7 percent in 2000, of the state's total, far less than the Hispanic percentage for the nation, which was 16.3 percent in 2010, up from 12.5 percent in 2000.

There were 25,405 Native Americans and Alaskan natives, or 0.2 percent of the state's population in 2010. In 2010, the Asian racial population was 2.7 percent, or 343,961, up from 1.78 percent in 2000.

Women – After World War II, Pennsylvania women continued to add to their record of achievements. Rachel Carson, whose *Silent Spring* (1962) did much to awaken the nation to environmental dangers, was born in Springdale and educated at Chatham College, Pittsburgh. The theories of anthropologist Margaret Mead still today provoke discussion and research in that field of science. Catherine Drinker Bowen's historical and biographical works have received general acclaim. Jean Collins Kerr, dramatist and drama critic, has influenced a generation of cinema and television audiences. Actresses Lizabeth Scott and Grace Kelly were national idols in the 1950s. Hulda Magalhaes of Bucknell University had a remarkable career in biological research and teaching. Kathryn O'Hay Granahan was the first female member of Congress from Philadelphia and the Treasurer of the United States from 1962 to 1966. Hilda Doolittle from Bethlehem, a renowned imagist poet, wrote many of her works between World War II and 1961. Elizabeth Nath Marshall, four times mayor of York, was largely responsible for urban renewal there. The remarkable career of Genevieve Blatt included twelve years as Secretary of Internal Affairs followed by judicial service on the Commonwealth Court. Philadelphian C. Delores Tucker was a renowned civil rights leader who marched in the 1965 protest rally in Selma, Alabama, and was Secretary of the Commonwealth from 1971 to 1977. As the first African American female Secretary of State in the United States, she organized voter registration by mail and worked for lowering the voting age to 18. She later crusaded against violent and sexually explicit musical lyrics.

Currently the public is concerned about the number of women holding office in government. The present General Assembly has forty-six female legislators in both the House and Senate, constituting 18 percent of all legislators. The number of women has consistently increased in both houses of the General Assembly since 1975, when only one senator and eight representatives were women. Of the 50 senators today, 9 are women; of the 203 house members, 37 are female. Women presently holding other major elective offices include Supreme Court Justice Debra McCloskey Todd, and eleven of the fifteen seated judges of the Superior Court where Susan Peikes Gautman is president judge and Kate Ford Elliott is president judge emeritus. On the Commonwealth Court, women hold five of the nine judgeships and Rochelle S. Friedman serves as a senior judge. With the election of the late Catherine Baker Knoll in 2003, Pennsylvania joined fifteen other states that have had women lieutenant governors. Former First Lady Marjorie O. Rendell is a judge on the United States Court of Appeals for the Third Circuit. Major General Jessica L. Wright's appointment as Adjutant General of Pennsylvania in 2004 marked the first time a woman has held that post. The office of State Treasurer is a major government position that four women have held for much of the last four decades: Grace Sloan, Catherine Baker Knoll, Barbara Hafer, and Robin Wiessman. In 2012, Kathleen G. Kane became the first woman elected to serve as Attorney General of Pennsylvania and the first Democrat elected since it became an elective office in 1980.

In the administration of Governor Tom Wolf, several women hold cabinet positions. They are Karen Murphy, Secretary of Health; Teresa Osborne, Secretary of Aging; Leslie Richards, Secretary of Transportation; Kathy Manderino, Secretary of Labor and Industry; Rachel Levine, Physician General; Eileen H. McNulty, Secretary of Revenue; Cindy Dunn, Secretary of Conservation and Natural Resources; Robin Weissman, Secretary of Banking and Securities; and Teresa D. Miller, Insurance Commissioner.

In February 1975, the state's Commission for Women was created. Although once eliminated, it was re-established in June 1997. Primarily it is a referral agency for women's interests, and has priorities for such issues as childcare, domestic violence, and women's economic self-sufficiency. The Million Women March of October 24, 1997, brought an estimated one and a half million women, primarily African Americans, together in Philadelphia.

Health – Public health is a major concern for the Commonwealth. Pennsylvania's birth rate, after record increases in the 1980s, declined throughout most of the 1990s. The live birth rate for 2008 was 12.0 per 1,000 population, an increase from 11.9 recorded in 2000. This statistic is 17 percent lower than the United States 2008 rate of 14.0. Pennsylvania's 2008 birth rate is the highest since 1999. The rate per thousand women age 15 to 44 was 60.6 births, which ranked fortieth among the states. Since 1980, the percentage of births to older mothers (aged 30+) has increased dramatically. Pennsylvania's 2000 general fertility rate was a remarkable 44 percent lower than the 1960 general fertility rate for the state. In comparing Pennsylvania's birth and fertility rates to United States rates back to 1950, Pennsylvania's rates have been consistently about 16 percent lower, even during the "baby boom" years of 1950 through 1964.

In 2005, Pennsylvania's infant death rate (7.3 per 1,000 infants dying within their first 364 days) was above the national average of 6.9 percent and ranked as the nineteenth highest among the fifty states and the District of Columbia. This was a slight increase (0.2 percent) from 2000. In past decades Pennsylvania's infant death rate had usually been close to the United States' rate.

The state's 2006 crude death rate per 1,000 population was reported by the National Center for Health Statistics to be 10.4, which was the second highest among the states and the District of Columbia. However, when adjusted for age distribution the death rate for Pennsylvania (8.0) was only slightly higher than the national average (7.8) and ranked twenty-first lowest among the states.

The three leading causes of death among Pennsylvania residents—heart disease, cancer, and stroke—have remained the same since 1945. Together they accounted for 56.6 percent of deaths in 2005. Cancer's share of deaths has consistently increased since 1950, while the other two have declined. The death rates for all three leading causes have usually been higher than United States rates, as should be expected given Pennsylvania's aging population. The unadjusted death rates are 24 percent higher than the national average for heart disease, 21 percent higher for cancer, and 37 percent higher for stroke. The death rate from kidney diseases in Pennsylvania is 89 percent higher than the national average. Pennsylvania's death rates for accidents and suicide, which were almost always lower than national rates in the past, have been higher in recent years. However, the state's rates for deaths from HIV infection and homicide have remained lower than national figures. Deaths from chronic lower respiratory diseases, diabetes, and Alzheimer's disease have increased substantially in recent years and are above national averages, while deaths from syphilis and tuberculosis have all but disappeared.

Based on the National Survey on Drug Use and Health for 2005 and 2006, 26.4 percent of Pennsylvanians smoked cigarettes compared to the national average of 25 percent, and 23.1 percent consumed at least five alcoholic drinks during two consecutive hours on one day per month, as compared to the national average of 22.8 percent.

The state's Child Health Insurance Program (CHIP) has greatly benefited uninsured families. Pennsylvania has not only a lower percentage of its total population not covered by health insurance than has the United States, but also a lower percentage of its children not covered. Legislation enacted November 2, 2006, expanded CHIP's financial benefits by allowing families with incomes between 200 and 300 percent of the poverty level (\$40,000 to \$60,000) to obtain CHIP for their children through low monthly premiums. By July 2011, 195,448 children were enrolled for coverage.

Statistics of the American Medical Association for 2006 show that Pennsylvania had the ninth highest number of active medical physicians per 100,000 population among the fifty states, a total of 36,956 doctors. According to the U.S. Bureau of Labor Statistics, Pennsylvania had the seventh highest number of nurses per 100,000 population; there was a total of 126,120 nurses. However, there are currently shortages in both those professional categories. The high cost of malpractice insurance and obligations to treat uninsured patients are among the factors leading many medical specialists to leave the state.

The Pharmaceutical Assistance Contract for the Elderly (PACE) program was enacted in 1984 to assist elderly Pennsylvanians unable to pay for needed medication. Administered by the Department of Aging, it was expanded by PACENET in 2003 so that it now assists more than 250,000 seniors. In 1986 the legislature created the Pennsylvania Health Care Cost Containment Council, which has collected and published information about the costs, quality, and accessibility of health services and, on request, investigated particular health problems. It has given valuable advice to people making personal health decisions. The late 1990s had seen the rise of managed medical care, a series of policies intended to reduce costs of health services by streamlining traditional distribution methods. The Office of Health Care Reform was established in 2003 to investigate, plan, and advocate changes in this troubled area.

The last two decades have also seen major innovations in transplanting human organs. Dr. Thomas Earl Starzl pioneered in liver transplant surgery at Pittsburgh's Children's Hospital and Presbyterian-University Hospital, and he became the nation's spokesman for transplant medicine through his autobiographical narrative, *The Puzzle People* (1992).

Labor – The entire decade following World War II was a period of frequent labor strife. Fringe benefits for wage earners were points of heated dispute; they had scarcely been dreamt of before 1941. The steel strikes of 1952 and 1959-1960 required the intervention of Presidents Truman and Eisenhower. The outcome in 1960 was a triumph for the Taft-Hartley Labor Relations Act, which was less favorable to labor's power to bargain than the preceding Wagner Labor Act, although the merger of the AFL and the CIO in 1955 had given organized labor more strength. The recessions of the 1970s prevented expansion of unionization in many manufacturing areas and may have diminished union membership in traditional factory forces as well. Unionization of office workers, however, has gone on, in line with the increasing absorption of workers into the service sector of the economy. Pennsylvania is not considered to be among the right-to-work states that protect workers unwilling to join unions that have recognized collective bargaining powers. In 1970 the Public Employee Law (Act 195) established collective bargaining for teachers and other public workers. During the last two decades, labor unrest has been highly visible in certain occupations such as public school teaching, newspaper work, and hospital nursing. Statistics compiled by the Bureau of National Affairs show that despite increased unionization of public sector workers, unionization has declined overall in the twenty-four years since 1983. In 2002 only 10 percent of Pennsylvania private sector workers were union members, and the percentage of overall union membership had dropped from 27.5 percent in 1983 to 15.7 percent in 2002. By 1996 a worker's compensation reform statute was put in force by the state over strong opposition from labor unions. Both state and federal programs have been created to retrain workers laid off due to technological change. Today, Pennsylvania has the sixth largest state civilian labor force in the nation, standing at 6,327,000, an increase from 6,255,170 workers in April 2007. From 1976 through 1985, Pennsylvania's unemployment rates ran above national rates, but from 1986 through 1990 and in 1994 and 1995 it was below the national average. Since 2000 it has been very close to the national average. The seasonally adjusted unemployment figures for Pennsylvania were 5,848,100 in June 2010. From August 2004 through April 2007, the number of new jobs created monthly had steadily increased, but in September 2008, the unemployment rate began to rapidly rise as the nation's economy lapsed into

recession. In March 2015, the U.S. Bureau of Labor Statistics reported that the Commonwealth's unemployment rate stood at 5.3 percent, below the national average of 5.5 percent.

Veterans – According to the U.S. Department of Veterans Administration's National Center for Veterans Analysis and Statistics, in 2012 Pennsylvania had a population of 980,529 living veterans, a decrease of 76,524 since 2008 when the state had 1,057,053 living veterans. As of September 30, 2012 there were 202,853 veterans of the Gulf War, 334,411 from the Vietnam era, 131,482 from the Korean Conflict, and 79,299 from World War II. (The total of these components exceeds 980,529 because many veterans served in two wars and some in three.) Wartime soldiers numbered 718,850; peacetime soldiers were 261,679. Female soldiers accounted for a total of 79,489 and males, 901,040.

INDUSTRY AND COMMERCE

Diversity came to Pennsylvania after World War II as the coal, steel, and railroad industries declined. Ironically, Pennsylvania's earlier domination in industrial development created a major liability in plants and equipment. Its enormous capital investment, past and present, left a complex now less efficient than newer industrial centers elsewhere. In steel, Pennsylvania's integrated mills have been less efficient than the South's mini-mills and the new steel complexes abroad. Pennsylvania's steel production began to contract in 1963, although the nation's output, stimulated by the Vietnam War, rose to its all-time maximum in 1969 of 141 million tons. The national figure then declined until it reached 88.3 million tons in 1985, and did not rise above 100 million tons again until 1994. Across the nation, the new locations and their altered technology increased the output per worker three-fold between 1975 and 1990. In 2008 Pennsylvania produced 6,394,845 net tons of raw steel. Pennsylvania is also a national leader in specialty steel products.

The tremendous consumer power of Pennsylvania is reflected in statistics for 2003 and 2004. Our state was sixth in total retail sales receipts, fifth in the number of retail establishments, and seventh in the number of wholesale establishments. In 2002, Pennsylvania's total state and local government spending was \$86.2 billion, giving the state the rank of sixth among the fifty states and the District of Columbia. Pennsylvania was fourth in state and local government spending for public welfare and sixth in spending for education.

A very important statistical measure of a state's economic vitality is Gross State Product (GSP), the equivalent, for the fifty states and the District of Columbia, of the nation's Gross Domestic Product. In 2015, Pennsylvania's GSP was \$684.1 billion. Pennsylvania had long been fifth in this category, but was surpassed by Florida in 1990. It has retained sixth position ever since, behind California, Texas, New York, Florida, and Illinois. In seven of the nine components into which GSP is divided, Pennsylvania, in recent years, has been either sixth or seventh in the nation. In the manufacturing component of GSP Pennsylvania is sixth.

ENERGY RESOURCES

The market for Pennsylvania's coal began to decline at the end of World War II. Oil and natural gas were by then regarded as so much more convenient to use that they replaced anthracite coal for heating buildings. The 1959 Knox Mine disaster in Luzerne County, and resulting investigations and criminal proceedings, revealed the extent of corruption that had gripped the anthracite industry. The disaster and its aftermath brought about an end to deep mining in a large part of the anthracite region. Today, Pennsylvania's anthracite production remains steady, usually amounting to no more than five percent of bituminous tonnage; most anthracite is now produced by surface mining and refuse reprocessing. In 2010, anthracite mines produced 2,239,073 tons, whereas recovery from refuse sites produced 4,223,507 tons of this very valuable fuel. Only 189,899 tons of the mined tonnage came from underground operations at 17 mines, a remarkably small amount when compared with statistics from the early twentieth century. In 2005 there were 697 anthracite miners, but only 128 of them worked underground.

In the 1960s the bituminous market revived because larger amounts were put to use to produce electric power, even though the market for industrial coke was dropping as the steel industry showed signs of decline. Pennsylvania stood at a competitive disadvantage to Wyoming, West Virginia, and Kentucky because of the sulfur content in its bituminous coal and our state's environmental regulations. The period between 1975 and 1995 was not favorable to the Pennsylvania coal industry, with the state's share of national output shrinking from nearly 15 percent to less than 6 percent in 1995. While U.S. production rose 71 percent from 1970 to 1995, Pennsylvania's output dropped by 22 percent. West Virginia and Kentucky lead the Commonwealth by substantial production margins, and Wyoming, in first place, mines more than four and a half times as much coal as Pennsylvania. A large portion of Pennsylvania's production decline has been in the surface mining component of the industry since 1977, the year Congress passed the Surface Mining Control and Reclamation Act. Production from the state's surface operations has fallen more than 70 percent since its peak that year.

Mining methods became much more efficient over the course of the twentieth century. Traditional "room and pillar" mines had been improved in the 1940s by conveyor equipment and rotating drums that shredded coal surfaces with dramatic speed, but more significant was the adoption of longwall mining operations for bituminous, beginning in the 1960s. In these arrangements powerful shredders move back and forth along walls sometimes over two miles long, with the machine operators protected by overhead covers made of steel. No coal is wasted to provide supporting pillars because the mined out longwall areas are simply left to collapse, often causing subsidence on surfaces above. Not needing support pillars, longwalling allows mining at much deeper levels, levels where any safe pillars for traditional mining would have had to be so large that little coal could have been produced. Surface subsidence caused by longwalling, however, has drawn criticism. The 1969 Coal Mine Health and Safety Act and the 1971 Federal Clean Air Act initially impacted worker productivity and placed Pennsylvania's coal at a disadvantage by cleanliness standards because of its high sulfur content. The problem was exacerbated by emissions requirements in 1990s Clean Air Act acid rain amendments. Eventually concentration on low sulfur coal veins and improved scrubbing technology restored

Pennsylvania's bituminous competitive status. Beginning in 1997, bituminous underground mines returned to production levels not seen since 1970, so that while surface production continues to be small, the subsurface operations carry the total production to robust levels. In 2009, Pennsylvania again, as it had been for a decade, was the fourth largest producer of bituminous coal, with 60,030,294 tons produced by 343 mining operations. The nation's top three coal-producing states—Wyoming, West Virginia, and Kentucky—continued to dominate U.S. production, accounting for 64 percent of U.S. total production. Pennsylvania accounted for approximately 6.5 percent of the U.S. total. Pennsylvania continues to be virtually the only state producing anthracite and in 2009 mined 6,819,330 tons of hard coal. Of the 66,849,624 million tons of anthracite and bituminous coal Pennsylvania produced in 2009, approximately eight million tons were exported. China is the purchaser of a large portion of the coal sold overseas because its emerging industrial complex has great demands and its extraction of its own abundant coal resources is in a primitive state. Sixty percent of Pennsylvania's coal was produced in 2006 in Greene County, all by underground mining. In recent years from 50 to 55 percent of electricity produced in Pennsylvania has come from coal, and advocates of continued emphasis on coal argue that economic necessities will perpetuate this for decades to come. It is their position that coal can be burned as a clean fuel and that the industry itself can restore mining's damage to landscape and water. In 2006 there were 4,248 employees at Pennsylvania's underground bituminous mines and 1,888 at bituminous surface mines. There were 114 underground anthracite workers and 581 at surface anthracite mines. By 2007, the number of underground bituminous mines had decreased to 39. Far fewer seams for profitable surface mining remain, whereas deep mining has been spurred by the shift to the extremely efficient longwall technology. Geologically, the Pittsburgh Coal Seam underlying several western Pennsylvania counties is ideally suited for longwalls because it has six-to-eight foot seam heights and relatively good roof and floor conditions.

Criticism of the coal industry's optimism emerged in recent years with the recognition that coal poses another hazard to humanity. Highlighted by former Vice President Al Gore's presentation to Congress in March 2007, the validity of the theory that unchecked greenhouse gas emissions will subject humankind to a long future of increasing global warming is finally accepted by a preponderance of scientists. Carbon dioxide emission produced by burning coal has been identified as a major factor in this trend. Complex emission control technology of the "capture and store" type is envisioned for industrial sites that rely on coal fuel, but none is yet in large scale use. Despite the recent concern about global warming, "gasified" coal is being advanced as an alternative energy source to replace the world's shrinking natural gas and oil reserves.

The rescue of nine trapped miners at the Queecreek Mine in Somerset County in July 2002 was a triumph of the human spirit greeted with compassion by the public, but it also underscored the need for uninterrupted, diligent safety oversight at all underground operations. For the first time in the state's long history of mineral extraction, Pennsylvania's mines were free of fatalities in 2010, which is credited to the Commonwealth's Bituminous Coal Mine Safety Act of 2008, the first major revision in a half-century to the Mine Safety Act. Pennsylvania's most recent mine fatalities occurred in the summer of 2009. One person died in a Pennsylvania coal mine in June 2009, while another fatality was reported in July 2009 at an industrial minerals mine.

Pennsylvania's nine nuclear energy plants, located at five plant sites, produced 36 percent of the state's electricity in 2004, and make our state the second most productive state in nuclear generated kilowatt hours, just behind Illinois. Many Americans have objected strongly to nuclear power plants as health hazards and point to the nuclear accident at the Three Mile Island generating station in March 1979. However, the Pennsylvania Department of Environmental Protection as well as the federal government closely regulate all nuclear plants for safety. Four of Pennsylvania's five plant sites have two operating units: Berwick, Beaver Valley at Midland, Limerick, and Peach Bottom. The plant at Three Mile Island near Middletown was built with two units, but following the 1979 accident the core of the damaged unit was removed, leaving it inoperative. The other unit was not damaged and is still producing power. Efforts to establish low-level radiation waste storage areas within Pennsylvania have been defeated in the legislature, and nuclear waste is now shipped to sites in South Carolina, Utah, and a few small toxic dumps elsewhere.

Although once a leader in petroleum production, Pennsylvania now produces little crude oil. Oil producers operate 19,000 wells in Pennsylvania to produce 3.6 million barrels of Pennsylvania Grade crude oil annually. Pennsylvania Grade crude is a superior quality, paraffin-based crude oil that is refined primarily into lubricating base stocks. Lubricants made from Pennsylvania Grade crude oil have been the choice of equipment manufacturers and consumers for more than a century.

The Commonwealth's production of natural gas is significant. Pennsylvania's natural gas producers operate more than 55,000 wells to deliver more than 198 billion cubic feet of gas to market. Pennsylvania produces enough natural gas to satisfy 25 percent of the state's annual demand. Pennsylvania consumes approximately 804 billion cubic feet of natural gas yearly. Pennsylvania ranked sixth in the nation for new gas wells drilled in 2010, with 833 new wells. West Virginia was first with 1,896 new wells.

The discovery of methods to obtain natural gas from the Marcellus Shale subterranean formation that exists beneath all of Pennsylvania, except the southeastern quarter, has produced optimism since early 2008. The formation lies between 2,000 and 6,000 feet underground, and consists of black rock that holds the gas. A new method of extraction, a combination of horizontal drilling and water fracturing, is necessary to release the gas. A well is bored deep down into the shale layer, and then drilling turns outward horizontally within the layer, making L shaped passages up to the surface. Hydraulic fracturing follows, involving injecting a water-based slurry into the well at high pressure, which produces cracks in the rock. The idea is to increase the exposed rock surface in the bore hole, which allows more gas to be collected. It is estimated that the formation could yield enough gas to supply the entire nation for two years; it has an estimated wellhead value of one trillion dollars. Environmental hazards, especially to the water supply, must be overcome, and the formation overlaps into five neighboring states and the Great Lakes, which may lead to jurisdictional rivalries. By 2010, 600 wells had been drilled in Pennsylvania's Marcellus Shale regions. Between December 31, 2010, and June 1, 2013, this number increased by 6,498 and the counties that experienced the greatest number of wells drilled were Warren (703), Bradford (625), and Lycoming (584).

AGRICULTURE

While the number of farms and the acreage farmed has generally declined over the past sixty years, farm production has increased dramatically due to scientific and technical improvements. In 1950 there were 146,887 farms and their average size was 146 acres. In 2010, there were 63,200 farms and their average size was 123 acres. Nearly 30 percent, or 7,809,244 acres, of the state's land area is committed to farming. Agriculture continues to be fundamental to the state's economy, and benefits from statewide efforts of farm and commodity organizations, agricultural extension services, strong vocational programs, and the Pennsylvania Department of Agriculture, all of which keep farmers informed of new developments and assist them in promoting and marketing farm products. In 2010, cash receipts for all crops and livestock products of Pennsylvania farms were \$5.8 billion, and agribusiness and food-related industries were responsible for at least ten times that amount in annual economic activity. The division within the \$4.78 billion was \$1.67 billion cash receipts for all crops, and \$2.97 billion for all livestock and dairy production. As in past years, mushroom cash receipts accounted for half the receipts for all crops. In 2006, Pennsylvania ranked twentieth among the states in total agricultural sector output value, and twentieth in net farm income. The four principal Pennsylvania farm commodities in terms of marketing receipts were dairy products, cattle, agaricus mushrooms, and greenhouse products. Since livestock and dairy products are so profitable for farmers, field crops have dropped in acreage in the past decade. Farmers have converted land previously producing field crops to pasture and to growing livestock fodder. Among field crops, corn remains the strongest because it is the most valuable for feeding livestock. Foods for which the state's record is outstanding include cheese, maple syrup, pretzels, potato chips, sausage, wheat flour, and bakery products. The impact of ethanol and biodiesel fuels is not reflected in the 2006 statistics, the latest presently available, but it should maximize corn production and possibly indirectly reduce soy bean acreage. The state is subsidizing these clean fuel production ventures.

Two federal programs impact on Pennsylvania's farming future. The National Organic Products Act of 1990 as amended, establishes standards under which products may be represented to consumers as organically produced. Also, the Farm Security and Rural Investment Act of 2002 made country-of-origin labeling mandatory for all beef, lamb, pork, fish, perishable agricultural commodities, and peanuts, although labeling of fish and shellfish is still delayed pending further discussions.

TRANSPORTATION

Highways – The Pennsylvania Turnpike, which set the pattern for modern superhighways throughout the nation, was expanded after World War II from the western boundary to the Delaware River, as well as northward into the anthracite region. A far-reaching federal highway act passed in 1956 authorized the federal government to pay 90 percent of the costs of new roads connecting the nation's principal urban centers. More state turnpike miles would probably have been built had it not been for the cost advantage of toll-free interstate highways authorized under this federal legislation of 1956. Taking advantage of federal funds, Pennsylvania built an interstate system that today stretches along 1,751 miles. The most outstanding example of the system is Interstate 80, known as the Keystone Shortway, which is 313 miles long and traverses 15 northern Pennsylvania counties. I-81, linking Wellesley Island (near Fishers Landing), New York, on the Canadian border, and Dandridge Tennessee; of its 854.8 length, 232.6 miles traverse Pennsylvania from north to south. In 2006 Pennsylvania's 121,292 miles of rural and urban highways ranked tenth among the fifty states.

In 2014, Pennsylvania had 11,715,722 registered motor vehicles, 69 percent of which were automobiles, and 8,930,174 licensed drivers. The number of deaths from traffic accidents in Pennsylvania has dropped from 2,089 in 1980 to 1,525 in 2006 to 1,208 in 2013.

Waterways – Waterways have always been of major importance to Pennsylvania. The state has three major ports: Philadelphia, Pittsburgh, and Erie. The Port of Philadelphia complex, encompassing Philadelphia proper and four other cities along the Delaware River, is the largest freshwater port in the world and has the second largest volume of international tonnage in the United States. Pittsburgh, located at the confluence of the Ohio, Monongahela, and Allegheny rivers, has long been a center for barge transportation, especially of coal and limestone. Erie has been a major center for Great Lakes transportation since the mid-nineteenth century.

Aviation – Constant expansion of passenger service has been the story of aviation in Pennsylvania since World War II. Today there are sixteen major airports, five of which have been granted international status. Instrument landing systems became standard at airports in all the smaller cities following several Bradford Regional Airport accidents in 1968-1969. In the 1970s, automated radar terminal systems were installed at all the major airports to safely handle the increased volume of traffic. The international airports of Pittsburgh and Philadelphia are among the nation's twenty-nine major aviation terminals, and compete favorably with the others in total numbers of scheduled flights.

The expansion of All American Aviation to Allegheny Airlines, and then to U.S. Air, is typical of progress in the industry. The energy crises beginning in the late 1970s caused reorganization involving commuter lines using smaller craft that operate as feeders from smaller cities to the major airports. Deregulation by the federal government and a trend toward corporate mergers in the 1980s caused further reorganization of the industry.

Two aircraft manufacturers prospered in Pennsylvania during this period. Piper Aircraft Corporation of Lock Haven outdistanced its competitors and produced America's most popular light airplane until the 1970s. Vertol Division of Boeing Corporation, successor to the Piasecki Helicopter Corporation, was located in Delaware County and was a major manufacturer of helicopters.

Railroads – Because of its extensive service during World War II, the railroad industry in 1946 was financially sounder than it had been since 1920, but by the end of the 1950s it was losing ground rapidly to the growing trucking industry. Diesel engines and a few electrified systems replaced the coal-burning locomotives that had been the railroads' pulling units for a century. In 1962 the Pennsylvania Railroad and the New York Central merged as the Penn Central Railroad, but it did not receive federal ICC approval until 1968, after having made extensive reductions in services and divestiture of assets. The new giant was bankrupt in

1970, the same year the federal government created Amtrak, a service system subsidizing passenger service on the major rail lines of the northeastern states. The federal government took control of the major freight lines in 1974 by forming Conrail, which subsidized 80 percent of the freight lines in Pennsylvania. Rail mileage was reduced by eliminating obsolete and unnecessary lines, typically those to now non-productive coal mines. The work force was reduced by a fourth, and commuter service trains, which in 1974 had been made the responsibility of Conrail, were gradually eliminated. In 1981 Conrail finally began to operate profitably, and in 1987 the federal government sold it to private stockholders. Although passenger service to smaller municipalities has been eliminated, faster travel is possible on the remaining routes. Seamless rails, cement ties, and the elimination of grade crossings have made this possible. Pennsylvania literally sits at the open door of rail freight expansion planned by CSX and Norfolk Southern, rail transportation corporations previously concentrated south of Pennsylvania. The two enterprises intend to spend more than \$2.7 billion to enlarge their freight moving capacity through our state: CSX running from the southeastern seaport to the Midwest and Norfolk Southern from the South to New York ports. Pennsylvania would become the crossroads for three major freight rail companies: Norfolk Southern, CSX, and Canadian Pacific.

CULTURE

Computer Revolution – Pennsylvania is now in the midst of a worldwide cultural leap at least as important as the coming of internal combustion engine transportation early in the twentieth century. In 1946, scientists J. Presper Eckert Jr. and John W. Mauchly of the Moore School of Electrical Engineering at the University of Pennsylvania produced the world's first electronic computer, the ENIAC (Electronic Numerical Integrator And Computer), for the U.S. Army. Its unique feature was that its vacuum tubes performed the operation in place of the mechanical switches used in previous computers. In Philadelphia, the Remington Rand Corporation produced the first commercial computer, the Univac I, in 1951. In 1958, the Univac Division of Sperry Rand Corporation built the first solid-state electronic computer at its Philadelphia laboratory, further advancing electronic data processing. The introduction of real-time computer application in the 1960s meant that computers now did far more than solve complex individual problems, and the microminiaturization trend of the 1970s, following the introduction of silicon chips and integrated circuit design, led to a myriad of applications for the personal computer. Computer-aided design and computer-aided manufacturing (CAD and CAM) were also trends of the 1970s. Startling developments in digital and graphic imaging and scanning capabilities followed, and now the new frontier of voice interaction with computer processes is reaching maturity. The information highway developed from the merging of the Department of Defense's ARPAnet and universities and learned institutions' data banks and internal networks. Local-area and regional-area networks also emerged, and in the 1990s the nation's information highway became part of the World Wide Web. From medical applications to business transactions, from education to almost every function of society, computer-based systems have vastly upgraded the cultural level of Pennsylvanians. The U.S. Department of Commerce's statistics for 2003 showed that Pennsylvania ranked 32nd among the states in the percentage of households with computers (60.2 percent) and 27th in those having Internet access (54.7 percent). Cellular telephones, hand-held computer devices, digitalization, and the electronic transaction of numerous forms of commercial activity have become commonplace and have significantly transformed Pennsylvania's culture.

Literature – Pennsylvania has launched many major writers on the American literary scene who flourished in this period. Pearl S. Buck won both the Nobel and Pulitzer Prizes. Christopher Morley, John O'Hara, Conrad Richter, Mary Roberts Rinehart, James A. Michener, Zane Grey, and John Updike have left indelible imprints. Wallace Stevens and Marianne Moore were poets of renown. Naturalist Rachel Carson grew up in Pittsburgh; her *Silent Spring* was pivotal in launching the modern environmental movement. Edward Abbey was brought up in Indiana County and wrote novels condoning forceful resistance to destruction of the western American desert landscape. Marguerite de Angeli thrilled generations of children with books such as *Thee, Hannah!*

Two works of the 1980s, Annie Dillard's *An American Childhood* and John Edgar Wideman's *Sent for You Yesterday* depict contrasting views of neighborhoods in Pittsburgh. Wideman, a leading African American writer, has also dealt with personalities in Philadelphia's inner city. Another African American, David Bradley, was acclaimed for his historical novel, *The Chaneyville Incident*. Writers popular today who place their novels in Pennsylvania settings include Stephen King (*From a Buick 8*); K.C. Constantine whose mysteries in Philadelphia center on an Italian American sleuth; Carrie Bender and Tamar Myers, who use Amish-Mennonite settings; and David Poyer whose Hemlock County cycle deals with the early Pennsylvania oil industry. Lisa Scottolini's detective novels with criminal law themes take place in Philadelphia, as do Neil Albert's Dave Garrett mysteries. Juvenile historical fiction is a growing field, well represented by Gloria Skurzynski's *The Rockbuster* and *Goodbye, Billy Radish*. Robin Moore and Laurie Halse Anderson write for the same audience, intending to show the emerging generation some important historical events in exciting settings. Jennifer Chiaverini's *Elm Creek Quilts* novels trace experiences of elderly characters reconciled with the present through the metaphor of producing quilts. Michael Novak's *Guns of Lattimer* is a classic historical novel sensitively expressing the horror of an actual massacre of immigrant coal miners, and it carries on the earlier twentieth century tradition of Michael Musmanno's *Black Fury* and Thomas Bell's *Out of This Furnace*. Peter Blair celebrates the tradition of dangerous skilled industrial work with strong implications of class distinctions in his book of poems, *Last Heat*. Poet Jan Beaty, in *Aware in a Strange Landscape* reflects impressions of several generations seeking to escape a world of despair such as Peter Blair portrays. These challenging dangers and pressures arising within society have parallels in the wartime experiences of an African American Pittsburgher in Vietnam, as told in 1997 by Albert French in *Patches of Fire*. Another school of Pennsylvania writers emphasizes Pennsylvania locations that impart a nostalgic beauty and emotional sanctuary from which, under stress and necessity, the native Pennsylvania protagonist must at least temporarily depart. Following this theme have been Maggie Anderson's poem, *Promised Land: A Sense of Place* and Updike's *The Olinger Stories*. African American dramatist August Wilson of Pittsburgh was awarded two Pulitzer Prizes in Drama for depicting the comic and tragic aspects of the African American experience in the twentieth century.

Performing Arts and Media – Among the famous Pennsylvanians who starred in the movies were W.C. Fields, Gene Kelly, Grace Kelly, Shirley Jones, Richard Gere, Tom Mix, Jack Palance, and James M. “Jimmy” Stewart. Stewart received the first Governor’s Distinguished Pennsylvania Artist Award in 1980. In 1984, Bill Cosby also received this award. From the 1930s until the late 1950s, audiences throughout the country thrilled to the romantic musical drama of two native Pennsylvanians, singers Jeannette MacDonald and Nelson Eddy. Alvina Krause, a noted professor of drama—whose students included Patricia Neal, Charlton Heston, and Jennifer Jones—later established the Bloomsburg Theater Ensemble and managed a theater company in Eagles Mere during summer seasons. In 1980 she was presented the Theodore L. Hazlett Award for Excellence in the Arts for Theatre by Governor Thornburgh.

Beginning about 1976, there was an upsurge in the use of Pennsylvania locales as film settings by major motion picture producers, and many cinema stories touched on past or present human experiences taking place in the state, including *Rocky* and its sequels and, in 1977, *Slapshot*, *The Deer Hunter*, and *The Boys from Brazil*. Since then, numerous popular films, serious and humorous, documentary and imaginatively fantastic, have displayed regions of the state, and independent and low-budget producers have joined the traditional Hollywood giants. Set in Philadelphia have been *Jersey Girl*, *Unbreakable*, and the 1993 movie *Philadelphia*. The sensitive interpretation of African American slavery, *Beloved*, was also filmed there, as was the award-winning *The Six Sense*. Both the set and the story for *Championship Season* belong to Scranton. Central Pennsylvania was the scene for *Witness* and *Gettysburg*. A number of films were made in Harrisburg: *Lucky Numbers*, *8 Millimeter*, *The Distinguished Gentleman*, and *Girl, Interrupted*. In western Pennsylvania, *Silence of the Lambs* and *Prince of Pennsylvania* featured areas outside Pittsburgh, whereas *Hoffa*, *Sudden Death*, and *Flashdance* were set in the city.

In the field of dance, the Pennsylvania Ballet, founded by Barbara Weisberger in 1964, has an international reputation. The Pittsburgh Ballet is also widely acclaimed. Band leaders Fred Waring and Les Brown distinguished themselves in the 1940s and 1950s.

The Curtis Institute in Philadelphia has a worldwide reputation for the advanced study of music. Distinguished singers who were Pennsylvanians by birth or are so remembered by association include Louis Homer, Paul Athouse, Dusolina Giannini, Mario Lanza, Helen Jepson, Pery Como, Bobby Vinton, and Marian Anderson (who received the 1982 Governor’s Distinguished Pennsylvania Artist Award). Leopold Stowkowski rose to fame as the conductor of the Philadelphia Orchestra. Victor Herbert was conductor of the Pittsburgh Symphony during part of his career. Eugene Ormandy, conductor of the world-renowned Philadelphia Orchestra for forty-four years, received the 1980 Hazlett Memorial Award for Excellence in the Arts in the field of music. For twenty-five years the Philadelphia Orchestra has been chosen for extended summer performances at the Saratoga Springs, N.Y., Performing Arts Festival. The Pittsburgh Symphony is proud to have had Andre Previn (recipient of the 1983 Hazlett Memorial Award for Excellence in the Arts) as its conductor. Samuel Barber, Peter Mennin, and Charles Wakefield Cadman are among the better-known Pennsylvania symphonic composers.

The television industry grew rapidly beginning in the 1950s, and today Philadelphia is the fourth largest television market in the country and Pittsburgh the eleventh. Both cities have three major network stations, a public broadcasting station, and smaller independent stations. WQED in Pittsburgh pioneered community-sponsored educational television when it began broadcasting in 1954. Fred Rogers, a Latrobe native, was a leader in this movement, carrying a message of moral values intended for children. His popular PBS television series *Mr. Rogers’ Neighborhood* used friendliness, empathy, and the world of fantasy to foster healthy mental maturation in an increasingly technical and aggressive environment, and it received national and international acclaim.

Pennsylvania has more than 130 newspapers, including daily, weekly, and Sunday editions, as well as special interest or ethnic newspapers, such as Asian, Latino, and Hispanic. These include the *Pittsburgh Business Times*; *El Menajero*, published in Hazleton; and the *Philadelphia Asian News* and the *Metro Chinese News*, published in Philadelphia.

Religion – Pennsylvania’s religious composition at the beginning of the twenty-first century can be judged by statistics compiled by the Association of Religion Data Archives, which is located in the Department of Sociology of the College of Liberal Arts at The Pennsylvania State University. The information in detail, including explanations of complexities, is available at www.theARDA.com. The Religion Data Archives breakdown includes: Catholic, 3,503,028; Orthodox, 61,042; Evangelical Protestant, 1,078,477; Mainline Protestant, 1,773,491; Others, 308,065; and Unclaimed, 5,863,939.

The following table lists adherents’ figures for the year 2010.

Religious Bodies	Adherents
African Methodist Episcopal Church	31,195
African Methodist Episcopal Zion Church	6,846
Allegheny Wesleyan Methodist Connection	2,126
American Baptist Association, The	362
American Baptist Churches in the USA	138,255
American Carpatho-Russian Orthodox Diocese	4,513
Amish Groups, undifferentiated*	58,009
Antiochian Orthodox Christian Archdiocese of North America, The	6,688
Apostolic Christian Church of America, Inc.	76
Apostolic Faith Mission of Portland, OR	42
Armenian Apostolic Church of America (Catholicosate of Cilicia)	3,000
Armenian Church of North America (Catholicosate of Etchmiadzin)	1,050
Assemblies of God	106,689
Associate Reformed Presbyterian Church	223
Bahá’í	1,884

Beachy Amish Mennonite Churches*	2,523
Bible Fellowship Church.....	11,892
Brethren Church, The (Ashland, Ohio)	1,605
Brudershof Communities, Inc.	434
Buddhism, Mahayana	14,285
Buddhism, Theravada	3,547
Buddhism, Vajrayana	1,530
Bulgarian Eastern Orthodox Diocese of the USA, Canada and Australia.....	80
Catholic Church.....	3,503,028
Christian and Missionary Alliance, The.....	50,899
Christian Church (Disciples of Christ).....	12,968
Christian Churches and Churches of Christ	22,658
Christian Methodist Episcopal Church.....	2,603
Christian Reformed Church in North America.....	490
Church of God (Anderson, Indiana).....	12,392
Church of God (Cleveland, Tennessee).....	18,752
Church of God in Christ.....	18,607
Church of God in Christ, Mennonite.....	615
Church of God of Prophecy	1,766
Church of Jesus Christ of Latter-day Saints, The.....	49,794
Church of the Brethren.....	45,418
Church of the Lutheran Brethren of America	965
Church of the Nazarene.....	25,986
Church of the United Brethren in Christ.....	4,821
Churches of Christ.....	10,595
Churches of God, General Conference	21,059
Community of Christ.....	2,227
Congregational Christian Churches, Additional (not part of any national CCC body).....	374
Congregational Holiness Church	84
Conservative Congregational Christian Conference	3,063
Conservative Judaism.....	35,412
Conservative Mennonite Conference	1,922
Conservative Yearly Meetings of Friends*.....	12
Converge Worldwide/Baptist General Conference.....	3,750
Coptic Orthodox Church.....	1,540
Cumberland Presbyterian Church.....	96
Episcopal Church	84,482
Eritrean Orthodox.....	260
Evangelical Congregational Church, The	19,146
Evangelical Covenant Church, The	1,834
Evangelical Free Church of America, The	19,091
Evangelical Friends Church International*	290
Evangelical Lutheran Church in America.....	501,974
Evangelical Lutheran Synod	22
Evangelical Presbyterian Church.....	6,817
Foursquare Gospel, International Church of the.....	1,448
Free Methodist Church of North America	6,288
Friends General Conference and Friends United Meeting, dually aligned meetings*	835
Friends General Conference*	10,354
Georgian Orthodox Parishes in the United States.....	310
Greek Orthodox Archdiocese of America.....	18,685
Hindu, Indian-American Hindu Temple Assoc.....	25,212
Hindu, Post Renaissance.....	4,556
Hindu, Renaissance	36
Hindu, Traditional Temples.....	13,948
Holy Orthodox Church in North America.....	127
International Churches of Christ	1,155
International Pentecostal Holiness Church.....	2,271
Lutheran Church--Missouri Synod	17,861
Lutheran Congregations in Mission for Christ.....	7,162
Macedonian Orthodox Church: American Diocese.....	50
Malankara Archdiocese of the Syrian Orthodox Church in North America.....	558
Malankara Orthodox Syrian Church	2,100

Maranatha Amish Mennonite*	409
Mennonite Christian Fellowship*	676
Mennonite Church USA	34,344
Metropolitan Community Churches, Universal Fellowship of	558
Missionary Church, The	1,234
Moravian Church in America--Northern Province	7,610
Muslim Estimate	80,487
National Association of Congregational Christian Churches	364
National Association of Free Will Baptists	214
National Baptist Convention of America, Inc.	1,964
National Baptist Convention, USA, Inc.	46,489
National Missionary Baptist Convention, Inc.	605
Non-denominational	384,912
North American Baptist Conference	2,752
Old Order River Brethren	537
Open Bible Standard Churches, Inc.	301
Orthodox Church in America	9,430
Orthodox Judaism	22,275
Orthodox Presbyterian Church, The	3,056
Patriarchal Parishes of the Russian Orthodox Church in the USA	1,910
Pentecostal Church of God	327
Presbyterian Church (U.S.A.)	241,659
Presbyterian Church in America	23,331
Progressive National Baptist Convention, Inc.	6,028
Reconstructionist Judaism	5,726
Reform Judaism	38,899
Reformed Church in America	2,076
Reformed Church in the United States	27
Reformed Mennonite Church	125
Reformed Presbyterian Church of North America	1,532
Romanian Orthodox Archdiocese in Americas	600
Russian Orthodox Church Outside of Russia	1,162
Salvation Army	31,161
Schwenkfelder Church	2,695
Serbian Orthodox Church in North America	4,359
Seventh Day Baptist General Conference, USA and Canada	174
Seventh-day Adventist Church	21,391
Southern Baptist Convention	60,116
Ukrainian Orthodox Church of the USA	4,620
Unaffiliated Conservative Amish Mennonite Church*	676
Unitarian Universalist Association of Congregations	7,936
United Church of Christ	180,248
United Methodist Church, The	591,734
United Zion Church	721
Vineyard USA	2,736
Wesleyan Church, The	11,919
Wisconsin Evangelical Lutheran Synod	402
Zoroastrian	311
TOTALS	6,838,440

The population of Pennsylvania was 12,702,379 in 2010; in 2000 it was 12,281,054. The total population changed 3.4%. The adherent totals of the religious groups listed above (6,838,440) included 53.8% of the total population in 2010.

* In an effort to better match the ASARB standards for adherents, a few religious bodies changed the way their adherents were reported in 2010, including the Catholic Church, Amish groups, Friends groups, Jewish groups, the Church of Jesus Christ of Latter-day Saints, Non-denominational Christian Churches, and the United Methodist Church. This change does not affect any of the data in the newly released 2010 U.S. Religion Census: Religious Congregations & Membership Study. In fact, the data for these groups are now more comparable to that of other bodies than it was in previous decadal reports.

Education – School consolidation became a major goal after World War II. By 1968 the number of school districts had been compressed from over 2,000 to 742. Centralization and improved spending produced this desirable result. In the 1970s, programs for exceptional and for disadvantaged students first became available, and the vocational-technical secondary school

option assisted many youths in finding career areas. In 1974, Pennsylvania's Human Relations Commission ordered that racial imbalance in public schools be eliminated by the end of the year.

Today, Pennsylvania's basic education system is comprised of 500 school districts, 174 charter schools, 86 career and technology centers, and 29 intermediate units. As of 2014-15, the most recent school year for which data is available, Pennsylvania had 1,739,559 students enrolled in public schools.

POLITICAL DEVELOPMENTS: A TWO-PARTY STATE

The New Deal, the rising influence of labor, and the growing urbanization of the state ended a long period of Republican dominance. In stride with the New Deal, the Democrats fielded a successful gubernatorial candidate in 1934, but the Republicans dominated the next four gubernatorial elections. The Democrats, however, took control of the two major cities, Pittsburgh in 1933 and Philadelphia in 1951, and achieved electoral majorities for the Democratic nominees in seven of the eleven presidential elections from 1936 to 1976. In 1954 and 1958 the Democrats elected George M. Leader and David L. Lawrence successively as governors. They were followed in 1962 by Republican William Warren Scranton, and in 1966 by Republican Raymond P. Shafer. In 1970 the Democrats elected Milton J. Shapp and regained firm control of the legislature for the first time since 1936. Shapp became the first governor eligible to succeed himself under the 1968 Constitution, and he was re-elected in 1974. In 1978 Republican Dick Thornburgh was elected governor. Within two years, the Republicans became the majority party when, in addition to the governorship, they held both U.S. Senate seats, supported President Ronald Reagan's candidacy in 1980, and won majorities in both houses of the state legislature. In 1982 Governor Thornburgh was re-elected, but in 1985 the Democrats became the majority party in the House of Representatives. In 1986 Democrat Robert P. Casey of Scranton, a former State Auditor General, defeated Lieutenant Governor William W. Scranton III for the governorship. In 1990, Governor Casey was re-elected by an overwhelming majority over the Republican candidate, Auditor General Barbara Hafer.

The accidental death of U.S. Senator John Heinz in April 1991 led to the appointment and then overwhelming election victory for the vacant seat by Democrat Harris Wofford, who raised the issue of reform of the nation's health care system. He defeated former Governor Thornburgh. In 1992 Democratic majorities were returned in both houses of the General Assembly for the first time since 1978. On June 14, 1993, Governor Robert P. Casey underwent a heart and liver transplant operation necessitated by a rare disease, familial amyloidosis. He was the first American for whom this operation was performed for that condition. Lieutenant Governor Mark S. Singel exercised the powers and performed the duties of governor until Governor Casey returned to work on December 21. In November 1994, U.S. Representative Tom Ridge defeated Lieutenant Governor Singel and third-party candidate Peg Luksik of Johnstown in the gubernatorial election. In 1995 and 1996 the majority in the House of Representatives swung from Democratic to Republican by the shifting of one seat. The November 1996 elections gave Republicans a five-member House majority and they maintained their majority in the state Senate. Governor Ridge was overwhelmingly re-elected over the Democratic candidate, Assemblyman Ivan Iltin, and two third-party challengers in November 1998. Following the November 2000 election, Republicans held a ten-seat Senate majority and a five-seat majority in the House of Representatives. As a result of congressional reapportionment following the U.S. Census of 2000, Pennsylvania lost two representatives' seats.

On October 5, 2001, as a result of the national crisis following the tragic events of September 11, 2001, Governor Tom Ridge resigned to answer the call of President George W. Bush to serve as the nation's first Director of the Office of Homeland Security. Lieutenant Governor Mark S. Schweiker was then sworn in as Governor and Robert C. Jubelirer, President Pro Tempore of the State Senate, as Lieutenant Governor. In the election of November 2002, the Democratic candidate, Edward G. Rendell, a former mayor of Philadelphia, was elected Governor by 53.5 percent of the vote, defeating the Republican candidate, the incumbent Attorney General Mike Fisher, as well as the Green Party and Liberal Party candidates. Governor Rendell was the first Philadelphian to win the office since 1906. In the November 2006 election, he was re-elected over Republican candidate Lynn Swann, a former Pittsburgh Steelers football star, sports announcer, and a motivational speaker. Swann was the first African American to be nominated for governor of Pennsylvania on a major party ticket. In the same election, incumbent U.S. Senator Rick Santorum, a Republican, was defeated by the Democrat Robert P. Casey, Jr., a former auditor general and state treasurer. Public criticism of a legislative vote to increase the salaries of its own members was in part responsible for many outgoing legislators refusing to run for re-election or being defeated for re-election. The November 2006 elections resulted in a Democratic majority in the House of Representatives for the first time in twelve years, although the new composition was only 102 Democrats to 101 Republicans. The state Senate elections produced a chamber that had a Republican majority of 29 to 21.

As a result of the presidential candidacy of U.S. Senator Barack Obama of Illinois, an unprecedented large increase in Democratic voter registration occurred between the summer of 2008 and the November election, developing at first in and around Philadelphia. Its strength was so overwhelming as to cause comments that the two-party state era had come to an end. By September 2008, the public had already been exposed to an avalanche of presidential campaigning since January, but the emphasis on health care reform, global climate, the wars in Iraq and Afghanistan, and energy and fuel were overshadowed from mid-September forward by a decline of the nation's financial system and an economic descent into recession with all its unwanted consequences. Pennsylvania joined in the overwhelming victory of President Obama. In the General Assembly the election produced a Democratic majority in the House of 104 to 99, but Republicans continued to hold a majority in the Senate of 30 to 20. Senator Joseph B. Scarnati III was elevated to Lieutenant Governor upon the death of Catherine Baker Knoll on November 12, 2008, but he also continued to hold his Senate seat.

In the gubernatorial election of November 2, 2010, Republican Tom Corbett received 2,160,828 votes, or 54.5 percent of votes cast, defeating Democratic candidate Dan Onorato, who received 1,801,279 votes. Corbett shared the joint ticket with Jim Cawley for lieutenant governor. In 2008, Corbett had been re-elected Attorney General of Pennsylvania with more than three million votes—more votes than any other Republican candidate in the history of the Keystone State. Corbett was then defeated

in the gubernatorial election of November 4, 2014, by Democratic nominee Tom Wolf, a businessman and former Secretary of the Pennsylvania Department of Revenue. Wolf received 1,920,355 votes, or 54.93 percent, to Corbett's 1,575,511 votes. Wolf became Pennsylvania's forty-seventh governor and Mike Stack the thirty-third lieutenant governor when they were inaugurated on January 20, 2015, in Harrisburg.

COLD WAR, KOREAN CONFLICT, VIETNAM INVOLVEMENT, AND PERSIAN GULF WAR

After the end of World War II, the United Nations was established as a parliament of governments in which disputes between nations could be settled peacefully. Nevertheless, the United States and Communist countries started an arms race that led to a "cold war," resulting in several undeclared limited wars. From 1950 to 1953, individual Pennsylvanians were among the many Americans who fought with the South Koreans against the North Koreans and their Communist Chinese allies. Pennsylvania's 28th Infantry Division was one of four National Guard divisions called to active duty during the crisis, being deployed to Germany to help deflect any aggression from Russia or its allies. At home, during the early 1950s, public fears of Communist infiltration reached hysterical levels but then subsided as it became apparent that exaggeration and unfounded fears had been forced on the public by Red-baiters.

Pennsylvanians served their country faithfully during the Korean, Vietnam, and Persian Gulf conflicts. In Korea, Pfc. Melvin L. Brown of Mahaffey, Sfc. William S. Sitman of Bellwood, and Cpl. Clifton T. Speicher of Gray gave their lives in self-sacrificing combat deeds for which they were awarded the Congressional Medal of Honor. Major General John Huston Church (1892-1953) commanded the 24th Infantry Division in the first year of fighting. Lieutenant General Henry Aurand commanded the U.S. Army-Pacific (which included the Korean operation) from 1949 to 1952. General Lyman L. Lemnitzer, a native of Honesdale, was Chairman of the Joint Chiefs of Staff during the Cuban Missile Crisis of 1962, which brought about a brief thaw in the Cold War.

In 1964 a conflict developed in Vietnam. American troops fought beside the South Vietnamese against the North Vietnamese and their supporters until 1973, and many Pennsylvanians served and died there. Cpl. Michael J. Crescenz of Philadelphia and Sgt. Glenn H. English, Jr., a native of Altoona, were mortally wounded while performing courageous acts for which they were both awarded the Congressional Medal of Honor. Pfc. William D. Port of Harrisburg, Spec. David C. Dolby of Norristown, and Lt. Walter J. Marm, Jr. of Pittsburgh received the Medal of Honor for conspicuous acts of leadership and personal valor. Major General Charles W. Eifler, a native of Altoona, directed the First Logistical Command in South Vietnam until May 1967. The Vietnam War Memorial in Washington, D.C. includes 1,449 Pennsylvanians among the 58,715 who died as a result of combat. The war was very unpopular in Pennsylvania, as in the rest of the nation, and anti-war protests and rallies drew large crowds. The Cold War ended with a number of climactic events between late 1988 and 1991. The importance of each event has been debated, but the fall of the Berlin Wall in November 1989 has been most deeply embedded in the popular mind.

In 1990 and 1991 Pennsylvania units sent to Saudi Arabia, as part of the international force confronting Iraqi aggression, included the 121st and 131st Transportation Companies of the Pennsylvania National Guard, the 193rd Squadron of the Air National Guard, and the 316th Strategic Hospital Reserve. This conflict has been known as the Persian Gulf War and sometimes as the First Iraq War. On February 25, 1991, 13 members of the 14th Quartermaster Detachment, U.S. Army Reserves, a Greensburg unit, were killed by an Iraqi Scud missile attack.

WAR AGAINST TERRORISM, SECOND IRAQ WAR, IRAQ RECONSTRUCTION, AND RESURGENCE OF EL QUAEDA IN AFGHANISTAN

On September 11, 2001, United Airlines Flight 93 scheduled for San Francisco, bearing forty-four passengers and crew, was hijacked by four terrorists of the Muslim extremist terrorist organization al-Qaeda. The airplane crashed into a farm field near Shanksville, Somerset County, killing all on board. On-flight recordings and phone calls suggest passengers heroically struggled with their captors before the crash and sacrificially thwarted al-Qaeda's plan to crash the plane into some sensitive government site in or near the nation's capital. On the same morning, sixty-four Pennsylvanians perished among the estimated 2,752 killed in the destruction of New York City's World Trade Center Towers by two other airliners taken over by al-Qaeda terrorists. A fourth hijacked airliner destroyed large sections of the Pentagon in the nation's capital. Volunteer relief for World Trade Center victims sprang forth from Pennsylvania. Governor Tom Ridge resigned to become director of President Bush's newly created federal Office of Homeland Security, and in November 2002 the federal Department of Homeland Security was created. Ridge went on to head the new department. In the wake of the September 11, 2001, attacks, National Guard and military reserve units within the state were mobilized for domestic security. Some of these forces were soon assigned to the nation's international war against terrorism, which included combat missions in Afghanistan. In 2003, National Guard involvement as peacekeepers in Bosnia ended, but a similar assignment in Kosovo continued into 2004. A second war against Iraq erupted in March 2003, and National Guard and reserve units participated in the invasion of Iraq, known as Operation Iraqi Freedom, and the subsequent period of United States' occupation to stabilize and rebuild that country.

By early 2005, some 8,000 Pennsylvania National Guard members had been deployed in the Global War on Terrorism since September 11, 2001. The First Battalion, 107th Field Artillery was on duty as military police in Iraq from January 2004 until February 2005. Beginning in November 2004, the First Battalion, 103rd Armored Regiment was deployed to Iraq for twelve months, the first time since World War II that a 28th Division combat battalion had operated in a war zone. Later, the 56th Stryker Brigade Combat Team of the Pennsylvania Army National Guard was among the first United States units organized around a superb new eight-wheeled combat vehicle, and has seen combat service in Iraq. Today, Pennsylvania's Army National Guard is the largest in the United States, and its Air National Guard is the fourth largest. Recruiting and retention statistics for the 2006 fiscal year were the highest achieved in the last two decades and among the highest in the country. Altogether, the National Guard has 19,000 members and 2,400 full-time employees. In July 2007, the 111th Fighter Wing of the Air National Guard left its Willow

Grove Air Reserve Station for re-deployment in support of ground forces in Iraq, flying A-10 Thunderbolt attack fighters. With the deployment of the 56th Stryker Brigade and 28th Combat Aviation Brigade in early 2009, as well as the 171st Air Refueling Wing, 193rd Special Operations Wing, and 111th Fighter Wing Air National Guard deployments, the Pennsylvania National Guard will have more soldiers and airmen in mobilized status than at any time since World War II.

GOVERNMENT MODERNIZATION

After the second World War there was a renewed emphasis on reorganizing state government. In 1945 the State Museum and State Archives were placed under the Historical and Museum Commission. In 1947 the Tax Equalization Board was created to review school tax assessments so that the burden of public education would fall evenly on all districts. In 1951 the Council on Civil Defense was created, and in 1978 it became the Emergency Management Agency. In 1955, during the administration of Governor Leader, an Office of Administration was set up within the executive branch. A government reorganization act permitted any governor to transfer functions from one department to another, subject to the approval of the General Assembly. With the accompanying fiscal and appointment reforms of the Leader Administration, the reorganization act was the most important change in state machinery since Governor Pinchot instituted an administrative code in 1923. The Human Relations Commission was established in 1955 to prevent discrimination in employment. In 1966 the Department of Community Affairs was created to deal with matters concerning local governments. The termination in 1968 of the Department of Internal Affairs resulted in four of its bureaus being placed in other agencies.

By a constitutional amendment in 1959, the General Assembly resumed annual sessions but with limitations on actions in the even-numbered years. With bipartisan support, Governor Raymond P. Shafer obtained legislation for a convention that was limited to specific problems of the existing 1874 Constitution. There was agreement that the uniformity clause, which prevents enactment of a graduated income tax, would not be altered. The Constitutional Convention of 1967-1968 revised the 1874 Constitution. A significant provision prohibits the denial to any person of his or her civil rights. The governor and other elective state officers were made eligible to succeed themselves for one additional term. A unified judicial system was established under the Supreme Court, a Commonwealth Court was created, and the inferior courts were modernized. Broad extensions of county and local home rule became possible. In 1971 the voters amended the state constitution to guarantee that equal rights could not be denied because of sex. By an act of Dec. 6, 1972, the State Constitution so amended was declared to be henceforth known and cited as the Constitution of 1968. Sessions of the General Assembly were made two years in length, coinciding with the period of Representatives' terms. The House was fixed at 203 members, and a Legislative Reapportionment Commission was authorized. By dropping the provision for election of the Secretary of Internal Affairs, the breakup of that department was foreshadowed and actually took place later in 1968. Except in certain emergencies, the new constitution limited state borrowing to 175 percent of the average annual revenue raised by taxation. All departments now had to be audited, and the Governor's Office was required to submit a budget annually to the legislature.

In 1970, creations of a Department of Transportation and a Department of Environmental Resources were results of an enlarged concept of the role of state government. Both had broader functions than the departments they replaced, the Highways Department and Forest and Waters. The consolidation of two agencies into the Department of General Services in 1975 was another step in the direction of efficiency. The creation of a Commission for Women by executive order in 1975, and the replacement of the Council on Aging with a Department of Aging in 1978, both followed the trend toward serving population segments that have special needs. As a result of a constitutional amendment in 1978, the Attorney General became an elected official in 1980, and that office became an independent department. The designation Department of Justice was discontinued. Within the executive branch, an Office of General Counsel was formed to continue the old function of an attorney appointed and subordinate to the governor. A further result of the break up of the Department of Justice was the eventual creation in 1984 of a separate Department of Corrections. In 1987 an Office of Inspector General was created, responsible to the governor through the General Counsel, with investigative powers intended to maintain the integrity and efficiency of activities of the executive agencies. In 1980 the Superior Court was expanded from seven to fifteen judges. The establishment of an Ethics Commission in 1978 and an Independent Regulatory Review Commission in 1982 were two of the many measures dealing with particular problems that have surfaced in the governmental process. The augmentation of the Department of Commerce in 1987 by the Economic Development Partnership anticipated a more powerful economic policy. In June 1996, the Departments of Commerce and Community Affairs were merged to form the Department of Community and Economic Development. Under the administration of Governor Tom Ridge, the Department of Environmental Resources was divided into the Department of Conservation and Natural Resources, which operates the state parks and forest, and the Department of Environmental Protection, which enforces laws and regulations concerning other components of the environment. Other changes that occurred during the Ridge administrations include creation of governor's advisory commissions on African American Affairs (1998) and Latino Affairs (1996), re-establishment of the Commission for Women (1997), and formation of the Governor's Growing Greener Council (1998). During its fifteen months in office, the administration of Governor Mark S. Schweiker created Pennsylvania's Office of Homeland Security to coordinate anti-terrorism activities by state agencies. Under the administrations of Governors Ridge, Schweiker, and Rendell, adaptations of Internet communication have gradually increased until now they make a vast amount of useful data easily available to the average citizen, including official forms that can be printed quickly to speed up interacting with many government agencies.



Heavy storms in March 1936 caused flooding in areas along the West Branch of the Susquehanna River. The water level rose more than 8 feet in Lock Haven, submerging first floors of buildings. Between 1847 to 1975, the city was flooded 19 times, but in the 1990s, construction of a levee, a floodwall, and other projects have since kept waters at bay.



From his helicopter window, President Richard Nixon studies the flood damage near Harrisburg in the aftermath of Tropical Storm Agnes.