

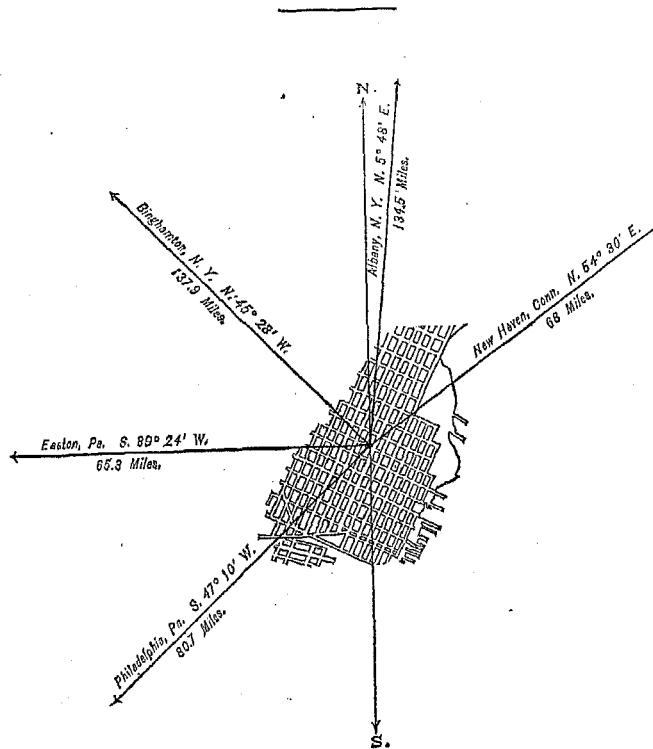
HOBOKEN,

HUDSON COUNTY, NEW JERSEY

POPULATION

IN THE
AGGREGATE,
1850-1880.

Inhab.	
1790.....	
1800.....	
1810.....	
1820.....	
1830.....	
1840.....	
1850.....	2,668
1860.....	9,662
1870.....	20,297
1880.....	30,999



POPULATION

BY
SEX, NATIVITY, AND RACE,
AT
CENSUS OF 1880.

Male.....	15,254
Female.....	15,745
Native.....	18,004
Foreign-born.....	12,995
White.....	30,915
Colored.....	* 84

* Including 10 Chinese.

Latitude: 40° 44' North; Longitude: 74° 1' (west from Greenwich); Altitude: 2 to 100 feet.

FINANCIAL CONDITION:

Total Valuation: \$14,901,300; per capita: \$481 00. Net Indebtedness: \$1,100,250; per capita: \$35 49. Tax per \$100: \$2 05.

HISTORICAL SKETCH.

The site of Hoboken was first occupied by Dutch immigrants about the year 1640, though the town was not "founded" until 1804, by John Stevens. In 1849 it had acquired sufficient importance to become organized as a township. Six years later, March 28, 1855, it was incorporated as a city. The growth of the city has been steady and of a permanent character. It early became a favorite place of settlement for Germans, who (by birth and immediate descent) now comprise more than one-half of the population. The remainder of the city's population is composed of various nationalities, the Irish predominating. The American element as generally recognized comprises about 20 per cent. of the entire population.

Hoboken has been exceptionally free from ravages by fire, and the permanency of its growth has prevented it from feeling extremely those periods of financial depression which have been general throughout the country. Its contiguity to New York gives it many advantages as to markets, it being also a receiving-point from which the great city obtains some of its supplies, notably coal. Many doing business in New York find here a place of cheaper residence, while its own internal importance and favorable situation afford a sufficient guarantee of its continuance in well-doing.

HOBOKEN IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of Hoboken :

LOCATION.

Hoboken is located in latitude $40^{\circ} 44'$ north, and longitude $74^{\circ} 1'$ west, being on the eastern coast of New Jersey, on the right bank of the Hudson river, directly opposite and west of the lower part of New York city. It adjoins Jersey City on the northeast, and its harbor and water facilities are, in general, identical with those of the two other cities named. It has connection with New York at two points by ferry, and no less than six European steamship lines find here their terminus. The water-front extends $1\frac{1}{2}$ mile; the channel has a depth of from 45 to 55 feet; and at the pier-line the depth of water is from 26 to 28 feet.

RAILROADS.

But one railroad terminates in Hoboken—the Delaware, Lackawanna, and Western, running to Easton, Pennsylvania, and thence to Binghamton, New York, etc.

TRIBUTARY COUNTRY.

The country tributary to Hoboken and near to Jersey City is largely devoted to truck-raising and the lighter kinds of agriculture.

TOPOGRAPHY.

Of the city's area, 450 acres, comprising the marsh-lands, are level and low; the remainder, about 270 acres, comprising the eastern part of the city, is a slightly elevated ridge, belonging to the Triassic formation, of which the surface rocks are trap and red sandstone, with serpentine gneiss underlying. Its average level is about 12 feet above high tide. The marsh-lands are at a level of about 2 feet below high tide, and probably once formed a channel for the Hudson river. Within a radius of 5 miles the country is generally open, being low and level to the south, with an elevated ridge to the north and west.

CLIMATE.

The highest recorded summer temperature is 99° ; the highest summer temperature in average years (1874 to 1879, inclusive) is 93° . The lowest recorded winter temperature is -3° ; the lowest winter temperature in average years (1874 to 1879, inclusive) is 6° . The undrained marshes and lowlands near Hoboken are thought to have an ill effect on the health of its people. The adjoining water mitigates extremes of heat and cold, while the city is much protected from winds from the direction of the ridges and highlands to the west and north—this being a desirable feature in winter but a disagreeable one in summer.

STREETS.

Hoboken has 22 miles of streets, of which 6 miles are paved with cobble-stones and 5 miles with stone blocks. The cost per square yard of the former, as near as it may be estimated, is 75 cents, and of the latter (Belgian trap), \$1. The total amount appropriated for 1880, known as the "street-repairing fund", is \$3,000. The block pavement is the more easily kept clean. For the cleaning of streets the appropriation for the present year (1880) is \$3,500. Sidewalks are laid with bluestone flagging. The earlier-laid gutters are paved with bluestone and cobbles, while in newer work trap-rock is used. Tree-planting in the streets is not practiced. Streets are constructed by contract, the cost falling upon the property benefited, while street-repairing is done by days' work. Neither steam stone-crusher nor roller is used.

HORSE-RAILROADS.

There are 3 miles of double track in the city and 8 miles outside, all controlled by the same company. There are employed 90 cars, 430 horses, and 216 men. The rates of fare are 5 cents within the city limits and 7 cents outside. The total number of passengers carried during a year is about 5,000,000.

There are no omnibus lines.

WATER-WORKS.

The city has no water-works of its own, but gets its supply from the Jersey City water-works.

GAS.

The gas-works are not owned by the city. The charge per 1,000 feet varies from \$2 12½ to \$2 75. The city pays \$25 15 per annum each for street-lamps, 386 in number.

POLICE.

The only information concerning this subject which was furnished, was that the police are on patrol duty 8 hours at a time.

PUBLIC BUILDINGS.

The city owns and occupies 4 school-houses, 7 fire-company houses, and 1 bell-tower. The total value of the city's municipal property is about \$127,000. There is no city hall owned by the city.

PUBLIC PARKS AND PLEASURE-GROUNDS.

The city's total possessions in this species of property amount to about 7 acres. They are: *Hudson Square*, of 138,000 square feet; *Church Square*, of 138,000 square feet; and *Market Square*, of 22,500 square feet. The land for all these parks was dedicated to the city by its founder, John Stevens, in 1804. In their construction, \$50,000 has been spent. To maintain and protect Hudson and Church squares, about \$1,200 are annually expended for each. No record is kept of the annual number of visitors. Messrs. Spielman and Brush were the designers of Hudson square, and Mr. Otto F. Wegener was the designer of Church square. The parks are controlled by the mayor and city council. Expenses are paid from the contingent fund, except the salaries of the 2 park-keepers (\$700 each per annum), which are paid from the salary fund.

PLACES OF AMUSEMENT.

Hoboken has no theaters, but contains the following concert-halls and lecture-rooms:

Odd Fellows' hall, organized in 1867, and used for concerts, public meetings, etc.; size 50 by 86 feet, cost \$40,000, seats 1,000, and in character is of high standing.

German club, organized in 1856 by a private association for the advancement of literature, music, and German interests generally. The hall is often used for public and charitable purposes. It seats 400. The club has an average membership of 180, and is one of the most respectable in the city.

Franklin lyceum, organized in 1857 by a literary society, has about 40 members. Its hall is loaned to it by the city. Its size is 40 by 70 feet and it seats about 200. The standing of the lyceum is high.

Stevens Institute hall is no longer used formally for receptions, lectures, etc. Its use is now generally private, in connection with the institute.

Of concert- and beer-gardens there are:

Germania garden, constructed in 1870, size 40 by 75 feet, cost \$40,000 and seats 700. Its business is generally flourishing.

Gantzberg's hall, constructed in 1867, size 75 by 100 feet, cost \$7,000 and seats 300. It does a comparatively good business.

Harmonia hall, constructed in 1854, size 24 by 50 feet, cost \$12,000 and seats 250. It is owned and patronized by several musical clubs.

Germania hall, constructed in 1862, size 25 by 90 feet, cost \$10,000 and seats 250. It is fairly patronized, generally by Germans.

Weber's garden. Of this no information was furnished.

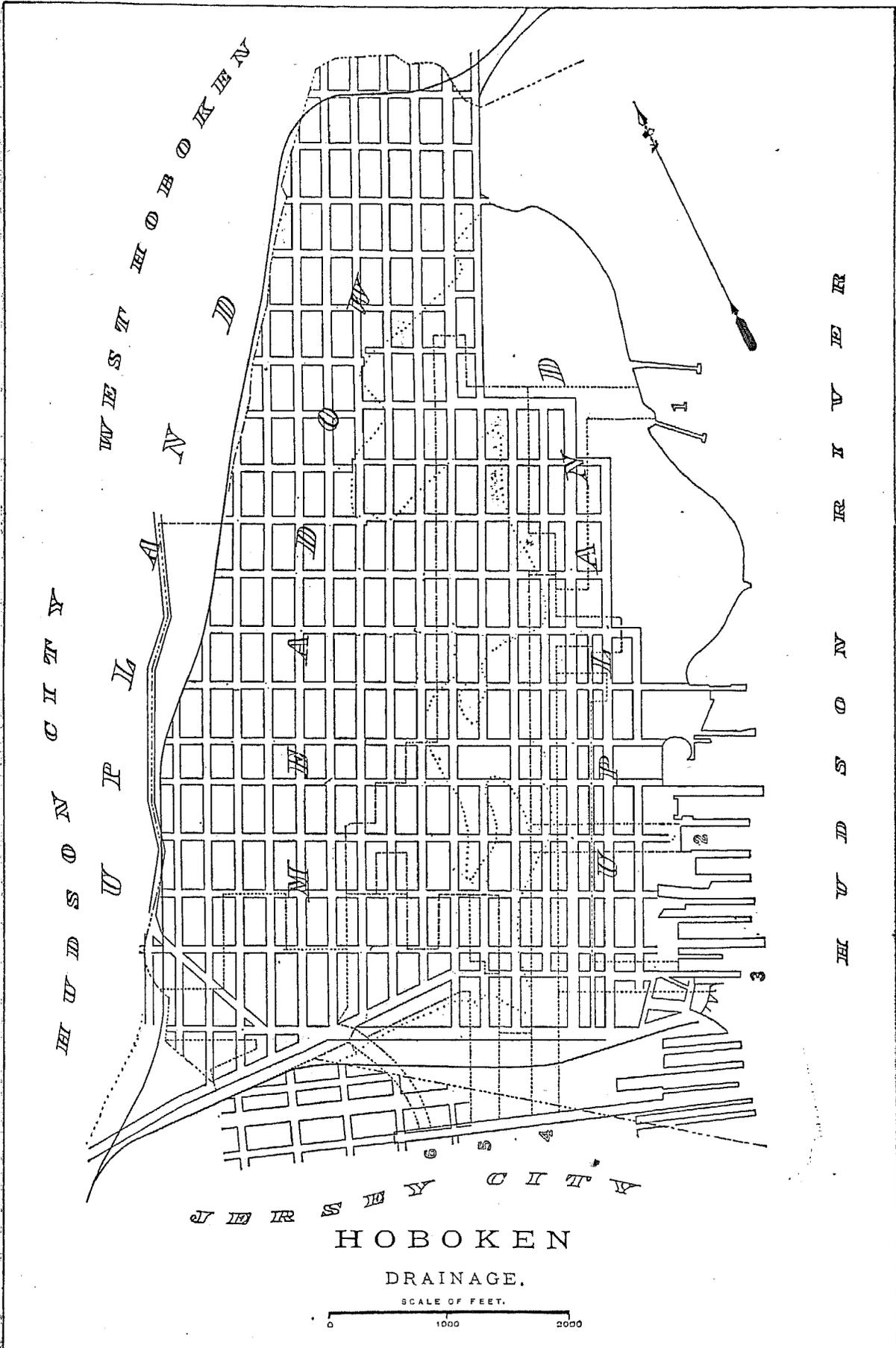
DRAINAGE.

The following information concerning the drainage of Hoboken has been furnished by Messrs. Spielman and Brush, who made a report and estimate for the building of sewers necessary to drain the swamp-lands in the rear of the city, addressed to the mayor and common council:

Hoboken contains in all about 720 acres, of which 270 acres are upland and 450 acres are marsh-lands. About 90 acres of upland and 140 acres of marsh-lands are built upon.

The higher portion, sloping toward the Hudson river and toward the marsh in the rear, presents a comparatively simple problem, the elevation and inclination of the land affording ample facilities for drainage by gravity. At present no serious annoyance results from the delivery of the sewers at the water-front, and when annoyance shall arise from this source, an intercepting sewer, connecting the present sewers and carrying their discharge to deep water opposite the southerly end of the city, will be easy.

The accompanying map of Hoboken, in which different drainage districts and their connection with tide-water are shown by different shading, indicates the relative upland and swamp areas.



HUDSON COUNTY

WEST HOBOKEN

THE HUDSON RIVER

JERSEY CITY
HOBOKEN

DRAINAGE.

SCALE OF FEET.

0 1000 2000

The geological formation is indicated by the cross-section, on which is laid down the low-level sewer for the drainage of the meadows, and the pumping-station as recommended by Messrs. Spielman and Brush. The meadows are underlaid to a depth of 100 feet, and sometimes even more than that, by a deposit of blue clay or silt. This is overlaid by a thickness of about 5 feet of very light swamp formation, matted roots, flags, etc. The natural source of the meadows is 1.5 feet below high-water mark, and the established grade of the streets crossing the meadows is 2 feet above high-water mark. They lie east of the Palisade ridge, and are separated for the most part from the river by a knoll comprising the uplands of Hoboken; they extend north and south about $1\frac{1}{2}$ miles, and are about one-half of a mile in width. The original tidal-flow over these marsh-lands has been obstructed by the filling in for railroads and streets, until now there are only two natural outlets to the river—one on the south, a basin constructed by the Delaware, Lackawanna, and Western Railroad Company, 100 feet wide and 2,300 feet long, and the other on the north, a sluiceway at Fifteenth street.

The average difference between mean high and mean low water in the Hudson river at Hoboken is 4 feet and 6 inches. The average level of the meadow-lands is 1 foot and 6 inches below mean high water, or 3 feet above mean low water. The established grade of the streets on the Coster estate is 2 feet above mean high water. During long easterly or northerly storms, especially at times of high spring tides, the level of the water in the Hudson river at low tide is several feet higher than mean low water, the greatest difference that has been noted being 3 feet $9\frac{1}{2}$ inches; that is to say, there have been times when even at low tide the water in the river was $9\frac{1}{2}$ inches higher than the surface of the meadows. On several occasions the water in the river has risen more than 3 feet higher than mean high water, and of course at such times the water in the river was $4\frac{1}{2}$ feet higher than the level of the meadows, and 1 foot higher than the established grade of the streets.

It is stated that many attempts have been made to drain the swamp-lands by gravity without altering the present grades of the streets; much has been done the past fifteen years, and \$100,000 spent in the endeavor to carry out that system.

There has been much legislation, and many reports have been submitted by different engineers, in pursuance of an evident hope of the council that some means might be devised to secure a result in this district only possible with more elevated lands.

Messrs. Spielman and Brush estimated the cost of the necessary elevation of this portion of the city, if gravity drainage is to be resorted to, at over \$3,000,000, while the total cost of pumping-works would be \$150,000—the annual running expenses and interest on cost not exceeding \$30,000.

In a word, a proper tidal system of drainage for the marsh-lands when all built upon (exclusive of the cost of the sewer which we estimated at \$700,000) will require a preliminary expenditure of at least \$3,000,000, or \$180,000 per annum, while a complete pumping-system will require a preliminary expenditure of \$150,000, or \$30,000 per annum.

When we consider that in addition to the enormous increase of cost it will require several years to regrade the streets and adjoining lots in order to prepare for the construction of the tidal system, and that when completed the flat grades and low levels will cause the sewers to be often tide-locked, we reiterate our opinion and advice to the council as expressed in 1871, and declare any tidal system of sewers for our lowlands entirely impracticable.

For the cost of inaugurating a system of sewerage with a pumping outlet sufficient to drain the lands south of Eighth street, Messrs. Spielman and Brush submit the following estimate:

<i>Cost of pump-works.</i>	
Land.....	\$10,000
Cisterns.....	15,000
Pumps and engines of 92 horse-power.....	18,000
Buildings.....	10,000
Contingencies.....	7,000
Total for pump-works.....	<u>60,000</u>
<i>Cost of sewers.</i>	
2,150 feet of 5-foot circular sewer in Park avenue and First street, at \$15.....	\$32,250
1,750 feet of 5-foot egg-shaped sewer in Jefferson street, at \$13.....	22,750
1,767 feet of 4-foot 6-inch egg-shaped sewer in First street west of Jefferson street, at \$12, say.....	21,200
800 feet of 3-foot 9-inch egg-shaped sewer in Fifth street between Jefferson and Clinton streets, at \$10.....	8,000
1,400 feet of 2-foot 3-inch egg-shaped sewer in Clinton street between Fifth and Sixth streets, and in Adams street between First and Third streets, at \$8.....	11,200
675 feet of 2-foot 3-inch egg-shaped sewer in Jefferson street between Newark avenue and First street, connecting with present Newark Avenue sewer, at \$8.....	5,400
Contingencies.....	10,200
Total cost of sewers.....	<u>111,000</u>

This outlay of \$111,000 for sewers will be necessary under either system.

<i>Annual expenses of the pump-works.</i>	
Interest on \$60,000, at 6 per cent.....	\$3,600
Insurance.....	800
Attendance.....	4,000
Fuel.....	2,000
Labor and repairs.....	1,500
Contingencies.....	1,100
Total annual expenses.....	<u>13,000</u>

The following is furnished by the same gentlemen in response to the schedule of interrogatories:

Sewers are built, not according to any definite plan, but as the requirements of each case may be determined by the city council. So far as provision has been made for the ventilation of sewers it has been done by the use of perforated manholes. Hollow invert blocks are not used in the city, but we are incidentally informed that they have been used in adjoining towns on flat grades for their wet lands with satisfactory results. The outlets of the sewers are exposed at low tide or submerged at high tide.

The following is the reply to the question, "What final disposition is made of the outflow of the sewers?": "What does not remain festering on the meadows is discharged into the Hudson river." The sewers in the higher parts of the city are generally self-cleansing, or are cleansed by heavy rains. On the meadows they are generally clogged, the deposits when removed at all being removed by hand. Such removal has been done by days' work, and the cost has not been separately kept.

The cost of sewers is paid by assessment on the property benefited, so far as benefit accrues; the excess of cost is paid by the city. Assessment upon abutters is made solely in proportion to the benefit rendered, and of this each assessor is the judge. Assessments which have been made according to area or valuation of property have been set aside by the courts as being illegal.

CEMETERIES.

Hoboken has direct connection with but one cemetery, this being a public one belonging to the city. It covers about 18 acres, and is situated on high ground, with a fine outlook, about 4 miles north-northwest of the city hall at New Denham. In shape it is a parallelogram. The roadways are not paved, and are muddy in wet weather, but, having stone gutters, and the ground having a decided slope, surface-water is quickly disposed of. The cemetery is kept in good order and its admirable rules are admirably enforced. Many of its tombstones are tasteful, and among its improvements is a small reservoir about 75 by 30 feet in size, supplied by a windmill from a small lake in the vicinity. The charge herein for a single lot is \$10, and for digging a grave \$4. There is a section reserved for public or city burials, which may be used by any resident at the cost of digging the grave; but bodies interred here are subject to removal at the discretion of the authorities. For a burial permit 25 cents is charged.

Formerly interments were made in certain church-yards; but from these the remains have all been removed to the cemetery above described. No records remain concerning these.

As nearly as can be ascertained, there have been about 5,000 interments in the New Denham cemetery. Although all have been taken account of, no correct record has been preserved. Before burials can take place a permit must be obtained from the board of health. No corpse is allowed to remain unburied more than four days; in case of contagious diseases not over twenty-four hours. The depth of graves must be at least 6 feet, "and 4 feet below any closely adjacent street". Among other provisions of the health ordinances of the board of health of Hudson county is this: "That in the removal of dead bodies, or of those who have died of a contagious disease, hearses must be employed. In no case will it be permitted to use coaches or wagons for this purpose." The average annual number of interments in the cemetery is about 400.

MARKETS.

There are no public or corporation markets in Hoboken.

SANITARY AUTHORITY—BOARD OF HEALTH.

Hoboken has a health board consisting of the board of aldermen and a health-warden, but it is subordinate to and properly governed by the board of health and vital statistics of Hudson county. The scope and functions of this latter controlling health organization are fully described under this head in the report for Jersey City, which see.

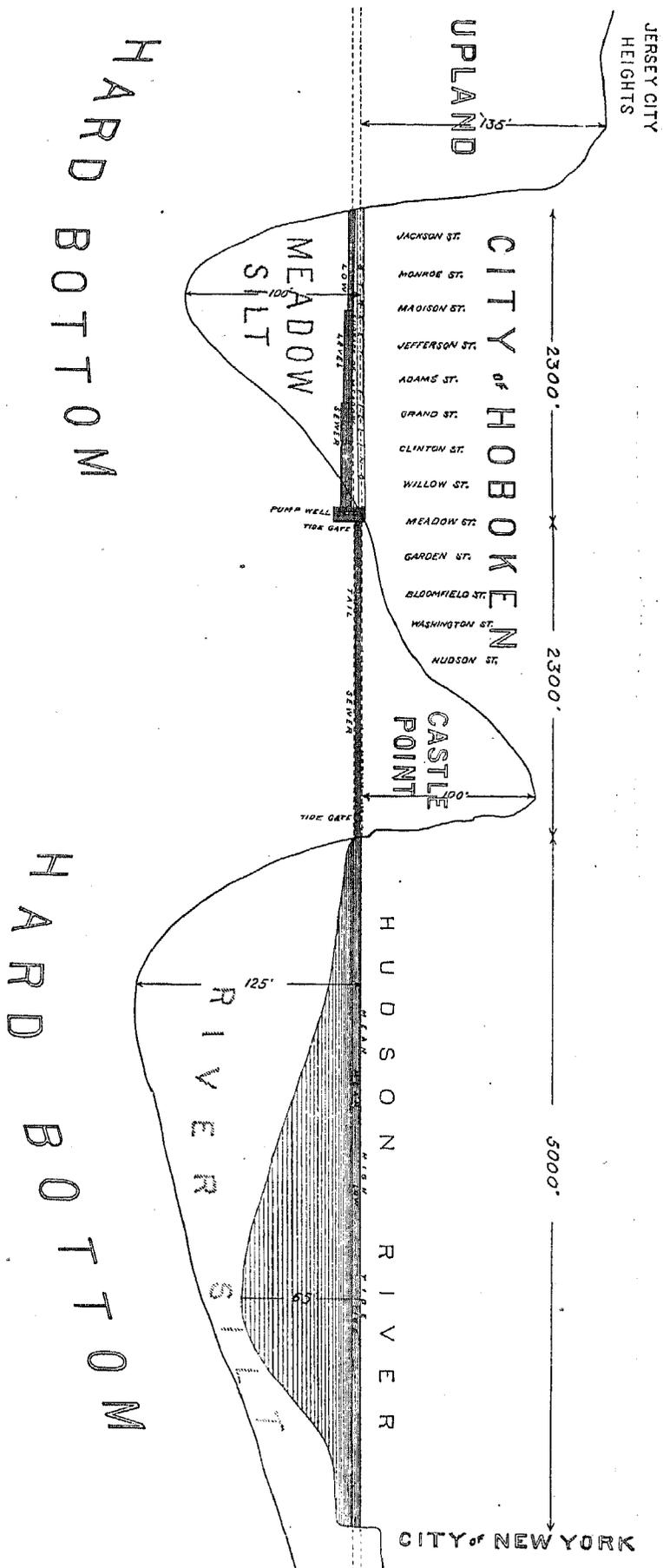
MUNICIPAL CLEANSING.

Street-cleaning is done by the city with its own force, by hand only. The work is performed well and is done once a month, at an annual cost to the city of \$1,700. The sweepings from the streets are used for filling.

Garbage also is removed by the city, the service being done by contract. It must be suitably retained on the premises until the stated days for its removal. As both are used for filling, it is allowed to keep ashes in the same vessel. The annual cost of their removal to the city is \$1,950.

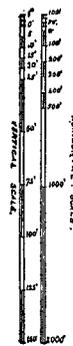
Dead animals are removed out of the city by contract, at no cost to the city. About 1,000 are annually so removed.

Liquid household wastes and human excreta.—The liquid wastes of the city all find their way into the public sewers, cesspools on the premises, it is stated, getting none of it. The further statement is made that as between water-closets and privy-vaults, three-quarters of the houses depend on the latter: Substantially all of the water-



LOW LEVEL SYSTEM OF DRAINAGE

PROPOSED FOR THE
HOBOKEN MEADOWS



HARD BOTTOM

HARD BOTTOM

UPPLAND

CITY OF HOBOKEEN

CASTLE POINT

HUDSON RIVER

CITY OF NEW YORK

JERSEY CITY HEIGHTS

2300' 2300' 5000'

MEADOW SILT

RIVER SILT

PUMP WELL
TIDE GATE

TIDE GATE

125'

- JACKSON ST.
- HONORE ST.
- MADISON ST.
- JEFFERSON ST.
- ADAMS ST.
- GRAND ST.
- CLINTON ST.
- WILLOW ST.
- MEADOW ST.
- GARDEN ST.
- BLOOMFIELD ST.
- WASHINGTON ST.
- HUDSON ST.

closets deliver into public sewers. About 75 per cent. of the privy-vaults are nominally water-tight. The following are the regulations of the board of health of Hudson county relative to the construction and emptying of privy-vaults:

All vaults and privies shall be made of brick and cement, and contain at least 80 cubic feet, and the inside of the same shall be at least 3 feet distant from the line of every adjoining lot, and at the same distance from every street, lane, alley, court, square or public place or public or private passage-way; and they shall be so constructed as to be conveniently approached, opened, and cleaned. Every vault shall be made tight, so that the contents thereof can not escape therefrom. All preparations for cleaning a vault or privy shall be made by the person entering the same; and, in case of neglect to make such preparations, it shall be made by the proper authority, and the expense thereof be charged to such person.

No privy-vault shall be opened between the 1st day of June and the 15th day of September in each year, unless the board of health shall be satisfied of the necessity of the same for the health or comfort of the inhabitants; and such precautions shall be used relative to the prevention of any offensive effluvia as said board may direct, at the expense of the owner, agent, occupant, or other person having charge of the premises.

Night-soil is used as a fertilizer.

Manufacturing wastes.—There exists as to liquid and solid manufacturing wastes only the general requirement that they be not allowed to become a nuisance.

POLICE.

Hoboken's police force is appointed and governed by the board of police commissioners, consisting of the mayor, and four others appointed by him with the advice and consent of the city council, for four years each, one member's term expiring each year. At the head of the force as its executive officer is the chief of police; his salary is \$1,500 per annum. The rest of the force comprises 2 aids at \$1,000 each; 2 roundsmen at \$960 each; and 40 patrolmen at \$840 each per annum. The uniform consists of dark-blue frock-coat, overcoat, and trousers, brass buttons (state arms), black and drab helmets; and, in summer, dark-blue blouse. The uniforms are furnished by the men themselves. Patrolmen are armed with clubs; they serve 8 hours, and patrol an irregular length of streets, varying according to circumstances.

During 1880 the arrests made numbered 1,192, the principal causes being drunkenness, disorder, and assault and battery. During the year there were 1,815 station-house lodgers. These were fed at a cost of 12 cents per meal.

The force co-operates with the fire department by guarding property and preventing interference with the firemen at fires, and with the health and building departments by reporting and making arrests for violations of the health and building ordinances.

The cost of the force for the year was \$39,500.

FIRE DEPARTMENT.

The fire department (*a*) consists of the following companies: Hoboken Engine Company, No. 1, possessing a third-class Amoskeag steam-engine, a hose-carriage, and 900 feet of hose; Excelsior Engine Company, No. 2, possessing a hose-carriage and 900 feet of hose; Meadow Engine Company, No. 3, possessing a Gould second-class engine, a hose-carriage, and 1,000 feet of hose; Oceana Hose Company, No. 1, having a hose-carriage and 800 feet of hose; Liberty Hose Company, No. 2, having a hose-carriage and 800 feet of hose; Washington Hook-and-Ladder Company, No. 1, with suitable apparatus; and Empire Hook-and-Ladder Company, No. 2, having the usual appliances. Most of the apparatus of the department is in good condition. There are 151 fire-hydrants in use.

PUBLIC SCHOOLS.

The following figures are from the report of the board of education for the year ending May 1, 1879:

There are 8 schools under the supervision of the board; 3 are composed of grammar and primary departments, 1 of grammar, intermediate, and primary departments, 1 primary, 1 high school, 1 evening school, and 1 normal school. There are 90 teachers employed, and the total number of children enrolled is 5,415. The whole number of children of school age (August 31, 1878) was 8,729, of which 3,641 do not attend the public schools. The estimated number attending other schools is 2,166. The enrollment in the normal school is 79, and the average attendance 63. The total average attendance at the day schools is 3,313, and the average of the evening school 173, making a total average attendance of 3,486. The total amount paid in salaries during the year was \$56,634 15, and the total expenses of the department were \$72,005.

a April 22, 1879.

SOCIAL STATISTICS OF CITIES.

MANUFACTURES.

The following is a summary of the statistics of manufactures of Hoboken for 1880, being taken from tables prepared for the Tenth Census by Daniel Van Winkle, jr., chief special agent:

Mechanical and manufacturing industries.	No. of establishments.	Capital.	AVERAGE NUMBER OF HANDS EMPLOYED.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
All industries.....	121	\$486,320	613	59	51	\$283,094	\$588,750	\$1,051,136
Blacksmithing (see also Wheelwrighting).....	6	6,750	9			6,300	6,600	17,650
Boots and shoes, including custom work and repairing.....	11	4,830	0			2,875	7,875	16,450
Bread and other bakery products.....	17	46,300	33	7	5	18,525	88,710	128,050
Carpentering.....	8	6,200	27			13,176	24,976	49,151
Clothing, men's.....	8	8,000	23	6	1	8,673	13,200	30,100
Foundry and machine-shop products.....	3	123,000	129		4	49,255	88,807	141,056
Painting and paperhanging.....	5	19,800	40			22,098	22,300	57,782
Plumbing and gasfitting.....	3	6,500	21			8,822	12,900	25,300
Sash, doors, and blinds.....	3	8,230	29			21,100	31,500	61,000
Silk and silk goods.....	4	74,300	124	33	33	48,530	49,970	101,000
Tobacco, cigars and cigarettes.....	19	22,950	26	1	5	13,801	33,708	60,670
Wheelwrighting (see also Blacksmithing).....	4	8,500	21			9,900	10,550	27,000
All other industries (a).....	30	150,900	125	12	3	66,639	197,660	329,927

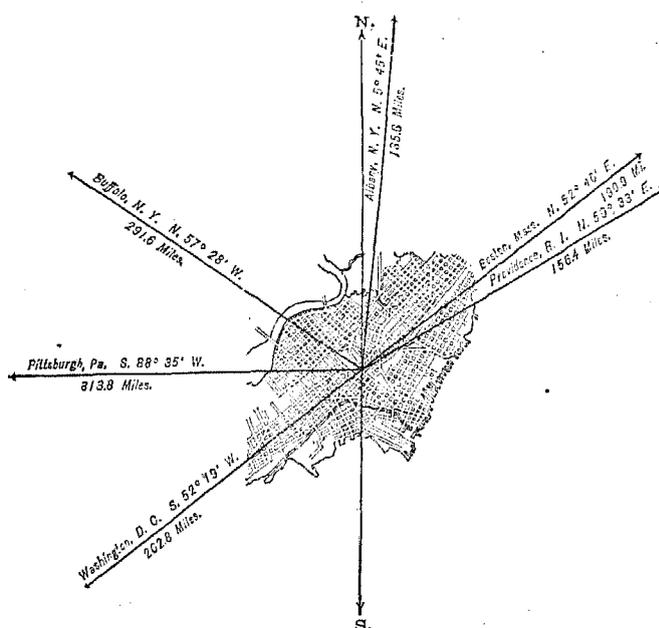
a Embracing boxes, wooden packing; confectionery; cooperage; drugs and chemicals; dyeing and cleaning; dyeing and finishing textiles; furniture; iron railings, wrought; kindling wood; liquors, malt; looking-glass and picture frames; lumber, planed; marble and stone work; mineral and soda waters; mixed textiles; printing and publishing; saddlery and harness; shirts; soap and candles; tinware, copperware, and sheet-iron ware; varnish; vinegar; and wood, turned and carved.

From the foregoing table it appears that the average capital of all establishments is \$4,019 17; that the average wages of all hands employed is \$392 38 per annum; that the average outlay in wages, in materials, and in interest (at 6 per cent.) on capital employed is \$7,451 48.

JERSEY CITY, HUDSON COUNTY, NEW JERSEY.

POPULATION IN THE AGGREGATE, 1840-1880.

Year	Inhab.
1790	.....
1800	.....
1810	.....
1820	.....
1830	.....
1840	..... 3,072
1850	..... 6,856
1860	..... 29,226
1870	..... 82,546
1880	..... 120,722



POPULATION BY SEX, NATIVITY, AND RACE, AT CENSUS OF 1880.

Male	..... 59,919
Female	..... 60,803
Native	..... 81,464
Foreign-born	..... 39,258
White	..... 119,351
Colored	..... *1,371

* Including 21 Chinese and 10 Indians.

Latitude: 40° 43' North; Longitude: 74° 1' (west from Greenwich); Altitude: 0 to 170 feet.

FINANCIAL CONDITION:

Total Valuation: \$58,411,959; per capita: \$484 00. Net Indebtedness: \$15,386,435; per capita: \$127 45. Tax per \$100: \$3 06.

HISTORICAL SKETCH.

The date of the first settlement of the land now comprised within the corporate limits of Jersey City was but little later than that of New York, although in 1643 only six "bouweries" could be found in the whole district. Unavoidable troubles with the savages led to massacres and the almost total destruction of the outlying farms. The few settlers that escaped found refuge in New Amsterdam, and were prohibited under heavy penalties, by ordinance passed January 18, 1656, from again forming detached settlements. On the 30th of January, 1658, Governor Stuyvesant purchased from the Indians all that part of Hudson county lying between the Hudson and the Hackensack rivers. The former settlers were granted permission to return on condition of their forming a village, or concentrated settlements, for mutual defense and assistance. During the mid-autumn of 1660 the village of Bergen was laid out, 800 feet square, and securely palisaded. This was the first organized settlement within

the present city limits. The place chosen was on a hill "behind Comunepah", where the village could be easily defended, and was named, obviously from its situation among the hills, Bergen. The four blocks lying at the intersection of Tonnelle and Bergen avenues still show the original plan of this town.

During the British occupation of New York the present Hudson county became of some importance. Early in the war of the Revolution works were constructed at "Paulus Hoeck" under the direction of General Washington, but were taken by the English a few months later and held by them during the remainder of the war. This was the scene of the exploit of Major Henry Lee, August 19, 1779, who made nearly all the garrison prisoners. It was soon regarrisoned, and held until November 22, 1783, three days before the evacuation of New York.

On the 20th of April, 1804, Paulus Hoeck was finally conveyed to Richard Varick, Jacob Radcliff, and Anthony Dey. They divided their purchase into one thousand shares, and associated others with themselves. Parties thus interested became, by an act passed November 10, 1804, a corporation entitled the "Associates of the Jersey Company". To it Varick, Radcliff, and Dey conveyed their interests in February, 1805.

By an act of January 28, 1820, Jersey City was incorporated and extended over Paulus Hoeck. By this act the taxable inhabitants were authorized to elect annually five freeholders to conduct the affairs of the city, and to be known as the "board of selectmen of Jersey City". It still, however, remained a part of Bergen township until February 22, 1838, when the corporate name was changed to "the mayor and common council of Jersey City", and it became a separate municipality.

On March 8, 1806, "the town or landing-place of Jersey" was made a port of delivery within the district of Perth Amboy. Five years later the whole city was annexed to the district of New York, and Colonel Aaron Ogden was appointed as collector. In 1865 the assistant collector was empowered to enroll and license vessels for the coasting-trade and fisheries.

In 1839 the boundaries of the city were extended westerly as far as Grove street. March 18, 1851, the city received a new charter extending its limits over the township of Van Vorst, and dividing the city into four wards. In 1861 the 5th and 6th wards were added; in 1867 the 7th and in 1870 the 8th wards were erected. On October 5, 1869, Bergen and Hudson cities became, by a majority vote of their electors, according to an act approved for the purpose, annexed to Jersey City proper, each adding three wards. In 1871, the local government being reorganized, the wards were abolished and six aldermanic districts were erected in their stead, each district being entitled to two aldermen, and each returning one member to the state assembly. In 1873 the township of Greenville was annexed and became a part of the sixth aldermanic district, this being the last annexation made.

The entire area, including various tracts reclaimed from the Hudson river and New York bay, is now about 11,000 acres; and 2,227 acres of this is salt marsh. The original area of the city when incorporated was between 70 and 80 acres, including 65 acres of the upland of Paulus Hoeck, and the remainder of salt meadow.

The growth of Jersey City, in respect to population, manufactures, and means of communication, has been equaled by few western cities. In 1802 the entire population of Paulus Hoeck numbered 13, while the entire number within the present city limits probably did not exceed 1,500. In 1840, the date when the United States Census gave the city a separate return, the population was only 3,072; but the increase since then has been rapid, the percentage by decades being 123, 326, 182, and 39.

The water-works were begun in 1851, and were finished in 1854 at a cost of \$625,000. They have since been enlarged and improved, and are now valued at \$6,000,000. The first post-office was established in 1831, and gas was first used for lighting the streets in 1852.

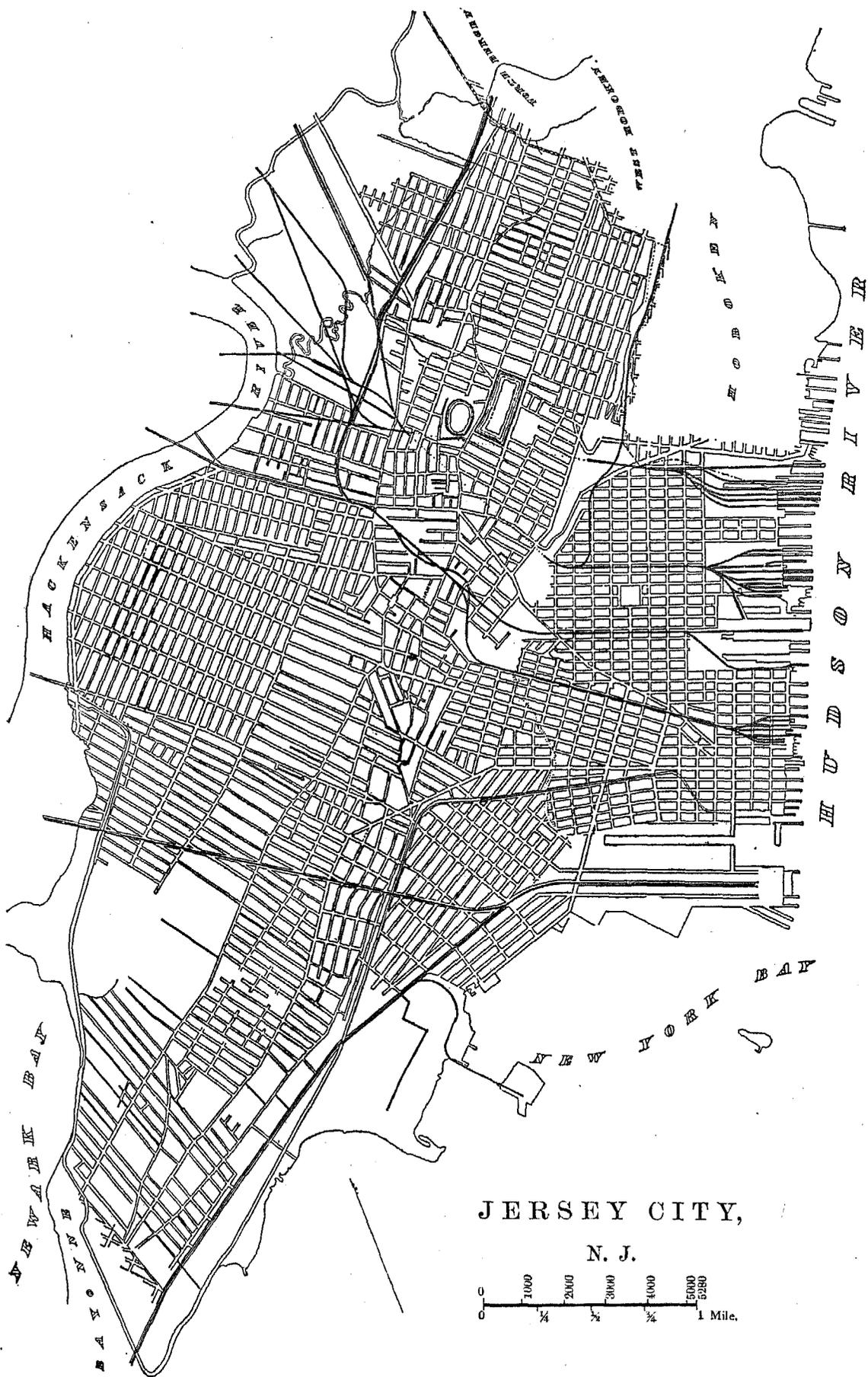
The first settlers were from Holland. The predominating nationality continued to be of Dutch extraction until about 1840, when, more especially in the lower portions of the city, population began to assume its present mixed complexion. The causes for this change are the proximity to New York, rendering this city and vicinity desirable as a place of residence for business men, and the railroad and manufacturing companies that attract large numbers of laborers, both skilled and unskilled.

Jersey City being closely related to the Metropolis (New York), which see, a very extended report is not deemed necessary here, and the following statistical accounts, directly pertaining to the place, are given below to indicate the present condition of the city.

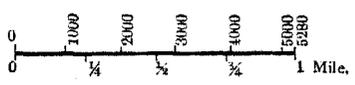
JERSEY CITY IN 1880.

LOCATION.

Jersey City lies in latitude 40° 43' north, longitude 74° 1' west from Greenwich, on the right bank of the Hudson river at its entrance into New York bay, and opposite the southern portion of New York city. The average elevation above mean sea-level is 34 feet, the lowest point being sea-level and the highest 170 feet above. The city has a water-front on the Hudson river of 2 miles, with a channel depth of 50 feet and a depth at pier-line of 26 feet, and on New York bay a front of 3 miles, with a depth of water at high tide of 6 feet. On Newark bay the water-front is 1 mile, with a channel-depth of 13 feet, and a depth at bulkhead-line of 3 feet; while on the Hackensack



JERSEY CITY,
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river the water-front extends 5 miles, with a channel-depth varying from 25 to 30 feet, and a depth at bulkhead-line of from 7 to 16 feet—the current here running about 6 miles an hour. The Red Star line to Antwerp, Belgium, and the Monarch line to London, have their piers on the eastern water-front. Seven ferries ply between the city and New York, and two ferries, in connection with railroads, run to Brooklyn. Jersey City is also a large shipping point for coal, for, in addition to the many railroads terminating here, the Morris canal connects the city with Easton, Pennsylvania, and the Lehigh valley.

RAILROAD COMMUNICATIONS.

The following railroads have terminals at this point, mainly for the southern and western traffic coming to New York:

The Pennsylvania railroad (lessees of United Railroad and Transportation Company of New Jersey), to Philadelphia and all points south and west.

The Baltimore and Ohio railroad, to Philadelphia, Baltimore, and the West and South.

The Lehigh Valley railroad, to Wilkesbarre, Elmira, and the West.

The Central Railroad of New Jersey, to Easton and Scranton, Pennsylvania, and the West.

The New York and Long Branch railroad, to Newark, New Jersey.

The New York and Philadelphia (new line), to Philadelphia.

The New Jersey Southern railroad, to Bay Side, New Jersey.

The New York, Lake Erie, and Western railroad (old Erie railroad), to Buffalo and the West.

The Northern Railroad of New Jersey, to Nyack, New York.

The Midland Railroad of New Jersey, to Middletown, New York.

The Jersey City and Albany railroad, to Haverstraw, New York.

The New Jersey and New York railroad, to Stony Point, New York, via Hackensack, New Jersey.

The New York and Greenwood Lake railway, to Greenwood lake.

TRIBUTARY COUNTRY.

The lands in and about the city are mainly used as market-gardens, and supply a large proportion of the garden-truck used here and in New York city.

TOPOGRAPHY.

The prominent geological and topographical feature is the trap-rock ridge traversing the city from northeast to southwest for a distance of 5 miles, and forming the elevated portion known as Bergen hill and Jersey City heights. It has a width at the northern boundary of the city of about 1 mile, and a summit elevation of 170 feet above high water. Near the southern boundary of the city it is $1\frac{1}{2}$ mile wide, with a summit elevation of 90 feet. The underlying trap-rock has an inclination to the northwest of 10° to 15° , thus affording to the westerly side of the hill good drainage. The other portions of the territory within the corporate limits are deficient in good natural drainage.

East of Bergen hill there are 3.31 square miles of lowlands, of which 1.43 square mile is marsh, 0.80 square mile of land reclaimed from the waters of the Hudson river and New York bay. The balance of 1.08 square mile consists of several islands or sand-hills, of an average elevation not exceeding 10 feet, composed of a glacial and modified drift overlaid with fine loamy sand. The highest point of these hills is about 20 feet above tide. The older portion of Jersey City is built upon three of these sand-hills, which have been leveled for that purpose, the marsh between them having been filled in.

The Hackensack tide-marshes adjoin the city on the west, having a width of 4 miles from side to side of the valley, and extending to the north a distance of 10 miles. The ridge of Bergen hill continues to the southwest, as a neck or peninsula, about 4 miles to the waters of Kill von Kull at Bergen Point, with an average width of 1 mile, and to the northeast the ridge preserves the same average width for 20 miles, the elevation gradually increasing in that distance to about 500 feet, bordering on the Hudson river.

The geological formation to the westward for a width of 25 miles is the Triassic, with a gradual rise of 300 feet, broken by the line of the Newark and Orange mountains, a trap ridge parallel with Bergen hill and the Palisades, and of corresponding height, at a distance of 10 miles to the west. The country is open. The soil under the city and in the territory adjacent thereto is formed entirely of transported materials, viz, glacial and modified drift, æolian sand, and accumulations of peat and mud. The glacial drift contains a considerable amount of clay, and unless thoroughly drained is not as desirable, from a sanitary point of view, as a stratified drift, which is the most salubrious soil—the æolian sand holding an intermediate position. The salt marshes, composed of peat and mud, are at tide-level, but have been raised some 6 feet by filling.

CLIMATE.

Highest recorded summer temperature, 99° ; highest summer temperature in average years, 94° . Lowest recorded winter temperature, -3° ; lowest winter temperature in average years, 6° .

The salt water saturating, as it does, the soil, is believed to have a beneficial effect upon the health of that part of the city affected by it, as well as affording a safe carriage for a large portion of sewage from the low-lying portions of the built-up area. The marshes are not in themselves considered injurious to health, and become so only when sewage is allowed to flow on them which is not carried off by the tide, or when filled in with improper substances, as garbage, etc. Malarial troubles are said to be more or less prevalent upon the elevated portions of the city, due largely to lack of proper drainage. The prevailing winds in summer are from the south, and during the winter from the north.

STREETS.

There are 200 miles of streets in the city, of which 43.3 miles are paved with Belgian blocks, cobble-stones, and, to some extent, crushed stone. Wood was used on some of the streets for a number of years, but of late it has not been put down, and its further use is not recommended. The cost of the Belgian-block pavement, as near as it may be estimated, is \$1.75 per square yard. There is no regular system of repairing, all work under \$500 being given out to small parties, while jobs over that amount are given out to contractors. The streets are in some parts good, and, where paved with stone, some of them are very good. There being a comparatively small number paved, they get the most attention, while the majority are unpaved and are not well taken care of, some of them being in bad condition. The sidewalks are laid with bluestone, and, under the present regulations, must be 15 feet wide. Nearly all the important streets have good sidewalks. On the unpaved streets the sidewalks are generally formed by a single width of bluestone from 3½ to 4 feet wide. Nearly all the gutters are constructed of two pieces of bluestone, the one forming the curb and the other the gutter. At present the board of public works considers it better to make the gutters of stone blocks. The city takes no action in tree-planting along the streets, and where any is done it is done by private abutters; some of the streets, however, are well shaded with trees that have been set out by private enterprise. For the construction and repair of streets the contract system is preferred by the city authorities, it being found much cheaper and a better class of work being obtained.

There are several lines of horse-railroads in the city, with a total length of 25 miles, intersecting nearly all the principal streets. The rate of fare is 5 cents on all lines. There are no regular omnibus lines.

WATER-WORKS.

The works for the water-supply are owned by the city, and their total cost was \$5,042,713.42. The water is taken from the Passaic river at Bellville, and pumped into a reservoir elevated 120 feet above the pumps. The distribution is from the reservoir, the available head being from 30 to 90 feet. The average amount of water pumped per diem is 1,994,228 gallons. The average cost of raising 1,000,000 gallons 1 foot high is 6.8 cents, or 4.23 cents without the wages of the fireman, etc. The yearly cost of maintenance, aside from the cost of pumping, is \$139,574.15, and the yearly income from water-rents \$465,279.04. Water-meters are used to some extent, and it is believed here that they materially reduce the consumption of water; the authorities are inclined to think that the water-tax would be largely reduced if meters were more thoroughly introduced.

GAS.

No information on this subject was supplied.

PUBLIC BUILDINGS.

The city owns and occupies for municipal uses the city hall and board of public works building, but no information as to their cost, etc., was furnished.

PUBLIC PARKS AND PLEASURE-GROUNDS.

There are 4 parks in Jersey City, with a total area of 280,000 square feet: *Hamilton Square*, area 160,000 square feet, is at the intersection of Jersey and Pavonia avenues. It is the largest square in the city, but is in poor condition. *Van Vorst Square*, area 80,000 square feet, is on Jersey avenue between York, Barrow, and Montgomery streets; *Washington Square*, area 40,000 square feet; and *Court House Square*, area 30,000 square feet. The last three are in good condition. The land included in the area of the parks was given to the city, and the yearly cost of maintenance for all the parks is \$2,000. It is estimated that 20,000 persons visit the parks annually on foot. The parks are controlled by the board of aldermen.

PLACES OF AMUSEMENT.

The Academy of Music was formerly a hall with a seating capacity of about 1,200; in 1879 it was changed to a theater with a seating capacity of 1,500. It is 60 by 100 feet in size, with a stage 26 by 40 feet, and has 4 exits, including 1 special exit. The number of performances annually is from 175 to 200, and the theater is the only important one in the city.

Jersey City opera-house is 50 by 100 feet in size; seating capacity, 1,000; number of performances annually, about 90. This theater flourished for a number of years, but the performances are now of the "variety" style. The building is poorly constructed and is fast going to decay.

Butler's Arcade theater, about 5 years old, has a seating capacity of 900. In size it is 75 by 100 feet, and there are about 150 performances annually. The class of this theater comes under the head of "variety". None of the theaters pay any license to the city.

The Tabernacle, seating 1,062; Library hall, seating 1,000; McPherson hall, seating 400; Catholic institute, seating 1,000; Cooper's hall, Saint John's hall, and Boream hall, are used for balls, concerts, receptions, and mass-meetings. In addition to these there are about 20 halls of minor importance, used for club-meetings, etc.

Schützen park, used for balls, picnics, games, etc., has been in existence about 25 years, and is a great German summer resort. Henkle's beer-garden, size 200 by 175 feet; Pohlman beer-garden, 60 by 150 feet; Detman's beer-garden, 150 by 200 feet; Wolf's beer-garden, 50 by 50 feet; and New York Bay beer-garden are used for the purposes indicated by their names. Caledonia park, about 4 years old, is used for athletic games, picnics, etc.

DRAINAGE.

In response to a request for information concerning the sewerage of the city, W. W. C. Sites, chief engineer of the board of public works, wrote: "While I am able to furnish part of the information required, there is no appropriation in this department available for having copies of our maps made, or other information tabulated, as you desire." For lack of co-operation on the part of the city, it is impossible to furnish more than the following meager information:

Jersey City is composed of old Jersey City, Bergen, Hudson City, and Greenville. Old Jersey City lies on low ground, and Bergen and Hudson City on the heights. All of these have a complete plan of sewerage, while Greenville has none.

The only ventilation is through perforated manhole-covers, and through receiving-basins at street-corners, and on the curb-lines, where blocks are unusually long. The outlets of the sewers are exposed at low tide. The sewage is discharged into the Hudson river on the east and into the Hackensack river on the west.

On the heights, owing to the steep grade, very little hand-cleansing is necessary. "In the old city, on low ground, the sewers are mostly cleaned by hand and flushing." The cost of hand removal is about 45 cents per cubic yard, and the total expenditure in the year (1880) is \$600. The total cost for such removal, and for employes, supplies, and repairs, is \$5,500 per annum.

Contract prices for 1880 were as follows: 24-inch brick oval sewer, \$1 60; 30-inch brick oval sewer, \$2; 36-inch brick oval sewer, \$4; and 42-inch brick oval sewer, \$4 20.

CEMETERIES.

There are 6 cemeteries connected with Jersey City, as follows:

New York Bay Cemetery, area 80 acres, is situated on Ocean avenue near Danforth avenue.

Jersey City Cemetery, area 6½ acres, is situated on Newark avenue, at the foot of Bergen hill.

Hudson County Catholic Cemetery, area 70 acres, is situated on West Side avenue, near Montgomery street.

Saint Peter's Cemetery, area 6 acres, is situated on Tonnelle avenue, near the western brow of Bergen hill.

Bergen Reform Church Burial-ground, area 2 acres, is situated on Bergen avenue, near Highland avenue.

Speers Cemetery, area not given, is situated in a thickly populated part of the city, on the ridge.

The number of interments in the several cemeteries, so far as past records show, is: New York Bay cemetery, 37,015; Jersey City cemetery, 10,000; and the Catholic cemetery, 18,750; making a total of 65,765.

New York Bay cemetery is on elevated ground overlooking New York bay, the Jersey Central railroad touching the lower or southeastern end of the grounds. It is divided into four squares, formed by two roads crossing the cemetery in opposite directions. These squares are divided into smaller sections, with neat roads or paths and with well-developed tree-planting. This cemetery is one of the finest in Hudson county, and contains the remains of many soldiers of the Revolutionary war. The Hudson County Catholic cemetery, the largest Catholic cemetery in the county, is handsomely laid out with neat walks and abundant foliage. A wide well-paved road runs through the center, and is crossed by another from the sides. The price of lots varies from \$50 to \$100, according to location, a portion of the ground being set off for free interments. This cemetery is under the rules and regulations of the Catholic church. Saint Peter's cemetery is in a rather poor location, facing the western ends of the tunnels of the New York, Lake Erie, and Western, and the Delaware, Lackawanna, and Western railroads, and for some time there has been trouble between the railroads and the owners of the cemetery. The lots are all bought up; none are now buried here except lot-owners, and the cemetery will probably have to be removed. Jersey City cemetery is very neatly laid out, and, as it is built against the side of a hill, is favorably situated for large vaults. The cost of a grave is \$25. This cemetery has been in use since 1830. The Bergen Dutch Reform Church burial-ground is the oldest cemetery in the state. It contains the remains of the early Dutch settlers who died in this locality. No particular care is taken to preserve the grounds, and the old stones, some of them over two hundred years old, are gradually crumbling away; interments are no longer made here. Speers cemetery adjoins the above, and the only burials now made in it is the occasional interment of a lot-owner.

MARKETS.

There are no public or corporation markets in the city.

SANITARY AUTHORITY—BOARD OF HEALTH.

The chief sanitary authority in Jersey City, as well as in the cities of Hoboken and Bayonne, is the Hudson county board of health and vital statistics, an independent body composed of 3 commissioners, the county physician *ex officio*, and 2 other physicians, one of whom is required to be of the homeopathic school. The 3 commissioners are elected by the board of chosen freeholders for a term of three years, and receive an annual salary of \$500 each. The action of the board of health is not subject to the control either of the county or the city authorities, except so far as expenditures are concerned. The annual expense of the board when there is no declared epidemic is \$5,500, for salaries, vaccine matter, disinfectants, and stationery. During epidemics it may increase its expenses according to the necessities of the case, subject to the approval of the county authorities. In the absence of epidemics the board has authority to prohibit and abate nuisances in public and private places; to regulate and prohibit the keeping and slaughtering of animals; to regulate and prohibit noxious trades; to regulate scavenging and the storage of manure; to remove offensive matter from public and private places or highways; to register physicians, nurses, and midwives, and compel proper returns of births, marriages, and deaths to be registered in accordance with the statutes; to oversee and secure the sanitary condition of tenement-houses, prisons, and all public buildings; to regulate the cleansing of sewers, the dumping of garbage, and the filling in of sunken lots on marsh-lands; and to provide for the filling in of sunken lots which have become receptacles of stagnant water in the built-up portions of the county. The board may enact its ordinances either as a code or separately, and affix the penalties for their violation, to be not less than \$10 or more than \$100, collectible before any police magistrate, district-court judge, or justice of the peace. During epidemics, to prevent the spread of the same or of other dangerous diseases, the board has authority and must declare when any disease has become epidemic. Members of the board, and the inspectors by them appointed, after such proclamation, may enter any building, dwelling, or premises for the purpose of inspection and disinfection, and order the removal of persons or articles. The board is organized with a president and clerk, and is governed by the rules for conducting the meetings as found in Cushing's *Manual*. The board holds regular meetings twice each month.

INSPECTORS.

The chief executive officer of the board is the health inspector of the county. He is required to be a regularly graduated physician or chemist, and has a salary not exceeding \$1,500 per annum, to be fixed by the county authorities. He has general supervision of the health and sanitary condition of the territory within the jurisdiction of the board. No regular assistant inspectors are employed; but all local inspectors in any of the towns, townships, or cities in the county are under the control of the board, and have charge of the district which they may represent. The board has authority to appoint special inspectors during epidemics, at salaries of \$5 a day each for ten days, but no longer unless affirmed by the county authorities. The inspectors, as also the members of the board, have police powers and can summarily arrest any person found violating any of the health ordinances.

NUISANCES, ETC.

Inspections are generally made only upon complaints being received, but a general inspection is occasionally made when ordered by the board. When nuisances are reported the case is first examined by the inspector, and if he finds that one exists he orders it abated. If the order is not complied with, suit is brought against the party responsible. In the case of defective house-drainage, privy-vaults, cesspools, or sources of drinking-water the inspector examines, and directs such work to be done as may be best for the requirements of the case. In case of defective sewerage or street-cleaning, resolutions are passed by the board and sent to the municipality in fault, urging them to remedy the matter. If the city fails to make the necessary corrections the corporation may be indicted, or suit may be brought against the officer neglecting his duty for violation of the health ordinances.

The board has no direct charge over the removal or disposal of garbage, that being attended to by each town or city. The pollution of streams is forbidden by ordinance. The board requires that all excrement be removed by licensed scavengers, in air-tight vessels.

BURIAL OF THE DEAD.

Burial permits are required in all cases. They are issued only upon the receipt of a certificate of death, signed by a registered physician or member of the board.

INFECTIOUS DISEASES.

Small-pox patients are either isolated at home or, if willing, are removed to the pest-house situated on Snake hill beyond the Hackensack meadows, about 2 miles from Bergen hill. When cases are quarantined at home the inspector sees that as little intercourse as possible takes place with other persons, that all belonging on the premises are vaccinated, and that disinfectants are used. There are no special provisions regarding scarlet fever,

other than the general ordinances, which provide that "no person shall needlessly expose others to contagion by their acts". On the breaking out of contagious diseases in either public or private schools, the board makes an inspection and advises as to the method to be pursued. There is a penalty of \$25 for sending an infected child to school; and the superintendent and teacher allowing such child to remain at school is liable to the same penalty. Vaccination is compulsory, and is done at the public expense.

REGISTRATION AND REPORTS.

Births must be reported within thirty days, and deaths within thirty-six hours. All returns of vital statistics in Hudson county are made to the board of health direct, and by it registered, a copy of the register being sent to the state board of vital statistics. The board of health reports annually to the secretary of state, and the report is published in pamphlet form by the county.

The Hudson county board of health is the chief sanitary authority in Jersey City, and the local board of health is subordinate to it, its inspectors being required by law to obey the orders of the county board. The local board does very little beyond supervising the removal of ashes and garbage and dead animals, and providing professional advice, in case of sickness, for the city poor—the last being its principal function.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned at the expense of the city and with its regular force, and wholly by hand, no sweeping-machines being used. The main thoroughfares are cleaned once a week, the others once a month, and the work is said to be well done. The annual cost of the service is \$20,000, and the sweepings are deposited on the vacant lots. The city authorities report the system as the "best we ever had, and good".

Removal of garbage and ashes.—All garbage and ashes are removed at the expense of the city with its own force. There are no special regulations as to the conservancy of garbage while awaiting removal; it is kept in boxes or barrels, and ashes may be kept in the same vessel. Both ashes and garbage are disposed of in the same way, *i. e.*, being used for filling stagnant pools. The annual cost to the city for removal is \$20,000. No nuisance or probable injury to health is reported to result from the system, which is said to work well.

Dead animals.—The carcasses of all animals dying within the city limits are removed by contract without cost to the municipal authorities. No record is kept of the number of dead animals removed annually.

Liquid household wastes and human excreta.—The information furnished under this head was very meager. It is said that nearly all the liquid household wastes are run into the sewers. About two-thirds of the houses in the city are provided with water-closets—seven-eighths of which deliver into the sewers—while the remainder depend on privy-vaults. The privy-vaults are cleaned by regularly licensed scavengers, water-tight carts being used, and the night-soil is taken by scows to tide-water and there dumped.

Manufacturing wastes.—There are no regulations for the disposal of either liquid or solid manufacturing wastes.

POLICE.

The police force of Jersey City is appointed and governed by the board of police commissioners, an independent body composed of six members, who are elected by the people. The chief of police, salary \$2,000 per annum, is the executive officer, and has direct control of the force, subject to the orders of the board. The remainder of the force, with the annual salaries in the respective grades, is as follows: 1 inspector at \$1,425; 4 captains at \$1,390 each; 20 sergeants and 3 detectives at \$920 each; 6 roundsmen at \$825 each, and 115 patrolmen and 4 doormen at \$800 each. The uniform is of dark-blue cloth with brass buttons, and helmet hat, and each man provides his own. The patrolmen are equipped with clubs and revolvers. The hours of duty are, day, 7 to 11 a. m., 11 a. m. to 5 p. m., and 4 to 9 p. m.; and night, from 9 p. m. to 5 a. m. All the streets of the city are patrolled by the force, the outside districts being covered by mounted officers.

During the year 1880 there were 6,285 arrests made, the principal causes being for intoxication and disorderly conduct; "three-fifths of all are caused directly or indirectly by the use of liquor". The cases were disposed of by fines or imprisonment, some being discharged. During the year property to the value of \$12,336 54 was reported to the police as either lost or stolen, and of this \$7,880 10 was recovered and returned to the owners. The number of station-house lodgers during 1880 was 7,709, as against 9,087 in 1879. No meals are furnished to any of the lodgers, except worthy persons who are destitute, while "tramps and bums are arrested or driven out of the city".

The police force is required to co-operate and render all possible aid to all branches of the city government. Special policemen are appointed by the police board, upon application of corporations and individuals, as watchmen, but without pay from the city. They are subject to instructions from the office of the regular force, and if guilty of misconduct are removed. The yearly cost of the police force (1880) is \$138,000.

FIRE DEPARTMENT.

The manual force of the fire department of Jersey City consists of 1 chief engineer, 3 assistant engineers, 1 superintendent of telegraph, 1 superintendent of horses, and 253 men attached to the several companies, 93 being permanent and 160 on call. The working apparatus consists of 11 steam fire-engines, 5 hook-and-ladder trucks,

and 1 tender, and the reserve apparatus of 2 steam fire-engines, 1 truck, 1 tender, 2 jumpers, 1 hand-engine, 2 coal-wagons, and 1 company supply-wagon, all of which are in good condition. There is in service 19,000 feet of hose, of which 15,000 feet is in good condition, 3,000 feet in fair condition, and 1,000 feet worthless. There are 51 horses in the department. There are 20 houses under control of the department, all of which, except one, are owned by the city. The fire-alarm telegraph has over 40 miles of wire, and 63 street signal-boxes are in use.

During the year 1878 there were 154 fires, the total loss being \$220,135, and the total insurance on same \$325,835, making a total insurance over loss of \$105,700. The total expenses of the department during the year were \$117,227 36.

MANUFACTURES.

The following is a summary of the statistics of the manufactures of Jersey City for 1880, being taken from tables prepared for the Tenth Census by Daniel Van Winkle, chief special agent :

Mechanical and manufacturing industries.	No. of establishments.	Capital.	AVERAGE NUMBER OF HANDS EMPLOYED.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
All industries.....	584	\$11,899,915	7,992	2,426	750	\$4,622,655	\$49,738,985	\$60,473,905
Blacksmithing (see also Wheelwrighting)	40	32,500	75	.....	3	38,013	20,265	108,420
Boots and shoes, including custom work and repairing	39	20,415	39	3	2	10,451	34,138	79,200
Brass castings	4	180,000	111	.....	4	47,729	89,781	157,886
Bread and other bakery products	46	75,150	109	13	3	61,238	322,104	459,888
Carpentering	42	41,800	189	4	5	94,420	170,382	330,521
Carriages and wagons (see also Wheelwrighting)	6	22,600	41	.....	2	22,100	28,000	69,009
Clothing, men's	22	59,000	91	12	4	51,723	179,425	294,000
Confectionery	6	24,500	12	7	16	11,592	41,340	70,790
Cooperage	6	167,700	281	.....	11	103,748	377,546	630,529
Dentistry, mechanical	4	9,500	7	.....	2	4,825	10,500	24,850
Drugs and chemicals	8	500,000	243	2	4	124,645	1,266,202	1,517,214
Foundry and machine-shop products	23	768,300	604	12	5	363,847	510,514	1,041,471
Furniture (see also Mattresses and spring beds; Upholstering)	3	3,600	17	.....	.....	4,700	6,700	19,360
Iron and steel	3	850,000	403	.....	12	210,000	771,340	1,404,500
Iron railing, wrought	3	2,200	4	.....	1	1,910	1,975	5,900
Kindling wood	4	23,400	29	.....	3	11,250	18,000	36,500
Liquors, malt	5	356,500	101	.....	.....	45,899	235,874	416,886
Lock and gun-smithing	4	550	1	.....	.....	225	1,450	4,200
Marble and stone work	12	35,850	87	.....	3	38,150	48,000	120,200
Masonry, brick and stone	5	23,400	110	.....	1	50,500	36,900	112,750
Mattresses and spring beds (see also Furniture)	5	25,000	41	5	4	12,878	46,476	75,000
Painting and paperhanging	30	40,350	151	.....	1	60,890	60,400	165,970
Photographing	14	39,800	37	10	2	20,870	25,750	75,950
Plumbing and gasfitting	24	46,650	65	.....	10	32,565	79,283	146,762
Printing and publishing	5	66,200	85	.....	8	42,337	28,466	100,174
Saddlery and harness	9	5,150	4	.....	.....	2,100	5,550	13,400
Sash, doors, and blinds (see also Wood, turned and carved)	6	28,000	32	.....	1	15,024	52,598	85,372
Shipbuilding	25	263,500	360	.....	.....	237,542	217,712	541,766
Shirts	4	8,600	4	30	.....	5,500	26,400	38,225
Slaughtering and meat-packing, not including retail butchering	20	1,272,200	423	.....	10	303,800	17,404,689	18,531,783
Sugar and molasses, refined	3	2,100,000	680	.....	5	473,316	20,759,961	22,799,614
Tinware, copperware, and sheet-iron ware	24	82,400	79	.....	4	37,910	63,500	133,814
Tobacco, cigars and cigarettes	40	80,125	127	1	7	56,507	83,454	185,703
Upholstering (see also Furniture)	8	4,450	11	.....	3	5,237	11,476	23,150
Wheelwrighting (see also Blacksmithing; Carriages and wagons)	17	15,700	40	.....	3	20,050	19,050	60,100
Wood, turned and carved (see also Sash, doors, and blinds)	3	13,500	34	.....	.....	14,500	27,700	52,000
All other industries (a)	62	4,556,725	3,235	2,327	611	2,030,164	6,645,954	10,461,117

a Embracing awnings and tents; baskets, rattan and willow ware; billiard tables and materials; boxes, wooden packing; bridges; coffins, burial cases, and undertakers' goods; coppersmithing; corsets; crucibles; dyeing and cleaning; explosives and fireworks; fancy articles; flouring and grist-mill products; hardware; hosiery and knit goods; ink; iron bolts, nuts, washers, and rivets; iron forgings; iron pipe, wrought; iron doors and shutters; ivory and bone work; lamps and reflectors; lard, refined; leather, curried; leather, tanned; looking-glass and picture frames; mineral and soda waters; models and patterns; oil, castor; paints; paper; patent medicines and compounds; pencils, lead; pumps; rubber and elastic goods; silk and silk goods; soap and candles; sporting goods; steam fittings and heating apparatus; stone and earthen-ware; tobacco, chewing, smoking, and snuff; trunks and valises; umbrellas and canes; watch and clock repairing; wheelbarrows; window blinds and shades; wirework; and zinc.

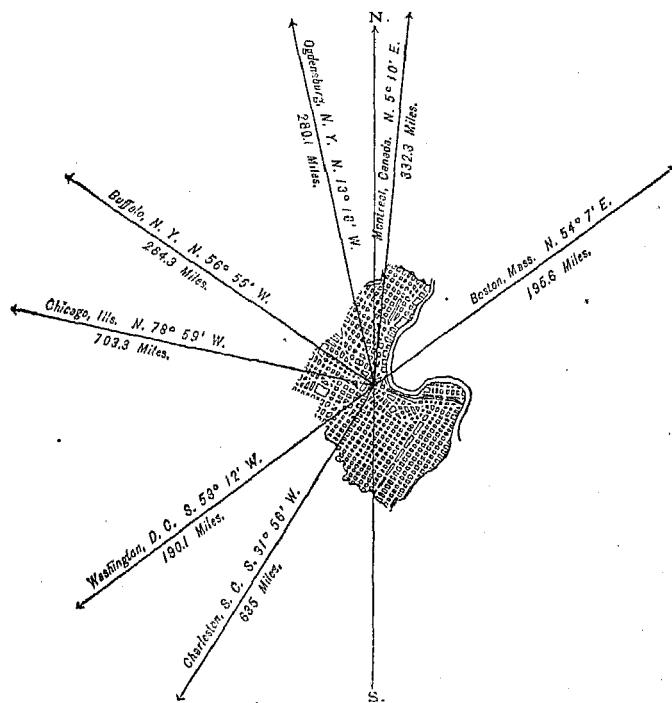
From the foregoing table it appears that the average capital of all establishments is \$20,376 57; that the average wages of all hands employed is \$415 03 per annum; that the average outlay in wages, in materials, and in interest (at 6 per cent.) on capital employed is \$94,307 59.

NEWARK, ESSEX COUNTY, NEW JERSEY.

POPULATION

IN THE
AGGREGATE,
1820-1880.

Year	Inhab.
1790	.....
1800	.....
1810	.....
1820	6,507
1830	10,953
1840	17,290
1850	38,894
1860	71,941
1870	105,059
1880	136,508



POPULATION

BY
SEX, NATIVITY, AND RACE,
AT
CENSUS OF 1880.

Male	66,077
Female	70,431
—	
Native	96,178
Foreign-born	40,330
—	
White	133,181
Colored	* 3,327
* Including 14 Chinese and 2 Indians.	

Latitude: 40° 44' North; Longitude: 74° 10' (west from Greenwich); Altitude: 0 to 230 feet.

FINANCIAL CONDITION:

Total Valuation: \$83,364,410; per capita: \$611 00. Net Indebtedness: \$9,070,032; per capita: \$66 44. Tax per \$100: \$2 08.

HISTORICAL SKETCH.(a)

In 1664 the duke of York assigned to Lord John Burkley and Sir George Carteret all lands between the Hudson and Delaware rivers, thus giving political existence to a commonwealth which soon became known as "New Cæsarea", or New Jersey. As previously to this date the Dutch had made no settlements west of the Hackensack river and Newark bay, of course the first move of the proprietors was to effect a colonization of their territory; and the better to reach this end, special inducements were offered to those desiring to emigrate—grants of land on the most favorable terms, and local self-government, with the utmost freedom of conscience, being guaranteed to all.

a From Historical Sketch of Newark, by William F. Ford, esq.

province, with a population of 500, having 10,000 acres of town lands and 40,000 acres of plantations. In 1713 Queen Anne granted a charter of incorporation, which remained in force until 1798, thus making the township of Newark a body politic.

During the Revolution, Newark was a great sufferer, owing to its location on the main line of communication between the North and the South. After the battle of Long Island in 1776, Washington and his army of 3,000 men were quartered for a week on the city. The town was frequently occupied by each of the opposing forces, and was obliged to furnish subsistence as well as submit to inroads by foraging parties. With the close of the war Newark entered on a new and more prosperous era. The means of communication with New York had been improved in 1765, and in 1795 bridges were built over the Passaic and Hackensack rivers. In 1798 the township received a new charter, and entered on the present century in prosperity and peace. In 1810 an early directory gives the population as 6,000, while a census taken in 1806 shows 8,117 inhabitants, 844 houses, 207 machine-shops, 3 lumber-yards, and 4 quarries in the town. In 1836 the place was incorporated as the "mayor and common council of the city of Newark".

Newark engaged early in manufactures, the early settlers being mainly artisans, and with its close proximity to New York, combined with excellent shipping facilities, soon drew to her mills and factories abundant capital and skilled workmen. The comparative cheapness of rents and building-sites, with low taxation, has also been another factor in Newark's growth, and many New York business men have made this city their home. It has had its periods of depression in common with other cities, and the years 1837 and 1857, with those subsequent to the war of the rebellion, brought reverses to Newark as well as to the country at large. In 1836 a destructive fire occasioned the loss of property valued at \$125,000, but, with the exception of local fires at different times, there has been no other serious conflagration. The original population, from New England, with their descendants, long held sway, but with the increase of manufactures came immigrants from the old world, and these, principally Irish and German, with their descendants, now form a considerable portion of the population.

NEWARK IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of Newark:

LOCATION.

Newark lies in latitude 40° 44' north, longitude 74° 10' west from Greenwich, on the Passaic river, 3 miles above Newark bay, and 9 miles west of New York by railroad, or 18 miles by water. The elevation of the central part of the city is 30 feet above high water, the lowest point being the salt meadows, on a level with high water, and the highest point 230 feet above this. The Passaic river, opposite the city, is about one-quarter of a mile wide, with a least channel-depth of 4 feet at low water, the rise and fall of the tide being 4½ feet. Water communication is afforded northward, by the sound between Staten island and the mainland, with New York bay, and southward by Raritan bay, and by either passage with the Atlantic ocean. The proposed ship-canal across Bergen neck will make the distance to New York city by water not much more than 6 miles. The Morris canal, which connects the waters of the Delaware river at Easton, Pennsylvania, with those of New York bay, passes through Newark.

RAILROAD COMMUNICATIONS.

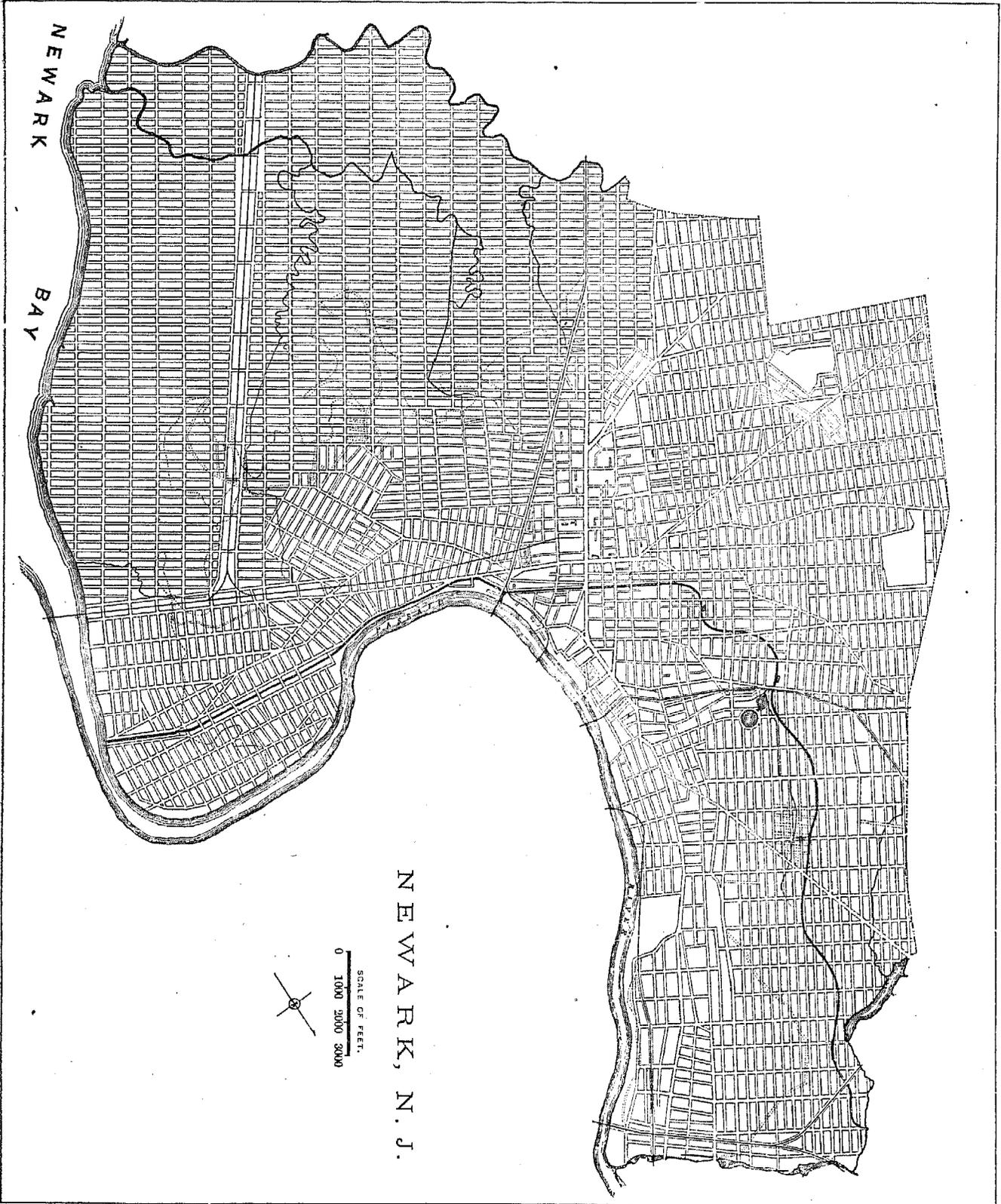
The Central Railroad of New Jersey, from Jersey City to Easton, Pennsylvania, to Philadelphia, and to Long Branch; the main line of the Pennsylvania railroad, to Philadelphia and the West; the New York, Lake Erie, and Western railroad, to Buffalo; and the Delaware, Lakawanna, and Western railroad, to Oswego, New York, pass through Newark from their eastern termini in Jersey City, and afford easy and frequent communication with New York, over 80 passenger-trains passing through Newark daily.

TRIBUTARY COUNTRY.

With the exception of a few vegetable-gardens and flower-gardens, the country immediately tributary to Newark is, like the city itself, largely engaged in manufactures, New York affording a ready market for all the products of the workshops, hats, shoes, leather, carriages, jewelry, celluloid, the manufacturing of which with smelting-works and fertilizing factories, being the principal industries.

TOPOGRAPHY.

The city lies on the west bank of the Passaic river, spread out on the eastern face of a range of hills, and on a plain which stretches down to the marshy borders of the river and Newark bay. It has an area of 18 square miles,



NEWARK

BAY

NEWARK, N. J.

SCALE OF FEET.
0 1000 2000 3000



6 miles of which are salt meadows. These meadows extend to the southeast for some distance, and are estimated to contain 15,000 acres. The eastern part of the city, covering about 12 square miles, including the meadows, has an average elevation of about 30 feet above high water, the soil being sandy, while the western part is formed by two parallel ridges from 100 to 230 feet above high water, and has a clay and gravel soil with underlying sandstone. The Passaic river, with the streams emptying into the same, receives the drainage from the city, partly through 48 miles of sewers; and as the site of the city is on the slope of Orange mountain, which extends down to tide-water, the natural drainage is good.

CLIMATE.

Highest recorded summer temperature, 99 $\frac{3}{4}$ °; highest summer temperature in average years, 96°. Lowest recorded winter temperature, -12 $\frac{3}{4}$ °; lowest winter temperature in average years, about 8°. The average mean temperature is 71.4° in summer, and 30.6° in winter. The influence of the adjacent marshes or salt meadows is said to produce malaria in the lower parts of the city, while the Orange range of hills, though healthy in themselves, exert no special influence on the climate.

STREETS.

Total length, 176.80 miles, paved as follows: Cobble-stones, 28.76 miles; stone blocks, 4.89 miles; broken stone (Telford), 12.21 miles; and gravel and unpaved, 130.94 miles. The cost per square yard of each, as nearly as it may be estimated, is, for cobble-stones, 80 cents; stone blocks, trap-rock, \$1 50, and granite, \$2 25; and broken stone, from \$1 to \$1 75, according to depth. During 1879 there was paid, for repairing cobble and block pavement, \$4,000, and for broken stone, \$7,500. The stone-block pavement needs less repair and is more easily cleaned than any of the others, and is preferred in point of quality and permanent economy. Sidewalks are one-fifth the width of the street, flagged with North River bluestone to a width not less than 4 feet. In the main thoroughfares the sidewalks are flagged for their entire width. Streets paved with cobble-stones or broken stone have gutter-stones 14 inches wide, but streets laid with stone blocks have no gutter-stones. Gutters are usually 8 inches below the top of the curb. All trees planted in the streets must be placed within 2 feet of the outer line of the sidewalks. The construction of new streets (grading, curbing, paving, and flagging) is done by contract, while all repairs are done by day work, unless the work is of some magnitude, when it is also done by contract. Steam stone-crushers are used by the contractors, but the use of the steam-roller for repairing the streets laid with broken stone has been abandoned.

There are 21.75 miles of horse-railroads in the city, with 81 cars. The rate of fare to any point inside the corporate limits is 5 cents. There are no omnibus lines.

WATER-WORKS.

The water-works are owned by the city, and their total cost has been \$3,246,907 67. The supply is taken from the Passaic river at Bellville, and pumped into a distributing-reservoir 114 feet above tide, with a capacity of 22,000,000 gallons, the available head being 165 feet. The average amount pumped per diem is 9,386,064 gallons, the greatest amount pumped in any twenty-four hours being 10,475,667, and the least 8,491,797 gallons. The average cost of raising 1,000,000 gallons 1 foot high is 5.2 cents (for pumping alone). The yearly income from water-rates is \$211,243 69. Water-meters are used, and are found to effect a saving of water where set. There are 136 miles of distributing-mains and about 11,000 water-tanks.

GAS.

The gas-works are owned by private corporations, but neither the average daily production nor the cost to consumers was stated. The city pays \$28 70 per annum for each street-lamp (burning 3,160 hours), 3,000 in number, and \$2 25 per 1,000 cubic feet for the gas used in the public buildings, the consumption for the latter purpose being 2,000,000 feet annually.

PUBLIC BUILDINGS.

The city owns and occupies for municipal purposes, wholly or in part, the city hall, the city market, fire-department buildings, police-stations, school-houses, etc., the aggregate value of which is \$1,799,646. The estimated value of the city hall, including the site, is \$137,150, and it is owned wholly by the city.

PUBLIC PARKS AND PLEASURE-GROUNDS.

There are 11 parks and squares in the city, with an aggregate area of 17.46 acres. The largest one, Military common, area 6.45 acres, situated on Broad street near the Morris canal; Washington park, area 3.40 acres, at the intersection of Broad and Washington streets; and Lincoln park, area 4.37 acres, situated at the junction of

Clinton avenue and Broad street. The remaining 8, varying in size from 0.04 to 0.97 of an acre, are situated in various parts of the city. With the exception of Lincoln park, all the land covered by the parks was donated to the city; Lincoln park was opened by the municipal authorities in 1851, at a cost of \$30,000. Owing to the fact that the improvements on these parks have been extended over many years, no accurate statement can be made of their actual cost, but it is thought that some \$10,000 have been expended for railings, etc. The street commissioners have charge of the parks, under the direction of the common-council committee on public grounds.

PLACES OF AMUSEMENT.

Park theater, originally used as a church and afterward as a hall, was converted into a theater during the present year (1880). It is 101 by 114 feet in size, has a seating capacity of 1,087 persons, with a stage 30 by 69 feet, and has an average attendance of 400, with about 114 performances during the year. Academy of Music, originally used as a brewery, then as a school-house, and finally changed to a theater in 1850, is 55 by 204 feet, with a seating capacity of 1,200, and a stage 40 by 50 feet; the average attendance is about 600. Grand opera-house, built in 1869 for a skating-rink and fair building, is used for balls, fairs, and theatrical performances. It is 78 by 160 feet, with a seating capacity of 1,303 and an average attendance of 500. Newark opera-house, with a seating capacity of 1,100, and Waldman's theater, with a seating capacity of 900, are variety theaters. Each of the above pays a license to the city of \$1 for each entertainment. Shows and circuses are charged \$100 for each performance and \$15 for every side-show.

In addition to the theaters, the following halls are used for balls, concerts, lectures, etc.: Library hall, on market street, seating 1,000; Marlatt hall, on Pacific street, seating 500; Orton hall, on broad street, seating between 700 and 800; Standard hall, on Market street, seating 500; Woman's Christian Temperance Union hall, on Market street, seating 350; and some 20 halls of minor importance that are used principally for meetings, etc.

Of concert- and beer-gardens there are: Atlantic garden, used as a concert-garden; the building, 32 by 160 feet, with a seating-capacity of 500, cost \$35,000; the ground is leased. Volks Union park, area 2 acres; building 50 by 65 feet, cost \$15,000; capacity of park, from 3,000 to 4,000, with seating capacity of 500. Shooting park, area 5 acres, cost \$60,000, capacity 5,000; is used for picnics, etc. Siefert's park, used as a beer-garden, area 25 by 100 feet. Roseville park, area 3½ acres, is used for picnics, etc. Jubert's park, size 175 by 400 feet, and Weice's park, with a seating capacity of 1,000, are used for picnics, concerts, lectures, balls, etc.

DRAINAGE.

Information concerning the sewerage of this city is furnished by Peter Witzel, esq., city surveyor. The system comprises about 48 miles, 1 mile of which being former water-courses—the 10th ward ditch, about 2,000 feet long, and Clay street and Millbrook, of about the same length. The latter is from 9 to 12 feet in diameter, and cost from \$22 90 to \$37 80 per foot; the former is from 45 to 53 inches in diameter, and cost from \$4 90 to \$5 90 per foot. The main sewers are now nearly all constructed. Local sewers are built to deliver into them whenever required, "according to regular plans". "The sewers are ventilated through manholes." The mouths of the sewers are exposed at low water.

The discharge is into the Passaic river, or, for the southern districts, into tidal streams in the salt meadows. There are about 4 miles of these sewers from which deposits have to be removed annually by hand, at an average cost of 10 cents per linear foot.

A portion of the cost of each sewer is paid by the city and a portion by abutters, the division being made by a commission appointed by the court. The assessment on the abutters is based on the judgment of the commission as to the increased value given to the property by the construction of the sewer.

CEMETERIES.

The following-named cemeteries and burial-grounds are connected with the city:

Mount Pleasant Cemetery, area 45 acres, is situated on Bellville avenue, about 2 miles from the court-house.

Fairmount Cemetery, area about 80 acres, is 1 mile from the court-house on South Orange avenue.

Woodland Cemetery contains 35 acres, and is situated near Eighth avenue, about 1½ mile from the court-house.

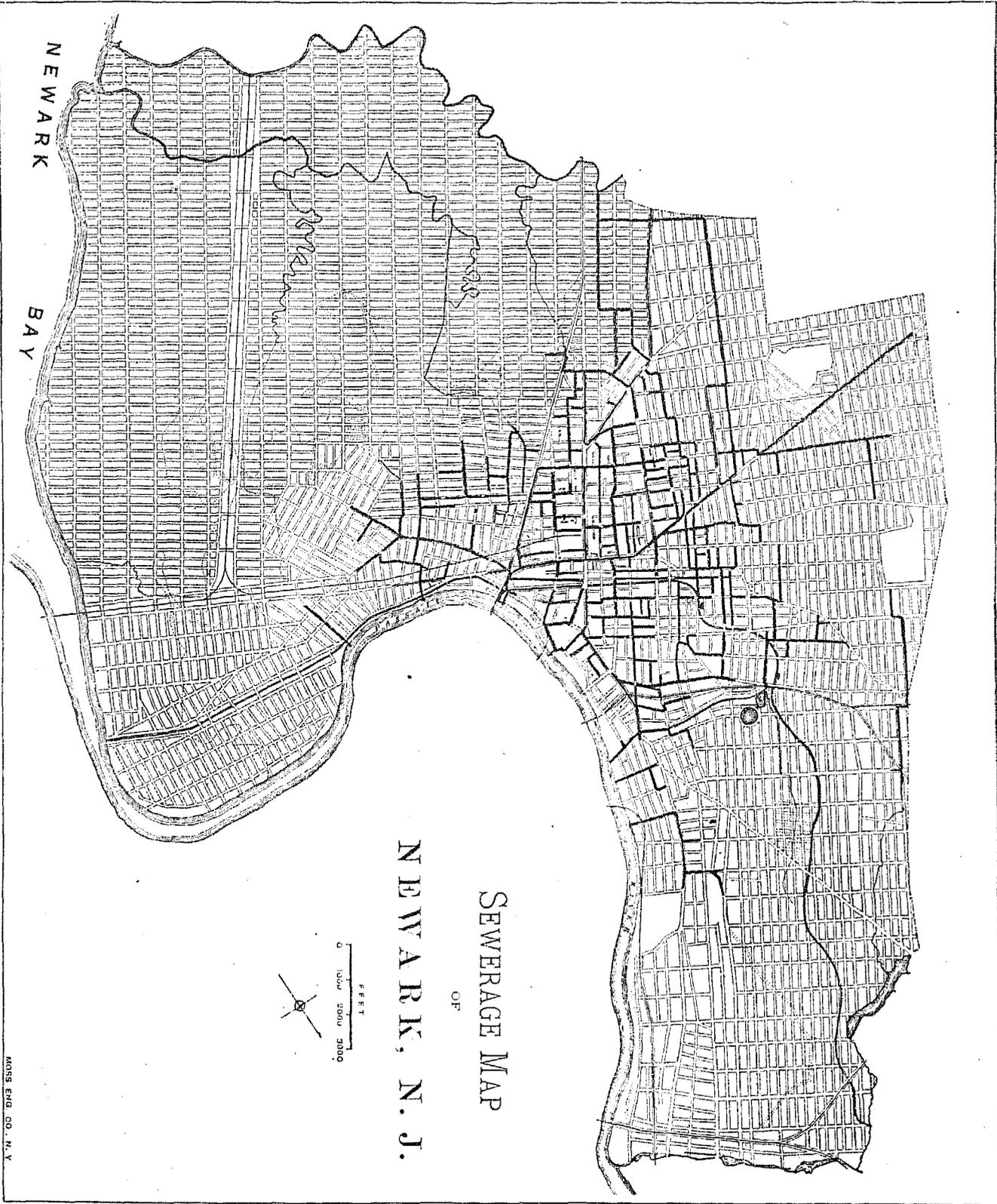
The Cemetery of the Holy Sepulcher contains about 50 acres, and is situated between Newark and South Orange.

Saint Mary's Burial-ground, area 2 acres, is outside the city limits.

City Burial-ground, area 1½ acre, is situated near the Waverly station of the Pennsylvania railroad, about 1½ mile from the city hall.

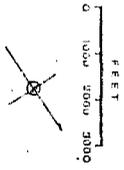
The *Jewish Cemetery* was started about 5 years ago and very little could be learned concerning it.

All of the above are now in use, but interments are no longer permitted, in the following: First Presbyterian Church burial-ground, known as the "Old burying-ground", contains 2 acres, and is located on Broad, between Mechanic and Front streets; Second Presbyterian burial-ground contains 1 acre, and is on Plane, near New street; Trinity Church burial-ground, area 1 acre, is situated on Rector, between Broad and Front streets; and Saint John's Church burial-ground, area 2 acres, is situated on Bellville avenue near Kearney street.



NEWARK
BAY

SEWERAGE MAP
OF
NEWARK, N. J.



MOSS ENG. CO., N. Y.

The total number of interments in these cemeteries, so far as past records indicate, are:

Mount Pleasant cemetery.....	9,185
Woodland cemetery.....	12,800
First Presbyterian burial-ground (about).....	2,000
Second Presbyterian burial-ground.....	400
Jewish cemetery.....	300
Saint Mary's burial-ground.....	1,500
Fairmount cemetery (about).....	13,000
Cemetery of the Holy Sepulcher.....	1,800
Trinity Church burial-ground.....	400
Saint John's Church burial-ground.....	2,000
City burial-ground.....	2,400
Total.....	45,785

Mount Pleasant, Fairmount, and Woodland cemeteries are owned by the lot-owners, who elect the board of managers or directors. The ownership of the lots can be transferred only with the consent of the board, and the owner can not sell the privilege of interment. Lots may be inclosed with either stone or iron railings, limited in height in the case of Mount Pleasant cemetery to 2 feet, in Fairmount cemetery to 3 feet, and in Woodland cemetery to 5 feet. The drives are laid out with Telford pavement, and in Fairmount and in Woodland cemeteries the lawn system is being introduced. The Cemetery of the Holy Sepulcher is a Catholic cemetery, and is governed by the rules of the church. Its drives are paved with Telford pavement.

MARKETS.

There is one public market in the city, known as Central market, situated between Broad and Mulberry streets and Mechanic street and Springfield avenue. The main building is 30 by 723 feet, and contains 60 regular stalls, with an adjoining space 140 by 140 feet, all roofed over, for the retail sale of vegetables; and on the south side, grounds 70 by 460 feet, with a building 26 by 460 feet, with 51 stalls. The total cost of all the buildings was \$60,000. Farmers' wagons stand on the east side of Broad street, near the market building, and through the summer season there is a daily average of 175 wagons here. The rate of rental of stalls of different classes per month is, for meat, \$15; butter, eggs, and cheese, \$12; fish and oysters, \$10; produce, fruit, and poultry, \$10 50; and farmers' wagons, 20 cents per load. The total receipts from rents and fees for the market average about \$27,500 per annum. The market is open daily from sunrise to 1 p. m., and on Saturday till 11.30 p. m. The gross amount of annual sales from the stalls within the market is estimated as follows: Meats, \$670,800; butter, cheese, and eggs, \$170,620; fish and oysters, \$165,840; vegetables, poultry, and fruits, \$1,375,000.

SANITARY AUTHORITY—BOARD OF HEALTH.

The sanitary needs of Newark are cared for by a board of health composed of the health committee of the city council with the mayor and city physician, and is under control of the council. There is but one physician among the 5 members composing the board. The annual expenses of the board when there is no declared epidemic are about \$9,000, for city dispensary and salaries of inspector and subinspectors, but it is forbidden to make any expenditures in excess of the sum appropriated by the council. The authority of the board extends over the sanitary condition of the city. It has power to abate nuisances; to regulate and prohibit the keeping and slaughtering of animals; to regulate scavenging; to compel owners to connect with the sewers or build cesspools; to cause the removal of any infected person to the pest-house; and to remove from the city and cause to be disinfected or destroyed any infected articles. There are no special provisions made for extending the authority of the board during epidemics.

The health inspector, salary \$600 per annum, is the chief executive officer of the board, and is employed to carry out all its orders. There are six assistant health inspectors, but no one of them is a physician. Each has police powers sufficient to enable him to enter any building or premises.

The board meets once a month, with the mayor as presiding officer and the city clerk as clerk. The 3 aldermen on the board are called supervisors, and each one has charge of one of the 3 city health districts. The health inspector makes a regular report to the board, which it refers either back to the inspector, to one of the supervisors, or to the city attorney, as it may see fit.

NUISANCES, ETC.

Inspections are not made regularly. When a nuisance is reported the parties offending are notified to abate said nuisance, and in case of failure to do so they are reported to the board, which directs that they be prosecuted for the offense. Defective house-drainage, privy-vaults, cesspools, and sources of drinking-water are inspected and

corrected by the several subinspectors, all cases of defective privy-vaults being at once prosecuted by the health inspector without further orders. The board has full control over all sewer-connections, and sees that they are properly trapped, but exercises no control over street-cleaning. The board has full control over the conservation and removal of garbage. Burial permits are obtained from the city clerk. The board has no control over the pollution of streams or harbors, but controls the removal of excrement to the extent of issuing permits and licenses to the scavengers.

INFECTIOUS DISEASES.

Small-pox patients are either sent to the public pest-house, situated on the almshouse property, or isolated at home. There are no provisions regarding scarlet-fever cases, and it does not appear that the board exercises any special supervision over the breaking out of contagious diseases either in public or in private schools. Vaccination is not compulsory, but it is done at the public expense.

REGISTRATION AND REPORTS.

All deaths are recorded by the city clerk, while diseases and births are registered by the secretary of state. A report is made annually by the chairman of the health committee to the city council.

The board of health has 8 physicians, called district physicians, whose duty it is to attend to all the poor in their respective districts, their prescriptions being filled at the city dispensary.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned at the expense of the city and with its regular force. The work is done wholly by hand, no sweeping-machines being used. The paved streets are cleaned in the spring and the unpaved streets in the fall, but the cleaning is sometimes done oftener if it is deemed necessary. The work is reported as being very efficiently done. The annual cost to the city is about \$45,000. Part of the sweepings are taken to the dumping-grounds and part are disposed of to farmers for fertilizing.

Removal of garbage and ashes.—All garbage and ashes are removed by the city, under contract. The garbage is required to be placed in suitable receptacles, either upon the sidewalks or on the premises, in some place easy of access, and is removed at least twice each week. It is not forbidden to keep garbage and ashes in the same vessel. The former is taken to the dumping-grounds, while the latter is used largely for filling. The last contract price for the removal was \$22,500 for the year. It is said that no nuisances or probable injury to health arise from the manner of keeping, hauling, or disposing of the garbage.

Dead animals.—The carcasses of all animals dying within the corporate limits are removed by the garbage and ashes contractor, he paying the city \$800 a year for the exclusive privilege. No record is kept of the number annually removed.

Liquid household wastes.—The greater part of the liquid household wastes passes into the sewers, a small portion into dry wells or cesspools, and none into the street-gutters. The cesspools are about 8 feet deep, are walled up with rough stone, are open at the bottom, and are porous. They are cleaned out in the same manner as privy-vaults.

Human excreta.—There is no way of determining the number of houses in the city provided with water-closets, but it is estimated that about one-half have privy-vaults and the other half water-closets, all of the latter delivering into the sewers. The vaults are dug 8 feet deep and are walled up with brick or stone, and as the bottoms are open none of them can be said to be water-tight. A permit must be obtained from the health inspector before any cesspool or privy-vault can be cleaned out. It can be done only by a licensed scavenger, using a water-tight wagon, which must also be licensed, and the contents can be transported through the streets only between the hours of 10 p. m. and 4 a. m. The night-soil is required to be conveyed beyond the city limits, where it is used as a fertilizer, none of it being allowed on land within the gathering-ground of the public water-supply.

Manufacturing wastes.—The greater part of the liquid manufacturing wastes are run into the public sewers. There are no special provisions regarding the disposal of manufacturing wastes, the whole matter being regulated by the ordinances governing nuisances.

MANUFACTURES.

The following is a summary of the statistics of manufactures of Newark for 1880, being taken from tables prepared for the Tenth Census by P. T. Quinn, chief special agent:

Mechanical and manufacturing industries.	No. of establishments.	Capital.	AVERAGE NUMBER OF HANDS EMPLOYED.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
All industries	1,319	\$25,670,885	22,151	5,240	2,049	\$13,171,329	\$44,604,335	\$69,252,705
Blacksmithing (see also Wheelwrighting)	45	19,425	70		3	36,030	30,637	109,258
Boot and shoe uppers	4	18,100	11	6	2	10,072	30,940	51,000
Boots and shoes, including custom work and repairing	44	432,760	793	233	72	562,331	1,148,583	1,940,872
Boxes, fancy and paper	9	96,300	82	333	57	114,638	120,350	357,459
Brass castings	11	135,000	197	4	6	94,630	100,468	273,110
Bread and other bakery products	83	181,460	249	9	16	139,415	677,948	999,211
Brooms and brushes	9	29,375	30	20	10	29,158	40,817	89,192
Buttons	17	188,100	376	199	158	258,510	224,500	613,380
Carpentering	62	222,550	1,072		23	554,510	653,618	1,390,874
Carpets, rag	8	2,185	5			1,772	2,620	7,700
Carriage and wagon materials	4	123,475	95			53,969	93,401	202,506
Carriages and wagons (see also Wheelwrighting)	16	264,450	243	1	6	142,663	186,450	422,817
Celluloid and celluloid goods	5	1,209,000	452	174	109	242,496	388,262	1,251,540
Cement	4	215,300	78			34,045	79,650	140,700
Clothing, men's	42	469,144	463	559	27	448,898	1,155,044	2,077,351
Clothing, women's	4	21,500	10	23		10,325	34,800	59,300
Coffee and spices, roasted and ground	3	50,000	10			11,239	49,350	77,784
Coffins, burial cases, and undertakers' goods	3	95,000	33		6	29,880	35,000	93,500
Confectionery	13	87,100	129	14	6	62,277	367,995	521,359
Cooperage	3	1,600	7			3,115	5,950	11,415
Corsets	8	103,800	53	340	61	113,698	213,080	368,133
Cotton goods	3	1,314,000	305	894	155	433,955	545,462	1,598,397
Cutlery and edge tools (see also Hardware)	22	274,211	433	1	78	243,132	195,172	548,705
Dentistry, mechanical	23	51,500	7	2	7	6,285	22,534	96,484
Drugs and chemicals	15	1,590,150	417	25	22	202,406	766,982	1,280,329
Engraving and die-sinking	11	70,300	62	7	8	43,555	15,582	89,954
Fancy articles	12	178,000	337	31	162	247,351	158,015	542,499
Filos	6	50,900	139	8	29	72,250	169,145	
Flouring- and grist-mill products	4	55,000	20			9,201	186,400	225,118
Foundry and machine-shop products	52	1,460,350	1,269	4	60	683,364	910,772	1,957,177
Furniture (see also Mattresses and spring beds; Upholstering)	19	153,450	128	3	15	69,520	93,770	218,003
Furs, dressed	3	23,200	13	9	5	10,285	42,315	78,495
Glass, cut, stained, and ornamented	4	33,000	29		4	16,800	36,012	64,693
Gold and silver, reduced and refined	4	60,000	20		1	9,350	368,386	424,560
Hardware (see also Cutlery and edge tools)	28	292,350	279	22	41	139,863	376,743	672,736
Hardware, saddlery	35	750,200	788	133	150	410,636	756,541	1,524,008
Hat and cap materials	4	19,500	41	7	1	24,300	15,300	57,530
Hats and caps, not including wool hats	33	721,300	1,637	572	104	909,315	1,269,130	2,596,578
Ink	3	12,700	13	1	4	5,500	16,500	29,000
Iron and steel	3	600,000	281			126,144	471,946	771,078
Jewelry	65	2,517,899	1,726	259	78	1,087,446	1,931,654	4,002,677
Kindling wood	13	11,450	41		10	17,766	28,620	62,723
Lamps and reflectors	3	42,500	29	1	20	19,550	11,860	48,609
Lapidary work	6	5,400	25		4	9,900	8,200	29,500
Leather, curried	32	1,863,183	1,207	25	77	729,112	6,744,728	8,300,722
Leather, tanned	27	1,652,350	1,142	3	66	680,973	4,952,176	6,345,856
Liquors, malt	19	1,612,800	689			305,933	1,592,798	2,812,300
Looking-glass and picture frames	7	17,530	18		8	11,156	26,750	47,650
Lumber, planed (see also Sash, doors, and blinds; Wood, turned and carved)	3	24,000	60		16	27,850	57,330	104,785
Marble and stone work	14	182,135	216		34	177,369	108,710	364,775

Mechanical and manufacturing industries.	No. of establishments.	Capital.	AVERAGE NUMBER OF HANDS EMPLOYED.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
Masonry, brick and stone.....	8	\$56,000	58		11	\$30,811	\$59,000	\$103,546
Mattresses and spring beds (see also Furniture).....	3	2,550	5	2	1	3,074	10,500	17,900
Mineral and soda waters.....	8	35,200	46		6	22,669	53,970	93,147
Models and patterns.....	5	5,250	9			4,351	2,024	12,077
Painting and paperhanging.....	28	20,875	87		10	48,648	65,975	156,159
Photographing.....	11	14,650	22	1	4	13,239	10,004	41,252
Plumbing and gasfitting.....	43	200,050	179		18	104,975	185,420	382,356
Printing and publishing.....	23	273,950	262	25	27	169,463	156,200	422,505
Saddlery and harness.....	38	494,625	623	69	25	274,753	674,430	1,180,404
Sash, doors, and blinds (see also Lumber, planed; Wood, turned and carved).	12	231,375	233	30	19	136,825	191,089	386,990
Sewing-machines and attachments.....	6	203,300	1,009			430,654	602,100	1,062,150
Shirts.....	11	171,900	60	513	21	164,549	264,094	507,806
Silk and silk goods.....	3	328,500	95	158	61	105,140	280,390	468,250
Slaughtering and meat-packing, not including retail butchering.....	7	232,000	38			53,822	1,368,288	1,527,060
Soap and candles.....	3	20,300	7		1	2,450	8,866	14,095
Springs, steel, car, and carriage.....	3	66,393	37		1	44,050	125,250	191,100
Stationery goods.....	6	42,000	44	4	14	20,748	17,040	58,200
Stone- and earthen-ware.....	6	38,700	42	1	3	24,138	10,694	53,750
Tinware, copperware, and sheet-iron ware.....	8	210,700	256	37	72	118,916	359,584	515,913
Tobacco, cigars and cigarettes.....	61	153,745	176	46	33	102,892	331,672	550,372
Trunks and valises.....	13	786,800	1,106	90	167	549,322	1,059,855	2,013,923
Umbrellas and canes.....	3	650	2		1	1,248	1,179	6,400
Upholstering (see also Furniture).....	4	3,300	6	1	3	2,850	4,355	9,030
Upholstering materials.....	3	62,500	45	76	15	30,600	75,000	126,000
Varnish.....	16	890,000	78		3	52,262	521,007	792,774
Watch and clock repairing.....	12	14,500	15		1	10,800	14,500	52,330
Wheelwrighting (see also Blacksmithing; Carriages and wagons).....	23	43,550	46		7	25,791	23,135	75,660
Wood, turned and carved (see also Lumber, planed; Sash, doors, and blinds).	10	26,050	27		7	16,090	30,716	52,800
All other industries (a).....	72	1,944,990	1,538	271	297	910,789	10,670,327	12,239,934

a Embracing agricultural implements; awnings and tents; belting and hose, leather; bookbinding; boot and shoe findings; brick and tile; carriages and sleds, children's; clocks; cordage and twine; cork cutting; dyeing and cleaning; electric lights; electrotyping; felt goods; fertilizers; food preparations; gas machines and meters; hammocks; handles, wooden; hosiery and knit goods; instruments, professional and scientific; iron railing, wrought; ivory and bone work; laths; lime; lock- and gun-smithing; lumber, sawed; mixed textiles; mucilage and paste; musical instruments, pianos and materials; oil, lubricating; oilcloth, enameled; oilcloth, floor; paints; pickles, preserves, and sauces; refrigerators; roofing and roofing materials; rubber and elastic goods; sand and emery paper and cloth; saws; shipbuilding; silversmithing; silverware; smelting and refining; sporting goods; sugar and molasses, refined; surgical appliances; toys and games; watch and clock materials; wirework; and wooden ware.

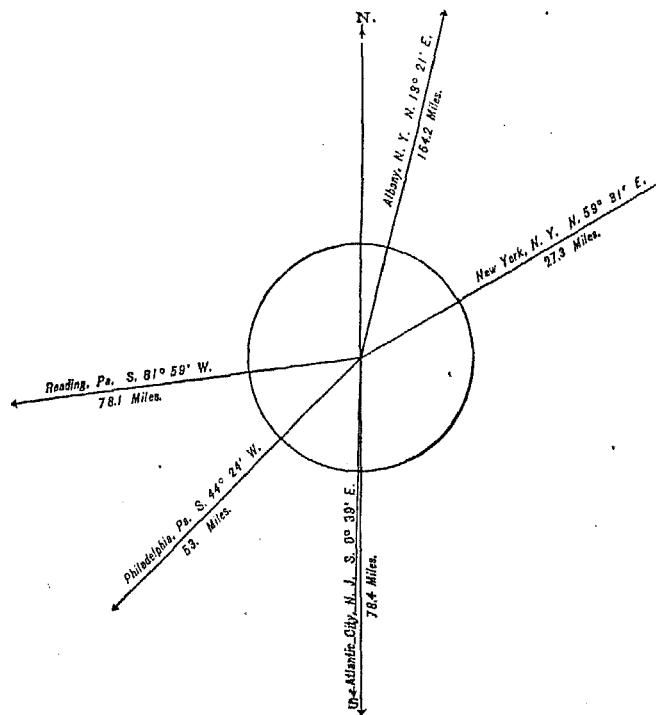
From the foregoing table it appears that the average capital of all establishments is \$19,469 21; that the average wages of all hands employed is \$438 37 per annum; that the average outlay in wages, in materials, and in interest (at 6 per cent.) on capital employed is \$44,970 79.

NEW BRUNSWICK, MIDDLESEX COUNTY, NEW JERSEY.

POPULATION

IN THE
AGGREGATE,
1860-1880.

	Inhab.
1790	
1800	
1810	
1820	
1830	
1840	
1850	
1860	11,256
1870	15,058
1880	17,166



POPULATION

BY
SEX, NATIVITY, AND RACE,
AT
CENSUS OF 1880.

Male	8,268
Female	8,898
—	
Native	13,788
Foreign-born	3,378
—	
White	16,430
Colored	* 736
—	
* Including 2 Chinese, 1 Japanese, and 1 Indian.	

Latitude: 40° 30' North; Longitude: 74° 27' (west from Greenwich); Altitude: 94 feet.

FINANCIAL CONDITION:

Total Valuation: \$5,396,000; per capita: \$314 00. Net Indebtedness: \$1,618,946; per capita: \$94 31. Tax per \$100: \$3 49.

NEW BRUNSWICK.

New Brunswick, the capital of Middlesex county, is situated on the right bank and at the head of navigation of the Raritan river, 15 miles above its mouth. It is the eastern terminus of the Delaware and Raritan canal, which extends to Bordentown, New Jersey, 42 miles, and connects the waters of the Delaware river with those of New York bay. This canal is 75 feet wide and 7 feet deep, and is navigated by steamboats and sloops of 100 to 150 tons. The ground on which the city is built is low in the vicinity of the river, but rises rapidly as it recedes. The city is on the New York and Philadelphia division of the Pennsylvania railroad, which gives it ample railroad communications. It is the seat of Rutgers college, with a library of 12,000 volumes, and of a theological seminary, with a library of 5,000 volumes, both under the Dutch Reformed church. There are several factories of india-rubber goods and paper-hangings, machine-shops, founderies, etc.

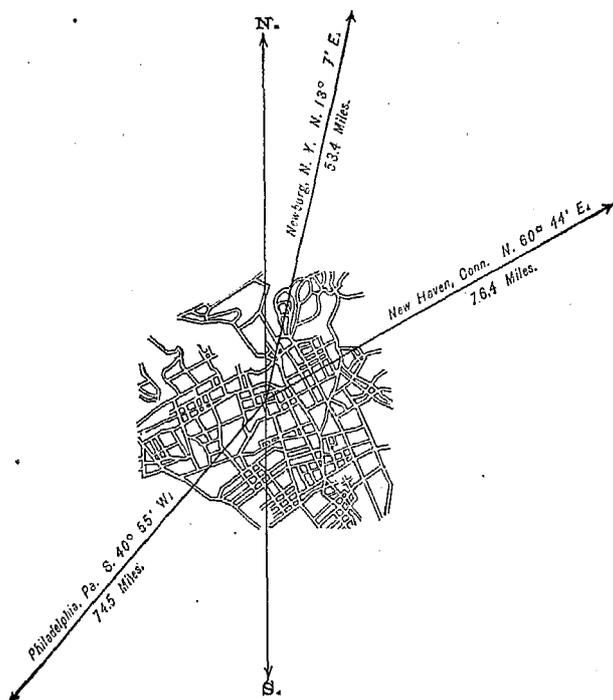
No statistical accounts regarding New Brunswick were furnished.

ORANGE,

ESSEX COUNTY, NEW JERSEY.

POPULATION
IN THE
AGGREGATE,
1820-1880.

	Inhab.
1790.....	
1800.....	
1810.....	
1820.....	2,830
1830.....	3,887
1840.....	3,264
1850.....	4,385
1860.....	8,877
1870.....	9,348
1880.....	13,207



POPULATION
BY
SEX, NATIVITY, AND RACE,
AT
CENSUS OF 1880.

Male.....	6,390
Female.....	6,817
—	
Native.....	9,453
Foreign-born.....	3,754
—	
White.....	12,745
Colored.....	462

Latitude: 40° 46' North; Longitude: 74° 14' (west from Greenwich); Altitude: 132 to 242 feet. (a)

FINANCIAL CONDITION:

Total Valuation: \$4,446,000; per capita: \$337 00. Net Indebtedness: \$253,832; per capita: \$19 22. Tax per \$100: \$2 05.

HISTORICAL SKETCH.

Orange forms a part of the original purchase from the Hackensack Indians in 1666, by the first settlers of Newark, and confirmed to them subsequently by the lords proprietors of East Jersey. The first settlers located at the Newark river, and the outlying district was known as the "mountain lands". These soon attracted settlers. In 1681 they were so far occupied as to require the laying out of highways by act of the town. The growth of the population, which was exclusively farming, progressed steadily. In 1719 a church was built, which in 1752 gave place to a larger one to accommodate the increased number of people. In 1807 the new township of Orange was

a Above tide-water.



THE ORANGES,
NEW JERSEY.



erected, and continued until 1860, when the bounds of the present city of Orange were established, and in 1869 a city charter was granted. Orange has never seriously suffered from fires, nor has it been subjected to other than the ordinary financial depressions of the times. The population of the place has been much changed in character by a large infusion of German and Irish people, drawn hither by the demand for labor in the various industrial establishments, but chiefly by a large and constantly increasing immigration of the families of men doing business in the metropolis, who prefer a suburban to a city home. The new elements, though largely in the majority, have not supplanted the descendants of the original settlers, but rather have amalgamated with them.

ORANGE IN 1880.

The following statistical accounts, furnished by Horace Stetson, esq., indicate the present condition of Orange:

LOCATION.

The city lies in latitude 40° 46' north, longitude 74° 14' west from Greenwich, 13 miles west of New York and 4 miles north of Newark. The lowest point above tide-water is 132 feet, and the highest 242 feet. The city is not upon navigable water.

RAILROAD COMMUNICATIONS.

Orange is upon the Morris and Essex railroad, running from New York city to Easton, Pennsylvania, which is leased and operated by the Delaware, Lackawanna, and Western railroad.

TRIBUTARY COUNTRY.

The surrounding country is agricultural, the farms being generally small and yielding a moderate supply of all the ordinary products, except wheat, barley, and flax. The earlier occupants generally sold their lands about 45 years ago and emigrated to Ohio and Illinois. These are now owned chiefly by small German and some French-Canadian farmers. The supplies which they furnish to Orange are limited. The farms on the east side of Orange mountain are valuable for their productiveness, but they are now largely given up for building-sites, and have become a part of a widely extended suburban region.

TOPOGRAPHY.

The site of the city is 1½ mile in width by 2 miles in length, the longer dimension being from north to south. The land is nowhere very elevated. The variations of level are caused by two ridges, with intervals, running northeast and southwest; through the intervals run streams increased by the drainage of these ridges. The soil is a sandy loam, friable and absorbent, and overlies red sandstone. The drainage of the locality is exceptionally good, with no near ponds or marshes. Except to the west, where the Orange mountain rises abruptly to a height of 420 feet above the level of the city, the surrounding country for a radius of 5 miles is similar in elevation and general character to the city. The country is generally open, with limited wooded spaces, nor is the mountain densely wooded.

CLIMATE.

It is not known that any record of the temperature of Orange is kept, but it is essentially that of Newark, 4 miles distant. Orange mountain, on the west line of Orange, rising with its abrupt front to the city, is a protection from the severe west winds of winter, and from damage by the sudden thunder-gusts of the southwest storms of summer. It is very noticeable that the winds of the transient thunder-storms do more damage at Newark, 4 miles distant, than in this region nearer the mountain. The prevailing winds in summer are from the south and southwest, and in winter they are from the west and northwest. The fact that these are all inland winds, and the only unmodified (and infrequent) sea-breeze is from the southeast, makes the air of Orange comparatively dry. Its altitude doubtless has an influence in this direction, but its practically inland condition, though near the sea, gives it a climate which is very beneficial to persons suffering with chronic lung diseases; such experience great benefit by a change of residence here from places nearer the sea-coast.

STREETS.

The total length of streets is 33½ miles, of which 8¼ miles are paved with broken stone, at a cost per square yard (and a foot deep) of \$1. The cost per annum for keeping the paved streets in repair is \$2,000. The Telford or broken-stone pavement gives satisfaction. Sidewalks, where the streets are improved, are paved with 4-foot flagstones, and in the business part of the city the entire width of the walk is flagged. The gutters of improved streets, in steep grades, are paved with Belgian blocks to the width of 4 feet, and, in nearly level grades, with

gutter-stones about 1 foot in width. The planting of trees along the streets is done under the supervision of the city authorities. Streets are constructed by contract, but repairing is done by days' work under the supervision of the street commissioner. Steam stone-crushers and steam-rollers are used in the work of street construction and repairs with satisfactory results. A street-railway runs to Newark. There are no omnibus lines.

WATER-WORKS AND GAS.

Orange has no water-works. The gas-works are not owned by the city; the charge per 1,000 feet is \$2 50, and the city pays \$24 per annum for each street-lamp.

PUBLIC BUILDINGS.

The city owns or occupies for municipal uses, wholly or in part, 4 school-houses, 2 fire-department buildings, and 1 building containing council-room, mayor's and tax-collector's offices, and the police-station.

PUBLIC PARKS AND PLEASURE-GROUNDS.

There are no public parks in Orange, except a slip of land extending along the main street, about 1,000 feet in length by 50 feet at the widest point. This is under control of the city, and is called the "Military common".

PLACES OF AMUSEMENT.

Orange has no theaters, but contains the following concert-halls and lecture-rooms unconnected with churches: Music hall, seating 970, and costing \$65,000; Library hall, seating 500; High School hall, seating 500; and Lincoln Avenue hall, seating 700. There are no concert- and beer-gardens.

DRAINAGE.

The city is without any system of sewerage. One or two brooks flow through the place, into which the adjacent houses discharge their drainage; along the banks are factories, cesspools, and vaults, all pouring their wastes into the brooks.

CEMETERIES.

There are connected with the city 4 public and private burying-grounds, all of which are still in use. The only information available is concerning *Rosedale Cemetery*, whose area is 60 acres, and whose total interments number 5,550, the interments since June 1, 1878, being 385.

SANITARY AUTHORITY—BOARD OF HEALTH.

The title of the chief health organization is "the board of health". It is an independent board, composed of the common-council health committee—3 members—and the mayor and city physician, making 5 members in all, but one of whom need be a physician. The health committee is appointed by the other committees of the common council, and the mayor and city physician are elected by the people, both being members *ex officio*. The board is directly responsible to the city government. The ordinary expense of the board is about \$1,200 per annum. There is no limit to the expense of the board during an epidemic, except that it must not exceed the amount appropriated by the common council. In the absence of any declared epidemic the board has power to abate all nuisances, and if owners of the land on which the nuisance exists refuse to carry out its directions, it may cause the same to be done, and the expense becomes a lien on the property. During an epidemic the board has the power to inspect all premises, to police them, and to quarantine all cases of contagious or infectious diseases; may establish pest-houses and remove all small-pox patients thereto, etc. The executive officer of the board is the health inspector, who is also the marshal of police. He must carry out all behests of the board, make and superintend all inspections, attend to complaints, issue notices, and compel the abatement of nuisances; his salary for this portion of his duties is \$100 per annum. The board transacts its business by meetings at the call of the chairman, or of any member, as often as seems needful—averaging two meetings a month during the spring, summer, and fall. Minutes of the meetings are kept.

The assistant inspectors are employed, one for each ward, for the annual inspections. Neither of them is a physician, nor has any one of them police powers. Every spring there is an inspection made of the city, when every house is visited and the actual condition of the premises is reported to the board. When nuisances exist they are ordered abated, and another inspection is made later to see if the orders of the board have been executed. Special inspections are made by the health inspector and city physician when the board deems it necessary. When nuisances are reported and found to be such, the inspector notifies the parties to abate them. Should they refuse (a thing which has not yet happened), complaint would be made to the grand jury of the county and the parties would be indicted. The condition of defective house-drainage, privy-vaults, cesspools, and sources of drinking-water is

noted at the annual inspections, and hundreds of such cases are corrected every year. The advice of the board is often sought by citizens regarding their own or their neighbors' premises. Defective street-cleaning is a subject for consideration by the board, which has only advisory power. The board exercises entire control over the removal of garbage and ashes, the scavenger who does the work being appointed by and directly responsible to the board. The board has supervision over the streams, and sees that they are not polluted.

INFECTIOUS DISEASES.

The board takes cognizance of the breaking out of contagious diseases in public and private schools, but its powers are uncertain and as yet only advisory. At present there is no pest-house, but the board can erect one in 48 hours on the almshouse property. Vaccination is not compulsory, but during an epidemic it has been done at the public expense.

The registration of diseases, births, and deaths is provided for by state laws and is under the supervision of the state board of health.

REPORTS.

The board is required to report monthly and annually to the common council, and annually to the state board of health. Dr. Thomas W. Harvey, city physician and secretary to the board of health, in furnishing the above information, adds: "The New Jersey courts do not, however, sustain the actions of the city health boards, and they assume powers that do not belong to them. The decisions of the court cripple to some extent the power of the boards. But by careful action the board in Orange has obtained a position where it is in accord with all classes of the citizens, and its suggestions and regulations are generally followed out."

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned at the expense of the city and with its own force. The work is done wholly by hand, no sweeping-machines being used, and is reported as well done. The sweepings are deposited as filling.

Removal of garbage and ashes.—All garbage and ashes are removed by the city with its own force. While awaiting removal garbage must be kept separate from the ashes, in light tubs, boxes, or buckets, and placed on the sidewalk at such times as the board of health may designate for its removal by the scavenger. Its final disposal is either to farmers, or by dumping it into low places for filling. Ashes are also used for filling. It is not thought that any nuisance or injury to health results from the improper keeping or handling or final disposition of the garbage.

Dead animals.—The carcass of any animal dying within the city is either sold or buried.

Liquid household wastes.—In some cases all the wastes of the houses are disposed of by the "downward filtration" system, and in others by vaults and cesspools. Occasionally laundry and kitchen wastes are run by drains into brooks, and, in some of the side streets, and to a very limited extent, they are run into street-gutters, which are not artificially flushed. But the great majority of the wastes are absorbed into porous cesspools. In certain instances wells are known to be contaminated by the overflowing or the underground escape of the contents of cesspools and privy-vaults. The cesspools must be cleaned out whenever they become full, or are reported to need cleaning by the inspector. This system is stated to be unquestionably bad. The downward-filtration system of disposal is said to be working well.

Human excreta.—About 75 per cent. of the houses of the city depend entirely on privy-vaults, and the remainder have water-closets in addition to vaults, except where the downward-filtration method is used. Very few privy-vaults are even nominally water-tight. They must contain at least 32 cubic feet of space, and the bottoms must be at least 3 feet below the surface of the ground. The sides must be either planked, stoned, or bricked up and the top covered. When full, vaults must be emptied. It is not allowed to carry the contents through the streets, etc., at any time of the day except between the hours of 10 p. m. and 4 a. m., unless the vehicle or vessel in which the same is conveyed shall be effectually covered and water-tight. The dry-earth system is used to a very slight extent. Night-soil is disposed of for fertilizing.

Manufacturing wastes, consisting mainly of the refuse of hat-shops, are run into the streams. This system is said to be very bad, and a change is contemplated.

POLICE.

The police force is appointed by the common council, and governed by such rules as may be adopted by the council or prescribed by the police committee. The chief executive officer is the marshal, whose duties are to see to the general preservation of law and order, to cause the requisite complaints to be made on the violation of these, and to attend to the proper prosecution of the offenders; to keep a record of the doings of the department and present to the common council each month a report of the same, including a detailed statement of the persons arrested during the month and their disposition; and to have charge of the town lockup. His salary is \$900 per

annum. The rest of the force consists of 1 sergeant and 1 roundsman at \$65 a month each, and 10 patrolmen at \$60 a month each. The men provide their own uniforms at a cost of about \$60 each per year. The patrolmen are equipped with batons, and their hours of service average about 10 out of the 24.

The number of arrests during the past year was 606, for which the chief causes were: Drunkenness, 254; breach of the peace, 140; larceny, 27; assault and battery, 51; vagrancy, 21; and disorderly conduct, 14. Their final disposition was as follows: Committed for trial, 32; sentenced to various terms of imprisonment (6 to 90 days), 94; committed on execution, 16; bailed, 66; fined, 123; sentence suspended, 3; committed to asylum, etc., 5; and discharged, 267. During the year stolen or lost property to the value of \$1,832 was recovered and returned to the owners by the police. The number of station-house lodgers for the year was 2,644, as against 2,621 in 1879. No free meals are given to station-house lodgers. The force is required to co-operate with the health department, as directed by the marshal, who is *ex officio* health inspector, and with the fire department at fires by lining off certain areas and permitting only properly interested persons to pass within the same. Special policemen are appointed for holidays, elections, at cemetery on Sundays, etc. They have the same powers and receive the same compensation as regular policemen. The yearly cost of the police force (1880) is \$11,199 02.

FIRE DEPARTMENT.

The force of the Orange fire department consists of 1 chief and 2 assistant engineers, 32 members of 2 steam fire-engine companies, 20 members of a hook-and-ladder company, and 9 fire-wardens—a total of 64. The apparatus comprises 1 second- and 1 third-class steam fire-engine, 1 hook-and-ladder truck, 2 hose-carriages, and 4 Babcock fire-extinguishers. Hose in good condition, 2,250 feet; in poor condition, 1,150 feet; and unfit for use, 950 feet. During the year the department was called 34 times, including 12 false alarms. The cost of the service for the same period was \$9,035 92.

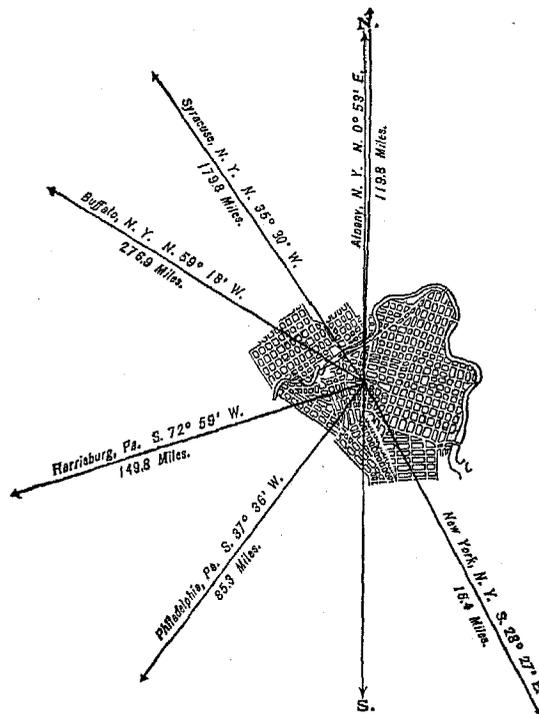
PUBLIC SCHOOLS.

Orange has 4 school buildings and 5 rented rooms, accommodating 1,244 pupils. The average enrollment in the schools is 1,005, and the average daily attendance, 913. The total expenditures for school purposes for the year ending March 1, 1880, was \$24,037 11.

PATERSON, PASSAIC COUNTY, NEW JERSEY.

POPULATION
IN THE
AGGREGATE,
1840-1880.

	Inhab.
1790.....	.....
1800.....	.....
1810.....	.....
1820.....	.....
1830.....	.....
1840.....	7,596
1850.....	11,344
1860.....	19,586
1870.....	33,579
1880.....	51,031



POPULATION
BY
SEX, NATIVITY, AND RACE,
AT
CENSUS OF 1880.

Male.....	24,765
Female.....	26,266
Native.....	32,329
Foreign-born.....	18,702
White.....	50,339
Colored.....	* 692

*Including 16 Chinese and 6 Indians.

Latitude: 40° 56' North; Longitude: 74° 10' (west from Greenwich); Altitude: 32 to 393 feet.

FINANCIAL CONDITION:

Total Valuation: \$19,893,485; per capita: \$390 00. Net Indebtedness: \$1,359,500; per capita: \$26 64. Tax per \$100: \$2 40.

HISTORICAL SKETCH.

The town of Paterson was first located on July 4, 1792. Its progress was steady, manufactures gradually developed, and in 1831 the township of Paterson was incorporated. The town increased rapidly, and in 1851 it was incorporated as a city. The silk industry of Paterson has contributed much to its growth and importance, and the large water-power here afforded by the Passaic river has made the city essentially a manufacturing one. A reference to the table of "manufactures", a few pages on, will show the extent of the several industries to-day.

Paterson has never suffered from any severe conflagrations. The periods of depression have been in 1812,

again on the adoption of the *sliding tariff*, again in 1857, 1860, 1866-67, and 1873-78. The recovery after each of one of these was rapid. The early settlers were operatives from the north of Ireland, Scotland, and England, with the "Jersey Dutch" always as a leavening element; and though the many manufactories are continually attracting foreign operatives, the present population is largely native-born.

PATERSON IN 1880.

The following statistical accounts, collected and furnished by J. T. Hilton, esq., C. E., indicate the present condition of Paterson:

LOCATION.

The city lies in latitude 40° 56' north, longitude 74° 10' west from Greenwich, on the Passaic river, 5 miles above tide-water. The river here breaks through the Orange mountain and falls 80 feet in passing the city, one direct fall being of 50 feet. The altitudes above the level are 32 feet at the lowest point, 98 feet in the business portion, and 393 feet on Garrett's mountain.

RAILROAD COMMUNICATIONS.

Paterson is touched by the following railroads:

The New York, Lake Erie, and Western railroad, between New York and Buffalo.

The Delaware, Lackawanna, and Western railroad, between New York and Orange.

The New Jersey Midland railroad, between New York and Middletown, New York.

These roads give Paterson forty trains each way daily to New York.

TRIBUTARY COUNTRY.

The local trade of the city is mainly from an agricultural population, with half a dozen villages within a radius of 8 or 10 miles. Little or no industry in the way of manufacturing is carried on in any of them, with the exception of Passaic, 4 miles to the south, which is looming up as a busy manufacturing village, though now termed a city.

TOPOGRAPHY.

The soil on which the city is built is sand and clay loam, with clay, slate, and sandstone cropping out, overtopped with trap-rock. The city is built upon a broad plain, whose western extremity rises to a height of nearly 400 feet. As viewed from the surrounding hills it appears to be in a natural basin, which is true of the business and older portions; but in the last fifteen years the elevated ground has been gradually built upon, and is the part most affected for residences at present. The city is nearly surrounded by hills or elevated ground, and the natural drainage is good, except in the old part immediately contiguous to the river. Comparatively few marshes or ponds now exist within the city limits, a number of them having been filled up. The country within a radius of 5 miles is open, and the soil is the same as that under the city, with excellent brick-clay to the west.

CLIMATE.

No regular record of temperature has been kept, but the city surveyor reports that during the past two or three years a comparison has been made with the climate of New York, and it is estimated that Paterson has an average of from 2° to 4° lower than that city. The winds from the ocean modify the heat of summer and the cold of winter, while the mountains to the north and west break the force of the winds from those directions. Owing to the proximity of marshes malarial fever prevails in some localities.

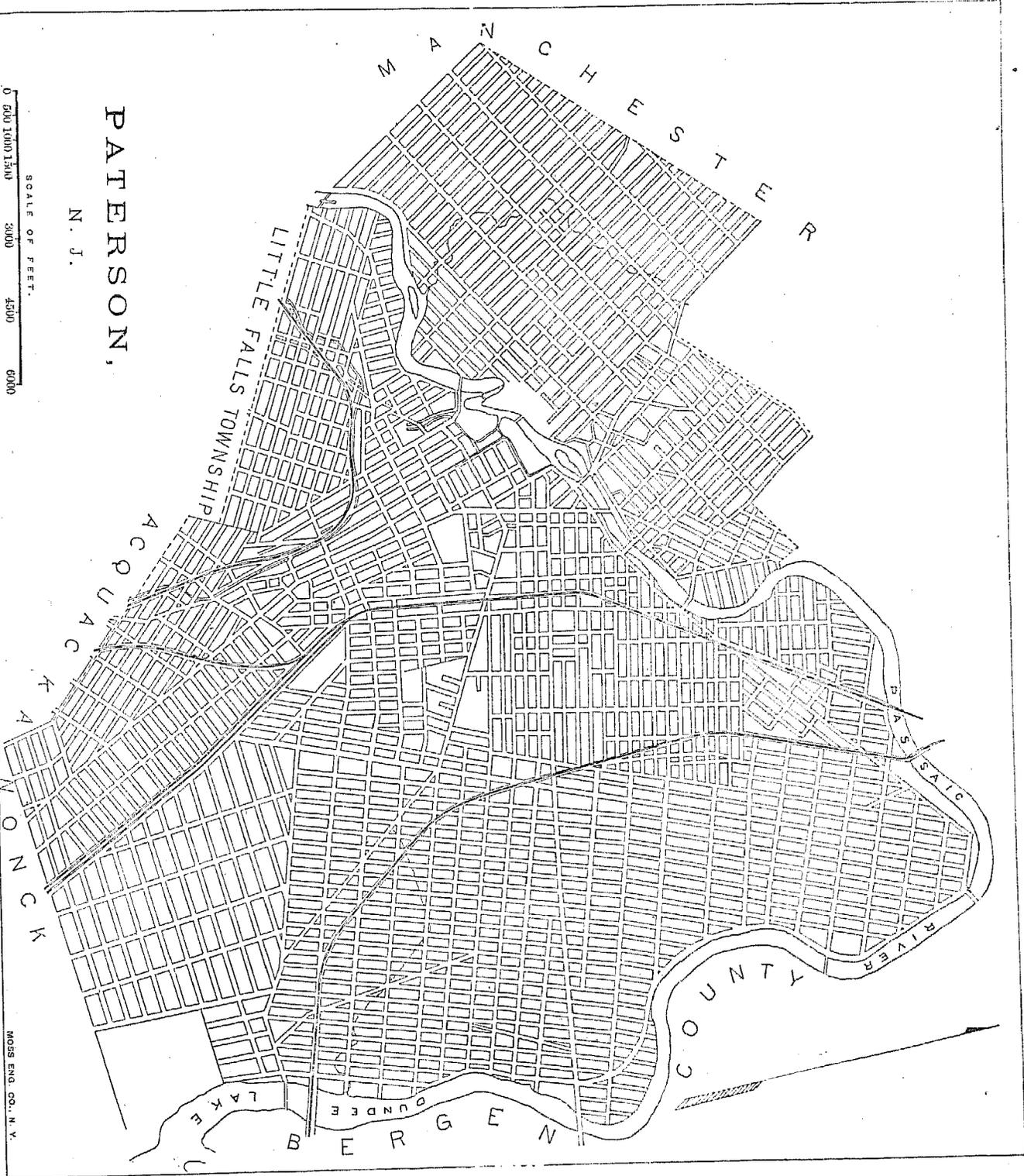
STREETS.

The total length of streets is 226 miles. Of this, 2.76 miles are paved with cobble-stones, 7.24 miles with broken stone, and 100 miles are of loam, the remainder not being opened. The cost per square yard is, for cobble-stones, 55 to 60 cents; broken stone, 75 cents to \$1; and for the loam, no estimate can be made, as the material is left on the streets when graded. The cobble-stone pavement is reputed to be the easiest to keep clean and the least costly to repair. The sidewalks are of bluestone and brick. Some years ago most of the sidewalks were of brick, 4 feet wide, and these are now gradually being replaced with bluestone, from 4 to 12 feet wide. The gutters are now being laid with bluestone, 14 inches wide, next the curb, and cobble-stones to the outer edge, 2 feet 10 inches, making the total width of gutters 4 feet. Trees are planted by the property-owners on the sidewalks, 18 inches from the curb. The work of construction on the streets is done by contract. The repairs are done by the day.

PATERSON, N. J.

SCALE OF FEET.
0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000

MOSES ENG. CO., N. Y.



The annual cost for repairs is from \$15,000 to \$20,000. Contract work is preferred, and is reported to be from 10 to 30 per cent. cheaper than day work. A steam stone-crusher and steam-roller are used with good effect. There are 15 miles of horse-railroads, with 23 cars and 45 horses, and employing 21 men. During the year 314,826 passengers were carried, at rates of fare from 5 to 6 cents for adults and 3 cents for children. There are no omnibus lines in the city.

WATER-WORKS.

The water-works are owned by the Passaic Water Company, a private corporation, and cost \$1,230,000. Water is taken from the river at the edge of the falls and pumped, both by steam- and water-power, into 3 distributing-reservoirs with an aggregate capacity of 18,000,000 gallons. The average pressure in the mains is 30 pounds to the square inch. The average amount of water pumped per diem is 6,000,000 gallons—the greatest being 9,000,000 and the least 4,000,000 gallons. The company withheld statistics regarding maintenance, receipts, etc. Water-meters are not used. There are 35 miles of distribution-pipe in use and 500 fire-hydrants. The city pays \$37 a year for each hydrant, which includes water for flushing sewers and gutters and sprinkling streets.

GAS.

Gas is supplied by a private corporation, and the daily average production is 100,143 cubic feet. The charge per thousand feet to consumers is \$2. The city pays \$35 a year for each street-lamp, 355 in number. These figures are for the Paterson Gas Light Company, but in January of the present year the People's Gas Light Company was organized, and at present its daily average production is 15,000 cubic feet, and the charge \$1 58 to \$2 per thousand feet.

PUBLIC BUILDINGS.

The city owns and occupies for municipal uses, wholly or in part, 1 city hall, 1 police-station, 1 street-department building, 1 almshouse, 11 fire-department houses, and 10 school-houses. The total value of these, including the land, is \$447,000. The city hall and police-station are on one lot and are rated together at \$37,500.

PUBLIC PARKS AND PLEASURE-GROUNDS.

There are no public parks in the city. The Passaic falls and grounds are owned by a private corporation—the Passaic Water Company—and are rented to a hotel-keeper, who maintains them and keeps them open to the public. These grounds are in a great degree a substitute for a public park.

PLACES OF AMUSEMENT.

There is one theater, the Paterson opera-house, with a seating capacity of 1,200; it pays an annual license of \$100 to the city. The following halls are used for concerts, lectures, balls, etc.: Germania assembly rooms, on Market street; Germania hall, on Cross street; Odd Fellows' hall, on Main street; Continental hall, corner of Main and Van Houten streets; Paterson Market hall, on Broadway; Fraternity hall, on Bridge street; Pope's hall, on Main street; and Tammany hall, corner of Cross and Market streets.

DRAINAGE.

The sewers of this city are now being built according to a regular plan. John T. Hilton, esq., city surveyor, says:

The first sewer system for the old and populated portion of Paterson was adopted in 1868. Previous to this about 700 feet of well-built egg-shaped sewer was built (about 1852 or 1853), which is now incorporated in the sewer system, and is adequate for the district drained. No covered water-ways or private sewers were taken into consideration when our sewer system was adopted, so we are not cursed in that particular. The system, as devised by General Egbert L. Viele in 1868, was imperfect, however, and we have been all these years and are still trying to rectify the errors. By a special act of the legislature, the city has employed an engineer to lay out new and correct the boundary lines of old districts, and, when completed, we think we will have an excellent system.

Concerning ventilation, it is stated that—

We are putting in a large number of catch-basins, which have no traps, and thus give a free ventilation into the street. Ultimately we will no doubt adopt the open-sewer system, as our experience so far has proved it the best. No other special mode, except as above indicated, has been adopted for ventilation.

We have used stoneware invert blocks in brick sewers since 1877, and would not like to build a brick sewer without them now. They are satisfactory, draining the low ground in the vicinity in a thorough manner.

The mouths of the sewers are fully exposed; they discharge into the Passaic river. The cases of having to remove deposits from sewers by artificial flushing are rare, and in all cases it is in sewers built between 1868 and 1874. Since the latter date we have adopted more stringent measures for the proper construction of the sewers.

Bonds are issued by the city for the payment of the sewers built each year; they run for about twenty years. The cost of sewers in each district is ascertained each year, and 7 per cent. of their cost is assessed as a yearly sewer-tax on all those lots fronting or adjoining (meaning corner lots) said sewers. This makes a tax of $3\frac{1}{4}$ per cent. of the cost per foot front on all those streets through which sewers run, equal to \$5 63 per lot of 25 feet front in the 5 districts that are most thoroughly sewered. Where the districts are but partially sewered the cost is higher, but each lateral built reduces the assessment.

The following table, showing the cost of the sewers of different sizes and kinds, is furnished by the city surveyor:

Name of sewer.	Length.	Size.	Material.	Price per foot.	PRICE OF MATERIALS USED.							Nature of cut.	Total cost.	Cost per foot, including every thing.
					Manholes, each.	Catch-basins, each.	Receiving-basins, each.	Hard-rock excavation, per cubic yard.	Soft-rock excavation, per cubic yard.	Timber, per 1,000 feet.	Concrete, per cubic yard.			
Arch Street	867.0	30	Brick, egg-shaped...	\$3 40	\$30 00	\$20 00	.....	\$2 00	\$1 00	\$17 00	\$3 50	Sand and clay.....	\$3,730 34	\$4 30
Smith Street.....	393.0	12	Cement pipe.....	1 10	30 00	20 00	.....	7 00	4 00	35 00	5 00	Sand and clay.....	821 48	2 00
Straight Street	140.0	48	Brick, egg-shaped	7 95	28 00	33 00	\$85 00	5 00	3 00	18 00	5 00	Sand, clay, and gravel	} 15,346 95	5 60
Straight Street	1,023.0	30	Brick, egg-shaped.....	4 35	28 00	33 00	85 00	5 00	3 00	18 00	5 00	Sand, clay, and gravel		
Straight Street	533.0	30	Brick, egg-shaped.....	3 45	28 00	33 00	85 00	5 00	3 00	18 00	5 00	Sand, clay, and gravel		
Straight Street	1,044.0	24	Brick, egg-shaped.....	2 33	28 00	33 00	85 00	5 00	3 00	18 00	5 00	Sand, clay, and gravel		
Mechanic Street	1,205.0	18	Cement pipe.....	1 61	30 00	30 00	100 00	7 00	4 00	35 00	5 00	Gravel, sand, and clay	} 4,537 07	2 24
Mechanic Street	821.0	15	Cement pipe.....	1 33	30 00	30 00	100 00	7 00	4 00	35 00	5 00	Gravel, sand, and clay		
Willis Street	582.0	12	Vitrified pipe.....	69	30 00	30 00	.....	6 00	5 00	18 00	6 00	Very fine sand.....	772 08	1 33
Cedar Street.....	243.0	12	Vitrified pipe.....	68	30 00	29 00	.....	6 00	5 00	18 00	6 00	Sandstone, gravel, and clay..	406 78	1 67
Van Houten Street... ..	1,037.5	18	Cement pipe.....	1 71	32 00	30 00	.....	7 00	4 00	35 00	5 00	Sand and gravel	} 4,352 32	2 41
Van Houten Street... ..	771.0	15	Cement pipe.....	1 49	32 00	30 00	.....	7 00	4 00	35 00	5 00	Sand and gravel		
Lawrence Street.....	425.5	12	Cement pipe.....	1 15	33 00	33 00	85 00	5 00	3 00	18 00	5 00	Clay, gravel, and sand.....	870 99	2 05

Governmental regulation.—By city ordinance the control of sewers is vested in the hands of a board of "commissioners of sewerage", appointed by the mayor and aldermen. This commission has the general supervision, construction, and maintenance of all sewers and drains ordered. Without its written permission no connection can be made with any sewer or drain, nor can such connection be made in a manner different from that prescribed by the commission. The penalty for violating these provisions is \$50 for each offense.

No openings into sewers or drains for the purpose of making connection can be made except by persons licensed therefor, and giving bond for the proper execution of the work, including the proper restoration of the street.

Permits for ordinary connections are issued for the sum of \$10. For hotels and larger buildings the rate is proportionately increased, and manufacturing establishments are prohibited from discharging into the sewers waste which would deposit sediment or obstruction.

The following are among the provisions of an "an ordinance concerning sewers and drains", passed June 1, 1868:

No owner or occupant of any dwelling-house, store, or other building, or of any manufactory, brewery, distillery, or the like, having permission to connect with any sewer, drain, or receiving-basin, shall permit any substance to flow into any sewer, drain, or receiving-basin which shall form a deposit that tends to fill said sewer, drain, or receiving-basin, under the penalty of \$50 for each offense.

No butchers' offal or garbage, dead animals, or obstructions of any kind whatever shall be placed, thrown, or deposited in any receiving-basin, sewer, or drain; and any person so offending or causing any such obstruction or substance to be placed so as to be carried into such receiving-basin, sewer, or drain shall forfeit and pay \$10 for each offense; and any person who shall injure, break, or remove any portion of any receiving-basin, covering-flag, manhole, vent, or any part of any sewer or drain, or obstruct the mouth of any sewer or drain, or obstruct the flow of water in the city of Paterson, shall forfeit and pay \$25 for each and every such offense.

CEMETERIES.

There are 10 cemeteries within the city limits, and 3 outside, used by the people of Paterson. They are situated as follows:

Cedar Lawn Cemetery, in the extreme southwestern corner of the city, on the Passaic river.

Old Dutch Cemetery, on Water and Coral streets.

Roman Catholic Cemetery, *Methodist Cemetery*, *Reformed Cemetery*, and *Presbyterian Cemetery*, just north of Market street.

Presbyterian Cemetery, *Roman Catholic Cemetery*, *Baptist Cemetery*, and *Episcopal Cemetery*, just south of Market street—all together in the center of the city—and one cemetery on Totowa street have an aggregate area of 104.3 acres.

Those outside the city are the *Cemetery of the Holy Sepulcher*, in Manchester township, and adjoining the western limits of the city, area 14 acres; and two Jewish cemeteries, one 2 miles south of the city, area 100 feet square, and the other 2 miles north of the city, area 1 acre.

In addition to the above there are 2 private burial plots or vaults, in which interments are no longer allowed. Up to the close of the present year there had been 5,012 interments in Cedar Lawn and 2,748 in the Holy Sepulcher cemeteries. The number of interments in the other cemeteries, as nearly as could be estimated, to include 1876, was 12,300. Since the opening of the Cedar Lawn and Holy Sepulcher cemeteries the number of interments in the older cemeteries has sensibly decreased, and now more than 50 per cent. of all burials are made in the two former.

Cedar Lawn cemetery is owned by a private corporation, is handsomely laid out and improved, and lots are sold for burial purposes. Burial permits are issued by the registrar of vital statistics upon the attending physician's certificate of death. The depth of ground or limit of time after death for interments was not reported.

MARKETS.

There are no public or corporation markets in the city. On one side of Main street for a distance of 3,700 feet farmers' and hucksters' wagons are allowed to stand and sell their produce. The stand is occupied from daylight until 10 a. m. during the week, except on Saturday, when the time is extended to 3 p. m. Certain other streets are designated for wagons to stand, but the above is the only one that is used for the purpose.

SANITARY AUTHORITY—HEALTH COMMITTEE.

The chief sanitary authority of Paterson is vested in a health committee, composed of 5 members of the board of aldermen, with the mayor and city physician members *ex officio*. The annual expenses in ordinary times vary, being \$250 for 1879 and \$1,000 for the present year, but for what purpose they are incurred is not stated. No provision seems to be made for the increase of expenses during an epidemic. In the absence of an epidemic the authority of the committee is confined to abating nuisances and looking after the sick poor, and during an epidemic it has authority to do what is necessary to control the same, under the advice of the city physician. The city physician is the executive officer of the committee, and sees that its orders are carried out. His salary is \$700 per annum. There is one assistant to the city physician employed, who is under his orders. The committee meets as a deliberative body and acts on the reports of its executive officer. Inspections are made at the option of the city physician. Where a nuisance is reported it is inspected by the city physician, and he orders it abated within such time as he may deem best. The committee does not appear to have any custom concerning the inspection and correction of defective house-drainage, privy-vaults, cesspools, etc. Defective sewerage and street-cleaning are under the street department, which also controls the conservation and removal of garbage. The pollution of streams is controlled by state laws.

INFECTIOUS DISEASES.

Small-pox patients are sent to the pest-house, situated 1 mile from the city, on the side of a mountain. Scarlet-fever patients are quarantined at home, or, if this can not be done, sent to the pest-house. The committee notifies the schools on the breaking out of a contagious disease, and sees that no pupils from an infected family attend. Vaccination is not compulsory, but it is done at the public expense when a request is made. The clerk of the board of aldermen is registrar of vital statistics, and keeps the record of all births and death. Diseases are not recorded.

REPORTS.

The health committee makes no report, but the city physician reports annually direct to the board of aldermen, and this report is published with the regular city documents.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned at the expense of the city and with its regular force. The work is done wholly by hand, no sweeping-machines being used. The streets are cleaned at no regular time, and the efficiency of the work can be vastly improved by a larger expenditure of money. The sweepings are deposited in the dumping-grounds in the suburbs. The annual cost of the service is \$9,000.

Removal of garbage and ashes.—All garbage and ashes are removed by the city with its regular force, at an annual cost of \$4,500. Pending removal the garbage and ashes are kept in boxes and barrels, and it is allowed to keep them in the same vessel. Their final disposal is the same as that of street-sweepings. No injury to health has been reported from the manner of removal or the final disposal of the garbage.

Dead animals.—The carcass of any animal dying within the limits of the city must be removed and buried by the owner. If the owner can not be found the city removes it. The cost of the service, or the number of animals removed annually, was not given.

Liquid household wastes.—Chamber-slops and laundry and household wastes are run into the sewers, or in the gutters where no sewer exists. It is estimated that nearly 50 per cent. goes into the gutters, which are flushed regularly during the summer months. There are some cesspools that are porous, not provided with overflows, and that have no regulations as to their cleansing. It is reported that numerous instances can be cited of very typical cases of contamination of drinking-water from the overflowing or underground escape of the contents of cesspools and privy-vaults. The sewerage system discharges so far up the river as to cause the sewage to pass around and through the city.

Human excreta.—About one-third of the houses in the city are provided with water-closets, nearly all of which deliver into the sewers, and the remainder depend on privy-vaults. Very few of the latter are even nominally

water-tight, and there are no ordinances regulating their construction. Very few persons have their privy-vaults emptied until compelled to do so. The cleaning is done by licensed scavengers, with water-tight carts, and during the summer months must be done at night, the night-soil being taken out of the city to the neighboring farms. It is not known that any of the night-soil is used on land within the gathering-ground of the public water-supply.

Manufacturing wastes.—A good deal of the manufacturing waste goes into the river, and some is carried to the farms for manure. Dr. F. W. Myers, who furnished the above information, says: "Many defects to be remedied. The city has only begun to recognize sanitary regulations, and that only partially. The great fault is in the manner of constructing the health committee. No independent health board."

POLICE.

The police force of Paterson is appointed by the mayor, subject to the approval of the board of aldermen, and is governed by the committee on police, consisting of the mayor and five aldermen. The chief of police is the executive officer, has charge of the force and governs it in accordance with the rules and regulations; his salary is \$1,000 per annum. The rest of the force in the several grades, and the salaries per annum of each, are as follows: 1 captain at \$950, 4 sergeants at \$900 each, and 38 patrolmen at \$800 each. The uniform is of navy-blue cloth—coat, vest, and trousers, with gilt buttons, and hats. In summer a flannel suit is worn. The men furnish their own uniforms. Each man carries a locust baton 22 inches long. The men have eight hours' regular patrol duty at one time, and each beat covers from seven to twelve ordinary blocks. During the past year 2,675 arrests were made by the force, the principal causes being: Disorderly, 569; drunk and disorderly, 495; drunk, 444; assault and battery, 374; and the remainder for various offenses. Their final disposition was: Fined, 587; committed, 810 bailed, 477; discharged, 126; sentence suspended, 604; and the rest in different ways. During the same time the total value of property lost or stolen and reported to the police was about \$3,500, and of this, \$2,146 42 was recovered and returned to the owners. The total number of station-house lodgers was 3,248, as against 3,296 in 1879. The force is required to co-operate with the fire department by protecting property and preserving order at fires, and with the health department by serving notices. Special policemen are appointed by the mayor and aldermen, generally for private watchmen. They have no connection with the regular force, but are bound to act if called upon by the chief of police. Two casualties occurred in the force during the year. In one case an officer was badly bitten by a thief whom he had arrested, and in the other an officer received a serious injury while arresting a drunken ruffian. The yearly cost of the police force (1880) is \$32,757 46.

MANUFACTURES.

The following is a summary of the statistics of manufactures of Paterson for 1880, being taken from tables prepared for the Tenth Census by Henry Van Gieson, special agent:

Mechanical and manufacturing industries.	No. of establishments.	Capital.	AVERAGE NUMBER OF HANDS EMPLOYED.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
All industries.....	346	\$12,412,942	10,270	6,576	2,953	\$6,962,487	\$14,623,833	\$26,502,350
Belting and hose, leather.....	4	36,500	27			12,484	57,196	82,345
Blacksmithing (see also Wheelwrighting).....	19	14,250	33			15,479	14,010	46,390
Boots and shoes, including custom work and repairing.....	12	7,900	34	2	1	10,881	12,957	29,360
Brass castings.....	3	152,000	234			112,250	14,500	183,500
Bread and other bakery products.....	31	71,300	40			14,620	74,439	134,510
Card cutting and designing.....	4	4,800	27		4	9,550	4,690	18,350
Carpentering.....	22	100,100	237	2	1	116,408	308,125	490,982
Carriages and wagons (see also Wheelwrighting).....	4	40,000	43			21,340	11,700	48,718
Cotton goods (see also Mixed textiles).....	3	548,877	324	344	209	284,011	423,226	1,097,020
Dentistry, mechanical.....	3	2,000	3			1,700	1,500	5,583
Dyeing and finishing textiles.....	10	511,600	557	38	44	312,205	412,140	918,583
Foundry and machine-shop products.....	27	1,671,500	2,597	86	124	1,055,822	1,605,274	3,029,989
Liquors, malt.....	6	592,000	138			59,611	311,205	546,510
Looking-glass and picture frames.....	3	3,000	6			1,890	9,950	14,300
Marble and stone work.....	5	20,500	28			11,767	11,615	40,675
Mixed textiles (see also Cotton goods; Silk and silk goods).....	6	799,500	402	431	211	313,050	691,600	1,164,050
Painting and paper hanging.....	13	9,650	42		2	22,738	20,460	60,930
Photographing.....	3	11,500	6	3	3	5,800	4,600	15,000
Plumbing and gasfitting.....	7	20,100	37			19,232	35,300	70,815
Printing and publishing.....	4	61,500	45	26	10	33,801	29,517	92,622

Mechanical and manufacturing industries.	No. of establishments.	Capital.	AVERAGE NUMBER OF HANDS EMPLOYED.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
Saddlery and harness	4	\$10,800	15			\$9,100	\$20,000	\$38,551
Silk and silk goods (see also Mixed textiles)	82	5,660,525	3,543	4,169	2,097	3,335,045	8,099,161	14,164,465
Tinware, copperware, and sheet-iron ware	13	49,100	91			37,049	60,873	125,680
Tobacco, cigars and cigarettes	14	16,400	37		3	14,210	30,030	62,130
Wheelwrighting (see also Blacksmithing; Carriages and wagons)	3	4,400	5			2,050	2,450	5,280
Wood, turned and carved	5	42,300	79		10	29,898	23,150	62,850
All other industries (a)	36	1,950,750	1,040	1,475	234	1,130,896	2,298,175	3,954,262

a Embracing bagging, flax, hemp, and jute; boxes, fancy and paper; brick and tile; carriage and wagon materials; clothing, men's; felt goods; files; flouring- and grist-mill products; furniture; glue; handles, wooden; iron and steel; iron bolts, nuts, washers, and rivets; lumber, planed; models and patterns; paints; paper; printing materials; shirts; shoddy; soap and candles; stationery goods; thread, linen; tobacco, chewing, smoking, and snuff; toys and games; wire; and worsted goods.

From the foregoing table it appears that the average capital of all establishments is \$35,875 55; that the average wages of all hands employed is \$353 17 per annum; that the average outlay in wages, in materials, and in interest (at 6 per cent.) on capital employed is \$64,627 45.

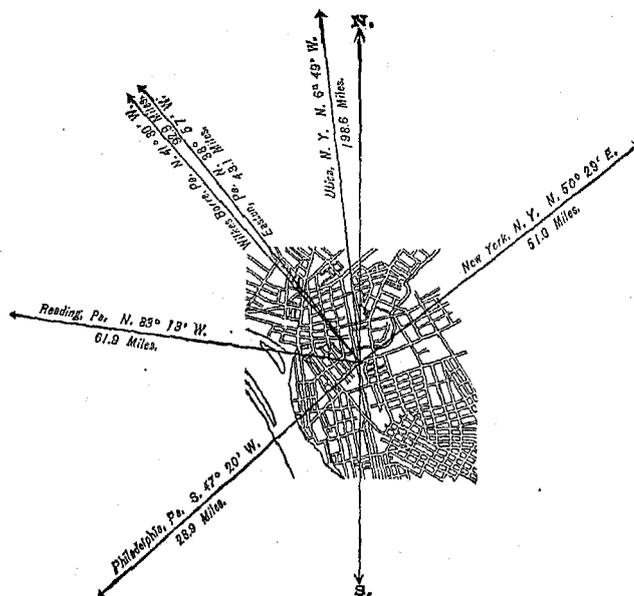
TRENTON,

MERCER COUNTY, NEW JERSEY.

POPULATION

IN THE
AGGREGATE,
1820-1880.

	Inhab.
1790.....	
1800.....	
1810.....	
1820.....	3,942
1830.....	3,925
1840.....	4,035
1850.....	6,461
1860.....	17,228
1870.....	22,874
1880.....	29,910



POPULATION

BY
SEX, NATIVITY, AND RACE,
AT
CENSUS OF 1880.

Male	14,921
Female.....	14,989
—	
Native.....	24,191
Foreign-born	5,719
—	
White.....	28,534
Colored.....	*1,376

* Including 2 Chinese.

Latitude: 40° 14' North; Longitude: 74° 45' (west from Greenwich); Altitude: 0 to 45 feet. (a)

FINANCIAL CONDITION:

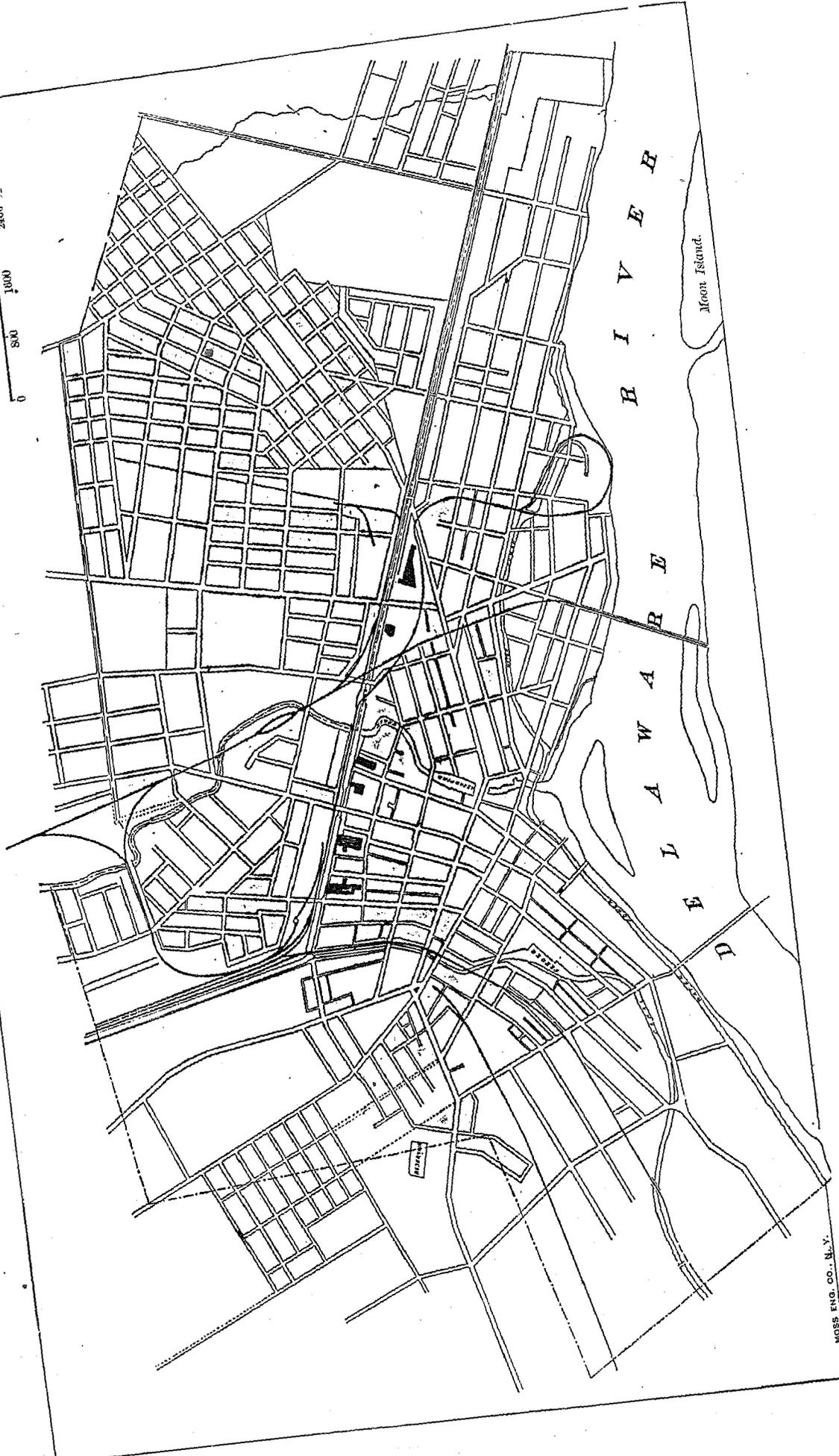
Total Valuation: \$15,670,017; per capita; \$524 00. Net Indebtedness: \$664,501; per capita: \$22 22. Tax per \$100: \$1 48.

HISTORICAL SKETCH.

The city of Trenton combines several points settled at different times. The first settlement was made about the year 1680 by Mahlon Stacy, Phineas Pemberton, and others, who established themselves at what was then called the "Falls of the Delaware". This settlement lay to the north of Assunpink creek, while immediately to the south another and separate village, called Kingsborough, was laid out at a later period. During and after the Revolution this was called Mill Hill. South of Kingsborough lay another village, called Bloomsburg, which included the land to the south and east of the present South Warren street; and still farther south, along the river-bank, comprising what is now the 6th ward of Trenton, was the village of Lambertson.

TRENTON, N. J.

SCALE OF FEET.
0 800 1000 2000 1/2 mile



The early history of the city, which until about 30 years ago contained only the territory north of Assunpink creek, was uneventful. The name Trenton was given about 1720, in honor of Colonel William Trent, speaker of the house of assembly; and the Swedish naturalist, Peter Kalm, who visited Trenton in 1749, reports that it was then a place of about 100 houses. Its growth in the century following Kalm's visit was steady but not rapid. On Christmas night, 1776, the place acquired a fame it will never lose; for on that night Washington led his army across the Delaware, and falling suddenly upon the unsuspecting British stationed at Trenton, completely defeated them and took prisoner more than 1,000 Hessians. This brilliant stroke rekindled the patriotic fire in many a breast where it had burned low after the defeat at Long Island and the evacuation of New York, and inspired a feeling of confidence in the ultimate success of the American cause.

With the close of the Revolution the importance of Trenton increased, and in 1790 it was chosen the capital of New Jersey. Two years later it was made a city. Even with these added honors the city did not make rapid progress for many years. In the year 1834 the completion of the Delaware and Raritan canal afforded excellent water communication with central New Jersey, New York city, and Philadelphia; and the rapid spread of the railway system between 1840 and 1850 still further increased the facilities of the city as a manufacturing center. To her manufactures Trenton owes her prosperity. Abundant water-power was obtained from the Assunpink creek and the falls of the Delaware, the water being led by artificial means to the places where it was needed. In 1850 the population was only 6,461, but in the 10 years immediately following, the city sprang suddenly into life. Manufactures became important; the excellent water-power was utilized; the pottery industry took form, shape, and size; the villages of Bloomsburg, Lambertson, and Mill Hill, and the borough of South Trenton were made part of Trenton, and in 1860 the population had increased to 17,228.

The growth thus begun has been steady and rapid, until now Trenton counts its inhabitants at 29,910—an increase of over 360 per cent. in thirty years. The manufactures of the city are large, varied, and important. There are, besides, large factories producing wire, saws, products of iron of all kinds, woolen, rubber, and zinc goods, etc., while the city is also a large depot for the shipment of coal. With all these industries, a good location, and an enterprising people, it is surely not extravagant to expect in the future a degree of prosperity fairly comparable with that of the past thirty years.

TRENTON IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of Trenton:

LOCATION.

Trenton is situated in latitude $40^{\circ} 14'$ north, longitude $74^{\circ} 45'$ west from Greenwich, on the east bank of the Delaware river, at the head of navigation on the river. Its highest point is about 45 feet above and the lowest is level with tide-water in the Delaware.

The river is navigable to a point near the southeastern part of the city, where a ledge of Triassic sandstone crosses the river in a northeasterly and southwesterly direction and effectually puts an end to further navigation. The channel capacity is limited, and is available for vessels of over 100 tons at high tide only. The bridge which crosses the river at Trenton was constructed in 1806, and is the first bridge met in passing up the river.

RAILROAD COMMUNICATIONS.

The New Jersey division of the Pennsylvania Railroad crosses the Delaware at Trenton and connects the city with Philadelphia and New York. A branch road from the Amboy division of the same railroad connects Trenton with Bordentown, and a branch line also enters the city from the Bound Brook route of the Philadelphia and Reading railroad, affording a second means of railroad communication with New York and Philadelphia.

TRIBUTARY COUNTRY.

The country immediately surrounding Trenton is chiefly agricultural in character, the productions varying with the soil, which to the north and east is a stiff clayey loam adapted for raising wheat, corn, and grass, while to the south it is light and sandy—in some places almost barren—but adapted for vegetable culture.

TOPOGRAPHY.

The site of Trenton is an outcropping of a formation of gneissic rock which passes across the state, trending to the northeast and southwest. This rock is overlaid with glacial *débris* and sand. The northern part of the city is considerably higher than the river, and slopes to the Assunpink creek, which affords excellent natural drainage. The country about the city is thinly wooded. To the north the soil is a stiff clay, on the south a light sandy loam.

CLIMATE.

The highest recorded summer temperature is 102½°, the lowest recorded winter temperature -16°. The climate is not affected by the water in the Delaware river and Assunpink creek, or by the tide-water meadows south of the city, and "Bear swamp" to the east, which, however, are centers of malarial influences affecting the health of the citizens. The prevailing wind is from the northwest, and is the cause of the low winter temperature.

STREETS.

Of the streets of Trenton 3,520 feet are paved with cobble-stones, 13,360 feet with stone blocks, about 3,000 feet with broken stone—Telford paving—and the rest is of gravel.

The sidewalks are mostly of brick, but stone is used to a slight extent. The gutters are laid with stone. Trees are planted along some of the streets. The state of the city's finances has been such that only a small amount is expended in maintaining the streets.

There are 2 horse-railroad lines in the city. These own about 5 miles of tracks and use about 15 cars. The rate of fare is 5 cents. One or two omnibuses make regular trips, carrying passengers to and fro at a fare of 5 cents.

WATER-WORKS.

The water-works are owned by the city. Water is raised by pumping to a reservoir situated in the extreme northern part of the city on Reservoir street, whence it is distributed throughout the city. No further information in regard to the works could be obtained.

GAS.

The city is supplied with gas by the Trenton Gas Light Company, which charges \$2 50 per 1,000 feet. No further information was furnished.

PUBLIC BUILDINGS.

No statement of the number and value of the buildings owned by the city and used for municipal purposes was furnished by the city authorities, beyond the information that there was a city hall.

PUBLIC PARKS AND PLEASURE-GROUNDS.

Trenton has no public parks.

PLACES OF AMUSEMENT.

The only theater in the city is the Taylor opera-house, which has a seating capacity of 1,300. It pays a license of \$100 per year to the city. Temperance hall, seating 500; Washington hall, 300; and Turner hall, 300, are used as concert- and lecture-rooms. The Grand Central garden is the only concert- and beer-saloon in Trenton. It was constructed in 1880, and has a seating capacity of 250, and is well patronized, especially during the summer season.

DRAINAGE.

Trenton has no system of public sewers.

CEMETERIES.

No information on this subject was furnished.

MARKETS.

Trenton has 3 large private markets; two of them, Taylor market and Fuese market, are owned by private individuals, while the third, Washington market, is the property of a corporation. No information in regard either to the rules or to the business of these establishments was furnished.

SANITARY AUTHORITY—BOARD OF HEALTH.

The chief sanitary authority of Trenton is vested in a board of health chosen annually by the city council. It consists of 2 members from each of the 7 wards of the city, and 5 of these 14 members are physicians. Although nominally an independent board, its authority is limited by the fact that its expenses must be confined within the limits of the appropriation the city council sees fit to grant, and by a decision of the supreme court of New Jersey, which declares that an independent board of health is subject to the control of the city council in all matters of nuisance, which are not such *per se*.

The authority of the board is alike in case of the prevalence or absence of an epidemic: to abate nuisances; to detain and examine infected persons, to cause them to be sent to a hospital; to prevent infected vessels from landing at the city; to remove or destroy infected clothing, bedding, etc.; to declare portions of the city to be infected districts; to employ nurses and physicians, and procure medicines for the sick poor, etc.

The board meets once a week during the summer months, and whenever summoned by the president during the rest of the year.

The chief executive officer is a health officer, who is employed by the board at a salary fixed by it. He is not a physician and has no police powers. Inspections are made only as nuisances are reported. When cases of

defective house-drainage, cesspools, privy-vaults, sources of drinking-water, etc., are found, the board orders the owner or occupant of the premises to correct the faults; and if he refuses, proceeds against him in the courts for the penalty fixed by the city ordinances.

There is no pest-house, and no system of treating the patients suffering from small-pox or scarlet fever seems to have been formulated. Vaccination is not compulsory, but is done, if necessary, at the public expense.

The registration of diseases, births, and deaths is not under the control of the board, but is done under the state laws passed in 1878 and 1879. The board makes no report.

MUNICIPAL CLEANSING; POLICE; FIRE DEPARTMENT.

No information on these subjects was furnished.

MANUFACTURES.

The following is a summary of the statistics of manufactures of Trenton for 1880, being taken from tables prepared for the Tenth Census by Thomas F. Fitzgerald, special agent:

Mechanical and manufacturing industries.	No. of establishments.	Capital.	AVERAGE NUMBER OF HANDS EMPLOYED.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
All industries	404	\$6,966,830	6,691	1,084	1,127	\$3,150,119	\$7,421,309	\$12,712,762
Bags, paper.....	4	13,550	15	22	.....	7,679	26,050	40,825
Blacksmithing (see also Wheelwrighting)	16	3,370	20	.....	.....	8,003	6,362	28,540
Boots and shoes, including custom work and repairing	39	119,710	500	15	1	100,550	406,745	570,067
Boxes, wooden packing.....	5	2,500	9	.....	1	3,170	2,550	9,000
Bread and other bakery products.....	29	113,800	86	1	64	55,509	231,574	379,138
Brick and tile.....	3	145,000	129	.....	16	33,500	33,475	109,000
Brooms and brushes.....	4	600	4	.....	.....	1,169	1,887	5,400
Carpentering.....	18	69,850	175	.....	2	71,654	227,800	348,550
Carpet, rag.....	5	1,325	6	.....	.....	1,514	5,000	9,000
Carriages and wagons (see also Wheelwrighting).....	5	47,500	54	.....	2	23,400	38,800	80,100
Clothing, men's.....	16	80,000	81	108	2	60,360	140,200	252,100
Coffins, burial cases, and undertakers' goods.....	3	8,300	7	1	.....	3,784	6,200	14,100
Confectionery.....	8	11,750	15	7	7	7,908	31,017	47,225
Cooperage.....	3	4,700	12	.....	.....	4,050	8,800	17,800
Drugs and chemicals.....	3	12,700	11	.....	.....	4,568	17,300	32,000
Dyeing and cleaning.....	3	1,450	2	2	1	2,100	2,600	7,500
Flouring- and grist-mill products.....	5	64,000	18	.....	.....	7,769	130,445	153,532
Foundry and machine-shop products.....	8	51,200	250	.....	1	99,761	163,408	291,780
Furniture (see also Upholstering).....	8	25,300	28	.....	5	16,012	12,700	89,500
Iron and steel.....	3	1,945,550	1,361	.....	30	518,325	1,371,245	2,340,881
Iron forgings.....	3	102,741	129	.....	27	51,666	85,068	164,302
Iron railing, wrought.....	3	950	2	.....	1	625	1,700	3,750
Lumber, planed.....	3	28,000	15	.....	7	7,050	15,900	33,000
Marble and stone work.....	12	70,925	56	.....	3	35,559	37,208	99,690
Masonry, brick and stone.....	12	25,750	182	.....	.....	61,280	89,900	190,750
Painting and paperhanging.....	25	11,225	48	.....	1	19,252	17,281	60,800
Photographing.....	6	5,900	7	3	.....	4,528	3,900	17,800
Plumbing and gasfitting.....	7	12,375	19	.....	.....	8,663	18,000	33,400
Printing and publishing.....	6	142,000	132	6	20	80,744	83,618	220,594
Roofing and roofing materials.....	4	2,800	14	.....	.....	4,600	13,900	27,900
Saddlery and harness.....	6	11,000	12	.....	.....	6,256	17,422	34,606
Slaughtering and meat-packing, not including retail butchering.....	3	261,000	54	.....	.....	13,156	533,458	590,197
Stone- and earthen-ware.....	29	1,902,500	1,792	441	634	983,177	950,243	2,341,337
Tinware, copperware, and sheet-iron ware.....	9	13,250	29	.....	.....	13,244	19,920	44,950
Tobacco, cigars and cigarettes.....	21	12,500	42	1	4	17,609	20,514	56,909
Upholstering (see also Furniture).....	3	8,500	9	5	2	4,950	19,500	29,000
Wheelwrighting (see also Blacksmithing; Carriages and wagons).....	12	3,010	3	.....	2	1,165	3,750	12,860
Woolen goods.....	3	526,000	216	227	115	171,400	574,010	854,297
All other industries (a).....	49	1,103,559	1,147	245	170	634,353	2,051,349	3,114,543

a Embracing agricultural implements; belting and hose, leather; bookbinding and blank-book making; boot and shoe findings; boxes, cigar; boxes, fancy and paper; brass castings; bridges; carriage and wagon materials; coffee and spices, roasted and ground; cotton goods; cutlery and edge tools; engraving and die-sinking; fertilizers; fruits and vegetables, canned and preserved; glue; grease and tallow; hardware; jewelry; kaolin and ground earths; kindling wood; lime; liquors, malt; lock- and gun-smithing; looking-glass and picture frames; lumber, sawed; mineral and soda waters; musical instruments and materials (not specified); patent medicines and compounds; pumps; rubber and elastic goods; sash, doors, and blinds; shipbuilding; shirts; soap and candles; wire; and wood, turned and carved.

SOCIAL STATISTICS OF CITIES.

From the foregoing table it appears that the average capital of all establishments is \$17,244 63; that the average wages of all hands employed is \$353 87 per annum; that the average outlay in wages, in materials, and in interest (at 6 per cent.) on capital employed is \$27,201 80.

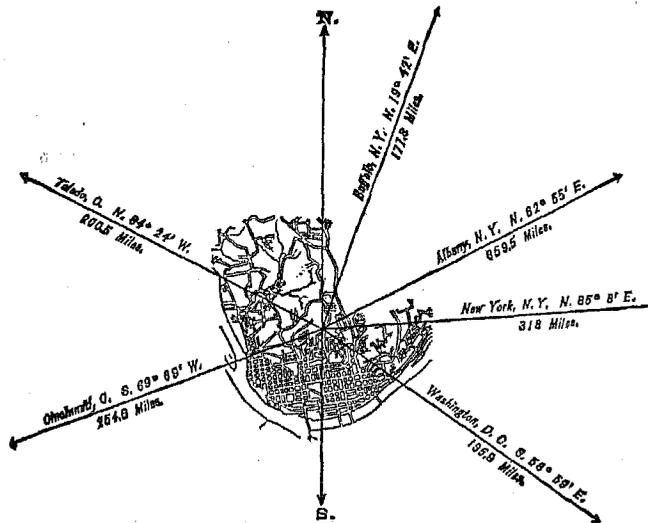
PENNSYLVANIA.

ALLEGHENY, ALLEGHENY COUNTY, PENNSYLVANIA.

POPULATION

IN THE
AGGREGATE,
1830-1880.

Year	Inhab.
1790.....	
1800.....	
1810.....	
1820.....	
1830.....	2,801
1840.....	10,089
1850.....	21,262
1860.....	28,702
1870.....	53,180
1880.....	78,682



POPULATION

BY
SEX, NATIVITY, AND RACE,
AT
CENSUS OF 1880.

Male	38,489
Female.....	40,193
—	
Native	59,245
Foreign-born	19,437
—	
White.....	76,62
Colored	* 2,062

* Including 3 Chinese.

Latitude: (a) 40° 27' North; Longitude: 80° (west from Greenwich); Altitude: 722 to 1,368 feet.

FINANCIAL CONDITION:

Total Valuation: \$41,157,496; per capita: \$523 00. Net Indebtedness: \$1,596,429; per capita: \$20 29. Tax per \$100: \$1 94.

HISTORICAL SKETCH.(b)

In the month of September, 1787, the legislature of Pennsylvania appointed and authorized a commission to survey and lay out the so-called "Reserve tract opposite Pittsburgh", and the town of Allegheny as a manor or "reserve". The work was begun and completed in the following year, and the town was laid out in 144 lots, each

^a The latitude and longitude given are for the city hall.

^b The material embodied in the "Historical Sketch" of Allegheny was furnished by Hon. John E. Parke, and to him the thanks of the Census Office are due.

60 by 240 feet, in blocks 240 feet square. Four of the blocks in the center of the town were set aside for public buildings, and a tract containing 120 acres surrounding this space was designated as "common" land, and intended as a pasture for the cattle of citizens. The site of the town was so hilly and rough that Mr. Reddick, the district surveyor sent to lay it out, could not bring himself to believe that any person in full possession of his senses would purchase lots in such a place. His report to the supreme executive of Pennsylvania, dated February 19, 1788, gives a graphic picture of the locality as it was when he saw it. He says:

I went with several gentlemen to fix a spot for laying out the town opposite Pittsburgh, and at the same time took a general view of the tract, and find it far inferior to my expectations, although I thought I had been no stranger to it. There is some pretty low ground on the rivers Ohio and Allegania, but there is but a small proportion of any land which appears any way valuable either for timber or soil, but especially for soil; it abounds with high hills and deep hollows, almost inaccessible to a surveyor. I am of the opinion that if the inhabitants of the moon are capable of receiving the same advantages from the earth that we do from their world—I say if it be so, this same famed tract of land would afford a variety of beautiful lunar spots, not unworthy the eye of a philosopher. I can not think that 10-acre lots on such pits and hills will possibly meet with purchasers, unless, like a pig in a poke, it be kept out of view. Would it not be more advantage to the state if the legislature would alter the law—that a town and a reasonable number of out-lots for the accommodation of the town-people be laid out, the remainder of the land to be laid off in 200-acre lots fronting on the rivers, where practicable, and extending back so as to include the hills and uneven ground, which might be of some use to a farm? I can not believe but that Colonel Lowry and Colonel Irwin will, on consideration, be of opinion with me that small lots on the sides of those hills can never be of use for any purpose but as above mentioned.

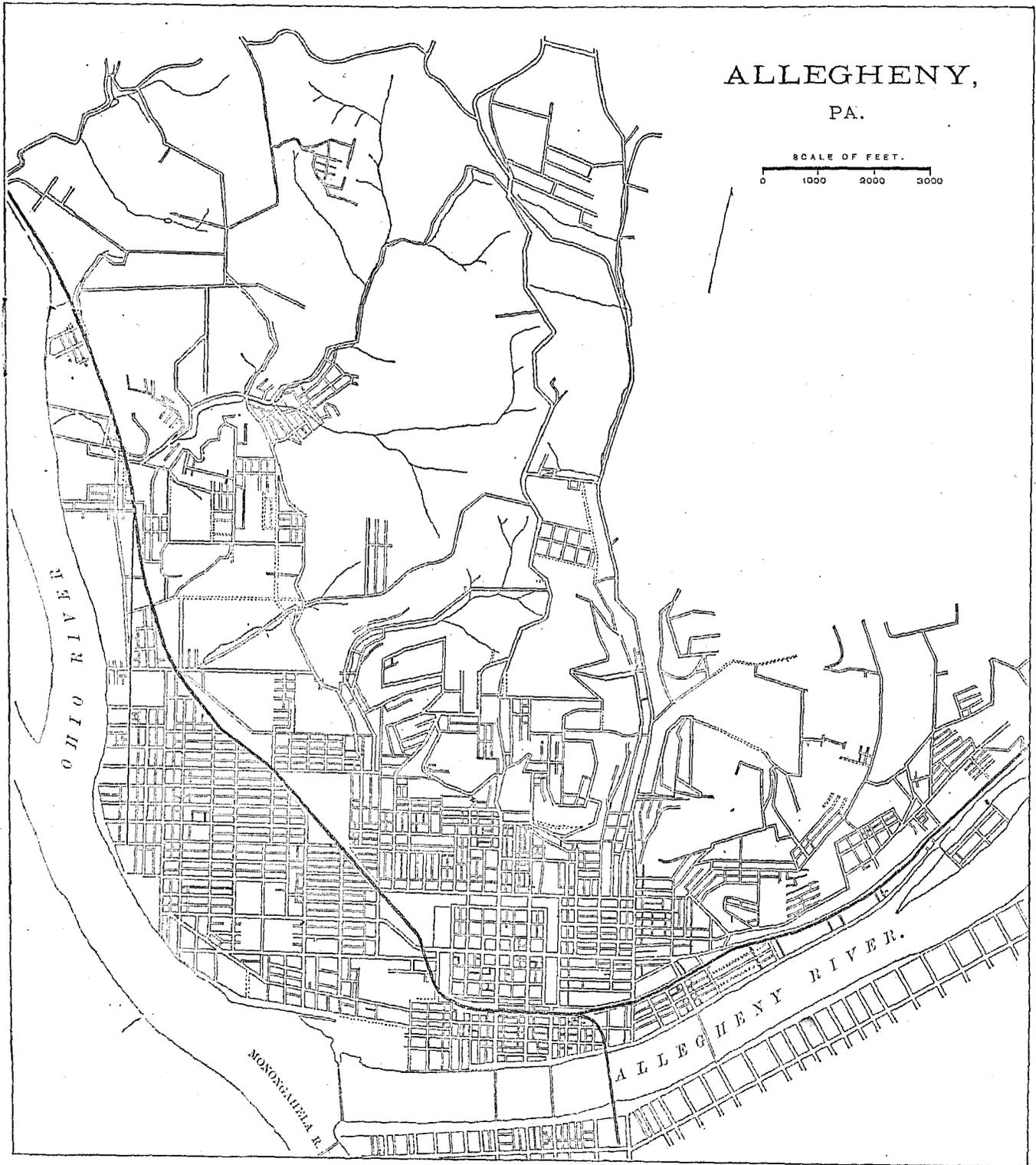
The tract was, however, laid out in the manner described, in 1788, and in the same year was separated from Westmoreland county, to which it had previously belonged, and made a part of the new county of Allegheny, formed by the legislature from portions of Westmoreland and Washington counties. The county-seat was located temporarily at Pittsburgh until suitable public buildings could be erected on the land left vacant for them in the town of Allegheny, which the legislature intended to make the shire town. The people of Pittsburgh, however, so vehemently opposed any removal of the county offices from their town that they succeeded in retaining the shire houses for themselves. Although the manufacture of flint-glass was begun in Allegheny in 1788, and the first cotton-mill was erected there in 1805, still the progress of the town was not great; for we find, in 1814, that Ross township, in which Allegheny belonged, had a total population of only 228. With the close of the war of 1812 its growth became more rapid, and numerous works of public importance were begun. In 1818 the first steps were taken toward building a bridge across the Allegheny to connect the place with Pittsburgh. This bridge was finished in 1820 and used until 1858, when it was removed and the suspension bridge built in its place. In the same year (1818) work was begun on the Western penitentiary, and the building was completed in 1822. It stands upon the tract set apart for public buildings in the original plan of the town, and is built in the Norman style of architecture, making, with its castellated front, quite an addition to the public park which now surrounds and is soon to absorb it. Some time previously to 1828 the territory included in the reserve tract was set off from Ross and made a township by itself, and in 1828 Allegheny was incorporated as a separate borough; its population, two years later, was 2,801. The importance of Allegheny now began to increase steadily, although the borough was generally looked upon only as a suburb of Pittsburgh.

The first iron-rolling mill was built in 1826, the first paper-mill in 1832, and the first plow factory in 1836. A second bridge was built over the Allegheny in 1830, at Mechanic street, and nine years later this was followed by the Hand Street bridge. There are now five bridges connecting Pittsburgh with Allegheny. On April 10, 1840, Allegheny was incorporated as a city, though it then included only a small part of its present territory. The reserve tract, which included more than 3,000 acres, has since been added to the city, and in 1867 the boroughs of Manchester and Duquesne were annexed. The land intended for public buildings and "commons" included about 123 acres; of this, grants were made for the Western penitentiary, the Theological seminary, and the Ohio and Pennsylvania railroad, until only 75 acres were left to the city. This was laid out as a public park, and is now one of the chief beauties of the city. Among its ornaments is a fine statue of Humboldt. The great advantages of Allegheny as a manufacturing center led to a rapid increase in its population and wealth. In the ten years following its incorporation as a city the population more than doubled, increasing from 10,089 in 1840 to 21,262 in 1850. This rapid rate of increase has not been maintained, but for the period between 1840 and the present the rate has been over 700 per cent., although no small part of the increase is due to the annexion of adjoining places.

Like most cities, Allegheny has not escaped loss from large fires, but it has never been swept by such disastrous conflagrations as those of Chicago and Boston, although a portion of the 2d ward was destroyed by an extensive fire July 4, 1874. In the same year heavy rains caused a great flood in the rivers and inundated the city, destroying much property and resulting in the loss of nearly 70 lives. Allegheny has also suffered in the past from riots. In the six years between 1843 and 1849 the city was the scene of no less than three riots. It has, however, outlived these misfortunes, and, with its vast manufacturing interests and favorable location, can safely look forward to a prosperous future.

ALLEGHENY,
PA.

SCALE OF FEET.
0 1000 2000 3000



ALLEGHENY IN 1880.

The present condition of the city may be seen from the following statistical accounts, which have been collected by the Census Office:

LOCATION.

Allegheny is situated in latitude $40^{\circ} 27'$ north, and longitude 80° west from Greenwich, in the extreme western part of Pennsylvania, at the junction of the Allegheny with the Ohio river. The average altitude of the city is 776 feet above the level of the sea at Raritan bay. The highest point is 1,368 feet and the lowest 722 feet above the sea-level. Low-water mark in the Ohio river at Allegheny is taken as a datum line in all the city's calculations of elevation, and all heights are given in relation to this datum, which is 698.43 feet above the level of the sea. The city has a front of $2\frac{1}{2}$ miles on the right bank of the Allegheny river and of 4 miles on the right bank of the Ohio river. The Ohio at low water is 1,000 feet wide, and the Allegheny about 800, opposite the city. The depth varies greatly; the highest recorded flood rose 33 feet above low-water mark, and the force of the current is also changeable, although the mean rate is about 4 miles per hour. Water communication is open with all the country along the Ohio, Mississippi, and Missouri rivers, and for 180 miles up the Allegheny and 80 miles up the Monongahela.

RAILROAD COMMUNICATIONS.

The city is connected with the following railroads:

The Pittsburgh, Fort Wayne, and Chicago railroad, terminating in Chicago, connects it with the West.

The Western Pennsylvania railroad, connecting at Blairsville Junction with the Pennsylvania railroad, and the main line of the Pennsylvania railroad, terminating at Philadelphia, connects the city with the East.

The Pittsburgh and Western railroad, terminating at Zelienople, Pennsylvania, and soon to be extended northward, connects Allegheny with northwestern Pennsylvania.

TRIBUTARY COUNTRY.

The country immediately surrounding Allegheny is practically tributary to Pittsburgh, and an account of its character and trade may be found in the report of that city.

TOPOGRAPHY.

A statement of the geological structure of the territory including Allegheny may be found in the account of Pittsburgh. The greater part of the old portion of the city along the river-banks has been improved and leveled, but the general character of the land of the city is rough and hilly. It is intersected by many ravines which form seven large systems of natural drainage; of these, five empty into the Ohio and two into the Allegheny river. The hills vary in height from 200 to 670 feet above the low-water mark in the Ohio. There are no marshes, ponds, or lakes.

CLIMATE.

The climate is the same as that of Pittsburgh, which see.

STREETS.

The city has about 118 miles of streets, including all actually in use, improved and unimproved. Of this, 81 miles are paved with cobble-stones, 4 miles of turnpike with broken stone, one-third of a mile with locust-wood blocks, and $5\frac{1}{2}$ miles with planks. The turnpikes and plank-roads were constructed by private companies. At the time when most of the cobble-stone pavement was laid it cost the city \$1 per square yard, but that laid in late years has on the average cost but 65 cents per square yard. The cost of the wooden-block pavement was \$2 50 per square yard. The annual cost of keeping the streets in repair and cleaning them is estimated at \$25,000, but this estimate does not include turnpikes, plank-roads, and unimproved streets. The total cost, exclusive of sewer repairs, for 1880, was \$27,181 76.

The sidewalks, which as a rule occupy two-fifths of the width of the street, are chiefly of brick, but in some places stone flagging has been laid by the property-owners. The sidewalks and curbing are kept in repair at the expense of the owners of the property along which they extend. The gutters in the oldest streets are of cobble-stones; later, bricks laid on edge were used, and now, for the past six years, gutter-stone, 1 foot wide and 4 inches thick, has been laid, giving excellent results. The construction of streets is done entirely by contract; repairs by day labor. Trees have been planted along the streets in only a few places; the city assumes none of the expense.

There are $6\frac{1}{2}$ miles of horse-railways in the city. The company owns 59 cars and 360 horses and mules; it employs 132 men, and during the past year carried 3,586,841 passengers; the rates of fare are 5 and 6 cents. There are no omnibus lines in the city.

WATER-WORKS.

The water-works are owned by the city and have cost \$1,000,000. The supply is obtained by a pumping system, which on the low ground of the city gives a pressure of from 45 to 65 pounds per square inch, and on the high ground of from 10 to 25 pounds. The yearly cost of maintaining the works, aside from the cost of pumping, varies from \$10,000 to \$15,000 a year. The total cost of the works during the year has been \$45,483 97, and the total receipts, \$152,442 94.

GAS.

The city is supplied with gas by a private corporation. The average daily production is not reported. The city pays 70 cents per 1,000 feet, while the charge to private consumers for the same quantity is \$1 60; the gas street-lamps cost the city \$15 a year each, and 1,105 are in use.

PUBLIC BUILDINGS.

No information on this subject was furnished by the city authorities.

PUBLIC PARKS AND PLEASURE-GROUNDS.

The total area of the public park of Allegheny is 84 acres. Reference has already been made in the "historical sketch" to the way in which this land was acquired. It was deeded by the state to the town at the time when the latter was laid out, and improved by the city in 1868-'69 at a cost of \$229,000, for which a special tax was levied to pay the interest and reduce the principal, at the rate of \$20,000 per annum. The yearly cost of maintenance is about \$13,000. The designers of the park were Messrs. Mitchell and Grant, of New York, the work being done under the supervision of the city engineer. While undergoing construction and improvement it was under the control of park commissioners, but since its completion the management has been vested in a committee of the city councils.

PLACES OF AMUSEMENT.

Allegheny has 1 theater, seating capacity 1,200, and 7 public halls which are used for concerts, lectures, etc.; their average seating capacity is 500. Theaters pay a license to the city for each performance. There is one large summer concert-garden, having an orchestra of 40 musicians; it seats about 3,500, and in the winter season is used as a roller-skating rink. There are about 10 small beer-gardens, which are well patronized, principally by Germans.

DRAINAGE.

The earlier sewerage work in Allegheny was a stone culvert, 48 and 60 inches in diameter, 2,323 feet long, built by the state of Pennsylvania in the year 1837 at a cost of \$6,500. Private drainage preceding the regular sewerage was not extensive, amounting to perhaps 3,000 feet of stone culverts of various sizes, most of which have since been replaced by brick sewers. Work done recently has been made to conform to a systematic plan. Many of the main lines have already been constructed; they are of various sizes. Some have to carry not only the street-wash, but also the contents of streams coming down the various slopes from the high ground back of the city. A great proportion of the sewers already built are of large size—8 miles out of a total of 26 being of sizes varying from $3\frac{1}{2}$ to 10 feet, and fully half of these are 6 feet or more in diameter. Of the smaller size there are $12\frac{1}{2}$ miles of pipe-sewers from 12 to 18 inches in diameter.

Sewerage-works have been built only in that part of the city lying at the foot of the bluffs. The higher portions on the hills are still without sewers.

The rates of fall are so rapid that little inconvenience is caused by deposits, and it is reported that the sewers require little cleaning. There are 666 catch-basins. They are necessarily of large size compared with those of other cities, since with every rain a great quantity of dirt and rubbish is washed down from the hills. In some of the valleys catch-basins of double capacity have to be used. Experience has shown that the maintenance of brick catch-basins is very expensive, and a basin made of cast iron has recently been introduced. It is cast in several pieces and bolted together in place.

All sewers discharge into the rivers in front of the city. Their mouths are exposed at low water, but are covered when the rivers are high. There is no provision for ventilation except perforated manhole covers.

The cost of lateral sewers is paid entirely by the abutting property-holders. Main sewers are paid for by the abutting property to the extent of \$2 per foot front. The remainder of the cost above this amount is paid by the city. Assessments are laid on a basis of frontage without regard to area of ground or valuation.

Only a few sewers were built in 1880, but, owing to the nature of the ground and to other circumstances, there was considerable difference in the prices of sewers of the same size. The cuttings were nearly all of the same depth,

about 11 feet; 18-inch pipe-sewers cost \$1 33, \$1 78, \$1 35, and \$1 25 per foot; 3-foot brick sewers cost \$5 75 per foot; manholes, exclusive of castings, \$22 50, \$25, and \$20 each; manhole castings weigh 400 pounds per set and cost \$9; average weight of cast-iron catch-basins, 2,300 pounds, costing \$78 75. The price of putting the castings in place and connecting with the sewer was \$30 each. All castings are contracted for by the city at a price per 100 pounds for the following year.

Table showing length of sewers of each size.

Sewers.	Feet in length.	Sewers.	Feet in length.
48 by 60 inches, stone	2,323	60 inches diameter, brick	2,831
12 inches diameter, pipe	3,589	66 inches diameter, brick	2,928
15 inches diameter, pipe	19,023	72 inches diameter, brick	400
18 inches diameter, pipe	43,916	78 inches diameter, brick	4,848
24 inches diameter, brick	2,347	84 inches diameter, brick	2,319
30 inches diameter, brick	7,042	90 inches diameter, brick	4,130
36 inches diameter, brick	19,418	102 inches diameter, brick	1,532
42 inches diameter, brick	4,333	120 inches diameter, brick	1,034
48 inches diameter, brick	6,863		
54 inches diameter, brick	9,211	Total	138,087

Number of inlets, 666; number of manholes, 715.

Table showing cost of sewers, etc.

When built.	BRICK.		PIPE.		Depth below grade.	Number of inlets.	Number of manholes.	Assessments per foot front.	Total cost of sewer.	Cost per linear foot.
	Length.	Diameter.	Length.	Diameter.						
1873 ..	587	36			14½	5	3	\$2 00	\$8,800 50	\$14 99
1873 ..			353	18	11	4	3	3 99	1,314 55	3 72
1873 ..	316	48			18½	2	2	2 00	3,178 40	10 06
1873 ..			666	18	10	1	5	2 10	2,097 31	3 15
1873 ..	515	54			13½	4	3	2 00	5,348 00	10 38
1873 ..	1,504	54			13½	9	6	2 00	15,634 74	9 81
1873 ..	1,300	42	}		13½	11	7	2 00	24,768 50	11 84
1873 ..	791	48								
1873 ..	1,020				13½	2	3		5,950 00	5 84
1873 ..	538	54			13½		2	2 00	4,036 50	7 50
1873 ..	1,290	48			13½	11	4	2 00	11,770 69	9 12
1874 ..	220	54			13	1	1	2 00	2,146 00	9 75
1874 ..	900	90			16	13	2		24,304 46	25 32
1874 ..	3,170	90			16	21	6	2 00	63,984 13	20 18
1874 ..	503	84			15	1	2		7,292 00	14 49
1874 ..	221	102			22		1		6,416 45	29 03
1875 ..	371	54			14	1	1	2 00	2,085 88	5 62
1875 ..	1,842	54			15	15	5	2 00	13,460 88	7 31
1875 ..			875	18	13	2	6	1 28	1,910 00	2 18
1875 ..			458	15	13	2	4	91½	790 00	1 74
1876 ..			1,004	18	12	3	8	1 14	2,078 25	α 2 07
1876 ..			188	18	10	1	1	1 54	442 00	α 2 35
1876 ..			480	18				1 80	1,097 00	α 2 29
1876 ..			320	18	12	1	3	1 82	674 00	2 10
1876 ..			263	18	13	3	3	1 60	682 70	2 60
1876 ..			524	18	13	2	4	1 52	1,124 30	2 15
1876 ..	346	36			13		2	2 00	1,344 25	3 89
1876 ..			1,005	18	12	3	8	1 14	2,078 25	α 2 07
1876 ..			450	18	13	2	3	1 37	805 75	1 75
1876 ..			218	18	11	2	2	2 19	415 25	1 90
1877 ..	1,128	36			15	2	5	2 00	4,408 68	3 91
1877 ..			212	18	13		2	1 22	316 00	1 49
1877 ..			662	18	13	4	5	1 14	1,085 42	α 1 64
1877 ..			506	15	8		5	47	450 02	89
1879 ..	139	30			13		1	1 51	328 42	2 36
1879 ..			141	15	6		2	09	140 21	99
1879 ..			500	18	9	2	4	71	590 19	1 19
1879 ..			653	15	10	1	4	65	398 61	72
1879 ..			289	18	12	1	2	60	322 20	1 11
1879 ..			134	18	11		1	86	117 10	87
1880 ..			323	18	11		2	1 08	404 09	1 53
1880 ..			1,325	18	10½	9	9	1 80	3,447 75	α 2 60
1880 ..			529	18	11½		5	82	819 56	1 55
1880 ..			145	18	11		1	1 08	227 12	1 56

CEMETERIES.

There are 2 large corporation cemeteries in the city:

Uniondale Cemetery contains about 85 acres, and is located in the western part of the city, about a mile northwest from the city hall.

Bellevue Cemetery joins Uniondale on the north, and contains nearly 42 acres.

These are the only burial-grounds in the city, and they are tastefully laid out.

The total number of interments in Uniondale cemetery since April, 1846, is 19,645, while since 1872, the date of the first interment, there have been 1,236 burials in Bellevue. Many of the citizens own lots in the cemeteries of Pittsburgh, and fully one-third of the dead of Allegheny are buried in Pittsburgh.

A certificate of death signed by the attending physician is required before a permit of interment will be granted. No special limit of time after death for the burial is set by law. Graves must be at least 6 feet deep.

Lots in the cemeteries are conveyed to purchasers in fee simple, under restrictions to use them only for places of sepulture and subject to rules and regulations of the corporation. The average price is \$200.

MARKETS.

There is one large public market in the city, situated in the square between South Diamond, East Diamond, Ohio, and Federal streets. The total cost of the building, which is of brick and iron and 200 feet square, was \$35,000. It contains 78 butcher and 224 garden stalls; the rental of the former varies from \$15 to \$45 per quarter, according to location, and of the latter, from \$15 to \$75 per annum. The total rental averages \$16,500 a year. No space about the market is reserved for farmers' and hucksters' wagons. It is open on Tuesdays and Thursdays from 3 a. m. to 1 p. m., and on Saturdays from 5 a. m. to 11 p. m. No record of the gross amount of the annual sales has been kept.

SANITARY AUTHORITY—COMMITTEE ON HEALTH.

The care of the sanitary condition of the city is intrusted to a committee on health, consisting of one member from each of the 13 wards of the city, chosen by the select and common councils from among their members. In the present year 6 members are from the select and 7 from the common council. The expenses of the committee vary with the appropriation placed at its disposal by the councils; for the present year the amount is \$800, which is expended in removing dead animals, and meeting the ordinary expenses for printing and incidentals. They can not exceed the limits of their appropriation even in case of an epidemic, except by special grant of the councils. The authority of the committee extends over all things affecting the sanitary condition of the city. The chief executive officer of the committee is the health officer, who is employed by it at a salary of \$800 per annum, but is paid from the annual salary appropriation of the city, and not from the appropriation to the committee on health. He has a general supervision of the city in all sanitary matters; abates and removes nuisances by compelling the owners to remove them after he has found by inspection that they exist; removes all infected persons to a hospital, or quarantines them, as he thinks best; and in general is the person through whom the committee on health executes its plans. He has power to enter and examine all places, but has no other police powers.

NUISANCES.

Inspections are made from time to time in public places, but on private premises are generally made only when complaint is made that a nuisance exists. If the complaint is found, on inspection, to be justified, an order is served on the proprietor of the premises to remove the nuisance within a reasonable time, and if this is disregarded he is prosecuted before the mayor or any alderman of the city and fined. In cases of defective house-drainage, cesspools, privy-vaults, and sources of drinking-water, the committee proceeds as against any nuisance. If the sewerage is defective or the street-cleaning neglected, the committee brings the matter before the councils or the proper department. The committee has no control over the conservation and removal of garbage except when through neglect a nuisance is created.

BURIAL OF THE DEAD.

The laws of the state require that every undertaker, before making any burial, shall report to the health committee the street and number where the body of the deceased lies, and his or her name, age, sex, color, civil condition, etc.

INFECTIOUS DISEASES.

Small-pox patients are isolated at home, and people warned of the danger of contagion by placing a yellow card upon the house bearing the words "small-pox here". Any one removing this card without the permission of the health officer incurs a fine of not less than \$25 nor more than \$50. No action is taken in regard to scarlet-

fever patients, and as no cases of contagious diseases breaking out in the schools have occurred, no established rules of action in such an emergency have been formulated. The city owned a pest-house, situated in Claremont, 10 miles distant, but destroyed it this year. Vaccination is compulsory whenever the committee thinks it necessary, and is done at the public expense for those unable to pay.

REPORTS.

The committee reports to the councils annually, and this report is published with the other annual reports of the city government. The regular meetings of the committee occur once a month; special meetings are held when summoned by the president of the committee. The registration of diseases and deaths is in the hands of the physician to the committee, to whom they are reported by the health officer from the weekly returns of the undertakers.

Births and marriages are registered by the health officer.

MUNICIPAL CLEANSING.

Street-cleaning is done by the city with its own force and entirely by hand labor. The street-railway company is required to keep the streets through which its tracks pass clean and in repair from curb to curb. No separate account of the expense is kept, the cost being included in the appropriation of the street department. The sweepings are deposited on the river-banks and lowlands in the city.

Removal of garbage and ashes.—Garbage and ashes are removed by the householders in such ways as best they may. No regulations require that ashes should be kept separate from garbage, nor have any rules been made governing the conservancy and removal of the latter. It is disposed of by taking it to a dump-boat, from which it is, presumably, cast into the river. Ashes are disposed of in the same way as street-sweepings. Nuisances very frequently arise from improper handling of garbage, and the system of removal is regarded as very defective.

Dead animals are removed under the direction of the health officer, who reports that during the past year 174 carcasses were removed. The committee on health was authorized in 1879 to contract for the removal of these carcasses, but no action seems to have been taken in the premises. The annual cost of this service is \$350. The carcasses are taken to rendering-establishments outside the city.

Liquid household wastes.—The wastes from chambers and kitchen and laundry wastes are disposed of alike, most of them running into the public sewers. In streets where there are no sewers the wastes are often run into the street-gutters. Only a small proportion is run into cesspools, which are nominally water-tight, but unprovided with overflows. In many cases they receive the wastes from water-closets. They are by law to be cleaned by persons licensed by the committee on health, but in practice unlicensed persons often clean them.

Human excreta.—No data could be obtained by the city authorities in regard to the relative number of houses depending on water-closets and on privy-vaults. The ordinances of the city provide that no privy-vault shall be made within 40 feet of any street, dwelling, shop, or well, unless it be water-tight and at least 6 feet deep. The contents can be removed only by persons licensed for the purpose by the health officer, but this official complains that the ordinance to this effect is neglected and not enforced. They must be disposed of in such way as the health officer may approve. The practice is to dump the night-soil in the river below the city. None is allowed to be used as manure on land within the gathering-ground of the public water-supply.

Manufacturing wastes.—The ordinances of the city prohibit such a disposal of the wastes from manufacturing establishments as shall allow these to become offensive and injurious to the public health or comfort. No information as to the method of disposal of the wastes was obtained.

POLICE.

The police force of Allegheny is appointed by the mayor, subject to confirmation by the councils through the police committee, and is governed by the mayor. The chief executive officer is a chief of police, who has the general supervision and control of his department, subject to the mayor's approval; his salary is \$1,000 per annum.

The rest of the force consists of a captain of the night watch, salary \$900 a year; 6 lieutenants, salary \$2 45 per day each; 50 patrolmen, salary \$2 20 per day each; 4 office men, salary \$2 per day and fees each; and the mayor's clerk, salary \$1,200 per annum. In addition to these there are 5 park policemen, appointed by the park committee, governed by the superintendent of parks, and limited to the park in the exercise of their police functions.

The men provide their own uniforms, which consist of a black hat with cord and number, and dark-blue frock coat, trousers, and vest; they are equipped with belt and club. The night police are on duty from 8 p. m. to 6 a. m., the day police from 9 a. m. to 8 p. m.

During the past year the police made 2,990 arrests, the principal causes being disorderly conduct, drunkenness, vagrancy, and larceny. Of those arrested 986 were discharged, 443 committed to the workhouse, 411 to jail, 100

held for trial, 875 paid fines, and the rest were variously disposed of. No record could be obtained of the value of property reserved by the police and returned to the owners, or of the number of station-house lodgers accommodated.

Special policemen are appointed by the mayor for duty at railroad stations, large manufactories, etc., and are paid by those for whose service they are appointed.

During the year one officer was shot and killed while attempting to arrest an offender.

The total expense of the department during the past year for salaries was \$40,827 72, and the receipts from fines, police fees, licenses other than liquor-licenses, etc., were \$7,131 32.

FIRE DEPARTMENT.

The following statistics of the fire department are furnished by the municipal reports of the city for 1880:

The force is controlled by the committee on fire departments of the city councils, and consists of a chief engineer, a superintendent of fire-alarm telegraph, 8 foremen, 6 engineers, 6 stokers, 7 drivers, and 26 hosemen, divided into 3 engine companies of 8 men each, 1 of 7 and 1 of 5 men; 1 hose company of 4 men, 1 of 3 men; and 1 hook-and-ladder company of 10 men. The department owns 27 horses and 14,500 feet of hose; and the other apparatus consists of 7 steam fire-engines, 1 of which is held in reserve; 2 two-horse and 8 one-horse hose-carriages, 2 in reserve; and 1 hook-and-ladder truck.

During the year there were 144 alarms of fire, 18 of which were for serious fires, 105 for slight fires, and 15 for fires in chimneys, leaving 6 as false alarms. The total loss by fire was \$113,856 33, of which \$98,134 33 was covered by insurance, making a net loss of \$15,722.

The total expense of the department during the year is stated by the chief engineer as \$48,297 24.

MANUFACTURES.

The following is a summary of the statistics of manufactures of Allegheny for 1880, being taken from tables prepared for the Tenth Census by A. B. Mills, chief special agent:

Mechanical and manufacturing industries.	No. of establishments.	Capital.	AVERAGE NUMBER OF HANDS EMPLOYED.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
All industries.....	424	\$8,451,059	5,540	614	308	\$2,652,774	\$8,818,153	\$18,731,702
Blacksmithing (see also Wheelwrighting).....	16	7,050	17			8,910	7,093	28,300
Boots and shoes, including custom work and repairing.....	6	1,750	4			1,050	1,850	5,000
Bread and other bakery products.....	18	101,000	69	9	5	42,414	142,613	219,850
Brick and tile.....	6	47,000	144		5	47,116	16,560	93,100
Brooms and brushes.....	3	6,000	5	16		4,300	3,000	11,300
Carpentering.....	32	167,850	297		2	163,105	303,300	624,770
Carriages and wagons (see also Wheelwrighting).....	5	23,500	60			29,523	29,600	74,925
Clothing, men's.....	7	39,300	43	31		16,798	37,150	68,150
Coffins, burial cases, and undertakers' goods.....	8	215,500	240	18		105,132	112,679	270,121
Confectionery.....	5	35,500	21	11	7	15,825	42,300	76,550
Cooperage.....	7	20,600	32			13,058	43,000	65,328
Cotton goods.....	3	596,035	148	461	161	138,513	435,235	734,250
Dentistry, mechanical.....	14	12,500	1	1		400	5,800	20,000
Drugs and chemicals.....	4	44,500	10	1		6,070	32,570	54,900
Dyeing and cleaning.....	5	9,100	16	4	1	10,348	4,450	22,900
Foundry and machine-shop products.....	14	978,700	786		20	409,001	635,715	1,107,137
Furniture (see also Upholstering).....	6	51,800	60		1	29,591	41,103	89,500
Hardware.....	4	87,000	146			56,400	91,400	216,400
Iron and steel.....	7	1,776,304	1,509		51	619,438	1,418,292	2,034,364
Leather, curried.....	7	595,000	108			51,741	1,497,570	1,617,000
Leather, tanned.....	12	547,500	221			105,839	1,095,525	1,529,745
Liquors, malt.....	8	556,000	150			76,947	348,650	606,712
Lumber, planed.....	4	60,500	51			30,470	48,275	91,350
Lumber, sawed.....	4	115,000	40			11,500	118,000	177,900
Marble and stone work.....	7	56,000	86			40,386	29,342	83,248
Masonry, brick and stone.....	7	25,100	49			19,983	12,909	44,420
Painting and paperhanging.....	24	19,700	56	1	1	30,450	20,550	85,300
Paints.....	7	925,000	229		4	95,201	694,910	1,095,788
Photographing.....	7	10,200	5	3		4,002	3,804	12,962
Plumbing and gasfitting.....	16	55,700	54		4	27,908	48,517	98,144

Mechanical and manufacturing industries.	No. of establishments.	Capital.	AVERAGE NUMBER OF HANDS EMPLOYED.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
Saddlery and harness.....	7	\$120,000	129	.....	10	\$72,058	\$122,549	\$242,502
Salt.....	3	140,000	53	.....	3	24,680	48,000	99,900
Shipbuilding.....	3	20,300	9	.....	.....	5,000	12,500	22,000
Soap and candles.....	4	150,000	48	1	.....	24,300	129,265	286,115
Tinware, copperware, and sheet-iron ware.....	17	42,050	44	.....	2	23,747	36,200	84,700
Tobacco, cigars and cigarettes.....	43	54,710	118	9	4	53,114	64,372	161,227
Upholstering (see also Furniture).....	5	4,200	5	2	1	3,400	5,050	14,600
Watch and clock repairing.....	11	8,350	13	.....	3	7,685	3,335	24,000
Wheelwrighting (see also Blacksmithing; Carriages and wagons).....	25	46,500	52	.....	2	25,611	24,825	75,465
All other industries (a).....	33	749,300	426	46	21	201,720	1,041,295	1,424,363

a Embracing agricultural implements; baskets, rattan and willow ware; carpets, rag; files; flouring- and grist-mill products; grease and tallow; iron bolts, nuts, washers, and rivets; malt; mineral and soda waters; models and patterns; oil, linseed; printing and publishing; roofing and roofing materials; slaughtering and meat-packing; springs, steel, car, and carriage; tobacco, chewing, smoking, and snuff; vinegar; wirework; and woolen goods.

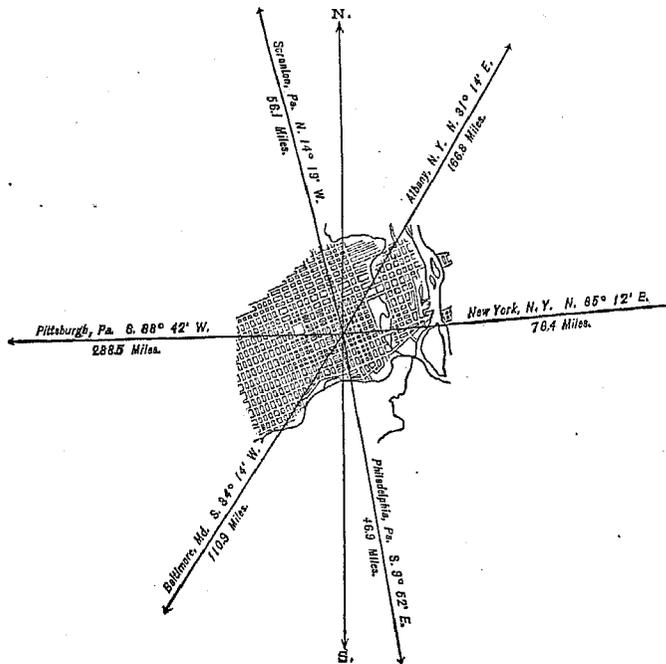
From the foregoing table it appears that the average capital of all establishments is \$19,931 74; that the average wages of all hands employed is \$409 95 per annum; that the average outlay in wages, in materials, and in interest (at 6 per cent.) on capital employed is \$28,249 98.

ALLENTOWN, LEHIGH COUNTY, PENNSYLVANIA.

POPULATION

IN THE
AGGREGATE,
1850-1880.

	Inhab.
1790.....	
1800.....	
1810.....	
1820.....	
1830.....	
1840.....	
1850.....	3,779
1860.....	8,025
1870.....	13,884
1880.....	18,063



POPULATION

BY
SEX, NATIVITY, AND RACE,
AT
CENSUS OF 1880.

Male.....	8,802
Female.....	9,261
—	
Native.....	16,233
Foreign-born.....	1,830
—	
White.....	18,042
Colored.....	*21
* Including 1 Chinese.	

Latitude: 40° 37' North; Longitude: 75° 27' (west from Greenwich); Altitude: 221 feet.(a)

FINANCIAL CONDITION:

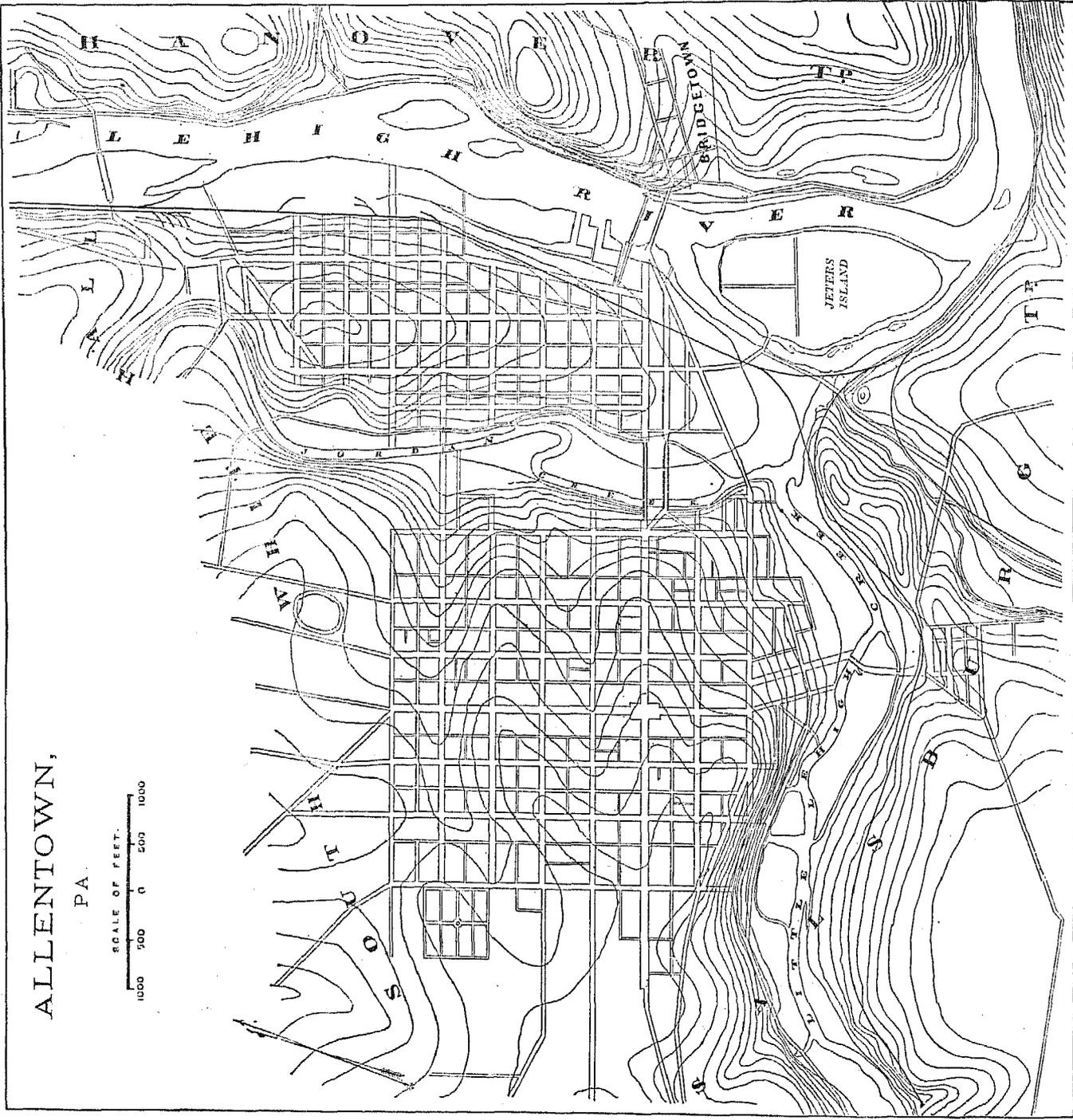
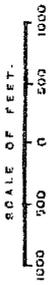
Total Valuation: \$9,075,040; per capita: \$502 00. Net Indebtedness: \$430,443; per capita: \$23 83. Tax per \$100: \$1 36.

HISTORICAL SKETCH.

Allentown, the county-seat of Lehigh county, is located in the famous Lehigh valley, at the confluence of the Lehigh river with the Little Lehigh and Jordan creeks. The town was first laid out by James Allen, it is presumed in 1762, this being the year in which, through his father, he came into possession of 3,000 acres of land in the present county of Lehigh, and on a part of which the town was located. In 1762 a petition was presented to the court of Northampton county for a road from Peter Kohler's mill, in upper or north Whitehall township, to pass "through the town then being laid out, to be called Northampton". James Allen did not live long after plotting his new town, but died in Philadelphia, where the Allén family were long prominent, leaving his property here to his children.

ALLENTOWN,

PA.



The first settlers in Northampton, as it was then called, were German immigrants. They were rather helpless and slow in erecting proper dwellings, especially as each man was forced to do almost every thing for himself. In 1764, two years after the starting of the town, it contained 13 families, and the houses were mostly small one-story buildings. "Trout hall", or "Allen's house", which stood upon the tract, was probably built in 1753, and for a long time remained there in its original condition, being afterward incorporated in Muhlenberg college. In 1765 the families numbered 33, and in 1774, 49. Two years later this number had increased to 54 houses, 7 of which were taverns, and the people to 330. From this time the growth seems to have been slower, and in 1800 there were but 90 houses. The year following the inception of the town great exertions were made to remove the seat of justice of Northampton county from Easton here, but the attempt failed. The town remained for a long time small and comparatively unimportant. It played no conspicuous part in the Revolutionary war, but in 1777 a number of sick and wounded soldiers were quartered here, probably in the church which had been erected a few years before; and when the British took possession of Philadelphia in the same year the bells of Christ church were brought here, where they remained until they could be safely returned.

The town retained its name of Northampton until 1800, when it was changed to Allentown. Upon the creation of Lehigh county, March 6, 1812, it was selected as the county-seat, which it has since remained. The development and activity of its business were materially aided by the establishment here in 1814 of the Northampton bank. In 1826 the place was incorporated as a borough with the old name of Northampton. But this occasioned innumerable mistakes, and the name of Allentown was assumed according to an act of the legislature in 1838. The slow growth of the place during its early history is attributable in great measure to the influence of some of the neighboring towns, and the difficulty, from its elevation, of procuring the necessary supply of water. The latter trouble continued until 1828, when water-works were erected, and the growth of the town took a new start, and continued very satisfactory until the failure, in 1843, of the Northampton bank prostrated business and for a time brought the movement of the town to a standstill. Allentown had barely recovered from the effect of the failure of the bank when a still more serious calamity struck it. On June 9, 1848, a fire swept out of existence its principal business houses, the whole number of buildings destroyed amounting to 80 and the loss to about \$200,000. While the fire was very disastrous, in that it destroyed much of value and deranged business, yet its ultimate effect was for good, for upon the ruins of many old and not entirely suitable buildings were erected large and substantial brick ones. This was really the turning-point in the fortunes of the town. The rebuilding furnished employment for, and drew permanently into the town, many mechanics from a distance. New industries were started and the place grew apace. In 1856 the Lehigh Valley railroad was built, and this and the opening of the East Pennsylvania railroad assisted in the benefit of the town, bringing it into easier contact with other towns and sections, increasing competition, and placing the business interests of the town on a broader and more secure foundation.

During the war of the rebellion Allentown furnished a large number of men for the Union army, but in spite of this made wonderful progress and attracted much of the trade for miles around. In the early part of 1876 it was incorporated as a city. In the early part of the last decade a bank, in which many of the prominent business men and private citizens were interested, failed, and in such a manner as to cripple every department of trade. The panic that swept over the country in 1873, while not immediately felt in Allentown, subsequently, in connection with the failure of the banking company, fell with a heavy hand upon the business of the town. The city may be said yet to be recovering from this last check.

The principal portion of the inhabitants are descendents of the "Pennsylvania Dutch", and it is likely that they will so remain for a long time to come.

ALLENTOWN IN 1880.

The following statistical accounts, collected by the Census Office, through Mr. T. Good, chief of police, indicate the present condition of Allentown:

LOCATION.

The city lies in latitude 40° 37' north, longitude 75° 27' west from Greenwich, on the west bank of the Lehigh river. It is also washed by the Jordan river on the northeast, by the Little Lehigh on the south, and by Cedar creek on the west. None of these streams are navigable. The average altitude above mean tide in the Delaware river is 221 feet, and the highest point is 174 feet above this. The canal of the Lehigh Coal and Navigation Company passes the city on the east side of the Lehigh river, running to Easton, where connection is made with the Morris and Essex Canal to New York and with the Delaware Division Canal to Philadelphia.

RAILROAD COMMUNICATIONS.

Three railroads pass through Allentown: The Lehigh Valley railroad, running from New York to Niagara Falls; the Lehigh and Susquehanna railroad, running from Easton to Carbondale, Pennsylvania; and the Philadelphia and Reading railroad, from Harrisburg to Allentown, with a branch road to Philadelphia.

TRIBUTARY COUNTRY.

The adjacent country is fertile and agricultural. It abounds also in beds of iron ore, limestone, and roofing-slate. Numerous blast-furnaces are located on the Lehigh river and in the adjacent towns, which turn out vast quantities of iron.

TOPOGRAPHY.

The soil is very fertile. The underlying rock is chiefly limestone. Its drainage is excellent, it being situated on an eminence from which the land slopes down on all sides into streams. The country within a radius of 5 miles is generally open, except to the south, where South mountain, which is about 3 miles distant, extends from east to west. There are no near ponds or marshes.

CLIMATE.

Highest recorded summer temperature, 105°; highest summer temperature in average years, about 88°. Lowest recorded winter temperature, —5°; lowest winter temperature in average years, about 20°. The streams surrounding the city, with their rapid currents, undoubtedly exercise a healthful influence. The prevailing winds in winter are from the northwest, and in summer from the west and northwest.

STREETS.

The streets intersect each other at right angles, and correspond very nearly with the cardinal points of the compass. Their total length is 38 miles, of which 660 feet are paved with cobble-stones and 7½ miles with broken stone, the first at a cost of \$1 64½, and the latter at a cost of \$1 per square yard. The cost of keeping broken-stone pavement in repair is about \$130 per mile annually; that for cobble-stone pavement is merely nominal, being, since it was laid in 1871, less than \$15. Sidewalks are well made, being paved with brick or stone. The gutters vary in width from 1½ foot to 6 feet, and are paved with cobble-stones, brick, and flagging. Most of the streets are lined with shade-trees, planted on the pavement side, along the curb-line. The work of construction and repair of streets is generally done by contract, and it is reported to be to the interest of the city to have the street work done in this way. A steam stone-crusher, with a 10 horse-power engine, is used with good effect, 25 tons of stone being crushed with it in ten hours. There are 6 miles of horse-railroads, with 6 cars and 15 horses and employing 6 men. There is an omnibus line, with 2 vehicles and 5 horses, and employing 3 men, the rate of fare being 10 cents.

WATER-WORKS.

The water-works are owned by the city. The supply is by pumping with steam- and water-power, and the pressure is 68 pounds to the square inch. The average amount of water pumped per diem is 1,200,000 gallons; the greatest amount 1,500,000 gallons, and the least amount 900,000 gallons. The water is pumped into a reservoir. The average cost of raising 1,000,000 gallons 1 foot high (with water-power) is 1 cent. The yearly cost of maintenance, aside from the cost of pumping, is \$2,125, and the yearly income from water-rates is \$33,191 88. There are 15 water-meters used, and they have been found to reduce the consumption of water where they have been introduced.

GAS.

The gas-works are owned by a private company, and the city pays \$2 25 per 1,000 feet for the gas consumed in the public buildings. The streets are lighted by 164 naphtha lamps, at a total annual cost of \$2,380 18.

PUBLIC BUILDINGS.

The number and cost of the public buildings were not stated.

PUBLIC PARKS AND PLEASURE-GROUNDS.

There are no public parks in Allentown.

PLACES OF AMUSEMENT.

There is one opera-house in the city, with a seating capacity of 900. It is obliged to pay a yearly license fee of \$100. There are no concert- and beer-gardens.

DRAINAGE.

There is one sewer, 1,844 feet long, 4 feet 6 inches inside diameter, 9-inch brick wall, laid at an average depth of 6 feet. No private drains are connected with this sewer, which is used only for the removal of storm-water. There are several small culverts serving the same purpose.

CEMETERIES.

There are 3 private cemeteries and 1 burial-ground connected with the city: The *Old Burial-ground*, known as the "Allentown grave-yard", is centrally located; *Allentown Cemetery*, adjoining the former; *Union Cemetery*, situated northwest from the Allentown cemetery at a distance of about 700 feet; and *Fair View Cemetery*, on a gently rising eminence south of the city and in close proximity to it. The total number of interments in each of the cemeteries, so far as past records render it possible to obtain them, is as follows: Allentown grave-yard, from 1762 to 1880 (estimated), 2,500; Allentown cemetery, from 1841 to 1880, 541; Union cemetery, from 1853 to 1880, 4,000; and Fair View cemetery, from 1870 to 1880, 474. By the rules of Fair View cemetery, which in the main correspond to those of the others, lot-owners are restricted to the directions of the superintendent concerning repairs and construction. Graves may be dug only by workmen in the employ of the association. Before a grave can be dug a permit must be obtained from the treasurer, which is given only on payment of the purchase-money and fee for digging the grave. No interment can take place without a written permit from the treasurer.

MARKETS.

Allentown has one public market. The dimensions of the ground area are 113 by 69 feet, and of the market-house 90 by 50 feet. There are 32 stalls, of which 24 are occupied. The building cost \$2,305, is built of brick, one story in height. There are also standing-places for farmers' and hucksters' wagons along Linden street, in front of the market-house, extending to Seventh street west, and from thence along Seventh street south to the market square. The price for stalls in the market-house is 10 cents for one, or 15 cents for two, daily, when occupied, which must be at least twice weekly. The rent for outside stands is 7 cents each along Seventh street, and 5 cents each along Linden street, daily, when occupied. The total yearly rental of the market-house is \$604 76. The market is open on Tuesdays, Thursdays, and Saturdays, from 6 to 10.30 a. m. in summer, and from 7 to 11 a. m. in winter. The gross amount of annual sales (1880) from within the market is \$55,120. Nearly all the local retail supply of meats, poultry, fish, and vegetables is distributed here, there being but very few private stores or stands for this purpose.

SANITARY AUTHORITY—BOARD OF HEALTH.

The chief health organization is the board of health, consisting of 5 members. The mayor is president *ex officio*, while the other 4 members are appointed by the city council, and are all physicians, though not necessarily so. The annual expense of the board in 1879, when there was no declared epidemic, was \$225, expended chiefly for health officer's salary, stationery, disinfectants, and burying dead animals. The board is limited in its expenses to the appropriation of the councils, which is usually about \$250 annually. In absence of epidemics the board has authority to abate nuisances, where necessary, to construct privies, and to exercise a general care over the sanitary interests of the city. During epidemics it can isolate families and neighborhoods and disinfect the same. The chief executive officer of the board is the health officer. His duties are the execution of the orders of the board, the abating of nuisances, and the registration of births, marriages, and deaths. His salary is \$200 per annum. No assistant health officers or inspectors are employed. The business of the board is transacted at regular meetings held monthly, or oftener if necessary, when action is taken upon reported nuisances, a majority of the whole number of members constituting a quorum. Inspections are not made regularly, but only as nuisances are reported, and when this is done the health officer, after investigation, orders the same to be abated. If this is not done he reports the case to the mayor. Defective house-drainage, privy-vaults, cesspools, sources of drinking-water, sewerage, street-cleaning, etc., are inspected and corrected only when reported as nuisances. The board exercises no control over the conservation and removal of garbage except when it becomes a nuisance. There are no regulations concerning the burial of the dead, except that persons dying of infectious diseases must be buried within 24 hours. The board has power to prevent the pollution of streams, and may order excrement removed whenever necessary.

INFECTIOUS DISEASES.

Small-pox patients are isolated either at their homes or by removal to temporary hospitals, or to the county hospital 4 miles from the city. Scarlet-fever patients are quarantined at home. The board, in the event of the breaking out of contagious diseases in schools, isolates the patients and examines and disinfects the premises. Vaccination is compulsory, and, for the poor, is done at the public expense.

The health officer records and reports monthly and annually to the board the deaths and causes of the same, the births, and the marriages.

REPORTS.

The report of the board, made annually to the city councils, is printed with the annual reports of the other departments of the city.

MUNICIPAL CLEANSING.

Street-cleaning.—Streets are cleaned by the city, under the supervision of the city engineer, and by hand. The cleaning is done twice a year, and is reported as well done. The grades of the streets are so good that each heavy rain cleanses them thoroughly. The annual cost of the work is about \$100. The little that is done by private parties may cost \$25. The sweepings are deposited on farming-lands within the city limits. The system gives satisfaction.

Removal of garbage and ashes.—Garbage is removed by householders, who hire scavengers for the purpose. There are no regulations as to its conservancy while awaiting removal, unless it shall become a nuisance, and ashes and garbage may be kept in the same vessel. Garbage is disposed of by being dumped into pits and covered with earth. Ashes are also dumped into pits. The cost of this removal is 50 cents per month for each householder. No nuisance is thought to result from this disposition of garbage if it is properly covered up.

Dead animals.—These are removed and buried by the city scavenger at the expense of the city. From 20 to 30 animals are removed annually, at a total cost of \$5. No objection is made to the system.

Liquid household wastes.—Chamber slops, laundry wastes, and kitchen slops are disposed of in the same way, about three-quarters of the liquid wastes of houses being delivered into privy-vaults and cesspools and one-quarter into the public sewers. The cesspools are on the premises, are porous, are without overflows, and in some cases receive the wastes from water-closets. No contamination of drinking-water by the overflowing or the underground escape of the contents of cesspools or privy-vaults has been discovered. Regulations require that cesspools be cleaned out, or covered with earth and abandoned, when they become filled to within 4 feet of the surface of the ground. In regard to this system it is said that, on account of the limestone formation of the site, there are numerous subterranean passages which carry away the contents of the cesspools, while, from its location, the spring from which the water-supply is derived is free from danger of contamination.

Human excreta.—About one-tenth of the houses of the city have water-closets and about nine-tenths depend on privy-vaults. Some of the water-closets deliver into the public sewers, and about two-thirds of them into cesspools. Very few of the privy-vaults are nominally water-tight. By regulations they must be dug at least 12 feet deep, and when they become filled to within 4 feet of the surface they must be emptied or covered with earth. The dry-earth system is used to a very slight extent. Night-soil is composted and used as a fertilizer, but this is not allowed to be done where it could affect the purity of the water-supply.

Manufacturing wastes, both solid and liquid, pass into the streams running through or by the city and pollute them more or less. The city authorities report that at present it is difficult to determine how this can be remedied.

POLICE.

The police force of Allentown is appointed and governed by the mayor. The chief executive officer is the chief of police, who performs the duties of high constable, executes all processes and warrants to him directed, has direct charge of the police force and belongings, and is generally responsible for the enforcement of the laws and ordinances and the preservation of good order in the city; his salary is \$40 per month. The rest of the force consists of 7 patrolmen, at a salary each of \$40 per month. The men provide their own uniforms, which are of navy-blue cloth. Patrolmen are armed with club and revolver. Their hours of service are, in winter from 6 p. m. to 4 a. m., and in summer from 7 p. m. to 3 a. m. Each man patrols a full square, ranging from 7 to 12 blocks. The number of arrests during the past year was 261, for which the principal causes were as follows: Drunkenness, disorderly conduct, maintaining nuisances, indecent behavior, violations of ordinances, larceny, felonious entry, and cruelty to animals. Their final disposition was: sent to lockup, 50; to county jail, 67; fined, 24; sent to poor-house, 10; discharged, 100; and the rest were held on bail, or otherwise had their cases settled. The amount of property stolen or lost within the city during the year and reported to the police was about \$540, of which \$420 was recovered and restored to the owners. The station-house lodgers during the same time numbered 1,381, and for the year previous 1,333. At a cost to the department of about \$15, free meals to the number of 100 have been furnished to the station-house lodgers during the year. The force is required to co-operate with the fire department at fires, by protecting property, preserving order, and assisting the firemen in their duties. Special policemen are appointed by the mayor for special occasions. These have the same powers and are under the same rules as regular policemen. The yearly cost of the police force for the year 1880 was \$2,940.

FIRE DEPARTMENT.

The city has a volunteer fire department. The manual force consists of 1 chief and 6 assistant engineers; 6 foremen and 6 assistant foremen of companies; 4 engineers and 4 drivers of steamers; and 493 men. The apparatus in service consists of 4 steam fire-engines, 2 four-wheeled horse hose-carriages; 4 four-wheeled hand hose-carriages; and 1 hook-and-ladder truck; in reserve, 2 four-wheeled hand hose-carriages and 1 four-wheeled horse hose-carriage. The department has 10 horses and 3,500 feet of good hose. There are 93 public hydrants. During the year 1879 the department attended 15 fires, which caused a loss of about \$18,000; this property was insured to the amount of \$12,000. The property in charge of the fire department is estimated to be worth \$62,000.

PUBLIC SCHOOLS.

Allentown pays commendable attention to the cause of education. The public schools in point of efficiency compare favorably with the best in the state. The buildings are 8 in number, and were erected at a cost of \$400,000. The number of pupils, according to a late report, was 3,347, placed in charge of 54 teachers, many of whom are graduates of the high school. The annual cost of instruction is \$52,000.

Muhlenberg college, under the auspices of the Lutheran church, and the female college under the auspices of the German Reformed church, are in flourishing condition, and are well patronized by all parts of the state. Blackman's Business college is an institution of many years' standing, which sends out annually a large number of graduates.

CHURCHES.

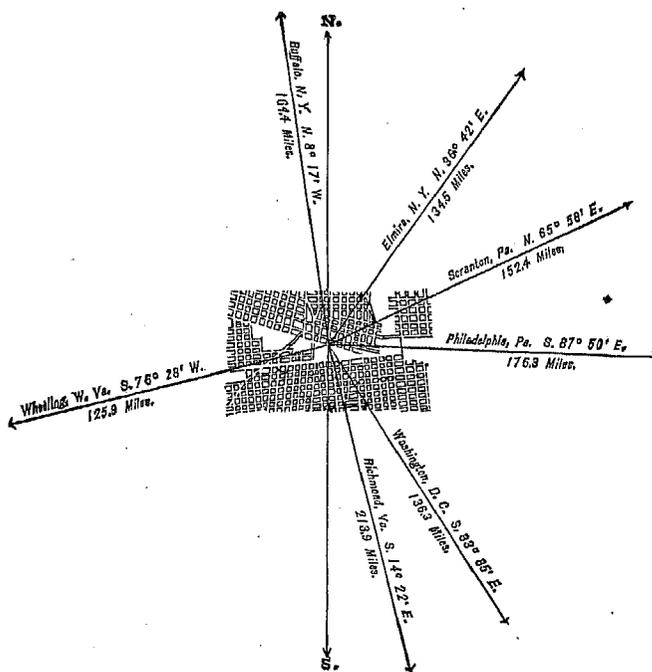
Allentown contains 22 churches, viz: 4 Lutheran, 3 Reformed, 4 Evangelical, 1 Baptist, 2 Roman Catholic, 1 Presbyterian, 2 Methodist, 1 Free Methodist, 1 United Brethren, 2 Episcopal, and 1 New Jerusalem.

ALTOONA,

BLAIR COUNTY, PENNSYLVANIA.

POPULATION
IN THE
AGGREGATE,
1860-1880.

	Inhab.
1790.....	
1800.....	
1810.....	
1820.....	
1830.....	
1840.....	
1850.....	
1860.....	3,591
1870.....	10,610
1880.....	19,710



POPULATION
BY
SEX, NATIVITY, AND RACE,
AT
CENSUS OF 1880.

Male.....	9,953
Female.....	9,757
Native.....	17,618
Foreign-born.....	2,092
White.....	19,470
Colored.....	240

Latitude: 40° 32' North; Longitude: 78° 24' (west from Greenwich); Altitude: 1,208 feet. (a)

FINANCIAL CONDITION:

Total Valuation: \$1,943,962; per capita: \$99 00. Net Indebtedness: \$389,700; per capita: \$19 77. Tax per \$100: \$4 15.

ALTOONA.

Altoona is a growing city in Blair county, on the Pennsylvania railroad, at the east base of the Alleghany mountains, which the railroad here crosses. It contains the principal offices and extensive machine-shops of the Pennsylvania Railroad Company, in which locomotives and cars are manufactured, and in which over 2,000 men are employed. There are also several extensive planing-mills and one large rolling-mill. The city was laid out in 1849. There are 75 miles of streets in the city, and out of these only 400 feet are paved with asphalt and 1½ mile with broken stone. The sidewalks are of brick and plank, and the gutters are of cobble-stone and brick. Trees are planted along the streets inside the curbs. There are no horse-railroads or omnibus lines in the city. The

water-works are owned by the city and cost \$200,000. Water is supplied by gravitation, the pressure being 65 pounds to the square inch. The annual cost of maintenance is \$2,200, and the yearly income from water-rates \$10,000. Water-meters are not used. The gas-works are owned by a private corporation, and the average daily production is 65,000 cubic feet. The charge per 1,000 feet is \$2. The city pays \$1 50 a month for each street-lamp, 53 in number. The total cost of municipal buildings owned by the city is \$16,500. There is one opera-house in Altoona, used for traveling exhibitions, concerts, lectures, etc. Each performance pays a license of \$5 to the city.

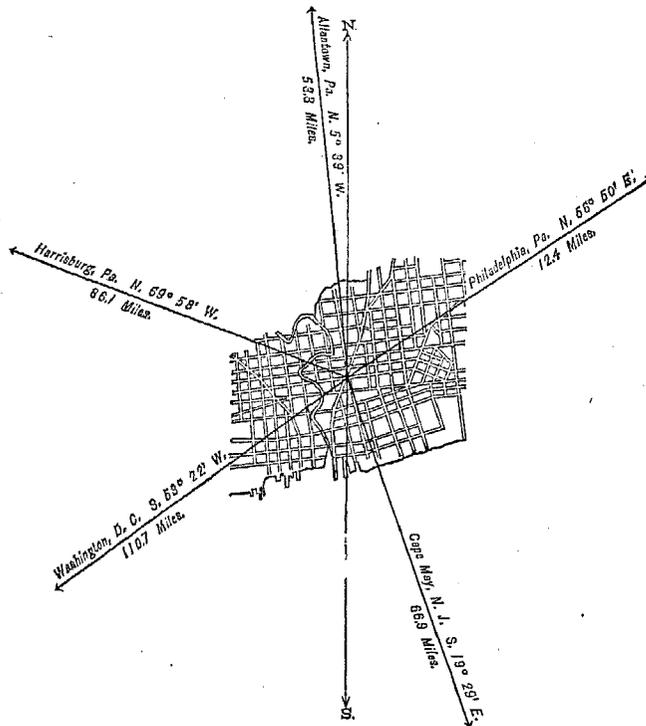
No further information regarding Altoona was furnished.

CHESTER,

DELAWARE COUNTY, PENNSYLVANIA.

POPULATION
IN THE
AGGREGATE,
1800-1880.

	Inhab.
1790.....	
1800.....	957
1810.....	1,056
1820.....	657
1830.....	817
1840.....	1,790
1850.....	1,067
1860.....	4,631
1870.....	9,485
1880.....	14,997



POPULATION

BY
SEX, NATIVITY, AND RACE,
AT
CENSUS OF 1880.

Male.....	7,418
Female.....	7,579
—	
Native.....	12,159
Foreign-born.....	2,838
—	
White.....	13,844
Colored.....	*1,153

*Including 1 Chinese.

Latitude: 39° 51' North; Longitude: 75° 21' (west from Greenwich); Altitude: 0 to 75 feet.

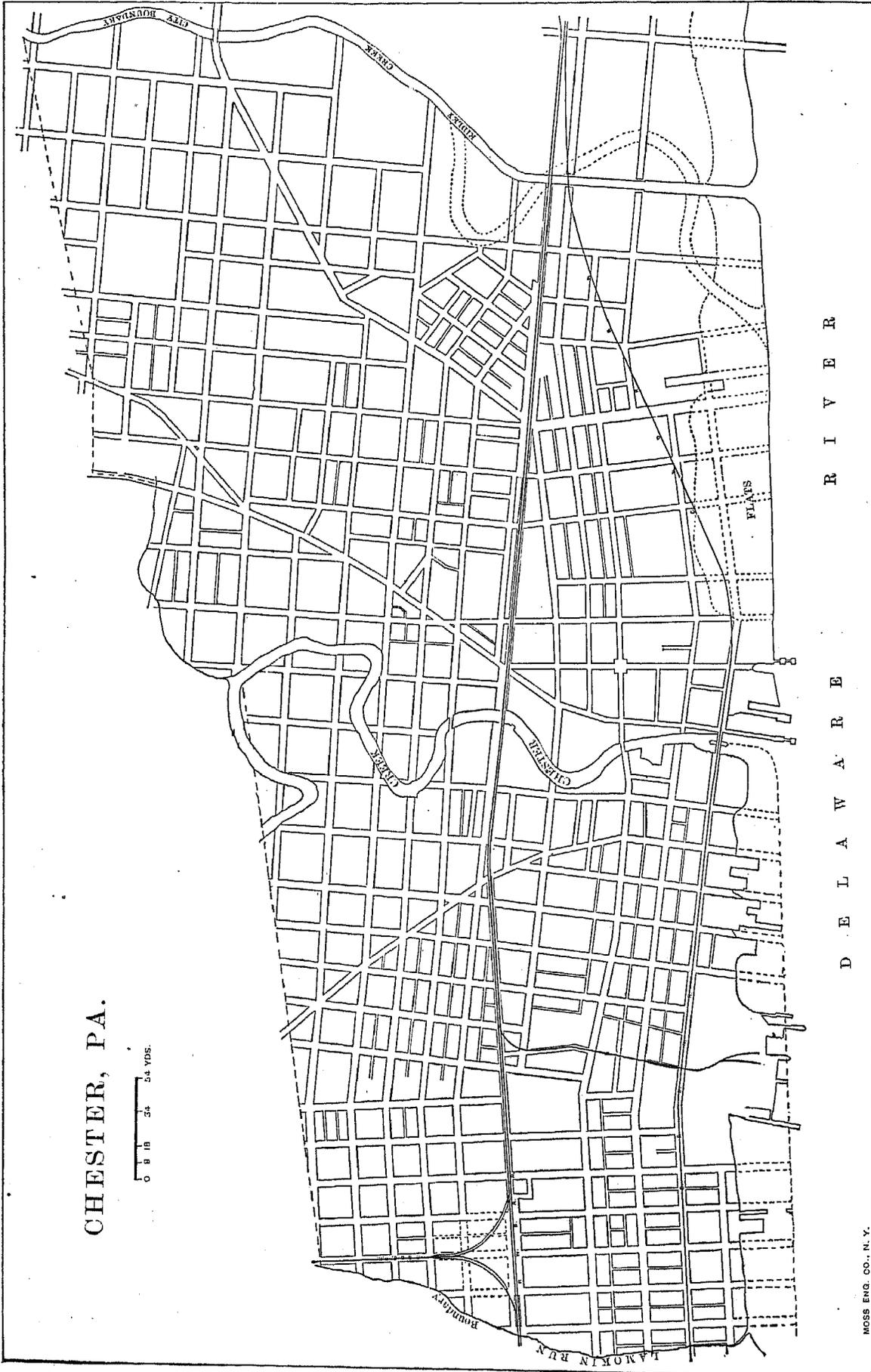
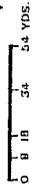
FINANCIAL CONDITION:

Total Valuation: \$6,621,456; per capita: \$442 00. Net Indebtedness: \$357,084; per capita: \$23 81. Tax per \$100: \$1 60.

HISTORICAL SKETCH.

Chester, or Upland, as it was called until 1701, was settled by Swedes in 1643, and is the oldest town in the state. In October, 1682, William Penn landed here, and here he established his first government. The first legislative body of Pennsylvania also met here. At the present time some of the most substantial citizens of Chester are descendants of the early Swedes, or of the English who came over with Penn. Chester was a more important place in 1700 than in 1840, as the population remained stationary at about 500 souls for one hundred and fifty years. But in 1850 a spirit of improvement took possession of the town, and since then its progress has been rapid. In 1866, Chester was granted a city charter, with a mayor and 15 councilmen as the executive body. The city is now in a prosperous condition, with its cotton- and woolen-mills, ship-yard and rolling-mill, and founderies and machine-shops. The population is largely native-born, with English, Irish, and German, in the order given.

CHESTER, PA.



D E L A W A R E R I V E R

CHESTER IN 1880.

The following statistical accounts, mainly furnished by Hon. James Barton, jr., mayor, indicate the present condition of Chester:

LOCATION.

The city is in latitude $39^{\circ} 51'$ north, longitude $75^{\circ} 21'$ west from Greenwich, on the right bank of the Delaware river, and 18 miles below Philadelphia by the river-channel. The altitude of Chester varies from tide-water in the river to 75 feet above. The river is here 2 miles wide, with a good harbor, and is navigable for vessels drawing 24 feet at low water.

RAILROAD COMMUNICATIONS.

The Philadelphia, Wilmington, and Baltimore railroad passes through the city, as well as a branch of the Philadelphia and Reading railroad. The Chester Creek railroad connects Chester with the Philadelphia and Baltimore Central and the West Chester and Philadelphia railroads.

TRIBUTARY COUNTRY.

The country immediately tributary to Chester is rolling, well adapted to all kinds of farm produce, and is well cultivated. On account of the proximity of Philadelphia, farmers engage chiefly in the dairy business. Upon the streams that flow through the city and extending several miles into the country are numerous manufactories, chiefly cotton and woolen.

TOPOGRAPHY.

Chester creek divides the city almost equally. Ridley creek is upon its northern and eastern border. Both these streams are navigable for 2 or 3 miles for small craft, tide-water backing up that distance. The underlying rock is gneiss, and the superstratum is chiefly clay of the drift or glacial deposit. Within a radius of 5 miles the surface rises gradually from the river and the small streams cut it into hills, about one-third of which are wooded. Along the river-side the land is level for a width that averages about one-half mile. This is from 10 to 20 feet above high water and is nearly all well drained. The fertility of the soil would rate as 7 on a scale of 10.

CLIMATE.

Highest recorded summer temperature, 102° ; highest summer temperature in average years, 95° . Lowest recorded winter temperature, -20° ; lowest winter temperature in average years, 0° . The Delaware river when not frozen over is an equalizer of temperature and protects the vegetation on its shores from the ravages of frost. The declination of the land surface toward the south causes it to receive the impinging rays of the sun at a less acute angle, and therefore more of them on a given surface than is received by the level land; and another cause of mild temperature that assists in prolonging the seasons of spring and autumn is the low altitude, which is not much above the sea. In warm weather the stability of the river temperature and the diurnal changes in that of the land are causes of cool breezes. The lowlands along the river are prolific of a miasm that causes ague of a mild type. As an offset it may be mentioned that tubercular consumption is very uncommon in the ague district.

STREETS.

The total length of streets is 25 miles. Of these, $3\frac{1}{2}$ miles are paved with cobble stones, 3 miles with stone blocks, and $1\frac{1}{2}$ mile with broken stone. The cost per square yard, as nearly as it may be estimated, is, for stone blocks, \$2 05, and cobble-stones, \$1 98. The stone blocks are preferred for quality, permanent economy, and the relative facility with which each is kept clean. The sidewalks are paved with brick and the gutters are laid with stone. Construction on streets is done by contract, while all repairs are done by the day. There are no horse-railroads or omnibus lines in the city.

WATER-WORKS.

The water-works are owned by the city, and the cost of construction is \$84,000. The system is pumping into a reservoir or, if needed, by direct pumping. The pressure in the pipes is almost 40 pounds to the square inch. The average amount pumped per diem is 900,000 gallons. The annual cost of pumping, maintenance, interest on debt, etc., is \$26,000. This does not provide for improvements. The yearly income from water-rates is \$25,000. Water-meters are not used.

SOCIAL STATISTICS OF CITIES.

GAS.

The gas-works are owned by a private corporation. The daily average production is 30,000 cubic feet. The charge per 1,000 feet is \$2 50. The city pays \$23 a year for each street-lamp, 116 in number.

PUBLIC BUILDINGS.

The city owns and occupies for municipal uses, wholly or in part, 1 city hall and the mayor's office. The total cost of these is \$30,000. The city hall cost \$18,000 and is not owned entirely by the city.

PUBLIC PARKS AND PLEASURE-GROUNDS.

There are no public parks or pleasure-grounds in Chester.

PLACES OF AMUSEMENT.

There are no theaters in the city. There are two concert halls—National hall and Holly Tree hall—with a seating capacity of about 600 each.

DRAINAGE.

The schedule of interrogatories concerning the sewerage of this city produces only the following information: Each sewer is built according to the requirements of the locality. There is no provision for ventilation. The mouths of the sewers are exposed at low tide. The discharge is into the Delaware river. No removal of deposit has been found necessary. Sewers are paid for by the property-owners on each side of the street, the city paying for intersections of streets. The assessment is fixed at \$1 per front foot on each side of the street.

CEMETERIES.

The main cemetery of Chester is called the *Chester Rural Cemetery*, and is situated about 1 mile north of the city line. It contains 40 acres, and is owned by an incorporated company, which sells lots and issues permits for burials. Since 1863, when the company was incorporated, there have been 3,250 interments made, independently of removals from other cemeteries. Graves are dug 6 feet deep for adults and 4 feet for children. The *Catholic Burial-ground* is near the above. The colored people have a small cemetery about 2 miles west of the city. There are two graveyards, connected with the Episcopal church and Friends' meeting-house, within the city limits, but they are not much used. The *City Burial-ground*, also within the city, is under control of the chief of police, subject to the direction of the health committee, which issues burial permits. This burial-ground is exclusively for indigent persons dying within the city.

MARKETS.

There is but one incorporated market in the city, called the Farmers' Market Company. The building stands in a lot 60 by 240 feet, situated between Fourth and Fifth streets, and Market street and Edgmont avenue. The cost of the building was \$12,000. There are 90 stalls, not all occupied, and in the rear end of the building are a few sheds used for fish and truck stalls. The annual rental of the different stalls varies from \$25 to \$65, the total annual rent for all being \$2,300. The market hours are from daylight until 5 p. m. week days, and on Saturday the hour for closing is extended to 10 p. m. in summer and 9 p. m. in winter. The gross annual sales within the market amount to \$100,000 yearly. A great deal of meat and produce is sold from wagons passing through the streets and from the wharves of Chester creek, which, with that sold at the private shops, will exceed the amount sold at the market. The main market building is of brick and is in fair condition. Licenses are granted by the mayor to hucksters selling outside of the market-house meat, fish, vegetables, or any kind of farm produce or "other merchandise", for \$10 a year to residents of the county, and to all others \$25. But farmers may sell their own farm produce, and fishermen may sell the fish they catch, without a license. Discharged soldiers and sailors, and persons paying a store license, may sell without the mayor's license.

SANITARY AUTHORITY—HEALTH COMMITTEE.

The chief sanitary authority of Chester is vested in a health committee of the common council, appointed annually by the president of the common council. The committee in ordinary times incurs no expense, and its authority is limited to the reporting of nuisances to the council. During an epidemic the committee takes its instructions from the council. There is no executive officer, and no inspectors are employed. When a nuisance is complained of it is reported by the committee to the council, and the committee is then instructed to inspect and abate the same. The same procedure is observed in all cases of defective house-drainage, privy-vaults, cesspools, and sources of drinking-water. The committee exercises no control over the conservation or removal of garbage, the pollution of streams, or the removal of excrement. Small-pox patients are quarantined at home under direction of the committee, and the body of an indigent person dying of this disease is taken charge of by the committee.

Vaccination is not compulsory, but at times is done at the public expense. There is no system of registration of births, diseases, and deaths. The committee reports to the council when it has any thing to communicate, but the reports are not officially published.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned at the expense of the city with its regular force. The work is done wholly by hand, no sweeping-machines being used. The streets are cleaned once a month, and the efficiency of the work will compare with that of other cities. The annual cost is \$2,500. The sweepings are used for filling streets.

Removal of garbage and ashes.—All garbage and ashes are removed by the city with its regular force. They are allowed to be kept in the same vessel, are put out in the morning, and removed as soon as possible. The final disposal of the ashes and garbage is the same as that of street-sweepings. The annual cost to the city is \$600. No nuisance or injury to health is reported to result from improper keeping of garbage on premises, from infrequent removal, from improper handling, or from improper final disposal. The system is reported as "good".

Dead animals.—The carcasses of all animals dying within the limits of the city are taken by bone-boiling establishments.

Liquid household wastes.—Chamber-slops, laundry wastes, and kitchen-slops are disposed of alike, either delivered into sewers or thrown into cesspools or vaults, about 25 per cent. passing into the gutters. The gutters are not flushed, and are cleaned at the same time with the streets. The cesspools are cleaned at night by parties licensed for the purpose.

Human excreta.—There are few water-closets in the city, all of which deliver into the sewers, but the large proportion of the houses depend on privy-vaults. The vaults must be not less than 8 feet deep, walled with stone or brick, and, unless it be a double vault, must not be within 3 feet of any street, alley, or party-line. They are emptied at night by licensed parties, and the night-soil is taken to the truck-farms, none being allowed on land within the gathering-ground of the public water-supply. There are no regulations concerning the disposal of either liquid or solid manufacturing wastes.

POLICE.

The police force of Chester is appointed and governed by the mayor. He is aided in the government by a chief of police, who acts as executive officer, subject to the mayor's supervision. The force consists of the chief of police, salary \$700 a year, and an allowance of \$84 annually for uniforms; 6 night patrolmen at \$728 a year each; and 6 day patrolmen at \$624 each. The uniform is a blue cloth suit with brass buttons and a high felt hat. In winter a blue cloth overcoat with brass buttons is added, and a blue cap. The men provide their own uniforms. The men usually carry a revolver, billy, and nippers. The day and night police are on duty 12 hours at a time, and the total length of streets patrolled by the force is about 25 miles. During the past year there were 174 arrests made by the police, the principal causes being for drunkenness and disorderly conduct. They are generally committed to the lockup for from 24 to 48 hours. During the same time there were 2,409 station-house lodgers, as against 3,209 for 1879. The lodgers are fed on crackers at a trifling cost. The police co-operate with the fire and health departments, and the chief of police is required to attend at all fires, but at such times is subordinate to the chief engineer. Special policemen are appointed by the mayor at the request of corporations and citizens; they have the same power as regular policemen, but the city does not pay them. The yearly cost of the police force (1880) is \$8,830.

EASTON,

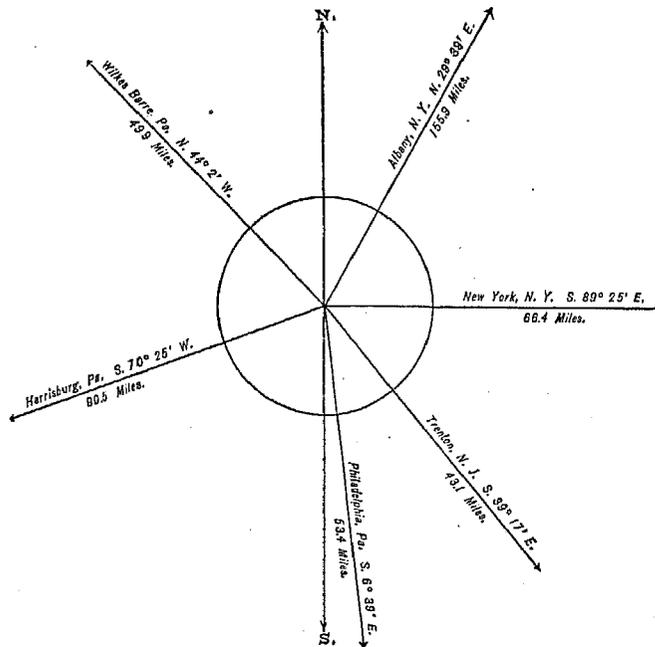
NORTHAMPTON COUNTY, PENNSYLVANIA.

POPULATION

IN THE
AGGREGATE,

1800-1880.

	Inhab.
1790.....	.....
1800.....	1,045
1810.....	1,657
1820.....	2,370
1830.....	3,529
1840.....	4,865
1850.....	7,250
1860.....	8,944
1870.....	10,987
1880.....	11,924



POPULATION

BY
SEX, NATIVITY, AND RACE,

AT
CENSUS OF 1880.

Male	5,599
Female.....	6,325

Native	10,933
Foreign-born	991

White.....	11,757
Colored.....	167

Latitude: 40° 43' North; Longitude: 75° 16' (west from Greenwich).

FINANCIAL CONDITION:

Total Valuation: \$8,031,263; per capita: \$674 00. Net Indebtedness: \$219,949; per capita: \$18 45. Tax per \$100: \$1 29.

HISTORICAL SKETCH.

About the middle of the last century the spot where the Lehigh river pours its waters into the Delaware was chosen by Thomas Penn as the site for a town, and the name "Easton" was assigned to it by him in honor of Lord Pomfret. The place was laid out in 1750, and was then included in the county of Bucks; but two years later, a new county called Northampton, in accordance with Penn's desire, was organized, and Easton was made its shire town. It then contained but 11 families—about 40 persons in all—and was merely an isolated settlement, giving little promise of becoming an important place.

The growth of the settlement was seriously impeded by troubles with the Indians, which made self-preservation the chief object of the settlers' thoughts, and lasted until 1758, when a general peace was concluded. The negotiation of this brought many prominent men of the state and powerful chiefs of the Indian tribes to Easton, and gave it a prominence it would not have obtained otherwise. The first attempt at providing education for the young of the

town was made in 1755, when a school-house was built, and the same year the religious needs of the settlers were recognized by the erection of a meeting-house. In 1758 the court-house of Northampton county was built at Easton, although not without a hard struggle with those who wished to see Allentown gain the shire honors; and in September, 1762, a bridge was built across Bushkill creek.

In spite of these signs of progress, the growth of Easton was far from rapid, for the Revolution demanded all the energies of the town and its people. No sooner was the news of the battle of Bunker Hill brought to Easton than a company of 65 men was dispatched to the scene of action. The announcement of the declaration of independence was hailed with rejoicing, and in every way the citizens showed by their deeds their faith in the justice of the American cause. Easton was visited by Washington in 1778, and in the next year General Sullivan passed through it on his way to Wyoming. After the destruction of the Indian villages in that valley, Sullivan led back his forces to Easton, where they encamped for some time, and caused no little trouble by their riotous conduct.

With the close of the war came better times, and the population, which in 1782 was only 500, began slowly to increase. In the year 1789 Easton was incorporated as a borough, the charter being renewed in 1823. The history of the borough until 1850 was marked by few events of special interest. A company was formed in 1817 for the purpose of supplying the town with water, which was brought from a spring above the town about a mile away, and conveyed to a reservoir from which it was distributed throughout the town. The water-supply thus introduced satisfied the wants of the people until 1840, when new works were erected on the Delaware just above Bushkill creek. Another company was organized in 1854, which took its supply from the Lehigh river, and in a few years the old company was consolidated with it.

In December, 1824, the first steps were taken toward founding a college in Easton, and in 1826 a charter was obtained for Lafayette college. This institution owns beautiful grounds in the town, and, with its 24 professors and 300 students, exercises a powerful educational influence. The public common-school system was organized in 1834, and the citizens to-day are justly proud of the schools which they have fostered and encouraged.

The building of the Lehigh Coal and Navigation Company, the Delaware division of the Pennsylvania, and the Morris and Essex canals which make a junction at Easton, greatly increased its importance as a distributing point. But the great increase in the town's prosperity came with the construction of the railroads. July 2, 1852, was a day of celebration in Easton for the completion of the New Jersey Central railroad to Phillipsburg, New Jersey, just across the Delaware from Easton. February 4, 1854, was another day of rejoicing over the opening of the Belvidere Delaware railroad; but the greatest cause of joy to the town was the completion, in the next year, of the Lehigh Valley railroad, for this brought to Easton vast quantities of coal and the varied products of the Lehigh valley and the surrounding country.

With the impetus given by these means of transportation and communication Easton rapidly rose in importance, and to-day is a town of 11,924 inhabitants, prosperous, energetic, and public-spirited. Its streets are laid out with great regularity, intersecting one another at right angles; the greater part are paved, and others macadamized, while the sidewalks are laid with either brick or flagging. The town is well drained by culverts and sewers, the natural character of the land assisting materially in the work of maintaining good drainage. It is supplied with both gas and water, the gas being introduced in 1857.

The government of the borough is in the hands of a chief burgess and a council of 21 members—3 from each of the 7 wards.

There are 3 daily, 4 weekly, and 3 monthly papers published in the town; 3 banks do business there; the post-office has a carrier delivery, which extends over the adjacent boroughs of South Easton and Glendon; there are 19 churches, and a large number of literary, social, and secret societies.

The police force is under the charge of a chief of police, and consists of a captain, 2 detectives, 2 special officers, and 7 patrolmen, whose hours of service are so divided that the town is under surveillance at all hours.

The town has a paid fire department on the call system. Alarms are given by a fire-alarm telegraph, which has $3\frac{1}{2}$ miles of wire and 6 street signal-boxes. The apparatus includes 3 steam fire-engines, 4 hose-carriages, and a hook-and-ladder truck.

Easton is connected with all points along the Lehigh valley by the Lehigh Valley railroad; the Lehigh and Susquehanna division of the New Jersey Central railroad connects it with the coal-fields above Scranton, and with Buffalo and western New York; the New Jersey Central railroad from Phillipsburg, just across the Delaware from Easton, offers a direct line of communication with New York and the important centers of eastern and central New Jersey; the Morris and Essex railroad offers a third line to New York, the Lehigh Valley railroad also owning a direct line thither; and the Belvidere Delaware division of the Pennsylvania railroad connects the town with all places reached by the latter road.

The following canals furnish water communication with various parts of New Jersey and Pennsylvania: The Lehigh Coal and Navigation Company's canal connects Easton with Mauch Chunk; the Delaware Division canal, with Bristol, Pennsylvania, and the Morris and Essex canal with parts of New Jersey.

The situation of the town is beautiful, and compensates in itself for the lack of any public park. The trade with the surrounding country is large, and Easton may truly be called one of the most flourishing towns of Pennsylvania.

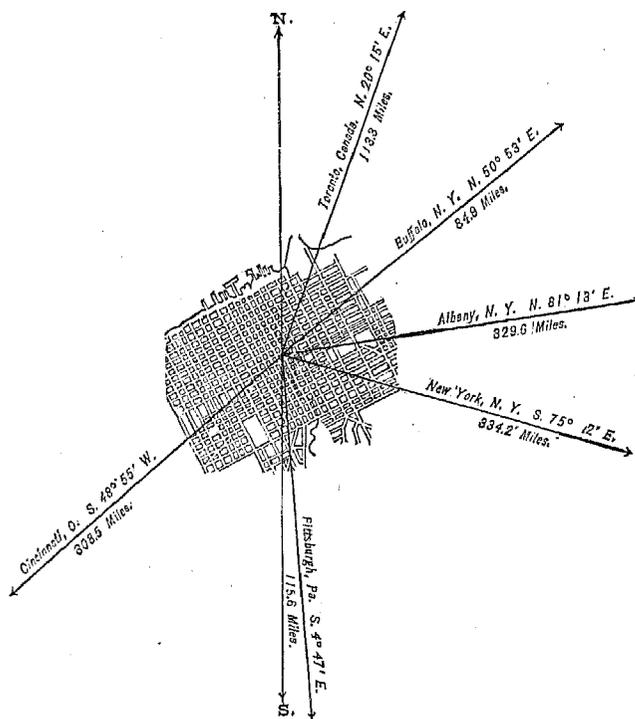
No further information was furnished.

ERIE,

ERIE COUNTY, PENNSYLVANIA.

POPULATION
IN THE
AGGREGATE,
1800-1880.

	Inhab.
1790.....	.....
1800.....	81
1810.....	394
1820.....	635
1830.....	1,465
1840.....	3,412
1850.....	5,858
1860.....	9,419
1870.....	19,646
1880.....	27,737



POPULATION
BY
SEX, NATIVITY, AND RACE,
AT
CENSUS OF 1880.

Male	13,752
Female.....	13,985
—	
Native	20,031
Foreign-born	7,706
—	
White.....	27,513
Colored	* 224

* Including 2 Chinese.

Latitude : 42° 7' North; Longitude : 80° 10' (west from Greenwich); Altitude : 575 to 800 feet.

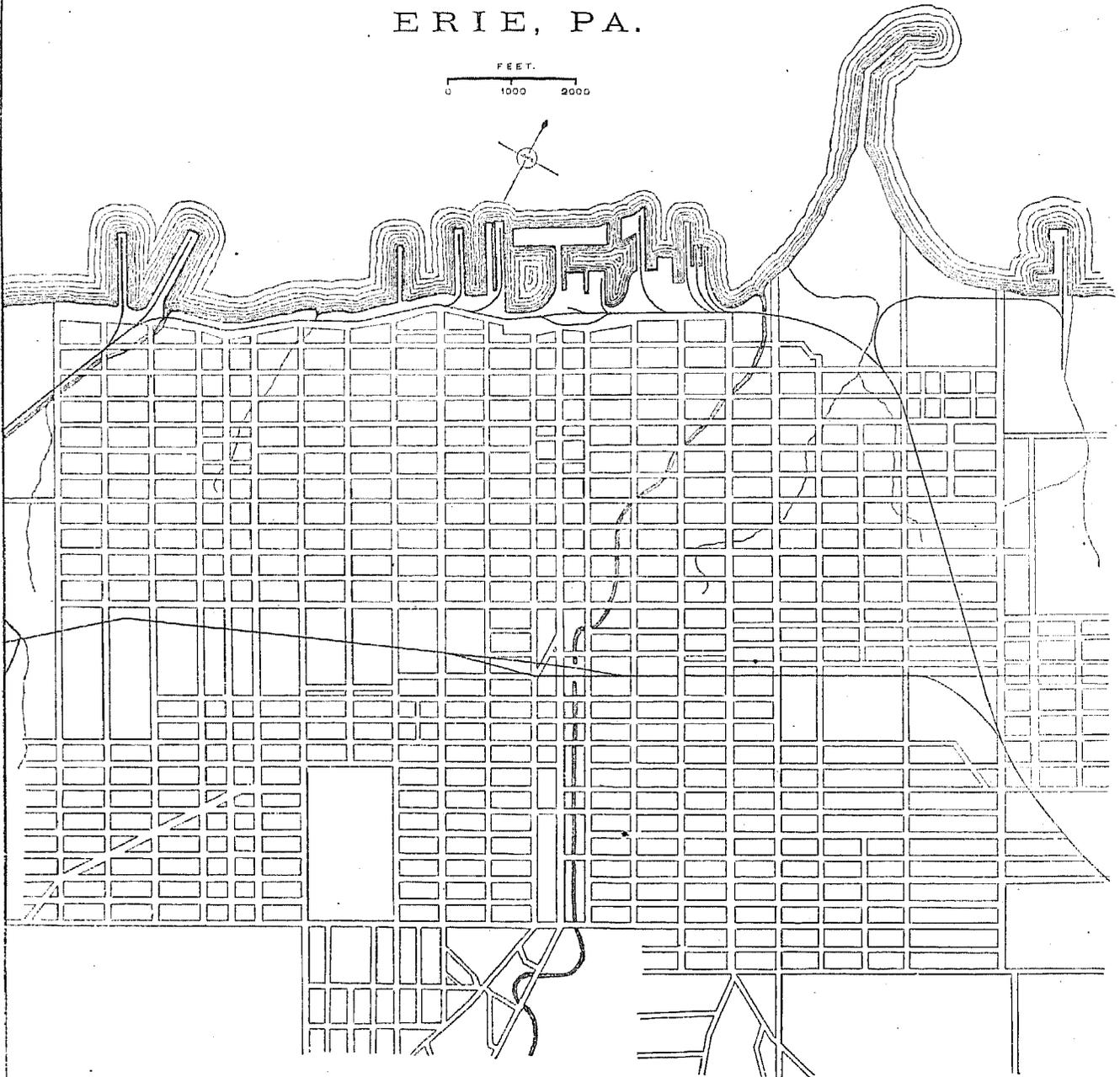
FINANCIAL CONDITION:

Total Valuation: \$11,998,235; per capita: \$433 00. Net Indebtedness: \$1,148,729; per capita: \$41 42. Tax per \$100: \$2 23.

HISTORICAL SKETCH.

The town of Erie was first laid out by settlers from New England and from the southeastern part of Pennsylvania, who came here in 1795. They selected this bluff on the southern shore of lake Erie, overlooking Presque Isle bay. The site is level and the situation pleasant. During the war of 1812 Erie was an important military and naval station. Here, with marvelous dispatch, was built the fleet with which Commodore Perry gained his famous victory over the British fleet on lake Erie on the 10th of September, 1813. There have been no very disastrous fires, and the place has not suffered from local business depressions, but in common with the country felt the embarrassment of 1837, 1857, and 1873 with more or less keenness. Erie's later growth has been very rapid, being assisted by considerable immigration, chiefly from Ireland and Germany; but this has not supplanted the original population. It has a flourishing lake trade and considerable manufacturing. It is the capital of Erie county.

ERIE, PA.



ERIE IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of Erie:

LOCATION.

The city lies in latitude $42^{\circ} 7'$ north, longitude $80^{\circ} 10'$ west from Greenwich, on the southern shore of lake Erie, 88 miles from Buffalo, New York, and 95 miles from Cleveland, Ohio, by rail. Its average altitude above mean sea-level is 675 feet, the lowest point being 575 and the highest 800 feet above mean sea-level. The harbor is formed by a sandy peninsula from $\frac{1}{4}$ mile to 2 miles wide. It is heavily wooded, except at the extreme eastern and western ends; this forms a completely land-locked bay about $4\frac{1}{2}$ miles long and $1\frac{1}{2}$ mile wide. The average depth of water is over 22 feet. The channel is kept open by dredging. Communication is open with all points on the great lakes. The Beaver and Erie canal, extending from Beaver, on the Ohio, 136 miles to Erie, affords water communication with Pittsburgh, and thence by the Pennsylvania canal with Philadelphia.

RAILROADS.

Erie has the following railway facilities: Lake Shore and Michigan Southern railroad, running between Chicago and Buffalo; Erie and Pittsburgh railroad, with these places for its termini; and the Philadelphia and Erie division of the Pennsylvania railroad, terminating at Philadelphia and Erie. All use the same union depot.

TRIBUTARY COUNTRY.

The agricultural resources and products of the surrounding country are excellent. Wheat, corn, oats, barley, etc., are raised in fair quantities, as well as good fruits, apples, peaches, pears, etc.

TOPOGRAPHY.

The soil is more than half sandy, with smaller quantities of clay and loam. The surface-rock of the site is of the Devonian age, and is a soft soapstone, which rapidly falls to pieces when exposed to the air. Veins of a harder kind of stone are met with every few feet, which is used for cellar-walls, etc., but is not fit for exposed work. The city lies on a bluff about 60 feet above the water. The land around the city is generally rising and open. There are no near marshes or ponds, and the natural drainage as a rule is good.

CLIMATE.

The highest recorded summer temperature for seven years is 94° ; highest summer temperature in average years, 71° . Lowest recorded winter temperature, -16° . The influence of lake Erie is toward equalizing the temperature. The influence of elevated lands is very slight. The prevailing winds are from the west, and ordinarily lower the temperature.

STREETS.

The total length of the streets of Erie is about 90 miles, of which are paved with cobble-stones (limestone and Medina mixed) 6,840 feet; stone blocks (Medina sandstone), 9,190 feet; stone blocks (Medina with cobble sides), 9,480 feet; asphalt, 570 feet; broken stone, 1,150 feet; wood with Medina sides, 1,830 feet; wood with cobble sides, 2,600 feet, and gravel, 3,340 feet. The cost of each, as nearly as it can be estimated, per square yard, is: Cobble-stones, 55 cents; Medina blocks, \$1 35; asphalt, \$1 85; broken stone, 40 cents; wood, \$2 53, and gravel, 40 cents. Until this year no repairs of consequence have been made upon the streets. About 3 cents per square yard would cover the cost for the first seven years of repairs to stone pavements. Old Nicholson and stone pavements are now being renewed at a cost of about \$10,000 per year. The relative facility with which each sort of pavement is kept clean is indicated by the order of their enumeration, viz: Asphalt, wood (when new), Medina stone, cobble, broken stone, gravel. As to the quality and permanent economy of each, City Engineer W. W. Brigden writes: "Medina stone is the safest good pavement we can lay; but if asphalt will last fifteen years, I should prefer it." He also furnishes the following comparative table:

Qualifications.	Asphaltum.	Medina blocks.	Wood.	Qualifications.	Asphaltum.	Medina blocks.	Wood.
Ease of traction	1	3	2	Freedom from dust	1	3	2
Minimum destruction of vehicles	1	3	2	Freedom from mud	1	3	2
Comfort to rider	1	3	2	Freedom from exhalations	1	2	3
Comfort to horse	2	3	1	Quality of cleaning	1	3	2
Foothold to horses, dry	3	2	1	Durability	2	1	3
Foothold to horses, wet	3	1	2	Accessibility to pipes and relaying	2	1	3
Freedom from noise	1	3	2	Economy in original cost	3	2	1

The sidewalks are mostly of brick, with some of flagstone, and, in the outskirts, some of wood. The character of the sidewalks suffers somewhat from the fact that, in some instances, abutters in making the sidewalks do not use good brick or sand, or they fail to lay the walks to the proper line and grade. On paved streets gutters are paved with gutter-stone; on gravel streets a simple ditch is formed a few feet from the sidewalk. In the central part of the city many shade-trees are planted at the sides of the streets. Two streets have lanes about 16 feet wide, which in this respect are fine where owned by the wealthy residents. The trees mostly used are maple, elm, cherry, locust, willow, and horse-chestnut. Nearly all large pieces of work in the construction or repairing of streets are done by contract—especially construction; but repairs, including ditching, are generally made by the day. The cost of street-work has increased rapidly in Erie of late years. For 1880 it reached the sum of \$18,905 94. The city engineer reports a preference for contract work where the cost of inspection will not exceed the saving per day work. No steam stone-crusher or roller is used in street construction, but when the asphalt pavement was made the contractor used a 5-ton steam-roller. There are 2 miles of horse-railroads in the city, with 9 cars, 30 horses, and employing 10 men. There were 265,255 passengers carried during the year, the rates of fare being 5 cents, or 30 tickets for \$1. There are no regular street omnibus lines, but 2 omnibuses, 5 carriages, and 2 wagons, using 22 horses and employing 7 men, carry passengers, etc., to various parts of the city. The ordinary rate of fare is 25 cents; to remote points 50 cents.

WATER-WORKS.

The water-works are owned by the city. The daily capacity of the works is 4,000,000 gallons, the daily consumption of water is about 2,500,000 gallons, and the receipts for water-rents for the past year was \$87,385. The annual cost of maintenance, aside from the cost of pumping, is about \$8,000. The average cost of raising 1,000,000 gallons 1 foot high is $9\frac{1}{16}$ cents. The total length of mains is 35 miles.

GAS.

The gas-works are not owned by the city. The daily average production is 40,000 feet; the charge is \$2 50 per 1,000 feet. For each street-lamp, of which there are 310, the city annually pays \$22 75.

PUBLIC BUILDINGS.

The city owns 6 engine-houses, and a hospital standing on state property. The council-rooms and city offices are rented. The total cost of municipal buildings belonging to the city is \$40,000. Erie owns no city hall.

PUBLIC PARKS AND PLEASURE-GROUNDS.

The total area of these is a little less than 9 acres, comprised in two small parks of about equal size. They cost the city nothing, and are controlled by the committee on public grounds. Ordinances of the city provide for the proper care and protection of the parks.

PLACES OF AMUSEMENT.

Erie has 1 theater, with a seating capacity of 1,500; Music hall, seating 800; Academy of Music, seating 800; and some 15 other halls, etc., of which the seating capacity ranges from 300 to 500 each. Theaters and halls pay an annual license of from \$25 to \$100. There are in Erie three beer-gardens: East End Turner hall and garden, Fillharmona garden, and South End Turner garden.

DRAINAGE.

The city of Erie is laid out on the rectangular system, and has no long diagonal streets or avenues. Those streets running toward the lake are steep, having a descent of 90 feet in about 20 blocks. Those running parallel with the lake are usually level, but their surface is interrupted by three valleys running obliquely. In one of these valleys is a small stream running in an open channel and receiving the discharge from numerous sewers on both sides. In the other two valleys trunk-sewers have been laid across streets and lots, affording convenient lines for main drainage. Besides these, several large sewers have been laid in straight lines, running directly toward the lake. The sizes of these main sewers vary from 3 to 6 feet, and their inclinations are so great that, unless built of hard brick, they are soon worn through. An instance is given of a 48-inch sewer on an inclination of 1 in 50, and in some places 1 in 20, where the bottom was worn through in about six years.

Most of the city sewage is discharged into the harbor, which is described as a bay about 4 miles long by 2 miles broad. The city water-supply is taken from this bay about 1,000 feet from the shore, nearly opposite the center of the city. The authorities are making arrangements to have intercepting sewers built to transfer the outfall to the open lake, and also to prevent the further pollution of the small streams running through the city.

The total extent of sewerage in 1880 was 17.4 miles. A system was laid out several years ago, providing for the construction of sewers according to a regular plan, but it has been so little regarded and is so changed in the

execution of work already done, that it could not now be followed. Small sewers have been built without regard to future extension, and now property lying beyond must go without sewers or seek an expensive roundabout outlet. Some sewers carry but little water, and are laid in uneven lines and grades. About 10 of these have to be cleaned by hand. Prior to 1880 this was done by flushing from street-hydrants, but this removed only lighter deposits, leaving all the coarser sand and gravel. An apparatus was introduced in 1880, consisting of scrapers or scoops, drawn through from one manhole to another by a chain and derrick. Its cost was about \$275, and the cost of cleaning 12-inch pipe sewers with it has averaged about \$25 per 100 feet. It has not been used for larger sizes. There are 41 catch-basins in the city, costing about \$100 each. No more are being constructed, but storm-water is now admitted through plain gulleys, or *spills*, as they are called.

None of the outfalls of sewers are submerged except those discharging into the creek in time of freshets, and these have sufficient head to maintain a constant flow. Wind-gates made of wood have been introduced in some places to protect the sewers from strong currents of air. Within the past year (1880) a few manholes have been furnished with perforated covers to secure ventilation. A few pipes have been extended to the tops of houses, but not with any system or regularity. The cost of sewerage-works has usually been paid by the abutting property-owners. Assessments are laid on the basis of frontage, the city paying for crossings. Assessments rarely exceed \$1 per foot front; if this does not afford enough to pay for the work the deficiency is paid by the city. The charter provides for dividing the city into districts according to drainage areas, and assessing the cost of main sewers upon the districts drained by them; but this has not been done.

The cost of a sewer 24 inches in diameter built of brick, in 1880, was \$1.24 per foot.

CEMETERIES.

Erie has six localities for the interment of the dead, viz: *Erie Cemetery, German Catholic Cemetery, Irish Catholic Cemetery, Trinity Catholic Cemetery, German Lutheran Cemetery, and Jewish Cemetery.* Erie cemetery, in the southern part of the city, contains 70 acres; Trinity Catholic cemetery, 2 miles west of city limits, 30 acres; and the Jewish cemetery, immediately southwest of Erie cemetery, 20 acres. The old Presbyterian, United, and Episcopal cemeteries, located on lots within the city, are now abandoned and are used for other purposes. Interments are made only by permit of health officer, which is granted only on proper physician's certificate of death, with details. Erie cemetery is managed by a board of trustees; lots are sold to any person desiring to purchase; all receipts are expended on the grounds except 20 per cent., which is held as a permanent fund for maintaining the grounds.

MARKETS.

Erie has no public market-house, but the east side of State street, from Fifth street to Tenth street, is used as a standing-place for farmers' and hucksters' wagons. Here market is held from 6 a. m. to 2 p. m. on Wednesdays and Saturdays. The total rental of these standing-places is from \$1,200 to \$1,500 annually. It is estimated that nearly equal quantities of meat, poultry, fish, and vegetables are sold at the market, and at private stores and stands. Erie has one pork-packing house which does a fair business south and east of here. Poultry is wholesaled only in small lots by grocers. A good business in fish is done by four firms, who have a large sale of whitefish throughout the state. Two or three green-grocers have a fair trade in the country within 150 miles of Erie.

SANITARY AUTHORITY—HEALTH COMMITTEE.

The chief health organization is the health committee, which consists of 3 members of select and 6 members of common council, appointed by the mayor and the chairman of the common council, none of whom need be physicians. The committee has very slight direct expenses in the absence of epidemics; during the existence of these it may expend any sum necessary. In the absence of epidemics it has authority to keep the city clean, to inspect the market-place, etc. During epidemics it may remove patients to the city hospital, see them properly treated, and take care of their families. The chief executive officer of the committee is the health officer, who is also city physician; he receives no salary as the former, but \$900 a year as the latter. This officer has general charge of the sanitary interests of the community. He keeps a detailed record of the city's mortality. The business of the committee is transacted at stated meetings held every two weeks. No assistant health officers or inspectors are employed, except during epidemics. Only the market-place is inspected regularly; for the rest of the city, inspections are made only when nuisances are reported. When nuisances are reported the owners are notified to abate them, and are arrested and fined if this is not done promptly. The owners are compelled to correct such cases of defective house-drainage, privy-vaults, cesspools, and sources of drinking-water as fall under the notice of the health committee. With defective sewerage and street-cleaning the committee does not concern itself, this being true also as regards the conservation and removal of garbage, which is under the control of the superintendent of streets. Deaths must be reported to the health officer, and his permit secured before interment may take place. The committee has no special regulations concerning the pollution of streams and harbors, and the removal of excrement, which are covered by a specific act of the assembly.

INFECTIOUS DISEASES.

Small-pox patients are removed to the pest-house. The isolation of scarlet-fever patients is left to the discretion of the attending physician. Where contagious diseases break out in public or private schools they are closed by

the committee. The pest-house is situated out upon a bluff overlooking lake Erie, with a fine view, well ventilated, well supplied with water and a bath-room, and is a good building, with dimensions of 130 by 30 feet. Vaccination is not compulsory, but is furnished at the public expense.

Deaths only, of the mortality statistics, are registered by the health officer, and each week the names, ages, and causes of death of the deceased are published in the Erie papers.

REPORTS.

The committee reports to the mayor and councils as often as necessary, also through the papers. The health officer annually reports also to the same officials, which report is published with those of the other city departments. In addition to the above information, Dr. E. W. Germer adds the following note:

"Erie, Pennsylvania, with a population of 28,500 inhabitants, has a mortality of 13.5 per 1,000, and, with a small expense, is as well managed in sanitary matters as a great many places."

MUNICIPAL CLEANSING.

Street-cleaning.—Streets are cleaned by the city with its own force, by hand, and as often as necessary. The cost of this work is not separated from that of general street-repairs.

Removal of garbage and ashes.—Garbage is removed by the householders. There is no restriction to the keeping of ashes and garbage in the same receptacle; the final disposition of them both is as manure. No great nuisance or injury to health is thought to result from improper keeping or disposal of garbage on premises, from infrequent removal, from improper handling, or from improper final disposal.

Dead animals.—These are removed by the scavenger, who makes glue and fertilizer from them, and at no expense to the city, the scavenger being "glad to get them". The number of such animals removed annually is not stated, but is so large that the scavenger is steadily at work.

Liquid household wastes.—These, including chamber-slops, laundry wastes, kitchen-slops, and water-closet wastes, are about all run into the public sewers, a very little into cesspools. There are a few good wells of drinking-water; these are uncontaminated from any source. The city lots are large, and the evil of overcrowding does not exist in Erie.

Human excreta.—Water-closets are in very general use, and all of them deliver into public sewers. Privy-vaults are cleaned out by the market-gardeners of Erie and their contents are used for manure, but not in such manner as to contaminate the supply of drinking-water, which is taken from the lake.

Manufacturing wastes.—These, both liquid and solid, are run into the public sewers. This method of disposition is not satisfactory, the sewers emptying into the same bay from which the water-supply is taken.

POLICE.

The police force is appointed "by and with the advice and consent of the select council", and is governed by that body. The title of the chief executive officer is chief of police, who has general supervision over the police department, and controls and directs the movements of the force; his salary is \$1,000 per year. The rest of the force consists of 13 patrolmen at a salary of \$55 each per month. The uniform is the same as that worn by the police of Buffalo, New York; each man furnishes his own, the cost of which varies somewhat. Patrolmen are armed with revolvers and "Bean's heather club". Their hours of service are from 7 a. m. to 6 p. m., and from 6 p. m. to 4 a. m. The force patrols 88 miles of streets. During the year there were 1,471 arrests made, the principal causes of which were: Drunkenness, 563; drunk and disorderly, 188; disorderly, 188; assault and battery, 155; larceny, 61; malicious mischief, 52; surety of the peace, 47; aggravated assault and battery, 27; trespass, 24; on suspicion, 20, etc. They were disposed of thus: Fined, 490; discharged, 295; fined and committed in default, 248; cases settled, 156; bound over, 104; discharged, 99; charges withdrawn, 41, etc. During 1879 the number of arrests was 1,221; during 1878 it was 908. The stolen or lost property reported to the police during the year was of the value of \$2,764, \$1,584 65 worth of it being recovered and restored to the owners. The station-house lodgers during the year numbered 1,634; during the previous year, 1,496. During 1880 no free meals were furnished to station-house lodgers. The police force is not by any specific rules or instructions required to co-operate with the fire or health departments. Special policemen are appointed by the mayor when an emergency renders it in his opinion necessary, when they have the powers of regular policemen; also on the request of corporations or individuals, when their powers are special—in the latter case at no expense to the city. During the year 1880 the cost of the force was \$9,480 14.

FIRE DEPARTMENT.

The fire department of Erie is a partially volunteer one. It consists of 1 chief, 2 assistants, 2 engineers, 2 firemen, 3 drivers, 6 hose companies of 5 men each, and 1 hook-and-ladder company of 7 men—in all, 47 men. There are also 8 horses, 2 steamers, and about 5,000 feet of hose, two-thirds of which is in reliable condition. The Union fire-alarm telegraph is used, in connection with which are 17 street-boxes and 5 engine- and house-boxes. It has worked well in every case. The ordinary expenses of the department during 1880 were \$11,012 97; the number of alarms responded to, 57; and the number of fires, 52. The loss by these fires was \$135,355, on which there was a total insurance of \$152,400.

COMMERCE AND NAVIGATION.

[From the Report of the Bureau of Statistics for the fiscal years ending June 30.]

Customs district of Erie, Pennsylvania.	1879.	1880.
Total value of imports.....	\$41,773	\$11,155
Total value of exports:		
Domestic.....	31,078	18,877
Foreign.....		
Total number of immigrants.....		

Customs district of Erie, Pennsylvania.	1879.		1880.	
	Number.	Tons.	Number.	Tons.
Vessels in foreign trade:				
Entered.....	81	7,428	51	7,017
Cleared.....	77	6,427	48	5,695
Vessels in coast trade and fisheries:				
Entered.....	387	281,148	504	404,545
Cleared.....	395	284,513	602	491,594
Vessels registered, enrolled, and licensed in district.	39	23,900	35	23,464
Vessels built during the year.....	1	10½		

MANUFACTURES.

The following is a summary of the statistics of the manufactures of Erie for 1880, being taken from tables prepared for the Tenth Census by Joseph R. Sterrett, special agent:

Mechanical and manufacturing industries.	No. of establishments.	Capital.	AVERAGE NUMBER OF HANDS EMPLOYED.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
All industries.....	167	\$4,730,503	3,284	207	276	\$1,518,085	\$4,879,319	\$7,653,356
Blacksmithing.....	8	6,800	14			7,471	6,700	21,440
Boots and shoes, including custom work and repairing.....	6	77,700	86	16	8	54,397	91,817	161,867
Bread and other bakery products.....	4	33,000	14		2	9,300	29,870	60,026
Carpentering.....	14	51,900	124		2	56,485	137,725	227,794
Clothing, men's.....	6	113,000	91	126		57,120	136,000	225,740
Flouring- and grist-mill products.....	4	201,000	42			25,050	688,050	869,800
Foundry and machine-shop products.....	14	1,253,453	1,182		60	515,682	1,410,872	2,291,529
Furniture.....	4	60,500	43		1	17,800	27,300	72,900
Liquors, malt.....	5	187,000	43			20,950	167,500	165,500
Lumber, planed (see also Sash, doors, and blinds).....	3	300,000	66		4	25,050	117,200	185,000
Malt.....	3	158,000	47			14,820	109,631	255,588
Painting and paperhanging.....	5	3,400	32			10,916	10,800	27,265
Plumbing and gasfitting.....	4	10,800	20			8,373	13,335	25,966
Printing and publishing.....	10	156,800	94	17	51	59,520	76,700	178,350
Pumps, not including steam pumps.....	4	37,500	18			7,240	15,289	29,591
Saddlery and harness.....	4	30,000	14			6,860	23,569	37,500
Sash, doors, and blinds (see also Lumber, planed).....	5	88,000	50		1	23,300	39,578	73,760
Tinware, copperware, and sheet-iron ware.....	7	26,000	28			16,361	18,900	46,300
Tobacco, cigars and cigarettes.....	10	28,100	24	2	6	10,874	14,476	44,895
All other industries (a).....	47	1,902,550	1,292	46	141	569,888	1,714,076	2,712,635

a Embracing brass castings; brick and tile; carriage and wagon materials; carriages and sleds, children's; carriages and wagons; cars, railroad, street, and repairs; clothing, women's; coffee and spices, roasted and ground; confectionery; cooperage; electroplating; glue; iron and steel; iron forgings; leather, curried; leather, tanned; lime; lumber, sawed; marble and stone work; matches; mattresses and spring beds; musical instruments and materials (not specified); photographing; roofing and roofing materials; scales and balances; shipbuilding; show-cases; soap and candles; springs, steel, car, and carriage; stone- and earthen-ware; washing-machines and clothes-wringers; wheelwrighting; wirework; wooden ware; and wood, turned and carved.

From the foregoing table it appears that the average capital of all establishments is \$28,326 37; that the average wages of all hands employed is \$403 per annum; that the average outlay in wages, in materials, and in interest (at 6 per cent.) on capital employed is \$40,007 39.