

DEPARTMENT OF THE INTERIOR,  
CENSUS OFFICE.

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Appointed April 1, 1879; resigned November 3, 1881.

CHAS. W. SEATON, Superintendent,  
Appointed November 4, 1881. Office of Superintendent  
abolished March 3, 1885.

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REPORT

ON THE

SOCIAL STATISTICS OF CITIES,

COMPILED BY

GEORGE E. WARING, Jr.,  
EXPERT AND SPECIAL AGENT.

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PART I.

THE NEW ENGLAND AND THE MIDDLE STATES.

PART II.

THE SOUTHERN AND THE WESTERN STATES

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PART II.



WASHINGTON:  
GOVERNMENT PRINTING OFFICE.  
1887.

*Bureau of the Census*

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PART II.

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SOCIAL STATISTICS OF CITIES.

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SOUTHERN AND WESTERN STATES.

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# THE SOUTHERN STATES.

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## MARYLAND.

BALTIMORE.

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## DISTRICT OF COLUMBIA.

WASHINGTON.

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## VIRGINIA.

ALEXANDRIA,  
LYNCHBURG,

NORFOLK,  
PETERSBURG;

PORTSMOUTH,  
RICHMOND.

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## WEST VIRGINIA.

WHEELING.

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## NORTH CAROLINA.

WILMINGTON.

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## SOUTH CAROLINA.

CHARLESTON,

COLUMBIA.

---

## KENTUCKY.

COVINGTON,

LEXINGTON,

LOUISVILLE,

NEWPORT.

---

## TENNESSEE.

CHATTANOOGA,

MEMPHIS,

NASHVILLE.

---

## GEORGIA.

ATLANTA,

AUGUSTA,

MACON,

SAVANNAH.

---

## FLORIDA.

JACKSONVILLE,

PENSACOLA.

---

## ALABAMA.

MOBILE,

MONTGOMERY,

SELMA.

---

## MISSISSIPPI.

VICKSBURG.

---

## ARKANSAS.

LITTLE ROCK.

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## LOUISIANA.

NEW ORLEANS,

SHREVEPORT.

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## TEXAS.

AUSTIN,

DALLAS,

GALVESTON,

HOUSTON,

SAN ANTONIO.

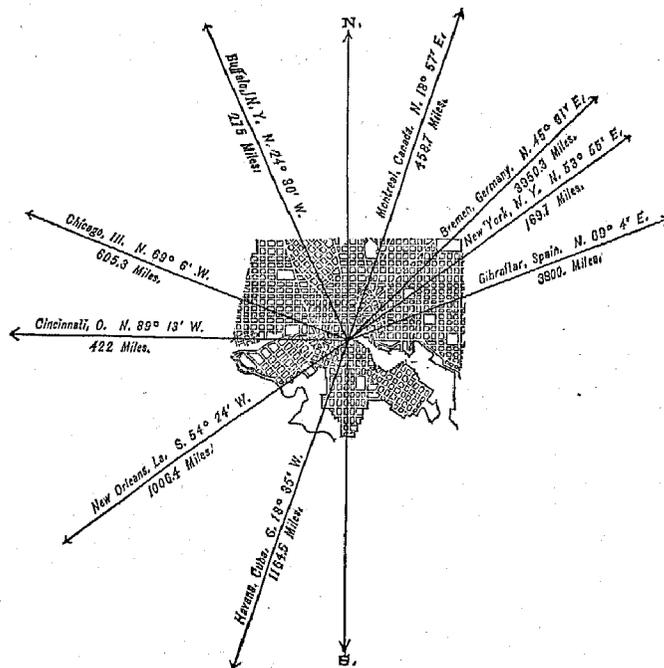
# MARYLAND.

## BALTIMORE, MARYLAND.

### POPULATION

IN THE  
AGGREGATE,  
1800-1880.

Year	Inhab.
1790	13,503
1800	26,514
1810	46,555
1820	62,738
1830	80,620
1840	102,313
1850	169,054
1860	212,418
1870	267,354
1880	332,313



### POPULATION

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

Male	157,393
Female	174,920
—	
Native	276,177
Foreign-born	56,136
—	
White	278,584
Colored	*53,729

\*Including 4 Chinese and 9 Indians.

**Latitude: 39° 17' North; Longitude: 76° 37' (west from Greenwich); Altitude: 0 to 250 feet.**

### FINANCIAL CONDITION:

Total Valuation: \$244,043,181; per capita: \$734 00. Net Indebtedness: \$854,466; per capita: \$2 57. Tax per \$100: \$1 22.

## HISTORICAL SKETCH. (a)

Captain John Smith, the famous explorer, was beyond doubt the first white man whose eye rested upon the site of Baltimore. It was as far back as 1606, as appears from his history of Virginia, that he penetrated the Patapsco, a river marked, on the wonderfully accurate map that he constructed, as the "Bolus" river, and so called by him "for the red clay resembling bole Armoniack". After this visit a long time intervened before the coming of any other of the European race to the Patapsco. It is probable that in 1628 Lord Baltimore explored the

<sup>a</sup> The following sketch of Baltimore was compiled by Robert Luce, esq., from notes furnished by J. H. B. Latrobe, esq., and from *The Chronicles of Baltimore*, by Colonel J. Thomas Scharf.

surrounding country, of which he afterward procured a grant and which became Maryland, and it is possible that he might have penetrated to this spot at that time; but nothing is positively known of the presence of white men in the vicinity after Smith's departure up to the year 1659. In that year several patents were issued for land in the neighborhood, and plantations were established. In the same year Baltimore county was organized, with limits far more extensive than it has at present, embracing not only all of Harford and Carroll counties, but large portions of Anne Arundel, Howard, and Frederick counties. At that time the population of all Maryland was only 12,000, and that of the newly erected county was probably less than one-sixth of that number.

During the next few years many lands or farms, known by various names and titles, were taken up, and among them, in 1668, the land known as "Cole's harbor", on which the town of Baltimore was subsequently laid out. These farms; or rather plantations, were occupied by planters, a class which made far the larger portion of the inhabitants of the colony. The principal planters were also the merchants, who traded with London and the other great ports of England. The large plantations, with their groups of storehouses and other buildings, assumed the appearance and performed the office of little towns.

Amid the creeks and marshes and under the hills of the northwestern branch of the Patapsco a number of planters gradually gathered and a very significant settlement sprang up. To the point of land between the south and middle branches of the river was directed the main road from the west, and this, with such an anchorage for vessels, had brought it into notice as a possible site for a future metropolis. The owner, however, set prodigious store by certain iron mines which he believed to be situated on his territory, and by his opposition prevented the plan of using it for a town site from being carried out. Excluded from the level land, those persons interested in the project were obliged to seek the site of Baltimore, on the northwestern branch of the river. Accordingly, July 14, 1729, the petition of the inhabitants of Baltimore was read in the upper house of assembly, "praying that a bill may be brought in for the building of a town on the north side of the Patapsco river, upon the land supposed to belong to Messrs. Charles and Daniel Carroll". On the 30th the bill was finally passed, and on the 8th of August it was signed by Benedict Leonard Calvert, esq., governor. It provided for the laying out of 60 acres of land "in and about the place where one John Fleming" lived, and designated 7 commissioners for the purpose. There were to be 60 equal lots, the owner of the land to have the first choice for one lot, after which the remaining lots were to be taken up by others, paying the owner of the land its valuation, determined by agreement or by valuation of a jury. The town was to be called "Baltimore Town".

In the following January it was duly laid out and disposed of. Compared with the Baltimore of to-day it was a most insignificant affair, the whole of it being comprised within the westernmost branch of the Patapsco on the south, the chalk-hills of Charles and Saratoga streets on the north, the deep drain and gully which swept down about the present course of Liberty street and McClellan's alley on the west, and the big swamp which bordered Jones' falls on the east. From the small quantity of ground originally taken for the town, and from the difficulty of extending it in any direction, as it was surrounded by hills, water-courses, or marshes, it is evident that the commissioners did not anticipate either its present commerce or population. The expense of extending streets, of building bridges, and of leveling hills and filling marshes to which their successors have been subjected has been an obstacle to growth which most other American cities have scarcely felt, and one against which nothing but the great local advantages for trade of all kinds would have enabled the citizens to contend. The situation, however, afforded the most direct communication with the surrounding country, and also had in its favor the great security presented by the harbor, and the abundance of stone, lime, iron, and timber. On the other hand, it was unhealthful, and would continue to be so until a large marsh adjacent to it was reclaimed. Another unfavorable circumstance was that the alluvium of the falls, spreading from the shore from Harford run to South street, already limited the channel of the river on the north side of it, and formed some islands which continued to be overflowed by high tides until the islands and shoals were made fast lands, as they now are.

The character of the founders of the town is illustrated by the fact that in the very first year of its existence, in June, 1730, they secured the passage of an act by the general assembly "for the building of a church in Baltimore county, and in a town called Baltimore Town, in Saint Paul's parish". A lot was at once secured—on the northwest corner of which the present Saint Paul's church now stands—and a church edifice was immediately started, 50 feet by 23 feet in the clear, and with walls 18 feet high; but, owing to failure in fulfilling contracts and other delays, it was not completed until 1739. This, the first church in Baltimore, stood for 45 years, being succeeded in 1784 by a more elegant and costly edifice.

In August, 1732, the assembly passed an act erecting a town on the other side of the creek from Baltimore, on the land where Edward Fell kept store, to be known as "Jonas Town". This name was afterward changed to "Jones Town", in compliment to one of the former owners of the land. It was laid off in November into 20 lots, valued at 150 pounds of tobacco each. (Tobacco was long the most common currency of the province, as it also was its greatest product. Taxes were often laid in it, and most values were reckoned in it.) Improvements were soon made here by which, and from certain early settlements, it obtained the name which it now bears of "Old Town". The communication with Baltimore Town given by the ford was so inconvenient that the respective inhabitants of the towns soon erected a bridge where Gay Street bridge now stands.

In 1745, on the joint petition of the inhabitants of Baltimore and Jones Town, the assembly of Maryland incorporated them into one town, to be known as Baltimore Town. Seven commissioners were appointed "to see the present and former acts, relating to the towns before mentioned, put in execution", etc. In case of any vacancy occurring, the remaining commissioners should fill it, thus making the government of the town a close corporation. As to finances, the act provided that the commissioners might "levy, assess, and take by way of distress, if needful, from the inhabitants of the town, by even and equal proportion, the sum of 3 pounds yearly", but what was to be done with this money does not seem to have been mentioned.

Two years later another act was passed in regard to the town, enlarging it by the addition of about 18 acres which had been brought into notice by the building of the bridge; it lay principally on the west side of the falls, and contained all the fast land between the eastern limits of the first town and the falls. By the same act the commissioners were authorized to open and widen streets or alleys, with the consent of the proprietors, and to remove nuisances, and also to hold two annual fairs, on the first Thursdays of May and October, with exemption from civil process during the fairs. Housekeepers were to be subject to a fine of 10 shillings if they did not "keep ladder high enough to extend to the top of the roof of such house, or if their chimnies blazed out at top".

The early history of Baltimore is conspicuously wanting in events that are worth noting. The various additions to the town made by legislative enactments, and the founding of those various social institutions which spring up during the growth of any community, make up the mass of its early chronicles. In 1750, 25 acres of land on the north and east were surveyed and laid out into lots and streets and incorporated into the town. In the same year a house for the inspection of tobacco was erected, and the construction of a public wharf was begun. It is probable that in or about this year the First German Reformed Congregation was established.

In 1762 Baltimore had 200 inhabitants, 25 houses (4 of them brick, 1 two-storied without a hip roof), 1 church, and 2 taverns. There was one school-master in the place, but, according to the *Maryland Gazette* of February 27, 1752, another was wanted. The population of the county of Baltimore at this time consisted of 2,692 white men, 3,115 white boys, 2,587 white women, 2,951 white girls, 595 servant men, 126 servant boys, 200 servant women, 49 servant girls, 470 men convicts, 6 boy convicts, 87 women convicts, 6 girl convicts, being 569 convicts in all, designed for compulsory labor in the county, and sold for certain terms; and there were 116 mulatto slaves, 196 free mulattoes, 4,027 black slaves, and 8 free blacks, making a total population of 17,231. Servants in Maryland at this time may properly be classed as the "redemptioners", provided for by Lord Baltimore in his original scheme of colonization. Much of the early emigration was thus effected, the emigrant binding himself to five years' service in the province, in consideration of his transportation thither at the cost of the contractor. In 1638 the term of service was reduced to four years. At the end of their term these "redemptioners", or indentured servants, received one whole year's provision of corn and 50 acres of land. These servants, therefore, are not to be confounded with the negro slaves or with the convicts, the latter of whom were also sold to labor for terms.

In 1753 another addition was made to the town, this time it being 32 acres of "Cole's harbor" that was annexed. The next year 450 "pieces of eight", or dollars, were raised by means of a lottery toward building a public wharf.

The event of 1755 in the history of Baltimore—and it was one which was of general importance to the country—was the defeat of Braddock by the French and Indians, who, after this terrible disaster, penetrated the country past forts Frederick and Cumberland, and pushed their plundering and marauding parties to within 50 miles of Baltimore. In the next year the assembly passed an act to raise supplies and to protect the province. The tax imposed by this act was a most curious one. All bachelors of twenty-five years of age and upward, worth £100 and under £300, were to pay 5 shillings; if worth £300 or upward, 20 shillings; all freehold estates, 1 shilling per 100 acres; if belonging to Roman Catholics, 2 shillings. This slight record throws much light on the times. It tells us that the Marylanders of the middle of the last century advocated marriage, and knew how to put a premium on it; that they thought the sin of being a bachelor increased out of proportion to his wealth; and, most important of all, it tells us that as late as 1756 the idea of perfect religious freedom and equality in the eyes of the law did not prevail in this colony.

In this year there was an influx of inhabitants, sent hither by an event which belongs to a most melancholy page of history—the expulsion of the Acadian French from Nova Scotia upon the conquest of that province by the British. There is nothing in human chronicles more tender or more touching than the story of that little colony, a band of simple, virtuous peasants driven from their homes, and thrust almost penniless upon the world by the pitiless, cruel invader. A fragment of that band of exiles came to Baltimore and was received with a ready and generous hospitality. At first they were lodged in private quarters, but it was not long before their frugality and industry enabled them to build some small but comfortable houses on South Charles street, near Lombard street, giving to that quarter its designation as "French town", which it preserved for a long time.

There is no doubt that the growth of Baltimore was promoted by the continuation of this war, since it prevented for a time the extension of the settlement westward. Within a year after peace the town came to be acknowledged as the greatest mart of trade in the province.

In 1763 the sum of £510 was raised by means of a lottery and applied toward completing the market-house, buying two fire-engines and a parcel of leathern buckets, enlarging the existing public wharf and building a new one. In 1766 a law was passed compelling Messrs. Marrison, Lawson, and Philpot to fill up the marsh between

Frederick street and the falls, and commissioners were appointed to lay it off as an addition to the town. A law was also passed prescribing quarantine, at the discretion of the governor, on all passenger ships infected by diseases, and another relating to the roads of the county. The resistance to the stamp act, which was so universal in this year throughout the country, was equally spirited in Baltimore, and her citizens took an active share in the nullification of the act in Maryland.

Down to 1768 Joppa was the shire town of Baltimore county when there was any shire town. It is a singular fact that no living man can tell with any degree of certainty at what spot in the wilderness the county-seat was first located. The court-house was on Bush river till some period between 1633 and 1707, when it was abandoned, and a second one was erected on Gunpowder river at a place called Forster's neck. In 1712 it was again removed, this time to a place which reached the dignity of being a town, and which was known as Joppa. Its population was never large, but it was one of the most important and prosperous seaports of Maryland before a single house had been erected in Baltimore. The courts were held here down to 1768, when Baltimore was made the shire town. From this time may be dated "the decline and fall" of the ancient town of Joppa. The old court-house has long since crumbled away; her wharves, at which hundreds of the largest merchantmen were laden, have disappeared; her dwellings have fallen one by one, until scarcely their foundations can be traced; and a solitary antique tenement is all that now remains to mark the spot where the shire town of Baltimore county once stood.

Commissioners were appointed in 1768 to build the county court-house and prison "on the uppermost part of Calvert street next to Jones' falls". The court-house was erected on a bluff overhanging the falls, precisely where the "Battle monument" now stands.

In 1769 a number of gentlemen, aided by general subscription, procured an engine for the extinguishing of fires, and formed "the Mechanical company". This was the first engine of the kind in Baltimore, and cost £99. This was the first of a long line of kindred associations.

An interesting contemporaneous account of the early growth of Baltimore is found in a letter dated January 18, 1771, written from Annapolis by Mr. William Eddis to his friends in London. After describing how the spot happened to become a commercial port, he said:

The commencement of a trade so lucrative to the first adventurers soon became an object of universal attention. Persons of a commercial and enterprising spirit emigrated from all quarters to this new and promising scene of industry. Wharves were constructed; elegant and convenient habitations were rapidly erected; marshes were drained; spacious fields were occupied for the purposes of general utility; and within 40 years from its first commencement, Baltimore became not only the most wealthy and populous town in the province, but inferior to few on this continent, either in size, number of inhabitants, or the advantages arising from a well-conducted and universal and commercial connection.

Baltimore had indeed grown wonderfully, but yet to a Baltimorean of to-day the town of a little over a century ago would appear very insignificant in comparison with the present city. At this time the hills on which the cathedral and the hospital now stand, and the grounds west of Greene street, where Mr. Lux had established a rope-walk, and the south shore of the river from Lee street, where Mr. Thomas Moore set up the frame of a vessel, to the fort point, were covered with forest trees or small plantations. The grounds between the town and the point called Philpot's hill yet remained an open common. Most of the timber fell a prey to the wants of necessitous inhabitants during the cold winters of 1779 and 1783, and improvements did not begin, even on Mr. Philpot's grounds, for some years after. When, in 1773, two new bridges were built, one at Baltimore street and the other on Water, now Lombard street, causeways had to be built to them from Frederick street across the marsh. The elevated and beautiful site of the county almshouse, situated at the head of North Howard street and containing 20 acres, which was purchased about this time, cost only £350.

It was at this prosperous period that first appeared in Baltimore what have become two of the most important elements in American social life, viz, the newspaper and the drama. Their nearly simultaneous appearance is significant as to the point in its growth which the town had now reached. Up to this time the newspapers of Philadelphia and Annapolis were the sole medium of information for the citizens of this place, and the only means of advertising their wares or their wants. One of the Philadelphia papers, *The Pennsylvania Chronicle*, had been ably edited by William Goddard. It gained great circulation, but, becoming at last too tory in its bias to stand the times, was discontinued early in 1773. In June of that year Mr. Goddard removed to Baltimore, and on the 20th of the following August issued the first newspaper in Baltimore. It was called *The Maryland Journal and Baltimore Advertiser*, and was a weekly. It was published with varying merit and success until 1797. In 1775 appeared the first number of Dunlap's *Maryland Gazette, or the Baltimore General Advertiser*, which was discontinued four years later on account of lack of support. Many other papers since those days have flourished and died in Baltimore, making the history of the press in that city long and varied.

Scharf well says that the history of the American theater is a subject of importance as connected with the history of our literature and manners. The rise, progress, and cultivation of the drama have a significant relation to the degree of refinement and the general condition of society at any given period in any country. The first company of players that crossed the Atlantic arrived at Yorktown, Virginia, in the summer of 1752. Williamsburg was then the capital of that colony, and thither the players proceeded, performing there on the 5th of September, 1752, the first play performed in America by a regular company of comedians. The first theater, in point of time,

erected in this country, was built in Annapolis in the same year. The drama did not, however, reach Baltimore until some years afterward. In 1773 a large warehouse that stood at the corner of Baltimore and Frederick streets was occasionally converted into a theater, on the boards of which the company of Messrs. Douglas & Hallam performed plays from time to time for the edification of the colonists. It was Hallam who brought over the first company from England 21 years before. The encouragement given them was enough to induce them to erect a small theater at the intersection of Water and Albemarle streets, where they performed until the outbreak of the Revolution. All amusements of the kind being then prohibited, they removed to the British West India islands. The first brick theater in Baltimore was built in 1781, and was formally opened January 15, 1782. Another theater was built in 1786, and still another in 1794.

In 1773 the first Methodist and the first Baptist church were erected. It is a curious coincidence that these most ascetic of evangelical churches, the newspaper, the theater, and the almshouse should all have appeared in Baltimore for the first time in the same year.

The news of the passage by the British parliament of the Boston port bill—a bill intended to shut out the people of Boston from commercial intercourse with every part of the world—was received in Baltimore with the greatest indignation. Spirited resolutions were at once passed by earnest meetings of the citizens, and committees were appointed to correspond with those of other towns and colonies. Later on their sympathies found substantial expression in bountiful aid furnished to the persecuted Massachusetts town.

A Boston paper, under date of August 29, 1774, says:

Yesterday arrived at Marblehead, Captain Perkins, from Baltimore, with 3,000 bushels of Indian corn, 20 barrels of rye, and 21 barrels of bread, sent by the inhabitants of that place for the benefit of the poor of Boston, etc.

During the Revolutionary war the citizens of Baltimore took the greatest interest in the struggle, furnishing their just quota of men to the colonial armies and doing all that lay in their power to keep up the courage and enthusiasm which were so necessary in those who stayed at home. The place and its vicinity was never the actual scene of warfare, but it was threatened by the British once or twice, and throughout those years of turmoil it did not escape the general confusion. In the autumn of 1775 the mouth of the Chesapeake was watched by British ships of war, and the merchants of Baltimore, doubtful whether their most peaceful and legitimate intentions of trade would be respected, for the most part laid up their vessels. It was about this time that the water battery on Whetstone point was begun; also three massive chains of wrought iron, passing through floating blocks, were stretched across the river, leaving a small passage on either side next the fort, and the channel was protected by sunken vessels. At that time the inhabitants of Baltimore were incorporated into seven military companies.

In the next year Baltimore, from its peculiar fitness for the building and equipment of vessels, was selected as one of the sites for naval construction, and many ships that afterward became celebrated for the injury they inflicted on the enemy were built here. In March the British sloop of war "Otter" made a demonstration in the Patapsco river with various boats, which produced great alarm in the town. Captain Nicholson, the commander of the "Defence", who happened to be in Baltimore at the time, drove these marauders from the river and captured four or five of their boats. The result of this affair was the throwing up of batteries on Fell's point, the fortifying of Whetstone point with 18 guns, etc.

On the approach of the royal troops toward the Delaware in 1776, Congress, then in session in Philadelphia, adjourned to Baltimore, where it sat from December 20 to February 20 of the following year.

It is under date of 1777 that we find notice of the first of a long series of mobs that irreparably stain the history of Baltimore. Perhaps no large city of the United States has suffered so many times from mob violence. Perhaps no other city of our country has witnessed scenes so nearly similar to those enacted in the worst days of the French revolution. The cause of the first lawless outbreak was the publication by Mr. Goddard, in the *Maryland Journal* of February 25, 1777, of a communication congratulating the people on the terms of peace just offered to the colonists by General Howe, and lauding King George and the parliament to the skies. The "Whig Club", a revolutionary society that had just been formed of the more radical members of the old committees, took offense at this article, and ordered Goddard to leave the town. That gentleman entirely disregarded this order, and in consequence was, on the 25th of March, dragged from his office by a mob, carried to the meeting-room of the club, where he was treated with great indignity, and finally forced to flee the town. The legislature, however, took his part, and by its order the governor issued a proclamation censuring the club and sustaining Mr. Goddard, the first vindication of the liberty of the press in Maryland.

Two years later Mr. Goddard was again the victim of mob violence, a communication in the *Maryland Journal* being again the cause. In the issue of July 6, 1779, there were published a number of queries, styled "political and military", evidently tending to bring in question the military qualifications of General Washington for the august station he then occupied, and to create a prejudice against the French nation, which a short time before had entered into an alliance with the United States. It was afterward found out that their author was General Charles Lee. Their appearance was followed by the greatest excitement. This reached its climax on the night of July 8, when a mob broke into Goddard's house and demanded his immediate appearance before their main body

in the coffee-house. He succeeded in getting this lawless trial postponed till the next morning, but then he was forced to leave the town. His house was pillaged, and two of his neighbors were subjected to insulting treatment for trying to befriend him.

The last serious alarm that excited the people of Baltimore during the war was caused by the movements of Earl Cornwallis in August, 1780, which gave the people reason to apprehend that he meant to make an invasion of Maryland and possess himself of Baltimore. In consequence of this apprehension there assembled in the town a force of about 2,800 men. These came from this and adjacent counties within two days after the alarm. Advice was soon received that the destination of Cornwallis was Virginia, in consequence of which these troops were dismissed.

Such troubled times were those of the Revolution, and of such general import were all the events of the period, that of local and internal history there is little to record. At the outbreak of the war there were 564 houses and 5,934 inhabitants in Baltimore proper, and 821 inhabitants in Fell's point, or Deptford hundred, as it was called. At the close of the war, in 1782, the town was said to contain 8,000 inhabitants. In the growth of Baltimore from 1752 up to the Revolution, there seems to have been quite a decided tendency toward settlements east of Jones' falls. There are parts of Old Town and Fell's point which to the present day retain the outward character of the oldest portions of the city. The streets there indicate by their names the colonial era to which they belong. The growth on the west of the falls, though of a later period, was much more rapid.

When the constitution of 1776 was adopted, Baltimore had so much increased in population that it was thought that she should be allowed the privilege of electing two delegates to the general assembly, the same number given to Annapolis. But the members who formed the constitution seem to have been suspicious that the prosperity of Baltimore was an ephemeral one, and that she might possibly soon begin to decay like her neighbor, Joppa, and they added a proviso that when for seven years the number of voters should be less than one-half those in some one county of the state, the town should lose the right of sending two representatives. They had much more confidence in the likelihood of the continual growth of Annapolis, and therefore thought it unnecessary to insert any such condition in regard to her.

Like the other wars which this country has experienced, that of the Revolution had an influence on the manufactures of the land, giving those that already existed fresh impetus and causing many new ones to spring up. Baltimore came in for her share of these results. As the war went on, British goods became scarce, and several manufactures that had hitherto been forbidden in the colonies were now established in or near this town. Among others were a bleach-yard, a linen factory, a paper-mill, a slitting-mill, a card factory, a woolen and linen factory, and two nail factories.

In 1780 an act was passed by the general assembly "to seize, confiscate, and appropriate all British property within this state". A large number of valuable lots in Baltimore and of estates in the neighborhood were confiscated under this law, and by their sale internal improvements received valuable aid. One of these sales was that of the entire property on Whetstone point, then called "Upton court", containing 400 acres, and belonging to the Principio company. It was disposed of during 1781 on the same terms with all the rest, viz, "one-half in specie, one-half in paper at its value; one-half in ten days, residue in six weeks".

Up to this time none of the streets of Baltimore town were paved, and the main street during some parts of the spring and fall seasons, owing to the depth of the soil, was actually impassable from the market-house at Gay street to Calvert street. It is said that when the army passed through Baltimore in 1781 a mounted drummer boy nearly swamped in Baltimore street opposite North street, in a deep mud-hole from which the rider and his horse were with difficulty extricated. In this year pavements began to be laid, especially on the main or Market street. Sidewalks also were built, and the width of the cellar doors and of the old-fashioned porches of front doors was limited, so that the burghers, while enjoying their evening chat or pipe before their dwellings, could not take up too much of the space allowed for pedestrians. Wharves, too, were built, and laws were made to guard the street from nuisances and the harbor from street drainage, while the streets themselves were to be used only by vehicles of a certain breadth of wheel. To defray these expenses an auction tax was laid on the sales of the only auctioneer in the town; a tax was also imposed on public exhibitions and on assessed property; and that common panacea, an annual lottery, was authorized to bring up the arrears of deficiencies in municipal expenses. The executive of this system was a board of commissioners, with ample powers to aid the town commissioners, a sort of body politic and corporate, authorized to fill its own vacancies, to appoint a treasurer, to collect fines for the use of the town, to appoint constables, and to report its accounts to the town commissioners. At the ensuing session of the legislature it was thought that the powers thus conferred on a self-appointing and irresponsible body were too extensive; and accordingly provision was made for the removal of the first set of commissioners and the selection of others every five years by elected electors. The existing government had already become unsatisfactory to a portion of the citizens, as is shown by the *Maryland Journal* of April 2, 1782, in which appeared a notice "that the inhabitants of Baltimore intend petitioning the ensuing general assembly to incorporate said town". This was defeated, however, by the laboring classes.

Another commission was that of nine gentlemen appointed in 1783 to be wardens of the port of Baltimore for five years, this commission to be renewed by election of the same electors that chose the special commissioners above

mentioned. They were authorized to make a survey and chart of the basin, the harbor, and the Patapsco river; also to ascertain the depth and course of the channel, and provide for cleaning the same. To defray the expenses the sum of 1 penny per ton was imposed on every vessel entering or clearing; this tax was raised to 2 cents, and was sanctioned by Congress after the adoption of the Constitution.

Wharves and wharfage also came under the jurisdiction of these wardens. There was as yet no public wharf save that of about 100 feet on Calvert street, and only three private wharves, extending about 200 feet, so that the space occupied by the water at that time was perhaps equal to double the surface of the present basin and dock.

A hundred years ago, as Mr. John P. Kennedy pleasantly said in a lecture delivered some years back, Baltimore was fast emerging from its village state into a thriving commercial town. Lots were not yet sold by the foot, except, perhaps, in the denser marts of business; rather by the acre. It was in the *rus in urbe* category. The town had its hills then, which have been rounded off since; and that locality which is now described as lying between the two parallels of North Charles street and Calvert street, presented a steep and barren hillside, broken by rugged cliffs and deep ravines, washed out by the storms of winter into chasms, which were threaded by paths of toilsome and difficult ascent. Market street had shot, like a Nuremberg snake out of its toy box, as far as Congress hall, with its line of low-browed, high-roofed wooden houses in disorderly array, standing forward and back, after the manner of a regiment of militia with many an interval between the files. Some of these structures were painted blue and white and some yellow; and here and there sprang up a more magnificent mansion of brick, with windows like a multiplication-table, and great wastes of wall between the stories, with occasional court-yards before them.

Jones' falls was then a pretty rural stream rippling over a bed now laden with rows of comfortable dwellings, and meandering through meadows garnished with shrubbery and filled with browsing cattle, where now are produced steam-engines, soap and candles, and lager beer.

The account of the manners and customs of those times reads strangely to-day. The daily routine of life has changed wonderfully in a century. "Early to bed and early to rise" was the universal rule. Afternoon visits were made, not at night, as now, but at so early an hour as to permit matrons to go home and see their children put to bed. The young part of the family, and especially the feminine portion, used to dress up neatly toward the close of the day and sit in the street porch. It was customary to go from porch to porch in the neighborhood and sit and converse. This custom still prevails during the hot summer seasons, when the whole population is out of doors in the evening, a sight which always excites the attention of strangers from the North.

It was usual for persons to live on the same spot where they pursued their business, a useful custom now generally departed from by the traders. Wives and daughters very often served in the stores of their husbands or parents. If a citizen in those days failed in business, it was a cause of deep and general regret, probably because of the rarity of the occurrence. Tradesmen before the Revolution were an entirely different species of mankind from those of to-day. They did not then, as now, present the appearance in dress of gentlemen. Between them and what were termed the hereditary gentlemen there was a marked difference. The leather apron was omnipresent among the workmen. Dingy buckskin breeches, check shirts, and a red flannel jacket were their common apparel; and men and boys from the country were seen in the streets in leather breeches and aprons; they would have been deemed out of character without them. Men and women then hired by the year; men got £16 to £20, and servant-women £8 to £10.

Prior to 1800 there were not over half a dozen four-wheeled carriages kept in the city. Livery-stables and hacks were unknown. Pacers were preferred to trotters. Street-lamps were not introduced until 1783. In the same year policemen were first employed. So exemplary in their demeanor were the 8,000 townfolk of that time, that but 3 constables were required during business hours, and but 14 watchmen for the night.

Up to this period the old market-house at the corner of Gay and Baltimore streets had sufficed for the town, but now the inhabitants of Old Town and Fell's point, those on Howard's hill and those in the center of the settlement began to dispute about the site for enlarged accommodations for the traffic in provisions. It was wisely decided, however, to build three new market-houses, one in Hanover street, one at Fell's point, and the largest of the three on Harrison street, upon the bed of the old swamp which Mr. Harrison generously appropriated for the purpose. The successful drainage of this marsh was a great benefit to the town.

A new survey was now ordered to be made of the town, and the inhabitants began to discuss the necessity of a charter.

In 1785, John O'Donnell, esq., arrived from Canton in the ship "Pallas", with a full cargo of china goods, the value of which he realized here. This was the first direct importation thence into this port. Mr. O'Donnell gave the name of "Canton" to that section of Baltimore still so called. Three years later the ship "Chesapeake", of Baltimore, had the honor of being the first American vessel allowed to hoist the colors of the United States in the river Ganges and to trade there.

The first anti-slavery society in the state of Maryland—the fourth in the United States and the sixth in the world—was inaugurated in Baltimore September 8, 1789. It was called "The Maryland Society for Promoting the Abolition of Slavery, and the Relief of Free Negroes and Others Unlawfully Held in Bondage". On the 4th of July, 1791, George Buchanan, M. D., delivered before it "An oration upon the moral and political evil of slavery", in which he advanced the most philanthropic and the most extreme opinions, yet it created not a ripple on the

surface of southern society. The records of the society prove that the ideas expressed did not in the least offend those to whom it was addressed. Such an oration, in such a place, with such a reception, only four years after the adoption of the Constitution, is an incident pregnant with historical significance.

In the course of the year 1791 there arrived in Baltimore 68 ships and barges, 159 scows and brigs, 94 schooners, 45 sloops, and 370 coasters, making in all 746 vessels entered at the custom-house; and there cleared at that office 387 for foreign ports, and 662 coasters.

Men of the present age, seeing the immense use of cigars, might think they had always been so used since the civilized world became addicted to the use of tobacco; but that is not the fact. Their use began with the fevers which were very prevalent about this time, and they began to be smoked along the streets to keep off the yellow fever. This disease made its appearance in Baltimore in the summer of 1794. There were 344 deaths by the fever and other diseases during the months of August and September. The malady did not cease until the 15th of October. It was at this period, and particularly on account of the fever, that many citizens fled from the town with their families, and some of them erected country residences which now ornament the vicinity.

In 1795, Judge Jones, who resided at North Point, on the Patapsco, counted, in passing to Baltimore, no less than "109 ships, 162 brigs, 350 sloops and schooners, and 5,464 of the 'bay craft'", or small coasters, so well known in the traffic between the eastern and western coasts of the Chesapeake. The shad, herring, oyster, and other fisheries had grown to consequence, as may be judged from the large number of these smaller vessels. According to the published reports, the value of merchandise entered at the custom house for exportation from October 1, 1794, to October 1, 1795, was \$4,421,924; in the five years of which this was the last the value was \$13,444,796, and the exports from the whole state of Maryland for the same time were \$20,026,126, showing that Baltimore already exported two-thirds of the whole amount sent forward by the state.

On the last day of the year 1796 a law was passed to constitute the town a city, and to incorporate the inhabitants by the name of "the mayor and city council of Baltimore". It required no little exertion on the part of the senators and delegates of the time to reconcile the citizens to the charter, such as it was. Those of the point, or Deptford hundred, were especially hard to conciliate, but they were won over by an exception from any tax toward deepening the upper harbor or basin. The act was introduced as an experiment for a year only, and another was passed the ensuing session to give it perpetual duration, with an enumeration of some of the principal powers. The new city was divided into 8 wards.

Up to 1799 the multitudes of people that assembled at the single polling-place of the town and county elections caused much turbulence and confusion. The legislature then changed the constitution, dividing both city and county into election districts, and later the manner of voting was limited to ballots, instead of by voice, and the elections ceased to be riotous, as they had been.

According to an account in a paper of the year 1799, there were then in Baltimore about 130 lanes, streets, and alleys, but several of them were yet without a building. The number of houses was about 3,500, the greater part of which were of brick. The number of warehouses was about 170. The manufacturing interest was concentrated in sugar, rum, tobacco, snuff, cordage, paper, wool and cotton cards, nails, saddles, boots and shoes, and ship-building in all its various branches. Within 18 miles of the city there were 50 "capital merchant-mills", 1 powder-mill, and 2 paper-mills, besides several furnaces and 2 forges.

The city was peopled from various parts of the Union, and from different countries in Europe. It was then said to contain "more men of wealth and probity in commercial transactions than any of the seaport towns in the Union".

In 1801 the legislature authorized the building of a lazaretto, which was accordingly put up by the corporation on the point opposite fort McHenry, which has since become one of the bounds of the city eastward.

About this time the necessity of a supply of water began to be felt in Baltimore. Accordingly, April 30, 1804, a company was formed, with a capital of \$250,000, for the purpose of introducing water into the city. So great was the demand for the stock of this company that shares were sold for more than 900 per cent. above par, which produced a scene of speculation for a few days almost equal to the great "South Sea bubble" in England.

Congress declared war on Great Britain on the 18th of June, 1812. Two days later an article was published in the *Federal Republican*, a Baltimore newspaper, deploring this action, severely criticising the administration, and announcing it to be the purpose of the paper to oppose the war by "every constitutional argument and legal means". This article caused great irritation throughout the city, which was strongly in favor of the war, and on the 22d the headquarters of the editors of the obnoxious paper were mobbed, their printing-office was pulled down, and their press destroyed. All of this, the editors claimed, was done in the presence of the mayor, the judge of the criminal court, and several other magistrates and police officers, whose authority was not exerted to save the printing apparatus and to preserve the peace of the city. Mr. Hanson, one of the editors, who lived in Rockville, Montgomery county, thereupon determined to come to Baltimore and start the paper again, regardless of consequences. A number of his friends, being aware of the danger that would attend such an attempt, volunteered to accompany him and give him what aid and protection they could. They were eight in number, among them being General James M. Lingan, General Harry Lee—"Light Horse Harry"—and John Howard Payne. On reaching Baltimore they took

possession of the house of one of the editors which he had vacated, and when they had early seen that reliance on the civil authorities was useless, the mayor having peremptorily refused to interfere, they supplied themselves with arms and prepared to resist the expected attack.

On the 27th of July the distribution of the paper was begun, and on that evening a mob assailed the house, but was repulsed by its defenders, who were about thirty in number. The military were called out, but their officers made no effort to disperse the mob. Early the next morning the mayor succeeded in inducing the brave defenders, by this time reduced in number from various causes to less than twenty, to put themselves under the protection of the civil authority. They were accordingly escorted to the jail, where they stayed during the day. At nightfall the military were dismissed, which proved to be for the mob the signal for a furious attack on the jail. After some delay they reached the prisoners, and a horrible scene ensued. About half the prisoners succeeded in escaping in the confusion, but the rest were recognized, beaten, trampled on, and then pitched for dead down the high stairs in front of the jail. There they lay in a heap for nearly three hours, the mob continuing all this time to torture their mangled bodies by beating first one and then the other, sticking pen-knives into their faces and hands, and opening their eyes and dropping hot candle-grease into them, etc. Strange to relate, only one man, the brave General Lingan, actually suffered death at their hands. Some were rendered insensible and were afterward restored by friends, and others, by feigning death and undergoing all their tortures without a groan, saved their lives.

The French Massacre-in-the-Prisons occurred on the famous days of September, in 1792. Notice that this Baltimore affair happened in the land of liberty just twenty years later.

Presentments were found against many individuals of each party in this affair, but all were acquitted and discharged—those who defended the house, at Annapolis, to which their trial was removed from Baltimore, the others in the city.

The British appeared at the mouth of the Patapsco in the spring of 1813, and preparations were made to give them a warm reception. It proved, however, to be a false alarm.

The next year the enemy again threatened the place, and this time with more serious consequences. On the morning of the 10th of September their ships were seen at the mouth of the Patapsco, in number from forty to fifty. Some of the vessels entered the river, while others proceeded to North point (at the mouth of the Patapsco), distant 12 miles from the city, and there landed their troops, which were about 9,000 in number, viz, 5,000 soldiers, 2,000 marines, and 2,000 sailors, the first under Major General Ross, the latter commanded by the famous Admiral Cockburn. The troops were a part of Wellington's "Invincibles". The expedition was fresh from the sacking of Washington.

For 4 miles the enemy marched toward the city uninterrupted, except by a few flying shots from the cavalry. Here they were met by General Stricker with his entire Baltimore brigade (except that he had only one company of the regiment of artillery), all but four companies being city troops, and the whole amounting to about 3,200 men. The rest of the American forces were judiciously stationed in or near the various defenses, etc.

As the enemy advanced the artillery opened a destructive fire on them, and the action soon became general. The men took deliberate aim, and the carnage was great—the "invincibles" dodging to the ground and crawling in a bending posture to avoid the militia—the "yeomen" they were taught so much to despise. When the Americans were outflanked by the much greater force of the enemy, they retired reluctantly at the repeated command of their officers, and in much better order than could have been expected. The whole number of Americans actually engaged did not exceed 1,700.

Nearly as much, perhaps, being done at this point as was expected, the brigade retreated toward the city. The British followed slowly, and approached within two miles of the intrenchments. Preparations were at once made to cut them off, but before the plan could be carried out they decamped suddenly in the night and embarked with great precipitation.

The attack on fort McHenry, a couple of miles below the city, was terribly grand and magnificent. The enemy's vessels formed a great half-circle in front of the works and began an active bombardment. This was kept up all day on the 12th, and with less vigor during the night. *Niles' Register*, from which this account is taken, says:

The houses in the city were shaken to their foundations, for never, perhaps, from the time of the invention of cannon to the present day [that was sixty-six years ago], were the same number of pieces fired with so rapid succession. \* \* \* In about twenty-four hours there were blown not less than 1,500 great bombs, besides many rockets and some round shot.

Nevertheless, the damage to the fort was insignificant. The admiral had fully calculated on taking it in two hours. Never was the mortification of an invader more complete.

It was on this occasion that our national anthem, "The Star-Spangled Banner," was written. During the fearful night of the bombardment, Francis S. Key, a distinguished son of Maryland, was a prisoner on the British fleet, having gone on board under a flag of truce and been detained. It was under these circumstances that he composed that immortal song, descriptive of the scenes of that doubtful night and of his own excited feelings.

In memory of the brave defenders of the city who fell in the battle at North Point and at the bombardment of fort McHenry, "Battle monument" was afterward erected. The corner-stone was laid on the 12th of September, 1815, and the statue was placed on the monument on the 12th of September, 1822.

Baltimore plays an important part in the naval history of the war of 1812, especially in that portion of it relating to privateers and letters of marque. Within about four months after the declaration of war, Baltimore had sent to sea 42 armed vessels, carrying about 330 guns and from 2,800 to 3,000 men. Of the 250 privateers and private-armed ships commissioned by the United States as cruising-vessels during the war, 58 were from Baltimore, being more than sailed from any other one port in the country.

In 1817 a charter was granted to a gas-light company, but it did not get fairly under way until 1820.

In the summers of 1819 and 1821 Baltimore was visited by that dreadful scourge, yellow fever. Its ravages were principally confined to that section called Fell's point. Business was in a great measure suspended. Most of those whose means enabled them to remove from the infected district sought refuge in the country or in distant parts of the city, and the poor and the sick remained almost its sole inhabitants. Great distress in the winters that followed was the natural consequence, the misery being heightened by the failure of the City Bank, and the mismanagement of the office of the United States and other banks, accompanied by the fall of the price of flour and tobacco in foreign markets, affecting the prices of all kinds of property.

But Baltimore was to take a fresh start in the race for prosperity. She had been temporarily disheartened and crippled, but not destroyed; for her natural resources could not be taken away, and the people who had improved them in earlier days were still at hand to engage in new operations. These people saw that enterprise, to be repaid, must be content with slower processes than had been resorted to in the past, and that the clipper of their bay was no longer the Aladdin of their counting-houses. The merchants of Baltimore realizing these facts, an auspicious change took place in the commercial affairs of the city between 1820 and 1825. Capital and enterprise again became active. The extensive establishments and ventures became more limited, but were still more significant in both foreign and domestic trade. Baltimore was then undoubtedly the largest flour market in the world, sending forth 205,345 barrels in 1822 and 244,950 in 1823. Of tobacco the city shipped to foreign countries 19,250 hogsheads in 1822 and 21,733 hogsheads in 1823, as well as large quantities of provisions and manufactured goods.

At that time Baltimore ships went principally to the Spanish main, to Buenos Ayres, to Brazil, to Chili, Peru, and Mexico. The trade was well established with these countries, but less reliance seems to have been placed on it than on the magical change which the "internal-improvement" system was to produce as soon as fresh communications were opened with the growing West and its dependencies. Baltimore people seem to have been impressed since then with the idea that their first duty was to recover possession of the internal trade of the country. Certain it is that ever since 1825-'28 their minds have been greatly concerned with canals and railways, and the supreme results they were to produce for Baltimore and Maryland. It is very probable that the commerce and manufactures of the city have not advanced in that time as rapidly as they might have done under different inspirations.

Although no one then anticipated the growth of the country beyond the Alleghanias as it has since been developed, yet everybody felt that good things were in store there, and New York, Philadelphia, Boston, and Baltimore all essayed to grasp them. Railroads were not then thought of. Canals were the means relied on. Already New York had her Erie canal, and there was a canal constructed in Pennsylvania which actually afforded a water communication, imperfect, it is true, but still a communication, between the East and the West. Baltimore had a hope at one time of doing the same thing in the same way, but the report of General Bernard proved that a canal in this direction was impracticable, except at an immense cost. A large portion of the trade of Baltimore with the West had been drawn to Philadelphia and New York by the public works mentioned, and now emigration was not only spoken of among the merchants, but in some cases it actually took place to the successful rival cities.

Up to this time no railroad had been constructed either in Europe or in this country for the general conveyance of passengers or produce between distant points. A few railroads had been constructed in England for local purposes, such as the conveyance of coal and other heavy articles from the mines and places of production to navigable water, but for general purposes of travel and transportation they were regarded as an untried experiment.

Messrs. Philip E. Thomas and George Brown, two public-spirited citizens of Baltimore, frequently talked over, in the fall of 1826, the loss of trade the city had sustained, and came to the conclusion that unless some early means could be devised to draw it back, it would be lost to the city forever. They also concluded that the railroad seemed most likely to attain the desired end. In February, 1827, their ideas were laid before a meeting of citizens, who grew enthusiastic over them. They immediately went to work to secure a charter, and on the 24th of April, 1827, the first railroad company in the United States was chartered, with a capital of \$1,500,000, with liberty to increase it; and the city of Baltimore and the state of Maryland were authorized to subscribe to the stock. Thus started the pioneer railroad company of America—the Baltimore and Ohio.

By this time public excitement had gone far beyond fever-heat and reached the boiling-point. Everybody wanted stock. The number of shares subscribed were to be apportioned if the limit of the capital should be exceeded, and every one set about obtaining proxies. Even before a survey was made the possession of stock in any quantity was regarded as a possession for old age, and great was the scramble to obtain it. Subscription books were opened on Tuesday, March 20, and were closed on the 31st. There were taken 41,781 shares, inclusive of the 5,000 allotted to and taken by the city of Baltimore. The amount of money subscribed therefor by this city alone was \$4,178,000, divided among 22,000 people.

Presently the surveys were so far completed that the choice of a route might be made. At this time the wise men of the city council came to the aid of the company's engineering talent, and refused to pay a dollar of their subscription of \$50,000 unless the road was at an elevation of 66 feet above tide; and the railroad company—which would otherwise in all probability have brought the work in to the city line, which, after a lapse of forty years; it completed from the deep cut to Ostend street—was forced to come to Pratt street at its junction with Amity alley, where Mount Clare station now covers acres of grounds with its shops and engine-houses.

As soon as the grading was completed for a mile west of Mount Clare the iron strap then called a rail was laid down and a car was built, not unlike a country market wagon without a top, and mounted upon wheels whose flanges were on the outside. After the directors were served, the public were permitted to enjoy the luxury of riding back and forth in the car for 12½ cents for the round trip. And this was the first money ever earned on a railroad constructed for general purposes in America.

In the beginning no one dreamed of steam upon the road: horses were to do all the work; and even after the line was completed to Frederick, December 1, 1831, relays of horses pulled the cars from place to place. When steam made its appearance on the Liverpool and Manchester railroad it attracted great attention here. But there was this difficulty about introducing an English engine on a American road. An English road was virtually a straight road; an American road had curves sometimes of as small a radius as 200 feet. For a brief season it was believed that this feature of the early American roads would prevent the use of locomotive engines. But Mr. Peter Cooper, of New York, was satisfied that this difficulty might be overcome, and to vindicate his belief he came to Baltimore, which then had the only road on which he could experiment. Here he made the first locomotive for railroad purposes ever built in America. The trial trip was made on the 28th of August, 1830, and though a race with a stage-coach on the return trip was won by the latter, owing to a pulley-band slipping off a drum, nevertheless the real victory was with Mr. Cooper, for he had demonstrated that his engine could pass curves without difficulty at a speed of 15 miles an hour, and could ascend grades with comparative ease.

To Mr. Ross Winans, of Baltimore, were due other inventions almost equal in importance to that of Peter Cooper. The friction wheel, "the outside bearing", and the 8-wheeled car were among the results of his genius.

A rival project to the Baltimore and Ohio railroad was the Chesapeake and Ohio canal. Congress had been induced to vote \$1,000,000 for a canal from Georgetown to Pittsburgh; and Virginia and Maryland, as well as the cities of Washington and Alexandria, having subscribed \$1,250,000 more, the work was put under way in 1828, being begun on the same day on which the railroad was, and with similar ceremonies, President Adams himself first breaking the ground. This company fought the progress of the railroad as well as it could, delaying its completion considerably by means of litigation. The railroad was finished to Point of Rocks, April, 1832; to Harper's Ferry, December, 1834; to Washington, August, 1834. In March, 1836, the city subscribed \$3,000,000 more to the capital stock of the road in the name of the mayor and city council of Baltimore. The line was finished to Wheeling in in January, 1853. At this time the Baltimore and Ohio railroad was the longest in the world.

Subscriptions for the Baltimore and Susquehanna railroad were opened in March, 1828. Much more than the requisite number of shares were taken in the city, besides a few shares at York, although the legislature of Pennsylvania had refused to aid or countenance the undertaking by continuance of the contemplated road within that state. The 8th of August, 1829, the hundredth anniversary of the passage of the act by the assembly creating Baltimore town, was chosen as a most suitable date for laying the corner-stone of this great work. The ceremonies on that occasion were fully as imposing as those when the Baltimore and Ohio was begun. This railroad was opened for public travel on the 4th of July, 1831, the rails, on one track, being laid for more than 6 miles through the valley of Jones' falls.

For several years previous to 1826 a number of intelligent and zealous citizens of Baltimore, feeling great solicitude for the education of the rising generation, determined to make provision for establishing a system of public instruction. Giving all their energies and feelings to the cause, they established in its behalf an influence that procured the passage of a law by the legislature of the state, in February, 1826, authorizing the city of Baltimore to establish a system of public schools. In 1827 the city council took some favorable action in the matter, but no schools were put in operation until 1829, when 4 schools were opened. In 1838 and 1839 many modifications and improvements were made in the school system; between 1840 and 1843, 5 schools were added, and in subsequent years the system was much enlarged.

In 1832 Baltimore, in common with other cities of the Union, was visited by the cholera. The mayor and the officers of health made all preparations for it which the nature of the circumstances and the means placed in their hands would permit. However, it raged during the summer season, and during the month of September the number of deaths which it caused was appalling. At the almshouse its ravages were terrible. On the breaking out of the disease the inmates were about 500; of these, 125 perished.

The history of the Bank of Maryland is that of one of the most stupendous and general frauds ever committed. On the 24th of March, 1834, its directors declared its inability to prosecute its business longer, an announcement that fell with a heavy shock on the community. A local financial crisis ensued. Fuel was added to the flames by the bankruptcy of the Susquehanna Bank, the Maryland Savings Institution, and the United States Insurance Company. In all, the people were plundered of more than \$2,000,000, perhaps \$3,000,000. This bore especially hard on the industrious poor.

The long delay which occurred in obtaining a precise statement of the officers of the Bank of Maryland, and the fierce controversy which was carried on over the causes of the failure, brought on a riot in August, 1835, which continued for several days, causing a great destruction of private and public property and involving a suspension of all authority. The rioters were finally put down by the general uprising of the law-and-order classes.

The state indemnified the sufferers by these riots; the awards of damages made by the commissioners appointed amounted to \$102,552 82.

Nothing more in the shape of a riot occurred till August 18, 1839, when a great excitement was caused by the escape of a nun from the Carmelite nunnery on Aisquith street. The prompt action of the mayor in calling out the regiment of city guards probably saved the nunnery from destruction.

On the occasion of the Presidential election of 1840 excitement ran very high. On the evening of the 3d of November, the day after the election, a serious riot took place in the neighborhood of the *Patriot* office, by which a number of respectable citizens were severely injured. It was, however, of short duration.

Baltimore was not again conspicuous for rioting till the fall of 1847, when a series of disgraceful conflicts between the rival fire-companies took place.

In October, 1848, two more riots occurred, one the result of a local election, the other a firemen's riot.

August 18, 1855, the firemen had another disgraceful *mêlée*, in which two men were mortally wounded and a great number severely hurt.

In the next year the city was again the scene of ruffianly riots; and in both the city and the Presidential election of 1856, contests, amounting almost to battles, were fought between contending factions.

May 2, 1857, the military was called out to suppress rioting among the strikers along the eastern end of the Baltimore and Ohio railroad.

Wholesale intimidation characterized the municipal election in October, 1858, although no serious affrays occurred.

The best people in the city now began to realize what a reputation Baltimore was making for herself. They became convinced that some movement was necessary to secure the peace and restore the good name of the city. Accordingly they united to form a "reform association". This was the first organization of what was formerly known as the "Reform" party.

Of all the riots that have occurred in Baltimore, the most famous as well as the most significant was that of the 19th of April, 1861, when a mob attacked the Massachusetts troops passing through the city. On this and on the events of the civil war as affecting Baltimore, it is not necessary to dwell.

On the 13th of May, 1861, the United States forces marched by night to the city and took possession of Federal hall, no one offering the slightest resistance. On the 27th of June, by order of General Banks, Colonel John H. Kenly suspended the board of police, and assumed command of the police force of the city. The troops which had been quartered in the heart of the city were withdrawn on the 11th of July. But the United States government, being resolved on permanently holding Baltimore during the war, made extensive additions to its fortifications from time to time, a number of forts being built in and about it. The city was, however, never attacked either by land or by sea.

In the course of this sketch no mention has been made of the floods, fires, and other calamities of a similar nature with which Baltimore has been afflicted. They may well be grouped together at this point. Naturally the narrative must be more or less in the nature of a catalogue.

The first great flood seems to have occurred October 5, 1786, when the damage in the city and within a radius of 25 miles was estimated at £100,000. Several lives were lost.

The first fire of any consequence took place December 4, 1796, when six buildings were burned, among them the Baltimore academy and the Methodist meeting-house.

On the 9th of August, 1817, Jones' falls, which is a stream about 14 miles long with a very rapid descent, and which flows through Baltimore, was swollen by rain to a great height. Two bridges were carried away; they formed with other *débris* a dam against a third, and caused the water to overflow the surrounding territory. Other bridges gave way, and a second dam was formed. The damage was very great.

The flood of July 14, 1837, was by far the most extensive calamity with which Baltimore had been afflicted up to that time. It was caused by heavy showers of rain filling the bed of Jones' falls to overflowing. About twenty lives were lost, many bridges and dams were carried away, and the damage to property was very great.

On the 15th of April, 1842, a beautiful steamboat called the "Medora", belonging to the Baltimore Steam Packet Company, started on a trial excursion down the bay. The wheel had made only two revolutions when the boiler exploded with terrible force. Of the 82 people on board 27 were killed and 40 wounded.

July 13, 1852, three bridges over Harford's run, in the northeastern section of the city, were carried away by a flood, six new houses were undermined and fell to the ground, and many other houses were damaged.

One of the most terrible railroad accidents that ever occurred in this country took place on the afternoon of the 4th of July, 1854, by which over 30 persons were killed and nearly 100 were wounded. Two trains returning over the Baltimore and Susquehanna railroad from probably the largest celebration ever held in the neighborhood of Baltimore collided, with the fatal result above indicated.

A fire on the evening of the 14th of April, 1857, destroyed 7 or 8 large stores; 13 men were killed by the falling of a floor.

The city was visited on the afternoon of June 12, 1858, by a flood almost equal to that of 1837. The amount of property destroyed could not be estimated; one bridge was carried away.

July 16, 1868, was an exceedingly warm day in Baltimore, the thermometer ranging from 97 to 101 degrees in the shade, and 30 cases of sunstroke were reported, 21 of which proved fatal.

On the 24th of the same month a flood destroyed even more property than did the famous one of 1837. Had the rise occurred at night the loss of life could not but have been very great. Of the bridges over the falls 8 were swept away, and the 3 in the center of the city were all badly damaged.

On July 25, 1873, occurred the most extensive conflagration ever known in Baltimore. It threatened at one time to rival the previous disasters of Chicago and Boston. One hundred and thirteen buildings were destroyed, including 2 churches, 2 mills, 1 silk factory, and 3 school-houses. The loss amounted to about \$750,000, and the insurance was about one-third that amount.

## BALTIMORE IN 1880.

### LOCATION.

Baltimore, the chief city of Maryland, lies in latitude 39° 17' north, longitude 76° 37' west from Greenwich, at the head of tide-water and navigation on the Patapsco river, about 14 miles from the Chesapeake bay, and 200 miles from the Atlantic ocean by ship-channel. The Patapsco to this point is a broad estuary; above, it is a small stream with a sufficient fall to furnish water-power to many mills and manufactories. The area of the city comprises 12½ square miles of land and 2 of water. The site was originally very hilly, and, notwithstanding all the grading rendered necessary by improvements, much of the original inequality still exists. The elevations are from sea-level to 250 feet above; a point in Druid Hill park, just outside the corporate limits, rising 360 feet above the level of the sea. The surrounding country is of a character similar to that on which the city is built, and is intersected by many swift streams that afford ample facilities for surface-drainage.

The entrance to the harbor, between fort McHenry and Lazaretto Light-house point, is narrow, but inside the river widens out, while one arm of the Patapsco river stretches far into the business center and forms an inner harbor known as the "basin", used by passenger steamboats and coastwise and bay craft in large numbers. The channels leading to the harbor are kept at a depth of 25 feet, and from 200 to 300 feet wide. The deep water of the harbor, where the larger foreign and other vessels lie, is at Fell's point and Canton on the north side, and Locust point on the south side, above fort McHenry. The large manufactories and canning establishments are situated at Canton, while Locust point is the terminal tide-water outlet for the Baltimore and Ohio railroad, the large elevators and ocean-steamship piers being located here. Situated at the head-waters of the Chesapeake, and nearer to the navigable waters of the West than any other of the Atlantic cities, the advantages of Baltimore in this respect have long been understood; and now that the channel of the Patapsco has been so much improved that vessels of the same draught of water as those that visit New York can be brought alongside the elevators of the city, it is easily seen why it is that Baltimore is second only to New York in the exportation of grain to Europe.

### RAILROAD COMMUNICATIONS.

The following railroad lines afford to Baltimore ample railroad communication with the country at large:

The Baltimore and Ohio railroad, one of the great trunk-lines, connects the city with Wheeling, Pittsburgh, Cincinnati, Chicago, and Saint Louis, and has also a line to Washington and Richmond.

The Northern Central railway, from Baltimore to Canandaigua, New York, and from there, by connections, to the ports on the great lakes.

The Baltimore and Potomac railroad, operated by the Pennsylvania railroad, to Washington, and from there to Quantico and Richmond.

The Philadelphia, Wilmington, and Baltimore railroad, between the points named, forms a link of the through line between Washington and New York.

The Western Maryland railroad to Frederick and Hagerstown, Maryland, and Martinsburg, Virginia, terminating at Williamsport on the Potomac.

By the expenditure of nearly \$5,000,000, a system of underground communication has been constructed, by which all the above-named roads (except the Baltimore and Ohio, which has Locust point) are connected and brought to tide-water at Canton. The Baltimore and Potomac tunnel is, with the exception of the Hoosac tunnel, the largest on this side of the Atlantic. The western entrance is at Gilmor street, and the tunnel extends through the city in a northwesterly direction, passing under the bed of 29 streets, until it emerges at North avenue, the

northern boundary of the city. The arch is built of five rings of brick, backed up with rubble masonry, and is 22 feet in height by 27 feet in width. The Union tunnel extends from Greenmount avenue on the west, under 13 streets, is built of brick, and is of the same interior dimensions as the Potomac tunnel. The aggregate length of these two tunnels is 10,379 feet.

#### TRIBUTARY COUNTRY.

It may be said that this is best described by referring to the termini of the roads branching in all directions from the city. In a more restricted sense, it may be confined to a circle whose radius is some 10 or 12 miles, embracing Ellicott City, Cockeysville, Towson, etc. To the northwest and north and northeast the country is extremely beautiful, thickly populated, and, where land is very valuable, commanding high prices, and where not occupied by villa residences and market gardens, highly cultivated as farm land. Less is to be said of the country lying to the southeast and southwest. To the southeast the Patapsco flows into the broad estuary of the Chesapeake. But in all directions, save to the south, the country tributary to Baltimore can not be better described than in the words used by Captain John Smith in 1606:

The country is not mountainous, nor yet low, but with pleasant hills and fertile valleys, one prettily crossing another, and watered so conveniently with fresh brooks and springs no less commodious and delightful.

A distinguishing characteristic is the torrent-like nature of the streams which are to be found in this part of Maryland. The Patapsco itself is almost a mountain stream until it reaches tide, 7 miles from Baltimore. The well-known Jones' falls deserves its descriptive name. Gwynn's falls is another stream falling into the Patapsco near the city limits; and the name of Gunpowder falls is equally descriptive.

On all these streams there were formerly numerous mills and furnaces. A great many of them are still in operation, although in some instances the diminishing supply of water as the country is cleared of timber has made the use of steam necessary as an auxiliary.

Within the radius of 10 or 12 miles there have been found, from the earliest settlement of the country, inexhaustible supplies of iron ore of the purest quality, which even now supply iron-works in Baltimore. In going through the iron-ore districts east and west of Baltimore, are to be found the remains of furnaces built before the Revolution, and the spoil-banks of mines from which the ore that supplied them was excavated. This was at a time when the laws of England prohibited the refining of iron in the province, and required the pig-iron to be sent to the old country for the purpose. Indeed, so important was the iron product of this vicinage regarded, that there is an old law which permitted a party willing to build a furnace to obtain a writ of *ad quod damnum*, and to take the land he required at the valuation of a jury, without the owner's consent.

Nor is iron the only metal produced from the mines in the neighborhood. The copper mines of the Barehills, only 6 miles from the city, have long been known and worked; and the bichromate of potash is the product of the deposits of the chrome ore not much farther off.

#### CLIMATE.

From tables prepared by the Smithsonian Institution, and covering observations extending over a period of 36 years, the years of extreme heat were 1819, 1820, 1850, 1851, when the temperature was 98°, and the year of extreme cold was 1852, the mercury falling to -9°. The mean annual temperature during this period is given at 53.46°. From the same authority it is seen that the mean amount of precipitation in rain and melted snow is 42.87 inches per annum.

The variation of the compass at Baltimore since the year 1700 has been as follows:

Year.	Variation.	Year.	Variation.	Year.	Variation.
1700....	+5.4	1770....	1.46	1830....	1.23
1710....	5.0	1780....	1.04	1840....	1.70
1720....	4.5	1790....	+0.76	1850....	2.27
1730....	3.9	1800....	+0.64	1860....	2.90
1740....	3.2	1810....	0.68	1870....	3.55
1750....	2.8	1820....	0.88	1880....	+4.17
1760....	2.6				

#### STREETS.

The total length of streets is 290 miles. The following, regarding the streets of Baltimore, is taken from the annual message of the mayor for the year 1880:

Baltimore has long suffered from bad pavements; the antiquated and elsewhere almost obsolete cobble-stones are here a characteristic of our reverence for the relics of the past. The principal reason for laying cobble-stones in a new street is the indisposition of the adjacent property-owners, who are assessed for its paving, to incur the expense of an improved pavement. For the public good this policy should be changed, and I therefore recommend the passage of an ordinance requiring all new streets, when opened, to be paved with Belgian blocks or some other kind of improved pavement. \* \* \* While the first cost of the Belgian blocks is larger, it will be found that its

durability renders it more economical. Since 1874, 5,405,349 square feet of cobble-stones have been laid, and 86,628 square yards of Belgian blocks. Any kind of cobble-stone pavement is bad enough, but the system of laying it in Baltimore produces the very poorest of its kind. Most of it requires repairing within two years after it is laid. The fact that the adjacent property-holder pays his portion of the work, requires it to be contracted for to the lowest bidder, and in most cases the price paid is not sufficient to give good material or creditable work. If it was done by the city itself, or given out at fair prices, the cobble-stone pavement would be better, and therefore more economical.

The amount appropriated for repaving during the past year was \$72,500. This was expended judiciously and economically in repairing, as far as practicable, the old cobble-stones and resetting or removing the old curbstones. The work was done by the city better and cheaper than when alone under contract, the amount for repairing during the year being equal to 2,709,605 square feet of paving and 27,640 linear feet of curbing, requiring 24,300 loads of sand and 5,930 perches of new stone. The difficulty about repairing the old pavements is the fact that many of the cobble-stones are completely worn out. I therefore suggest that in making the appropriations for repairs, authority be given to make them with Belgian blocks, by repaving with these blocks the center of the streets where travel is heaviest.

From the annual report of the city commissioners it appears that the total amount of paving done in the city, up to December 31, 1880, was 36,470,958 superficial feet.

#### HORSE-RAILROADS.

There are at this time four passenger railways using horse-power in the city:

The City Passenger railway, which unites the northern with the southern as well as the eastern with the western parts of the city, with collateral branches.

The Citizens' Passenger railway, which also connects the eastern and western sections of Baltimore.

The People's line, which connects the part of the city on Locust point with the western section.

The North Baltimore Passenger Railway line, which extends from the center of the city to its northwest portion, besides lines to Towsontown, Waverly, Catonsville, and suburban villages.

Other railways of this description, permeating the city in all directions, are projected, and are about being constructed under authority obtained already from the mayor and city council.

#### WATER-WORKS.

The water-supply of the city is governed by a board of six commissioners appointed biennially, who, with the mayor, receive no compensation. They have power to appoint and fix the compensation of a water engineer, a civil engineer, a water registrar, clerks, and collectors. The supply is derived from Jones' falls and the Gunpowder falls, the work connected with the latter being now (1880) on the eve of completion. The minimum supply from the former is 15,000,000 gallons per day, and from the latter 165,000,000, the two affording an aggregate daily supply of 190,000,000 gallons. The Gunpowder tunnel is capable of passing 170,000,000 gallons per diem. That of New York is limited to 100,000,000.

There are four reservoirs connected with Jones' falls supply, of 8½, 5, 53, and 4½ acres, respectively, storing in the aggregate 535,000,000 gallons; and two reservoirs connected with the Gunpowder supply, of 60 and 30 acres, respectively, with an aggregate storage of 765,000,000 gallons, making the entire storage supply 1,300,000,000 gallons.

The board is styled "the water-board of the city of Baltimore". The supply from the Gunpowder involved the construction of a tunnel 7 miles in length and 12 feet in diameter, the greater part of which is through rock, and the excellence of all the works appertaining to which have already become noted in the engineering world. It is the third largest tunnel in the world, being surpassed only by the Mont Cenis and the Saint Gothard tunnels.

The receipts for water-rents during the past year were \$579,326 36, and the working expenses during the same period were \$87,419 13. There are 278 miles of mains in the city, with 48,669 water-takers. There are 524 meters in use, and the registered consumption of water by them during 1880 was 629,680,175 gallons, the revenue from which amounted to \$72,483 52. The charge for metered water has been 15 and 12 cents per 1,000 gallons, and this has been reduced to 8 cents per 1,000 gallons for the coming year (1880). The average consumption of water in the city is estimated at 45 gallons per day to each head of the population.

#### GAS.

The city is supplied with gas by three private corporations, but no statistics regarding them were furnished. The number of street-lamps in the city, exclusive of those in parks and squares, is 5,032 gas and 1,115 gasoline. The city pays \$1 85 per 1,000 feet of gas used.

#### PUBLIC BUILDINGS.

Though there are many municipal buildings in Baltimore, as well as considerable property owned by the city and rented, no detailed account of them could be obtained. Among the principal public buildings may be mentioned the following:

The city hall, finished about four years ago, is built of white marble, and covers a block of land in the central part of the city. The area of the block within the building line is 35,000 square feet, and the total cost of the

structure, including grounds and furniture, was \$2,271,135, leaving an unexpended balance of \$228,865 out of the \$2,500,000 that was appropriated for the purpose. The building is 4 stories high, French roof, with iron dome reaching 260 feet above the pavement, and is used wholly for municipal purposes, all the departments of the city government being gathered here.

In addition to the above may be mentioned the Bay View asylum, a large brick building outside the corporate limits, with accommodations for 650 paupers; the house of refuge; the Spring Grove asylum, a state institution for the insane; the Maryland institute for the blind, and the United States custom-house. The Peabody institute, donated to the city by the late George Peabody, esq., who gave \$1,000,000 for the purpose, is handsomely located near Washington monument, and is built of white marble. It has a free library of over 60,000 volumes, an art gallery, a musical conservatory, lecture-room, etc. The Johns Hopkins university, endowed by the late Johns Hopkins, esq., by a gift of over \$3,000,000, can justly be classed with the public buildings of the city, and the Johns Hopkins hospital and the Johns Hopkins colored orphan asylum, also founded by the same gentleman, are handsome structures.

#### MONUMENTS.

Baltimore has earned her title of the "Monumental city" chiefly from the beautiful doric column to the "Father of his Country", which was erected between the years 1815 and 1830. The monument, which is called Washington monument, formerly stood alone in the midst of a handsome forest, but now it is in the center of the fashionable quarters of the city. It is of white marble, surmounted by a statue of Washington 16 feet high, the whole being 212 feet above the pavement and 280 feet above tide-water. A spiral staircase winds up inside the column, and visitors are allowed to ascend on the payment of a nominal sum. From the four sides of the square base of the monument grass plots radiate north, south, east, and west, and as there are many fine dwellings in the vicinity the architectural effect of the surroundings is striking.

Battle monument, erected by the city to the memory of her citizens who fell in the defense of Baltimore during the war with Great Britain, is near the center of the city, on Calvert street, not far from Baltimore street. The structure is 52 feet high, and is designed to be allegorical. The shaft surmounting the monumental base is in the form of fasces, to represent strength and union. Lachrymal urns indicate the purpose of the monument, and the names of those who lost their lives are inscribed on the entablature. The whole is crowned by a female figure representing the city of Baltimore, having a wreath of laurel in one hand uplifted.

Wells and McComas monument, on Ashland square, formed by the intersection of Monument, Aisquith, and Gay streets, is a simple marble obelisk on a square die-block and pedestal, the whole being about 30 feet high. It was erected as a tribute to the memory of two youths, Wells and McComas, who fell during the repulse of the British in the land attack at North Point, September 14, 1814. These two young men are said to have killed the English general, Ross, who led the attack.

Willey monument, or the "Odd Fellows' memorial", was erected by the Odd Fellows to Thomas Willey, a native of England, who is regarded as the founder of that order in the United States. It is a Grecian Doric column rising from a pedestal, the whole being 52 feet high, and is situated on Broadway, in the eastern part of the city.

The Poe monument, erected by the public schools of Baltimore to Edgar Allan Poe, is simply a pedestal or die-block, with an ornamental cap wholly of marble, resting on two marble slabs and a granite base. A medallion portrait of the poet is chiseled on the front of the die-block.

#### PUBLIC PARKS AND PLEASURE-GROUNDS.

The parks of Baltimore consist of *Druid Hill Park*, containing 693 acres; *Patterson Park*, of 56 acres; *Riverside Park*, 17½ acres; *Federal Hill Park*, 8½ acres; and other smaller areas called squares, which are in charge of unpaid commissioners appointed from persons residing in the respective neighborhoods.

The first four parks are in charge of a board of four persons, also unpaid, of which the mayor is *ex officio* chairman. They hold their offices during good behavior, with power to fill vacancies occurring in their body, subject to the approval of the city councils. Their style is "The public park commissioners of the city of Baltimore".

The parks are supported by a tax of 12 per cent. on the gross earnings of the city passenger railways, from which there is deducted the interest on the bonds issued for the purchase of Druid Hill and Patterson parks. One-fifth of what remains is then invested as a sinking-fund to redeem the bonds at maturity, and the balance is expended by the park commissioners in the maintenance and improvements of the parks. They appoint an engineer and general superintendent, superintendents of the particular parks, a naturalist, a gardener, and generally the laboring force required. Riverside and Federal Hill parks are maintained by special appropriations from time to time, as necessary.

All of the above parks, as well as the public squares, are noted for their quiet beauty.

Druid Hill park, about 2½ miles from the center of the city, is a park in every sense of the word, having herds of deer ranging in thick green woods, and flocks of sheep feeding on the grassy hillsides. Art is not needed for embellishment, and the few structures required are generally well placed, and harmonize with the natural surroundings. The main approach from Madison avenue is a broad way, through a stone gateway, the carriage

roads winding all over the park, and being 20 miles in length. Fine views are obtained at different points, not only over the city and the harbor beyond, but also over the surrounding country. One of the attractions in the park is a fountain in Druid lake (owned by the water-works) that sends a jet of water 100 feet into the air from a 5-inch nozzle. Park carriages are always in waiting at the Madison Avenue entrance, and visitors can be taken to any point they may desire at moderate charges. The park was originally 475 acres, and cost in 1858 \$1,000 per acre.

Patterson park, in the eastern section of the city, is a great popular resort, owing to the fine view it affords of the river, harbor, and bay. Strictly speaking, the ground is not a park, there being but a few small trees, principally catalpas, that afford but little shade. Judicious gardening and engineering have given to the spot distinctive characteristics, and the work of improvement is steadily going on.

#### PLACES OF AMUSEMENT.

Baltimore is fairly well furnished with places of amusement, the principal theaters being as follows: The Academy of Music, on North Howard street near Franklin street, with a seating capacity of 2,000.

Ford's Grand opera-house, on Fayette street near Eutaw street, seating 2,000.

Holliday Street theater, opposite the city hall, seating 1,500.

Front Street theater, on Front street near Gay street.

Concordia opera-house, on South Eutaw street near Baltimore street.

The Central theater, on Baltimore street near the bridge.

There are also many halls, art galleries, museums, etc., in various parts of the city, but no detailed information regarding them was furnished.

#### DRAINAGE.

So far as the question of drainage is concerned, Baltimore is mainly still in the condition of a small country town with paved streets.

Owing to the considerable and very general undulation of its surface, superficial drainage is easy, and, except in very dry seasons, tolerably efficient in removing the filth of the gutters. As the paved and covered area has extended, the accumulation of surface-water at various points has become so troublesome as to require the construction of a few main outlet sewers leading to the harbor, or to Jones' falls, which is the natural drainage outlet for most of the city. These sewers aggregate a length of 11½ miles. They have in all cases been built with an exclusive view to the removal of storm-water. In very many of the streets, where the flow of storm-water is considerable during heavy rains, high stepping-stones have long been in use, to enable foot-passengers to cross the flood from one side of the street to the other, these stones being so placed that the wheels of vehicles pass between them.

Practically, all excremental matter is delivered into cesspools and privy-vaults, of which it is estimated that about 80,000 are in use. Laundry waste, kitchen waste, and all foul liquids except urine are delivered across or under the sidewalk into the gutters at the sides of the streets, finding their way in the open air to the natural outlets or to recently constructed sewers leading to these.

In his report for 1880, Dr. McShane, assistant commissioner of health and general superintendent of streets, says:

Baltimore has no regular system of sewers, the present sewers of the city being constructed simply for the removal of storm-water. The outlet for the whole system is the river-front, which is in the direction of the prevailing winds; the outlets are usually partly submerged, consequently they are not self-cleansing, and are frequently obstructed, causing deposits which this department is compelled to remove. The sewers are imperfectly ventilated, and most of the ventilation is through the inlets and interiors of houses connected therewith. The sewers, with few exceptions, as at present ventilated, afford encouragement to the development of preventable diseases, and so long as they remain improperly trapped and ventilated a prejudice will exist against their construction, and will produce serious annoyance and detriment to health.

The Hon. F. C. Latrobe, mayor of the city, in his report for the same year says:

The city of Baltimore requires a system of sewerage. The continuance of the plan of digging the cesspools now honeycombing the surface of the ground upon which the city is built—there being on an average about one to each of its eighty thousand houses—must be discontinued if the health of the community is to be considered. To substitute a general system of sewerage is merely a question of time and expense. The modern plan of sewerage now being adopted in Memphis, New Orleans, and elsewhere is that of using comparatively small pipes, not intended to carry off the storm-water, which in a great measure is left to flow over the surface of the streets. This, in my judgment, is what we require here. The cost will be large, and, should the city undertake the work, it can only be done by an enabling act of the legislature authorizing the creation of a loan for the purpose.

This suggestion of the mayor was adopted by the city council, and Charles H. Latrobe, esq., C. E., has been employed to investigate the whole subject, giving special consideration to the relative merits of different systems of sewerage, and instructed to prepare a plan for the complete sewerage of the city.

#### CEMETERIES.

It is to be regretted that a full report of the cemeteries of Baltimore can not be given here, but very little statistical information has been received on the subject, and therefore a bare enumeration of the principal ones only is available.

*Greenmount Cemetery*, on the York road, is the principal cemetery connected with the city, and in all parts of the ground may be seen the names of the noted dead of Baltimore. One of its distinguishing characteristics is a beautiful mound, from which it takes its name, that is crowned with an ornamental brownstone Gothic chapel. A fine diversity of hill and dale, valley and grove, affords a good basis for ornamentation, which has been utilized to the utmost.

*Baltimore Cemetery*, on an elevated situation at the northern boundary of the city, is reached by the Gay Street cars.

*Mount Olivet Cemetery*, situated 2 miles west of the city on the Frederick road, commands a fine view of the city and bay.

*Western Cemetery*,  $1\frac{1}{2}$  mile west of the city, on the banks of Gwynn's falls, is reached by way of West Baltimore street extended.

*Loudon Park Cemetery*, situated 3 miles from Baltimore, on the Catonsville road, is well wooded and handsomely laid out in drives, walks, etc. Here are interred the remains of the confederate soldiers, belonging to the city, who fell on distant battle-fields; while the remains of over 1,600 Union soldiers rest in another part of the same cemetery.

*The New Catholic Cemetery* (Bonny Brae), situated on the old Frederick road, is beautifully laid out.

#### MARKETS.

In the annual report of the inspector of buildings for the year 1880 the following public markets are mentioned: Broadway market, on Broadway, between Lancaster street and Canton avenue.

Center market, from Baltimore to Pratt street, near Jones' falls.

Belair market, at the intersection of North Gay and Forest streets.

Lexington market, corner of Eutaw and Lexington streets.

Richmond market, at the junction of Eutaw and Richmond streets.

Hanover, Cross Street, and Hollins markets.

No statistics regarding these markets were furnished, but the register of the city shows that, during 1880, \$45,000 was received from the market-rents.

#### SANITARY AUTHORITY—HEALTH DEPARTMENT.

"The health department of the city and port of Baltimore" is the full title of the chief sanitary organization of the city. It consists of a commissioner of health and registrar, and an assistant commissioner of health. In its employ are a resident physician at the Marine hospital, a secretary, a nuisance clerk, a permit clerk, and a clerk to the registrar; also a messenger, 6 sanitary inspectors, 5 superintendents of streets, 2 inspectors of sewers, and 2 superintendents of city public cemeteries. Ten vaccine physicians (one of whom is assigned for each two wards in the city) are appointed for the purpose of affording free (and compulsory) vaccination. The commissioner of health and assistant, both being physicians, are appointed annually by the mayor and confirmed by the city council, as are also the 5 superintendents of streets and the 10 vaccine physicians. All the rest of the force is appointed by the commissioner of health.

The scope of the department's work is large, embracing the removal of garbage, the cleaning of streets and sewers, the maintenance of the Marine hospital, etc. Its expenses for 1880 were, in total, \$246,347 28. In case of an epidemic the city government is asked for an extra appropriation. In the absence of epidemics the board has authority to abate all nuisances, by order or by legal process, or, failing in this, at its own expense; and also has entire control of the street and garbage force and of the vaccine physicians, and indirect control over the quarantine department. During epidemics their power is practically unlimited.

The commissioner of health receives a salary of \$2,500 per year. He has control of the department and is responsible for the sanitation of the city. He and his assistant are daily in attendance from 10 a. m. to 2 p. m. for the hearing of all matters complained of or reported by the sanitary inspectors, deciding vexed questions, looking after the registration department, etc. The employes of the department have not police powers.

Inspections of the city are made regularly, and as nuisances are reported. In the latter case an immediate inspection is made and reported, followed, if the report proves true, by a notice to the parties concerned to abate the same when necessary. This is followed by a later report of their abatement; or, otherwise, the parties are summoned before a city magistrate for the purpose of having them fined. In the case of defective public pumps, these are condemned and their use is discontinued; but the city water is not under the department's control. The department inspects, and corrects as in other matters, defective house-drainage, privy-vaults, cesspools, street-cleaning, etc. Defective sewerage is reached and corrected only so far as the removal of filth and deposits of sewers is concerned; the repair of sewers is under the control of the city commissioner's department. As above indicated, the department assumes the removal of the entire garbage of the city.

Small-pox patients are given the option of going to the pest hospital, distant 4 miles on the other side of the Patapsco river from the city, or, if they do not, of having a yellow warning-flag placed upon the house. Scarlet-fever patients are not isolated in any way.

An accurate register of births and deaths is kept by the commissioner of health, through the secretary. Physicians, or attendants, or coroners are required to furnish to the undertaker within forty-eight hours a full statement of the cause of death. No sexton may allow a dead body to be interred without first procuring such certificate, or, if from any cause this can not be procured, a certificate of death from the commissioner of health.

Every sexton or other person having charge of any vault, burying-ground, or cemetery within the city of Baltimore, and every undertaker or other person who shall remove any dead body, which had not been buried, from or out of the said city, shall return the certificate of death to the board of health before 12 o'clock m. on the Saturday next succeeding the date of burial or removal of the body out of the city.

For the proper registration of births, every person practicing midwifery shall keep a register of all births, with their details, occurring under their care. These are to be returned monthly on a blank schedule furnished for the purpose to the commissioner of health, between the first and third days of the month. Failure to report is punishable by a fine of \$10. From the returns of deaths and the causes thereof a weekly mortuary report is made up and published in leaflet form by the department. To this is added a table of meteorological observations taken during the same week at the United States signal office. In the annual report of the health department to the mayor and city council these weekly mortuary tables are consolidated into a yearly table. The commissioner of health, James A. Steuart, M. D., in his annual report for 1880 says:

It is with no small pride that I call the attention of your honorable body to the department of vital statistics which was inaugurated in the year 1875, and is now brought to the highest perfection under the laborious and faithful conduct of Mr. A. R. Carter, secretary of the board of health, and of Mr. F. W. Raborg, recording clerk. The promptness and accuracy with which the weekly mortuary records are made up is, I may justly say, in advance of any other of the sixty odd cities with which we now correspond.

The returns of births by physicians and midwives have, during the past year, greatly improved, as shown by the increased number reported under that head in this report. The undoubtedly increasing population of Baltimore is thus demonstrable, and is a source of profound gratification to the board, as I am sure it must be to the public.

The vaccine physicians have done a fair amount of work during the year, and deserve especial praise for the energy displayed during the excitement of last spring. With the exception of the 14 or 15 cases which occurred at that period, our city has been free from small-pox for a number of years. Exemption from this disease can only be insured by attention to vaccination.

In addition to its regular annual reports, the department reports informally from time to time to the mayor and city council.

#### MUNICIPAL CLEANSING.

*Street-cleaning, and removal of ashes and garbage.*—This work is performed under the direction of the assistant health commissioner, who is the general superintendent of streets. The streets are cleaned by the regular force, hired for the purpose, and the work is done wholly by hand, no sweeping-machines being used. There is no stated time for the cleaning, the work going on constantly, the object being to keep the streets in good condition. The city is divided into districts, and a superintendent is appointed in each, who is under the direction of the general superintendent, and is required to keep his district clean. The men go through all the streets and alleys of the city scraping and sweeping the dirt into piles, when it is removed by teams. Garbage—which means kitchen-offal—and coal and other ashes, are removed daily (Sundays excepted) from May 1 to November 1, and three times a week, on alternate days, during the remainder of the year. Household-ers are required to have their garbage placed in vessels not exceeding in capacity one bushel each (kitchen-offal and ashes not being allowed in the same vessel), and to be placed near their premises, or in some convenient place of access. The garbage-carts have a capacity of at least 40 cubic feet, are strongly built, and, when loaded, are required to be covered. The driver of each cart carries a horn, which is sounded at intervals as a warning to household-ers to have their garbage ready. The final disposal of both street-sweepings and garbage is the same, viz, such of it as is salable is sold (this includes all the offal, etc.), while the remainder is used in filling low lots to grade. The following, from the report of the general superintendent of streets, will show the number of loads removed, cost of the service, etc., during the year 1880:

Number of loads of garbage and ashes removed .....	145,485
Number of loads of street-dirt, ice, sand, snow, etc., removed .....	162,092
<b>Total number of loads of all kinds removed .....</b>	<b>307,577</b>
Cost of removal of garbage and ashes .....	\$87,355 50
Cost of removal of street-dirt, etc .....	86,852 85
Cost of dumps .....	3,471 00
Cost of tools and incidentals .....	2,100 06
<b>Total cost .....</b>	<b>179,779 41</b>
Amount of annual appropriation for street and garbage department .....	178,500 00
<b>Deficiency .....</b>	<b>1,279 41</b>

Average cost per load, 58½ cents.

Dr. James F. McShane, general superintendent, further says in his report, regarding the efficiency of the service:

Every endeavor has been made to keep the city in a cleanly condition, but the annual appropriation for this purpose is insufficient; consequently the work of scavenging has not approached the standard desired. \* \* \* There is no more important service performed

by this department than the cleaning of streets and the removal of garbage and ashes. The immense amount of territory embraced within the limits of the city makes it a deficient service in consequence of the insufficient force employed, and the distance to which we are compelled to carry the refuse; yet notwithstanding these drawbacks, there is a satisfaction in knowing that during the past year the work performed has been generally commended.

*Dead animals.*—The carcass of any animal dying within the limits of the city, is reported to the police, and at once removed to the bone-dust factories by the regular scavengers. The annual cost of the service is \$3,000 for salaries and \$500 for expenses, but no account is kept of the number of dead animals removed. It is stated that the system works satisfactorily, there being only small defects.

*Liquid household wastes and human excreta.*—There being no sewers to speak of in Baltimore, as a rule all chamber-slops are deposited in cesspools or privy-vaults, while the principal portions of the laundry wastes and kitchen-slops find their way into the street-gutters. The cesspools and privy-vaults are porous, are not provided with overflows, and receive the wastes from water-closets. It is estimated that there are fully 80,000 cesspools and privy-vaults in the city, many of them being dug down to either quicksand or running water. There do not appear to be any special rules as to their construction. They are cleaned by regular scavengers, who are under bond to conduct their business in a manner that will not offend the sight or cause a smell, and before any cesspool or privy-well is opened a permit must be obtained from the board of health. These permits must be used within twenty-four hours after issue. The night-soil, which used to be carried to the city dumps or disposed of to gardeners, is now all taken by a contractor who converts it into a fertilizer. The honeycombing of the soil under the city by the numerous privy-wells and cesspools, and the disposal of much of the household wastes by surface drainage, has had its influence on the well-water in a marked degree. In 1879 William P. Tonry, Ph. D., under direction of the board of health, made an extended examination into the condition of the pump (well) and spring water in the different sections of the city. Of the 35 samples taken from different points west of Jones' falls, 23 were found to be filthy, 5 bad, 7 suspicious, and only 1 sample that could be classed as good. This section of Baltimore is supposed to be much more liberally supplied than the eastern section, with all the modern conveniences, among which may be included privy-wells sunk to water. In that portion of the city east of Jones' falls 10 samples were found to be filthy, 5 bad, 15 suspicious, and 5 good. Professor Tonry says:

The 23 worst samples from West [Baltimore] and the 10 worst samples from East Baltimore show such very large amounts of ammonia as to point unmistakably to direct and close contact with privy refuse; and it is more than probable that these wells or springs have been drawing part at least of their supply of water from some of the privy-wells that have been sunk to water. Of these 33 filthy samples, 11 from West Baltimore and 4 from East Baltimore contain more free ammonia than a mixture of distilled water and wine, one-tenth of which was wine. As for the bad and suspicious samples, the source of contamination will be found in excrementary matter which has had to pass through the earth for a greater or less distance before oozing into the well or spring.

#### CITY GOVERNMENT.

The city government is vested in a mayor, elected biennially, with a salary of \$5,000, and a city council of two branches—the first and second. The first branch consists of 1 member from each of the 20 wards into which the city is divided, elected annually, while the second branch consists of 10 members, each member representing 2 wards, elected biennially. The members of both branches receive each \$1,000 per annum. The mayor has a veto power that it requires a vote of three-fourths of each branch to overcome.

While the mayor and city council have all the usual authority of municipal corporations to raise money by taxation, a provision of the constitution of the state declares that—

No debt (except as hereinafter excepted) shall be created by the mayor and the city council of Baltimore; nor shall the credit of the mayor and city council of Baltimore be given or loaned to or in aid of any individual, association, or corporation; nor shall the mayor and city council of Baltimore have the power to involve the city of Baltimore in the construction of works of internal improvement, nor in granting any aid thereto, which shall involve the faith and credit of the city, nor make any appropriation therefor, unless such debt or credit be authorized by an act of the general assembly of Maryland and by an ordinance of the mayor and city council of Baltimore, submitted to the legal voters of the city of Baltimore at such time and place as may be fixed by said ordinance, and approved by a majority of the votes at such time and place; but the mayor and city council may temporarily borrow any amount of money to meet any deficiency in the city treasury, or to provide for any emergency arising from the necessity of maintaining the police or preserving the safety and sanitary condition of the city, and may make due and proper arrangements and agreements for the removal and extension, in whole or in part, of any and all debts and obligations created according to law before the adoption of this constitution [1860].

Except where otherwise provided by ordinance or by the legislature of the state, the mayor appoints all subordinate officers by and with the advice and consent of the two branches of the council in convention.

The collector of state and city taxes is appointed annually "as other city officers are appointed, to collect all taxes of every description, levied or assessed by the mayor and city council or by the general assembly of Maryland". He gives bond in the sum of \$75,000, and has a salary of \$2,000, in addition to which he is allowed 1 per cent. of the state taxes collected by him. He appoints a deputy at a salary of \$1,800, a cashier, and other officers required for the performance of his duties, as prescribed by the ordinance concerning the collection of taxes.

In this connection there is an appeal-tax court, consisting of three judges, who receive a salary each of \$1,800, with a clerk at a salary of \$1,600, an assessor, and other officers provided for by law. They are authorized to assess the property of all persons failing to make their own returns, and are authorized to make alterations, additions, or deductions in assessments, as they may deem proper. A part of the duty of the appeal-tax court is to grant permits for the erection of buildings within the city limits without charge.

There is a register, who is elected biennially by the two branches of the council in convention. The duties of the register are numerous. Generally stated, he has charge of the moneys and securities of the corporation and is its accounting officer; he gives bond in the sum of \$50,000, and has a salary of \$3,000. No money can be paid, however, except through a warrant of the comptroller.

The comptroller is appointed biennially by the mayor. He performs the duties indicated by his title; gives bond in the sum of \$10,000, and has a salary of \$2,500. The comptroller, although appointed by the mayor, can be removed only by the joint action of the city council.

The public debt of Baltimore January 1, 1880, was \$35,017,151 13, against which, including a sinking-fund of \$7,423,727 11, there are interest-bearing securities of \$28,092,389 09, leaving a balance of debt over and above interest-bearing securities of \$6,924,762 04, for which the city holds unproductive assets of more or less value amounting to \$4,807,472 57, besides a large amount of real estate in its court-house, record office, city hall, jail, police-stations, fire-engine houses and apparatus, school-houses, almshouse, steam-tugs, Marine Hospital grounds, public parks, etc.

The public debt of the city, its investments and finances generally, are in charge of a board consisting of the mayor and two citizens, who are elected by the councils in convention annually, and styled "the commissioners of finance". No salary is attached to the office.

#### POLICE.

A police commission of three persons, known as the "board of police commissioners of the city of Baltimore", who hold their offices for six years, is elected by the state legislature, one at each biennial session. They give a bond to the state in the penalty of \$10,000 each, and there is a salary of \$2,500 attached to the office. They choose their own president, and a treasurer, who must be one of their number; a clerk, with a salary of \$1,500, who gives bond in the penalty of \$5,000, and is virtually the treasurer; a marshal, with a salary of \$2,500, and a deputy marshal, whose salary is \$2,000. They enroll and organize a permanent police force of 500 men. The captains on the force receive \$22 per week; the lieutenants, \$20; the sergeants, \$19; and the privates, \$18. Including officers, sergeants, keepers of stations, turnkeys, etc., the whole regular police force consists of about 600 men, and is maintained at an annual expense of about \$590,000. The police commissioners are authorized to increase the force on special occasions, when the pay of each person added to the force is \$2 50 per diem while he remains in service. While the state appoints the police commissioners, the expense of supporting the board is borne by the city. To enumerate the powers of the commission would extend this notice too far. They may be inferred from the title. It reports to the legislature at each session, and its books and papers are open at all times to the city authorities.

From the report of the board of police commissioners to the general assembly of Maryland, it seems that during 1880 there were 22,021 arrests made by the force, the principal causes being as follows: Assault (various), 2,998; disorderly conduct, 9,542; intoxication, 2,530; larceny, 1,152; suspicion of larceny, 412; threatening assault, 452; and violating ordinances, 1,262. The final disposition of the arrests was: Committed, 8,631; bailed, 6,027; fined, 917; and discharged, 6,446. During the same time the total amount of lost or stolen property secured by the police was \$85,850 40, and of this \$85,386 91 was returned to the owners. The total number of station-house lodgers during the year was 13,041.

#### FIRE DEPARTMENT.

The fire department of Baltimore is under the control of an unpaid commission of her citizens, styled "the fire commissioners of the city of Baltimore", of which the mayor is *ex officio* a member. They hold their offices for four years, two going out of office every second year. They appoint a chief engineer at a salary of \$2,000, and two assistant engineers with a salary of \$1,400 each. The power of the board of fire commissioners is ample in all matters connected with the most efficient service of the department. If a fireman is injured while on duty so as to be prevented from following his daily occupation, or attending to his duties in the department, he is paid his salary for one year, if his disability so long continues. If a fireman loses his life while in the discharge of his duties, the family of the deceased, including father and mother, are to be paid \$500. In addition to this, the fire commissioners are authorized to effect insurances on the lives of the firemen.

A part of the force of the department is always on duty, day and night. Other members, although required to be at the engine-houses at night, are permitted to pursue (except during a fire) other occupations through the day. The annual expense of the fire department is \$175,000.

From the annual report of the chief engineer for the year ending December 31, 1880, it is seen that the working force of the department consists of 17 foremen, 13 enginemen and 13 assistant engineers, 17 hostlers, 4 tillermen, 1 horseman, 104 firemen, and 39 ladder-men, making a total of 208, exclusive of the general officers. They are divided into 17 companies, and each company, in addition to the above, has 5 substitutes, who give their services to the department for no compensation except when on duty, but who are always in the line of promotion. At the present time the department has in service the following apparatus, manned and equipped: 13 steam fire-engines, 26 four-wheeled hose-carriages, 10 steam-heaters, 4 hook-and-ladder trucks, 4 fuel-tenders, 1 supply-wagon, 24 fire-extinguishers, 5 covered wagons, and 1 jagger-wagon; while in reserve there are 4 steam fire-engines and equipments. There are now in service 73 horses and 25,900 feet of hose, 15,800 feet being good and 10,100 feet medium.

The number of alarms during the past twelve months was 343, of which 205 were telegraph alarms and 138 were extinguished without a telegraphic alarm. There were 8 second alarms and 7 general alarms. The losses amounted to \$580,290 43, of which amount \$320,547 09 was caused by 2 fires, and \$158,193 was caused by fires in Baltimore county, outside the city limits.

In connection with the fire department there a salvage corps and a fire-alarm telegraph.

## COMMERCE AND NAVIGATION.

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

Customs district of Baltimore, Maryland.	1879.	1880.
Total value of imports.....	\$14,042,768	\$19,056,089
Total value of exports:		
Domestic.....	\$57,478,495	\$76,220,870
Foreign.....	\$54,027	\$32,690
Total number of immigrants.....	4,713	17,394

Customs district of Baltimore, Maryland.	1879.		1880.	
	Number.	Tons.	Number.	Tons.
Vessels in foreign trade:				
Entered.....	1,778	1,374,554	1,794	1,502,713
Cleared.....	1,728	1,345,747	1,770	1,491,000
Vessels in coast trade and fisheries:				
Entered.....	1,463	997,923	1,455	1,021,887
Cleared.....	1,871	1,209,074	2,143	1,505,738
Vessels registered, enrolled, and licensed in district..	1,066	100,008	1,013	102,139
Vessels built during the year.....	24	1,977	24	445

## MANUFACTURES.

The following is a summary of the statistics of the manufactures of Baltimore for 1880, being taken from tables prepared for the Tenth Census by N. H. Creager, 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.....	3,083	\$38,586,773	34,086	18,137	4,115	\$15,117,489	\$47,974,297	\$78,417,304
Agricultural implements.....	5	106,000	118		15	49,250	101,000	229,510
Awnings and tents.....	3	4,600	11	30		7,900	16,800	36,100
Bags, paper.....	3	78,500	24	22	4	17,704	152,270	236,700
Baking and yeast powders (see also Drugs and chemicals).....	4	70,600	12	14		16,000	111,040	167,808
Baskets, rattan and willow ware.....	16	5,110	16		2	5,168	5,335	18,823
Blacksmithing (see also Wheelwrighting).....	116	127,520	270		6	123,894	98,225	348,885
Bookbinding and blank-book making.....	17	91,756	99	83	25	61,593	59,304	163,938
Boot and shoe uppers.....	11	7,700	27	18	1	11,755	17,375	37,075
Boots and shoes, including custom work and repairing.....	623	865,337	2,117	507	70	939,861	1,632,492	3,411,736
Boxes, cigar.....	13	19,325	22	19	9	15,163	28,883	58,222
Boxes, fancy and paper.....	8	34,020	28	160	10	32,617	82,883	140,625
Boxes, wooden packing.....	13	139,013	318		44	147,077	300,573	531,000
Brass castings.....	10	19,500	32		1	16,279	33,741	71,101
Bread and other bakery products.....	310	832,372	625	73	58	261,463	1,449,459	2,172,062
Brick and tile.....	28	640,000	1,460		69	322,839	156,648	626,813
Brooms and brushes.....	28	83,115	210	22	32	74,758	150,978	293,610
Carpentering.....	114	1,107,800	1,226		9	674,964	1,906,239	3,216,028
Carpets, rag.....	17	23,525	28	2	4	10,521	23,078	48,506
Carriages and sleds, children's.....	3	15,600	31	2	3	10,740	33,500	53,080
Carriages and wagons (see also Wheelwrighting).....	37	223,700	364		8	147,201	155,573	397,840
Clothing men's.....	188	3,848,351	5,184	5,015	58	1,822,501	6,013,863	9,446,793
Clothing, women's.....	27	136,250	22	482	23	84,998	205,102	469,718
Coffee and spices, roasted and ground.....	13	124,750	46	23		24,563	221,108	299,874
Coffins, burial cases, and undertakers' goods.....	52	91,275	73		1	31,984	73,103	184,423
Confectionery.....	53	339,765	222	87	13	110,718	781,752	1,108,038

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.			
Copperage	43	\$220,800	364		7	\$146,382	\$325,432	\$500,690
Coppersmithing (see also Tinware, copperware, and sheet-iron ware)	8	20,200	21			11,000	15,000	32,250
Cotton goods (see also Mixed textiles)	3	600,000	200	225	108	80,738	182,283	327,366
Cutlery and edge tools (see also Hardware)	10	22,550	23		1	9,200	11,156	30,500
Dentistry, mechanical	14	12,260	11	1	1	6,323	4,313	32,758
Drugs and chemicals (see also Baking and yeast powders; Patent medicines and compounds)	17	652,300	180	47		78,144	520,485	673,125
Dyeing and cleaning	20	40,785	31	19		19,031	11,000	58,602
Electroplating	5	17,525	20		2	10,168	7,350	36,000
Engraving and die-sinking	7	1,625	6			3,300	1,450	14,039
Engraving, wood	4	1,250	4			1,800	605	6,900
Fertilizers	18	3,241,370	655		6	254,055	2,080,223	4,287,398
Files (see also Saws)	4	31,850	26		16	15,206	6,850	31,330
Flavoring extracts	5	8,200	15	4		5,274	16,300	31,100
Flouring- and grist-mill products	8	562,000	95			46,118	1,173,988	1,327,584
Food preparations	3	4,650	12	2	1	2,415	16,000	26,000
Foundry and machine-shop products	63	2,240,004	2,043		33	1,333,841	1,887,421	3,930,717
Fruits and vegetables, canned and preserved	41	1,950,100	2,324	6,753	1,846	815,013	3,854,550	5,201,268
Furniture (see also Mattresses and spring beds; Upholstering)	68	721,552	941	15	22	401,005	772,233	1,512,634
Furniture, chairs	3	150,250	64	30	2	47,200	130,200	278,500
Furs, dressed	4	30,000	6	17		8,125	10,635	33,913
Gas machines and meters	5	62,000	82	1	17	42,748	118,250	206,620
Glass	7	400,000	524		88	234,254	230,682	587,000
Gold and silver leaf and foil	3	6,000	16	29	2	10,500	20,000	40,200
Grease and tallow	6	101,500	22			10,254	213,440	258,621
Hairwork	11	12,250	4	20		5,654	16,575	34,208
Hardware (see also Cutlery and edge tools)	5	18,100	31		4	13,844	14,100	37,504
Hats and caps, not including wool hats	6	26,000	22	33		13,415	32,000	63,330
Instruments, professional and scientific	6	40,000	25	2	4	18,244	8,850	31,600
Iron and steel	10	1,632,125	1,943		66	532,576	1,808,200	2,672,040
Iron railing, wrought	6	5,900	19			8,200	13,000	32,800
Jewelry	4	11,300	16	1	3	9,744	12,800	33,100
Kindling wood	11	36,925	42		22	18,256	36,245	72,206
Leather, curried	18	115,017	74		1	20,117	310,627	405,317
Leather, tanned	17	134,768	93	9	4	30,370	206,654	287,980
Liquors, malt	21	1,143,400	203			97,851	488,752	888,644
Lock and gun-smithing	20	28,100	35		1	15,032	12,143	42,230
Looking-glass and picture-frames	31	118,550	271	70	25	98,053	100,492	402,423
Lumber, planed (see also Sash, doors, and blinds; Wood, turned and caved)	3	36,000	30			15,500	33,000	60,700
Malt	6	705,000	98			52,000	547,000	752,000
Mantels, slate, marble, and marbleized	3	23,000	10		2	8,388	10,784	30,205
Marble and stone work	40	651,701	815		10	323,480	447,030	654,285
Masonry, brick and stone	47	203,000	655		1	266,880	399,777	767,046
Mattresses and spring beds (see also Furniture)	5	6,825	10	2		4,442	62,448	44,125
Millinery and lace goods	11	79,100	24	133	41	35,690	148,240	220,460
Millstones	3	34,700	24			11,293	14,242	38,319
Mineral and salt waters	17	66,000	84			33,753	108,035	190,607
Mixed textiles (see also Cotton goods; Silk and silk goods)	3	4,900	6	11	5	4,000	7,850	20,240
Models and patterns	3	1,450	5			2,050	1,700	8,100
Musical instruments and materials (not specified)	6	4,900	4			1,895	1,975	7,400
Musical instruments, organs and materials	3	16,250	21		2	8,000	24,810	41,900
Musical instrument, pianos and materials	4	638,382	820		5	200,988	157,099	534,099
Painting and paperhanging	39	99,505	265		8	144,861	168,308	453,943
Paints	10	367,200	98		7	30,941	192,185	338,658
Patent medicines and compounds (see also Drugs and chemicals)	33	222,050	163	109	45	68,467	438,027	646,493
Perfumery and cosmetics	5	23,410	11	27	1	7,902	15,251	42,400
Photographing	25	70,150	51	15	2	25,005	22,426	65,228
Pickles, preserves, and sauces	6	21,860	7	14	6	5,532	48,260	71,300
Plated and britannia ware	3	19,200	43			20,780	18,500	52,000
Plumbing and gasfitting	39	198,185	194		9	82,042	176,186	412,866
Printing and publishing	47	1,954,200	671	21	99	409,251	560,657	1,374,168

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.			
Pumps, not including steam-pumps .....	9	\$8,475	16	.....	1	\$8,460	\$14,550	\$39,050
Refrigerators .....	3	10,200	24	.....	.....	7,009	13,040	27,990
Roofing and roofing materials .....	6	89,625	46	.....	1	16,760	30,450	78,917
Saddlery and harness .....	70	304,025	401	2	81	223,187	382,092	857,810
Sash, doors, and blinds (see also Lumber, planed; Wood, turned and carved).	9	354,525	359	.....	34	190,111	334,113	681,755
Saws .....	3	6,500	8	.....	.....	2,321	2,744	10,231
Scales and balances .....	3	9,200	7	.....	.....	4,181	2,819	11,077
Sewing-machines and attachments .....	6	20,500	22	1	2	11,020	9,450	35,595
Shipbuilding .....	02	1,493,275	887	.....	.....	524,873	707,026	1,415,080
Shirts .....	38	313,930	328	1,284	84	307,867	425,947	1,019,524
Show-cases .....	5	14,800	38	.....	1	15,785	27,389	74,320
Silk and silk goods (see also Mixed textiles) .....	4	20,000	12	56	14	11,000	15,760	35,415
Silversmithing .....	4	98,703	38	.....	.....	28,970	49,542	112,061
Slaughtering and meat-packing, not including retail butchering .....	6	705,000	194	.....	.....	85,800	2,559,682	2,742,645
Soap and candles .....	7	250,432	77	.....	6	43,145	215,238	323,350
Stoneware and brands .....	3	2,800	6	.....	1	3,526	2,200	9,500
Stone- and earthen-ware .....	6	125,700	194	10	62	115,004	74,923	254,594
Straw goods .....	3	160,800	107	422	15	57,761	204,507	362,982
Sugar and molasses, refined .....	3	200,000	106	.....	.....	31,000	756,703	840,986
Surgical appliances .....	3	5,700	35	5	.....	17,000	15,000	61,500
Tinware, copperware, and sheet-iron ware (see also Coppersmithing) .....	154	1,071,260	1,231	124	298	569,642	2,250,500	3,371,081
Tobacco, chewing, smoking, and snuff (see also Tobacco, cigars and cigarettes) .....	10	602,000	187	740	128	165,107	1,182,006	1,531,424
Tobacco, cigars and cigarettes (see also Tobacco, chewing, smoking, and snuff) .....	320	568,282	1,050	115	84	462,099	617,585	1,551,014
Trunks and valises .....	15	24,150	51	.....	4	10,228	30,810	75,466
Umbrellas and canes .....	3	8,550	4	0	.....	2,080	8,500	17,400
Upholstering (see also Furniture) .....	19	22,725	42	7	2	16,820	51,781	98,539
Vinegar .....	8	47,750	17	1	1	7,012	58,112	87,012
Watch and clock repairing .....	23	18,500	25	.....	4	14,888	0,454	41,415
Wheelwrighting (see also Blacksmithing; Carriages and wagons) .....	44	77,445	148	.....	3	54,057	54,013	106,325
Whips .....	3	21,300	31	6	1	13,996	25,800	52,925
Window blinds and shades .....	3	5,500	24	.....	.....	3,200	11,500	18,900
Wirework .....	4	38,500	42	.....	2	24,000	26,000	77,000
Wood, turned and carved (see also Lumber, planed; Sash, doors, and blinds) .....	8	2,660	17	.....	4	8,203	9,020	26,436
All other industries (a) .....	81	2,790,064	1,564	271	293	766,948	4,945,900	6,065,810

a Embracing artificial limbs; babbitt metal and solder; bags, other than paper; bells; belting and hose, leather; billiard tables and materials; blacking; kung; bridges; carpets, other than rag; carriage and wagon materials; cars, railroad, street, and repairs; cleansing and polishing preparations; cloth-finishing; cork cutting; corlage and twine; corsets; explosives and fireworks; fancy articles; fire extinguishers, chemical; flags and banners; furnishing goods, men's; glass, cut, stained, and ornamented; hand-knit goods; hosiery and knit goods; iron bolts, nuts, washers, and rivets; iron forgings; iron nails and spikes, cut and wrought; iron work, architectural and ornamental; ivory and bone work; japanning; kaolin and ground earths; lamps and reflectors; lard, refined; lasts; lead, bar, pipe, sheet, and shot; leather, dressed skins; lightning rods; lime; liquors, distilled; lithographing; lumber, sawed; oil, illuminating, not including petroleum refining; oil, lard; oleomargarine; pipes, tobacco; printing materials; regalia and society banners and emblems; rubber and elastic goods; safes, doors, and vaults, fire-proof; shoddy; spectacles and eyeglasses; sporting goods; stationery goods; telegraph and telephone apparatus; toys and games; type founding; upholstering materials; and wooden ware.

From the foregoing table it appears that the average capital of all establishments is \$10,477; that the average wages of all hands employed is \$268 34 per annum; that the average outlay in wages, in materials, and in interest (at 6 per cent.) on capital employed is \$17,759 16.

# DISTRICT OF COLUMBIA.

NOTE.—In June, 1878, Congress passed a law (which went into effect July 1, 1878) establishing a form of government for all of that territory which had been ceded by the state of Maryland to the national government as a permanent capital, and designated the same as the "DISTRICT OF COLUMBIA". This act says: "The District of Columbia shall remain and continue a municipal corporation; \* \* \* all laws \* \* \* not inconsistent with the provisions of this act shall remain in full force and effect." Existing corporate names are not now recognized in official acts. By strictly following out this law (so far as this report is concerned), there would be no city of Washington shown in the social statistics of the Tenth Census, and the capital of the country would figure under the name of the "District of Columbia". As Washington and Georgetown are, in any case, physical and social facts, it is deemed better to indicate by the accompanying map the condition of the whole District of Columbia, and to describe Washington and Georgetown separately.

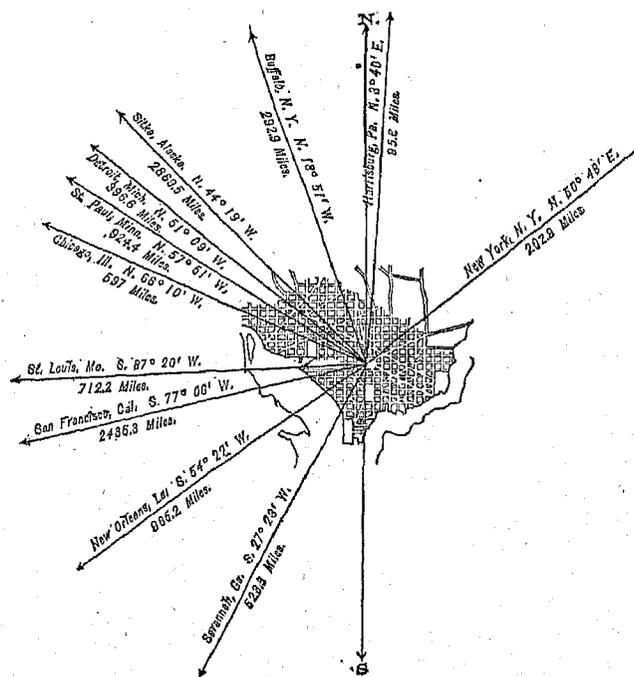
G. E. W., JR.

## WASHINGTON, DISTRICT OF COLUMBIA.

### POPULATION

IN THE  
AGGREGATE,  
1800-1880.

Year	Inhab.
1790	.....
1800	3,210
1810	8,203
1820	13,247
1830	18,826
1840	23,364
1850	40,001
1860	61,122
1870	109,199
1880	147,293



### POPULATION

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

Male	.....	63,310
Female	.....	78,983
Native	.....	133,051
Foreign-born	.....	14,242
White	.....	98,895
Colored	.....	*48,398

\* Including 13 Chinese, 3 Japanese, and 5 Indians.

Latitude: 38° 53' North; Longitude: 77° 2' (west from Greenwich); Altitude: 0 to 103.7 feet. (a)

### FINANCIAL CONDITION:

[Embracing the entire District of Columbia.]

Total Valuation: \$99,401,787; per capita: \$560 00. Net Indebtedness: \$22,675,459; per capita: \$127 66. Tax per \$100: \$1 48.

## HISTORICAL SKETCH. (b)

The early history of the region now covered by the District of Columbia is extremely meager. It was visited in 1608 by Captain John Smith, who, as usual, left a narrative of his adventures. There seemed to be at that time a large aboriginal population, the seat of whose council-fire was on the point of land now occupied by the Arsenal, at the confluence of the Potomac and Anacostia rivers.

a Above ordinary low water in the Potomac river.

b Minor incidents of the history may be found in Keim's *Illustrated Hand-Book of Washington and its Environs*, and in the article on "Washington City", by A. R. Spofford, esq., in Johnson's *Cyclopedia*.

The country was early visited by Calvert's settlers, and in 1663 tracts were assigned to Robert Troop, Francis Pope, and William Langworth.

At the time of the selection of this site for the federal city the lands were owned mainly by Daniel Carroll, Notley Young, and David Burns. The residence of the latter is still standing on the Van Ness estate, south of the executive grounds. There were several small settlements along the Potomac and the Anacostia, but the whole region was a purely agricultural one.

After the cessation of hostilities between the colonies and the mother country, the subject of a permanent capital was discussed in Congress. New York and Maryland at once offered to cede sites for the purpose. In October, 1783, a vote was taken, in which New Jersey and Maryland received the highest number of votes; but the assignment of the capital was not yet secured. The next day, on motion of Elbridge Gerry, the federal city was located on or near the falls of the Delaware, near Trenton, and a committee was appointed to examine the locality and report upon it. Later in the same month the erection of buildings was authorized at or near the lower falls of the Potomac or Georgetown, and a committee was appointed to examine and report on that site. Two sites were now provided. Meanwhile Congress was to meet alternately at Trenton and Annapolis.

The Delaware committee reported favorably; the Potomac committee reported unfavorably, though they thought better of a site above Georgetown.

The Constitution had given Congress power "to exercise exclusive legislation, in all cases whatsoever, over such district (not exceeding ten miles square) as may by cession of particular states, and the acceptance of Congress, become the seat of the government of the United States".

During the first session of Congress assembled under the Constitution, the question of locating the federal city came up as one of great interest, and with it arose a sectional spirit which had never before been so strongly exhibited. The resolutions of the legislatures of states, petitions, and memorials urged each its own locality, and frequently offered great inducements. Petitions came from the people of Trenton, New Jersey; from Philadelphia, Lancaster, York, Carlisle, Harrisburg, Reading, and Germantown, Pennsylvania, and from Baltimore and Georgetown, Maryland.

At its next session the question of the location of the capital was again agitated, and the above-named and other localities were urged. Finally an act was passed, approved by President Washington July 16, 1790, establishing the temporary capital in Philadelphia from the first Monday in September, 1790, and the permanent site on the Potomac, to be made ready for the session of Congress by the first Monday in December, 1800. The vote in the Senate was, yeas 14, nays 12; and in the House, yeas 32, nays 29. In 1791 commissioners were appointed to superintend the affairs of the new city, and the President issued a proclamation directing them to establish four experimental boundary-lines as follows:

"Beginning at Jones' point, being the upper cape of Hunting creek, in Virginia, and at an angle in the outset of 45° west of the north, and moving in a direct line ten miles for the first line; then beginning again at the same Jones' point, and running another direct line at a right angle with the first, across the Potomac, ten miles for the second line; then from the terminations of the said first and second lines, running two other direct lines, of ten miles each, the one crossing the Potomac, and the other the eastern branch aforesaid, and meeting each other in a point." These lines were approved by Congress. By the act of Congress above referred to, the public buildings were required to be erected on the Maryland side of the Potomac.

Under the personal direction of President Washington, the three commissioners, with Andrew Ellicott and Major Peter Charles L'Enfant, made arrangements for laying out the site of the city. Some obstacles arose from the unwillingness of some of the proprietors to make reasonable concessions. The counsel of Washington had its effect, and the general terms were accepted by the principal proprietors. The President issued a proclamation defining the limits of the federal district, and directed the commissioners to have the lines permanently marked. The commissioners held their first regular meeting at Georgetown on the 12th of April. On the 13th they received information from President Washington, who had gone to Richmond to consult with Governor Randolph respecting the payment of \$120,000 appropriated by Virginia toward the building of the capitol, that the money could be advanced at earlier periods than had been agreed. On the 15th the initial corner-stone of the lines of the federal territory was planted, and on June 29 the final settlement was effected by which the lands ceded to the government were conveyed to trustees for the United States. The streets, public squares, and certain parcels and lots were to be laid out and conveyed by the trustees to the United States. These were charged with the subdivision and sale of other lands. Owing to some disagreement, the streets and reservations were never formally conveyed to the commissioners. The title of the United States, however, has been confirmed by the Supreme Court.

The state of Maryland, December 19, 1791, ratified the cession of its portion of the federal territory, and defined certain powers and duties of the commissioners as to taking possession of lands in different parts of the district under an agreement with the proprietors.

The city was laid out according to plans made by Major L'Enfant, based on the plan of the city of Versailles, France. This was substantially a plan for a regular network of rectangular streets, traversed diagonally by broad avenues intersecting the streets obliquely, and giving occasion for many square, circular, and triangular reservations. The plan was carried out under the direction of Andrew Ellicott, who later laid out the city of Buffalo on a somewhat similar plan.

The central lines of the streets, both north and south and east and west, pass through the center of the capitol. They are placed according to the true meridian.

The system of street enumeration is simple and useful rather than artistic. The streets leading directly from the capitol are called North Capitol, East Capitol, and South Capitol streets. The north and south streets are numbered, the first street east being next east of North and South Capitol streets, and the first street west being the next street west of North and South Capitol streets.

The streets north and south of the capitol are indicated by letters, as North B, North C, North (or South) D, etc.

The houses in the blocks are numbered with reference to the street nomenclature. Thus, 1015 K street northwest is west of Tenth street, in K street, in the district northwest of the capitol; and 710 Fifth street northeast is in Fifth street between G and H streets in the district northeast of the capitol. A corresponding system of house-numbering applies also to the diagonal avenues.

These diagonal avenues are very wide—generally each 160 feet. They constitute the real thoroughfares and landmarks of the city. On them, or near them, are located most of the finer public and private buildings, and the more finished municipal decoration and ornamentation are generally to be found at their points of intersection, where are circular, triangular, or rectangular parks.

We who see Washington in its relatively finished condition to-day can have little idea of its appearance during the early years of its establishment. We have hardly yet forgotten the title given to it in derision, "the city of magnificent distances".

The city was subjected very early to the speculative fever which sooner or later takes all promising settlements, and more than one fortune was sunk in an attempt to take advantage of the promise held out by the future capital of the republic. One of the most undaunted of the early undertakers arranged for the erection of a great hotel on funds to be raised by a lottery, the hotel being the first prize. When partly erected it was drawn by a person who had not the means to complete it. It remained unfinished until, years after, it was taken by the government for public use.

The failure of some of these speculations, such as that of Robert Morris, James Greenleaf, and John Nicholson to take 6,000 lots at \$80 a lot, and to pay for them in seven annual installments, erecting annually twenty 2-story brick houses, caused serious financial embarrassments to the commissioners. They were authorized in 1796 to borrow \$300,000, but they were not successful in negotiating the loan in Europe, where the first effort was made. The assembly of Maryland came to their relief with a loan of \$100,000. In 1799 Congress voted them another \$100,000, which was advanced by Maryland. The next year they obtained \$50,000 from the same source, but on the personal security of the commissioners. In February, 1800, they secured all loans and advances from the state of Maryland and from the national government to the amount of \$300,000, leaving only the last \$50,000 to be provided for.

At this time, the spring of the year 1800, the north wing of the capitol, begun in 1797, the President's house, and the War and Treasury offices were ready for occupation. A number of dwellings had been erected by private owners near the capitol, near the President's house, and on Greenleaf's point.

It has been stated by several writers that the reason why the city has extended itself so generally to the westward, in spite of the building of the capitol with its front to the east, is that speculators, anticipating a quick demand for land in that high and attractive part of the city, placed the price of their lots even as high as \$1 per foot, while land could be bought elsewhere for from 10 to 25 cents per foot. Doubtless this had its influence; but the experience of most other cities, here and in Europe, seems almost to establish a law of municipal growth which leads the best of its population to occupy the western quarters. Whatever the motive, it is clear that the finest and most "fashionable" part of the city is its western part. Other influences, doubtless, in this case tended in the same direction. In early days the best accommodation for members of Congress was found in Georgetown. Later, the establishment of the War and Navy departments near the President's house induced officers of the permanent staff to build in that portion of the city. Whatever the general rule, or whatever the special influence operating in this particular instance, it is very clear that, while there are many fine residences and many prominent residents on Capitol hill, a wide stretch of respectable but unfashionable territory separates them from those whose building-lots are worth the highest price per foot—perhaps, after all, the best index of what is and what is not most fashionable.

During all the early part of the century the great plateau stretching from the capitol to the President's grounds was an exceedingly unpromising, unreclaimed swamp. We are told by one historian that "among the earliest improvements was the ditching of Pennsylvania avenue, the thoroughfare between the capitol and the President's house, and the planting of the reservations around these two buildings". The wife of President John Adams, the first occupant of the President's house, describes the rude and uncomfortable condition of the city when Congress first came to sit there. Before the public offices were removed from Philadelphia the population of the capital was hardly more than 500. John Cotton Smith, M. C., wrote: "The Pennsylvania avenue was then nearly the whole distance a deep morass covered with alder-bushes."

Washington was simply a backwoods town in the wilderness. Members of Congress lodged 3 miles away in Georgetown.

In 1839 George Combe wrote: "The town looks like a large straggling village reared in a drained swamp."

It was not until the middle of the century that any attempt was made to carry out the scheme projected by L'Enfant sixty years before. In 1851 Downing, the landscape-gardener, was employed by President Fillmore—a small appropriation having been made for the purpose—for the laying out and planting of the park occupied by the Smithsonian institution. Downing's death in the next year suspended these improvements, and nothing further was done until 1871.

On November 21, 1800, Congress began its sessions in the north wing of the capitol. Congress assumed jurisdiction over the District of Columbia in 1801, and declared that the laws of Virginia and Maryland should continue, respectively, in force in the portions of the district ceded by those states.

In 1802 the board of commissioners was abolished, and was succeeded by a superintendent, Thomas Munroe, who was required to settle up all accounts, and to sell a sufficient number of the lots pledged for the repayment of the loan of \$200,000 from Maryland, to meet all obligations of interest and installments. In the event of an unwarrantable sacrifice of the property to meet these demands, the sale was to cease, and the balance was to be paid out of the Treasury of the United States. Lots not paid for were also to be sold to meet the loan of \$50,000 from Maryland, or, if not sufficient, the residue was to be paid also from the Treasury. May 3, 1802, a municipal government was created by Congress, to consist of a mayor and council, Congress reserving supreme jurisdiction. The affairs of the county and the construction of roads outside of the city were intrusted to a board known as the "levy court".

At this time the crude and unkempt condition of the capitol grounds and the neglected aspect of the approaches to all the noble public buildings which adorn the capital were very noticeable. The streets and avenues were in a chronic state of neglect, the drifting of dust alternating with the deepest mud, and rendering them almost impassable. At length, in 1871, under the combined influence of a more liberal spirit in Congress, and the energetic determination of some of the private citizens, a new order of things was inaugurated. Congress, having abolished the municipal governments of Washington and Georgetown, created, by act approved February 21, 1871, all that part of the territory of the United States included within the limits of the district into a government under the name of the "District of Columbia", the executive power to be vested in a governor, to be nominated by the President and confirmed by the Senate, to hold office for four years, and the legislative power in a legislative assembly, composed of a council of eleven members, nominated by the President and confirmed by the Senate, to hold office for two years, and a house of delegates of twenty-two members, elected by the people, and to meet annually. There were a board of public works for improvements, a board of health charged with the sanitary care of the district, and a delegate in Congress. The first-named board became invested with exclusive power over the streets, sewers, and avenues of Washington and Georgetown, with authority to improve the same on a comprehensive plan. Endowed with these great powers and the ability to raise money by tax and loan, the new government went vigorously into the business of improving the federal city. An extensive system of sewerage and of street pavements was drawn up, through which the greater portion of the city was reclaimed from neglect and filth, the great ditch known as the Washington canal was filled up, and about 160 miles of streets and avenues were paved with wood, stone, or concrete. Many streets were completely regraded, the public squares were all fenced and planted with shade-trees, while in the streets and avenues about 29,000 trees were set out. The magnitude and extent of these improvements, carried on with a vigor and rapidity almost without precedent in American municipal history, of course entailed a corresponding amount of extravagance.

The territorial government made Washington in many respects the most beautiful city in the country, and prepared the way for it to become the best paved and one of the best built. It also encumbered the district with a debt of \$20,000,000. The interest is paid annually, one-half by Congress and one-half by the city.

The territorial government lived too fast to live long. In June, 1874, Congress abolished the territorial form of government, retaining only the board of health, and created a provisional government of three commissioners, to be appointed by the President and Senate until a permanent government should be devised by Congress. The affairs of the city and of the district still continue to be managed by such commissioners, acting under direct legislation of Congress, and having its financial operations administered directly by the Treasury department.

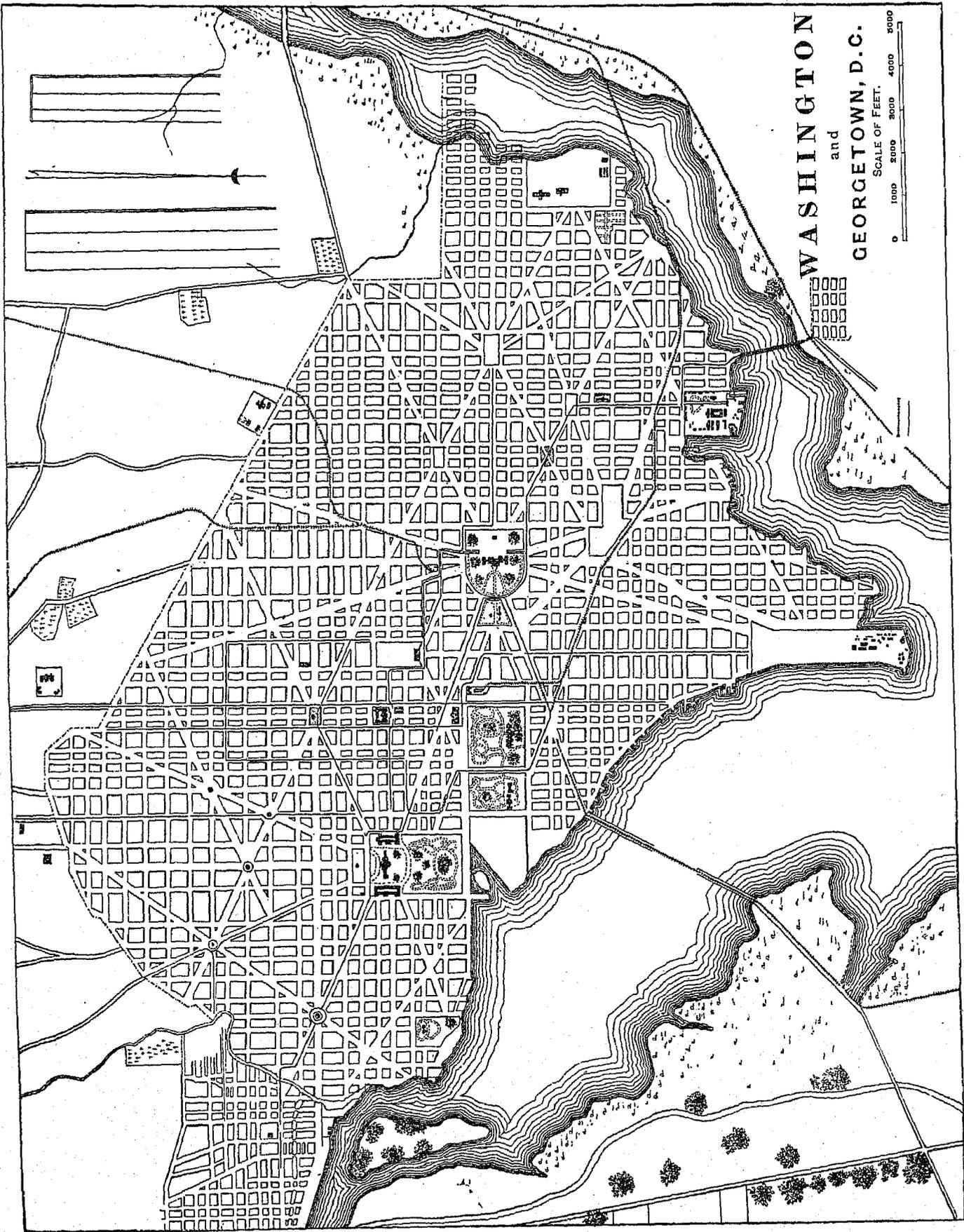
One of these commissioners is the chief civil officer of the District; another is specifically the police commissioner; and the third, an officer of the United States engineer corps not below the rank of major, is engineer commissioner.

Thus far the system has worked extremely well, and since Washington has been governed by this board it has added much to the knowledge of the proper administration of municipal affairs in cities throughout the country generally.

In the course of the city's history its progress has been disturbed or stimulated by the incidents of two wars.

During the last war with Great Britain the city was captured and almost completely destroyed. The following account of these events is condensed from Keim's *Hand-Book of Washington*:

President Madison and his cabinet, over-confident of the safety of the capital or of the indisposition of the British, who controlled the Chesapeake, to attack, had neglected to make suitable provision for defense. As a consequence, about 3,500 raw militia, hastily concentrated and badly handled, were suddenly called upon to confront the enemy, 4,000 strong, at Bladensburg, 5 miles from the capital, on August 24, 1814. Commodore Barney, with a few hundred sailors and marines, and Beall's Maryland militia made a stubborn resistance



WASHINGTON  
and  
GEORGETOWN, D.C.

SCALE OF FEET.  
0 1000 2000 3000 4000 5000

on the turnpike, but, unsupported by the rest of the troops, who had fled precipitately, fell back to the capital, proposing to defend that point. From here he was ordered to retire and take position behind Georgetown, leaving the city entirely defenseless. The American troops retreated toward Montgomery court-house, having been preceded by the President and cabinet and other prominent officers of the government. The total force of Americans available was 7,000 men, but, through mismanagement, the incapacity of General Winder, the commander, and the interference of the President and cabinet, not more than half that number reached the field, and even then were outnumbered at the point of attack. The whole British force which landed on the "Pautuxent" numbered 5,123 men, of which 4,500 took part in the fight. The American loss was 26 killed and 51 wounded, and the British 150 killed and 300 wounded.

At 8 p. m. on the day of the battle the British bivouacked on Capitol hill. The capitol, library of Congress, President's house, arsenal, Treasury and War offices, Long bridge, and office of the *National Intelligencer* newspaper were burned the same night, as well as some private buildings. The navy-yard and frigate "Columbia", on the stocks, the "Argus", 5 barges, and 2 gunboats were destroyed by order of the Secretary of the Navy. An explosion of powder in a well at the arsenal killed 15 and wounded 30 of the British.

On the evening of August 25 the British evacuated the capital. To use the words of one of the British officers, the retreat "was as cautious and stealthy and precipitate as was natural for a retreating army under such circumstances". On the retreat many died of fatigue or were taken prisoners by the cavalry harassing the rear. Nearly 200 of the dead left by the enemy were buried by the citizens. It was estimated that their aggregate loss was not less than 1,000 men. They reached Benedict on the evening of August 29, and re-embarked the next day.

The sight of the capital in flames had aroused the inhabitants of the surrounding country, who were being rallied by the Secretary of State, Mr. Monroe. It was resolved to cut off the enemy's retreat to his ships; but his haste frustrated the patriotic proceedings.

When the question of the restoration of the public buildings was under discussion a long and bitter debate ensued, evincing not only a strong disposition to abandon the city, but a dangerous sectional feeling. For a time the most serious consequences were threatened. Calmer counsels, however, prevailed, and an appropriation of \$500,000 was made for the repair or re-erection of the buildings on their old sites, the estimated loss being \$1,000,000.

In 1846 so much of the district as had been ceded by the state of Virginia as far as low-water line on the west shore of the Potomac river was returned to that state.

## WASHINGTON IN 1880.

The capital of the nation is situated just above the confluence of the Potomac river and the Anacostia or "Eastern branch", 106 miles by river above the mouth of the Potomac and 105 miles due west of the Atlantic ocean. The distance by air-line to the mouth of the Potomac is 60 miles, and to the mouth of Chesapeake bay 143 miles.

The latitude of the city is 38° 53' 39" north, and the longitude 77° 2' 48" west from Greenwich. Exclusive of Georgetown, it lies 4 miles along the Potomac and 3½ miles along the Anacostia. It is 14 miles in circumference, covering a little over 9½ square miles of the western side of the district. Its mean altitude is about 40 feet above ordinary low tide of the Potomac, the highest point being 103.7 feet above. The District of Columbia, originally 100 square miles in area, was reduced to 70 square miles by the retrocession of the Virginia portion. It is bounded on the north by Montgomery county, Maryland, on the east and south by Prince George county, and on the west by low-water mark of the Virginia shore of the Potomac.

Northwest of Washington, separated from it by Rock creek, but forming a continuous town with it, lies Georgetown, or West Washington, the head of navigation of the Potomac. Much of its site, like most of the country north of Washington, is high and broken. The northern portion of the district generally is of diversified surface and well wooded.

### THE RIVER.

The Potomac rises in the Alleghany mountains, and its entire length is about 400 miles. At Washington the hills, by which it has been confined, recede, and it becomes a broad stream. The Anacostia is a much smaller river, though at Washington it spreads out into a tidal estuary nearly as wide as the Potomac itself. Each has a maximum depth of 18 feet. Where it reaches the Chesapeake bay the Potomac is 7½ miles wide. Salt water reaches up to within 50 miles of the city. The average rise of the tide is 3 feet. The available harbor consists of a channel extending from Greenleaf's, or Arsenal, point, the upper point at the junction of the two rivers, to the foot of Seventeenth street west, a distance of four-fifths of a mile, together with a small channel in the Anacostia. The wharves of Georgetown are on the main channel of the river. The Potomac channel has an average width of 400 feet up to Long bridge, with a minimum depth of 6 feet. At the Arsenal wharf it narrows to 250 feet. The average width of the Anacostia channel is 350 feet between the depths of 6 feet on either side, and it also narrows to 250 feet. The greatest depth of water up to the navy-yard is 14 feet. One mile above there it is but 6 feet.

### RAILROAD COMMUNICATIONS.

Washington is on what is now the main line of the Baltimore and Ohio railroad, formerly known as the Washington branch of the same; on the Baltimore and Potomac railroad, and on the Virginia Midland railroad, using the Baltimore and Potomac's track between Washington and Alexandria.

*Street-railroads.*—There are five companies of street-railroads in Washington, having an aggregate length of 30.8 miles, and traversing the city in all directions. The usual rate of fare is 5 cents for each passenger. Six tickets are sold for 25 cents, and those of any line are good on all lines. Transfers are made free at certain crossings of lines owned by the same company. There is a short line charging only 3 cents. The names of the companies are as follows:

	Length of track.
Washington and Georgetown railroad.....	9.5 miles.
Metropolitan railroad.....	10.9 miles.
Capitol railroad.....	4.7 miles.
Columbia railroad.....	2.8 miles.
Anacostia railroad.....	2.9 miles.
Total.....	<u>30.8 miles.</u>

In addition to the street-cars, Herdic coaches run on regular routes, the fare being 5 cents. Omnibuses belonging to the several hotels of the city convey passengers to and from the depots.

#### WATER COMMUNICATION.

Steamers ply between Washington or Georgetown and landings on the Potomac river and Chesapeake bay, and Baltimore, Norfolk, Philadelphia, New York, and Boston.

#### TRIBUTARY COUNTRY.

The market supplies of Washington are mainly raised in the country adjacent, the products of the upper belt of the north temperate zone being here cultivated with success. Fruits and vegetables are grown in great abundance, and the supplying of the city with vegetables, poultry, hay, etc., constitutes an important industry.

#### TOPOGRAPHY.

The surface of Washington is gently undulating, sloping on either side to the rivers which sweep by it or to the low level land forming the delta between them. From the elevations bordering Rock creek the high land crosses the northern portion of the city, save where it has been cut through by the Tiber, at times a strong river, but ordinarily insignificant. East of the Tiber it rises and spreads out into the extensive plateau of Capitol hill, which overlooks the city and extends nearly to the Anacostia on the east. Within this circling ridge the surface falls away in terraces and gentle slopes to the river-banks. All of the more important public buildings are built on land considerably higher than the delta.

From the lower falls of the Potomac above Georgetown, where are outlying spurs of the Blue ridge, a chain of low wooded hills surrounds the city on the north, and continues on the opposite shores of the Anacostia. The hills on the Virginia side are of corresponding height. They inclose a vast amphitheater, in the center of which the city lies. The Tiber is a small river, whose sources are in the hills to the north. It enters the city in several branches, all of which have now been diverted into the main channels of the sewerage system. Although the stream traverses one of the most populous sections of the city, its course is beneath heavy brick arches, upon which buildings have been erected and avenues, streets, and parks laid out.

The soil of the district bordering the Potomac is alluvial. The elevated lands consist almost exclusively of yellow clay, interspersed with sand and gravel. Occasionally a mixture of loam and clay is met. Rock creek divides the primitive from the alluvial soil; above it the shores of the Potomac are lined with primitive rock. Some miles above the district an outcrop of sandstone appears. In some parts the rock frequently contains fossils of leaves of trees and ligneous fragments. A species of gneiss is abundant and constitutes the underlying rock of the entire district.

#### CLIMATE.

The climate of Washington is generally salubrious, though subject, especially in spring, to sudden changes. During summer intense heat is not unusual, and while much of the winter weather is moderate and pleasant, excessive cold is by no means unknown. During a period of forty-eight years, the highest temperature reached (July, 1838) was 103°, and the lowest (January, 1835),—14°. The storms of winter are largely rain; snow sometimes lies for a few days, but seldom long enough for sleighing. From autumn until spring the climate is, on the whole, one of the most agreeable of the Atlantic slope. Very violent thunder-storms are frequent in summer.

#### STREETS.

The streets and avenues of the capital are wider than those of any other great city of the world. Originally there were thirteen avenues, named after the original states; others, undesignated on the first plan, were named after states subsequently admitted, though not in the order of their admission. The avenues radiate from principal centers or connect different parts of the city. They are crossed by an independent series of streets intersecting.

each other at right angles running in the directions of the cardinal points of the compass. With the alleys, and the open spaces at intersections, the highways occupy, according to Keim, about 2,500 acres, or nearly one-half of the area of the city. The streets running east and west are designated by letters of the alphabet, and by the word "north" or "south", according as they are situated north or south of the capitol. The streets running north and south are designated numerically and by the word "east" or "west", according to their position with respect to the capitol. Thus: 309 K street N.W. is on the eleventh street north of the capitol, between the third and fourth streets west of it. The same system of naming the streets has been extended over Georgetown, the ancient names being also temporarily retained for convenience. The four quarters of the city are designated N.W., N.E., S.E., and S.W. Most of the avenues are from 120 to 160 feet wide; two, Missouri and Maine, are but 85 feet. The avenues running, as they do, diagonally across the city, effect quite an economy in travel between extreme points thereof. Since the improvements inaugurated in 1871, the streets of Washington have become the best paved of any in the country. On the 1st of July, 1880, the 230.05 miles of streets of the city were paved as follows:

Material.	Square yards.	Miles.
Asphalt and concrete (coal-tar) ..	981,348	40.06
Stone blocks .....	411,774	14.87
Rough stone .....	559,051	18.04
Macadam .....	215,330	7.45
Gravel .....	644,963	31.31
Wood .....	509,481	22.10
Unimproved .....	1,799,541	95.62
Total .....	5,121,518	230.05

During the year ending June 30, 1880, the wooden paving was replaced to the following extent:

Material.	Cost.	Square yards.
Asphalt .....	\$104,143 17	67,962.91
Granite .....	87,390 42	45,084.28
Asphalt block .....	6,349 51	3,214.08
Total .....	197,883 10	116,261.27

Since the 1st of July (to October 20) there have been executed or placed under contract 86,000 square yards of repaving.

As a temporary expedient, during the last few months, on some streets, the wood has been taken up in the center and replaced with gravel, well rolled, the amount of this being about 38,000 square yards. After all these deductions have been made, there will remain, on the 1st of January next, 17 miles, containing 385,000 square yards of wood pavement. This pavement has been gradually becoming more and more intolerable with each month, until now, in the whole 17 miles, there is hardly a single square on which a carriage can be driven with safety at a speed greater than a slow walk. The wooden streets are far less passable than those marked as unimproved.

There can hardly be any duty more important for a city government than to keep its streets in a passable and healthy condition. The streets now covered with wood are not in such a condition, and they should be disposed of within another fiscal year (i. e., by June, 1882), at the latest. Many of them are in outlying sections of the city, where there is but little travel. These could, with little expense, be replaced with gravel, which would answer their purpose perfectly well until the streets are more built up; about 120,000 square yards could then be disposed of. The remaining 265,000 square yards could be repaved with the balance [\$115,000] of this year's appropriation and an appropriation of \$400,000 for next year. If this amount is appropriated, the wood can all be removed in eighteen months from this date. If a less amount is appropriated, some of the wooden streets will have to remain in the same miserable condition that they are now until funds are provided for repairing them.<sup>(a)</sup>

A careful examination of the records of the old corporation and board of public works shows that there were laid, in all, 1,188,597.47 square yards of wooden pavement, aggregating a length of nearly 50 miles, and costing \$4,003,744. When the present commissioners came into office, in 1878, there were on the streets, exclusive of paving between railway-tracks, 34 miles (790,000 square yards) of wooden pavements. On the 30th of June, 1880, these pavements had been partially replaced to the following extent, viz:

Years.	TOTAL.		WITH ASPHALT.		WITH GRANITE.		WITH ASPHALT BLOCK.	
	Square yards.	Cost.	Square yards.	Cost.	Square yards.	Cost.	Square yards.	Cost.
1878 and 1879 .....	162,109.11	\$333,219 11	104,022.52	\$200,900 18	56,093.24	\$129,657 32	1,093.35	\$2,661 61
1879 and 1880 .....	110,261.27	197,883 10	67,962.91	104,143 17	45,084.28	87,390 42	3,214.08	6,349 51
Total .....	272,370.38	531,102 21	171,985.43	305,043 35	102,077.52	217,047 74	4,307.43	9,011 12

<sup>a</sup> Report of Lieutenant Greene, assistant to the Engineer Commissioner, for year ending June 30, 1880.

The following extracts from Lieutenant Greene's report are of value as stating the results gained by long and careful experience:

In replacing the wood the two standard kinds of pavements, asphalt and granite block, have been strictly adhered to, except at the intersection of Seventh street and Louisiana avenue, where a second piece of compressed asphalt block was laid as an experiment. This class of pavement looks reasonably well after the traffic which it has had (one year and two years, respectively), but it is too soon yet to give any positive opinion as to its merits, and it would not be well to lay any large quantities until it has had a five years' test, and then only in case its cost can be brought down to compete with the standard pavements.

The granite-block pavement, laid on a foundation of gravel and sand, and filled in the joints with a cement of coal-tar, gives great satisfaction in business streets, where the travel is heavy. The experience in Paris and London puts the life of this character of pavement (when laid without cement in the joints) at about thirty years, with an annual expense of about 10 cents a yard for maintenance and repairs. There is every reason to believe that the stone pavement laid in this city will prove equally durable, and that the cement in the joints, by making the pavement water-tight and giving the blocks mutual support, will reduce the annual cost of maintenance to 2 or 3 cents a yard.

The only objection which is ever made to this class of pavement arises from the noise made by heavy teams. In several cases it has been necessary to lay it on streets where there are no business houses or heavy travel, but where the grade is heavy (above 2 in 100), or where the carriage-way is very narrow between the railroad track and the curb. In all such cases it has been laid against the vigorous protest of the residents, on account of the noise; but there is no question that it is much better suited to such streets than the smooth asphaltum. \* \* \*

During the present fiscal year, owing to the difficulty formerly experienced in compelling contractors to furnish blocks of a suitable shape, the district has bought its own blocks, subject to careful inspection, and then made contracts in the usual manner for laying the blocks furnished by the district. The blocks were bought by contract awarded to the lowest bidder. The result of this change has been a much better grade of blocks, and a reduction in the total cost of the pavement of from 10 to 15 cents a yard. It now averages about \$1 79 a yard, as against \$1 92 for last year. The contracts for asphalt pavements averaged \$1 47 per square yard last year and \$1 85 this year. \* \* \*

The oldest pavement of asphalt is the one laid by the paving commission of 1876, on Pennsylvania avenue between Sixth and Fifteenth streets. This has now been on the street between three and four years, and the repairs (made at the expense of the contractors) are understood to have cost \$2,142 50, or at the rate of \$714 16 per annum, the number of yards being 53,198.80. The annual expense for repairs has been less than 1½ cents per square yard. On the compressed asphalt pavement, laid by the Neuchatel Paving Company on Pennsylvania avenue, between First and Sixth streets, the repairs are reported to have cost about \$1,867, or \$622 33 per annum, the number of yards being 25,322.28. The annual expense for repairs has been about 2½ cents per square yard. This pavement of the Neuchatel company is of the same character as those laid on the roadways in Paris. It is composed of natural bituminous limestone, which is broken and reduced to powder by heat, placed on the streets in form of powder, and compressed by large iron rammers. The pavements which we are now laying in this city under the name of "asphalt" are artificial mixtures or mastics. Our investigations and practice are therefore on an entirely different line from those in Paris. The objections made to the Paris pavements are well known to be its slipperiness during a light rain or in damp weather, and the difficulty of cleaning. The contracts for maintenance provide for sanding the pavement when slippery, and for flushing it with a large amount of water and scrubbing with a rubber mop or "squeegee" in order to clean it. The same objections apply to the compressed asphalt pavement on Pennsylvania avenue, while the mastics as laid here are almost free from these objections, owing to the gritty nature of the sand which forms a large portion of the ingredients. It is too soon as yet to affirm any thing positive as to the wear of the mastics. Where cut by plumbers, for making connections with pipes and sewers, the surface-coat does not show any appreciable wear. The pavements are all to be repaired at the contractor's expense during the period of five years from date of completion, but as yet no repairs have been necessary except for cuts made by plumbers.

The entire surface of asphalt pavements on a concrete base in this city on the 1st of January, 1881, will amount to 360,000 square yards; of the so-called concrete pavements, of which the cementing substances was a product of coal-tar, the amount is 700,000 square yards, giving a total of 1,060,000 square yards of monolithic or smooth-surface pavements, extending over a length of 44 miles. This is considerably more than exists on the roadways of all other cities in the world taken together, the amounts for other cities being as follows:

Cities.	Square yards.	Miles.
Paris .....	370,000	10½
London .....	150,000	6½
New York .....	20,000	1
Other cities (estimated) .....	60,000	2½
Total .....	600,000	30

The so-called concrete pavements are, as a general rule, in a fair state of preservation; they were generally laid on a base of broken stone from 4 to 6 inches thick, covered with a layer of "binder" about 1 inch thick, composed of pebbles and a cement of coal-tar. The wearing-surface was made in various ways according to the patent, but consisted essentially of small gravel, sand, or stone-dust, cemented by a product of coal-tar. In the later pavements of this variety a certain proportion of asphalt was mixed with the coal-tar, and with beneficial results. Several of these pavements have stood the test of five years' wear, with little or no repairs, and are to-day in perfect condition; others were of inferior quality. When the top surface has worn off, these pavements begin to go to pieces very rapidly, and in order to save them from destruction they must be promptly covered with a new wearing-surface. During the year 1879-'80, 53,436 yards were thus resurfaced, and 17,863 yards were entirely condemned, taken up, and replaced with the standard asphalt pavement on a concrete base. During the current year about 15,000 yards have been resurfaced or are under contract.

Experience has, however, shown that by careful attention and constant repairs of small quantities in each, these pavements can be made to last much longer than was anticipated. Pavements, for example, which seemed on the point of destruction two years since have by constant patching been maintained up to the present time and still present good surfaces. These pavements, however, were all laid

within a few years of each other, and there is a possibility that after a few years more of wear they might all break up at the same time, during a severe winter for example. It is therefore economical to gradually resurface a certain portion every year, and an appropriation of about \$100,000 should be made annually for this purpose. A summary of these pavements is shown in the following table:

Repairs, etc.	Square yards.	Cost.
Resurfaced 1875-'78 .....	218,842.60	\$329,378.69
Resurfaced 1878-'80 .....	53,496.33	50,187.40
Replaced 1879 .....	17,803.75	20,091.00
Minor repairs 1875-'78 .....		3,099.62
Minor repairs 1878-'79 .....		18,618.22
Minor repairs 1879-'80 .....		8,206.26
Total for repairs .....		448,182.09
Laid 1871-'75 .....	741,415.44	2,284,004.01

These repairs extended over a period of seven years, *i. e.*, from 1873, the average time of laying, to 1880, and the average annual expense of repairs is therefore \$64,026, or at the rate of 8½ cents per yard. This is certainly not an expensive rate for the luxury of smooth pavements. The asphalt pavements being composed of less perishable materials and being laid in a more substantial manner, it may be confidently expected that the cost of maintenance will be still less.

The minor repairs of concrete and asphalt pavements are made by contract let to the lowest bidder, and running for one year. These repairs include the damage done to pavements by plumbers' cuts, the actual cost of which is paid by the plumbers. The work to be done is specified by this office, and the whole city is carefully examined and repaired about four times a year, or oftener if necessary. The work is done under careful inspection of experienced inspectors employed by the district.

The rough-stone pavements (rubble and cobble) remain in the same condition as mentioned in the last annual report. They are uncomfortable for travel, but their replacement is of secondary importance, on sanitary grounds as well as others, to the replacement of the wooden pavements.

The macadam pavements, when laid in the center of a city and subject to heavy travel, have proved very unserviceable here as elsewhere. The pavement of this character on Four-and-a-half street is in very bad order, and to properly repair it would cost not less than 60 to 70 cents per square yard, or more than \$20,000 for the whole street. It would be cheaper in the end and better to replace it with granite blocks and sell the macadam metal for use in making concrete. On streets of lighter travel, such as Boundary, T, and Eleventh streets, the macadam, when well laid and compressed, has lasted reasonably well, but it is an expensive pavement to keep up, and requires constant repairs. For five years these pavements have had little or no repairs, and the ruts and holes have become very numerous. \* \* \*

The total length of streets opened and improved during the year was 3¼ miles. All of this work has been done entirely at the cost of the district, there being no special assessments on property-owners for improving the streets in front of their property.

The general funds being, however, quite insufficient to make all the improvements desired, a considerable amount of work has been done, partly at the expense of the persons benefited and partly at the expense of the district, under what is known as the "permit system". Under this system the district pays for all the materials used (curb, flagging, cobble, bricks, etc.), and the persons benefited pay for the labor. The district also lays out, free of cost, the line of the street and furnishes the grade. A deposit is required when the material is issued, as a guarantee that it will be properly used; this deposit is returned after the work has been inspected and found satisfactory.

Under this system, during the past fiscal year, 2.1 miles of streets were improved, *i. e.*, the curbs, gutters, and sidewalks were laid, requiring 11,031 feet of gutter-flag, 3,677 square yards of cobble-stones, and nearly 700,000 paving-bricks. Nearly 60,000 bricks were also furnished for the repair of old sidewalks, and about 3,500 square yards of alleys were graded and paved.

During the current year the demand for materials for improvements under the above conditions has been still more active, and fully as much work has been done in the four months of the present fiscal year as during the whole of last year. The advantages of this system are obvious. \* \* \*

It should be remembered that Washington is one of the most thinly built-up cities in existence, for the length of its streets and the area within its limits. It has 164 miles of streets improved or partially improved, in an area of 9¼ square miles, and for a population [of 147,293] whose total revenues, including that contributed by the general government, amount only to \$3,280,000 per annum. \* \* \* It is evident that Washington has comparatively a very small population and small revenue to the amount of streets required to be kept up.

While this lack of density has great advantages for sanitary reasons, and in a measure adds to the beauty of the city, yet it renders the proper care of the streets extremely difficult under any reasonable rate of taxation. With the current revenues on the present basis, and without special assessments for improvements, it will therefore be many years before the outlying streets can be paved or even improved with gravel roadways. \* \* \*

In addition to the 102 miles of paved streets, there are 33 miles of graveled streets in the city, the cleaning and repair of which is conducted by days' labor, as well as the miscellaneous repairs on the streets, alleys, and sewers of every character not specially provided for. All of this work is placed under the immediate charge of the very efficient superintendent of repairs, Dr. E. M. Chapin, who has under his direction a force of overseers and workmen which varies according to the amount of work to be done, but averages during the summer months 10 overseers, 50 laborers of various grades, and 40 carts.

#### STREET-SWEEPING.

The streets are swept by contract, according to schedule prepared in the engineer's office. During the past year the contract was held by L. P. Wright, at the rate of \$33,000 per annum, for an amount not less than 92,000,000 yards. The work was satisfactorily performed with machines.

In May last proposals were invited for doing this work for the period of three years from July 1, 1880, subject to annual appropriations by Congress. The specifications required the work to be done according to schedule furnished by the engineer commissioner, and to be paid for at a fixed rate for each 1,000 yards actually swept, the total amount to be about 110,000,000 yards per annum. The lowest bidder was H. L. Cranford, at 23¼ cents per 1,000 yards, and the contract was awarded to him at that rate.

For 110,000,000 yards per annum the cost will be \$26,075. The new contract, therefore, performs 20 per cent. more work, and saves the district about \$7,000 a year.

The new contractor was required to execute an indemnity bond holding the district harmless from any suits growing out of patent rights in street-sweeping machines.

The work under the new contract is progressing favorably and satisfactorily. The frequency of sweeping depends on the amount of traffic on the street. Under the present schedule the 2,500,000 square yards of paved streets are swept as follows: Daily, about 4 per cent.; twice per week, 6 per cent.; once per week, 50 per cent.; and once in two weeks, 40 per cent. It is found by experience that bad weather prevents sweeping on about forty days in the year. As previously stated, the contractor is paid for the amount actually swept.

#### ALLEY-CLEANING.

The alleys are cleaned also by contract. The number of paved alleys is 303, and of graded but not paved, about 200. They are of very different sizes, but average about 1,200 square yards each. These alleys are all swept and cleaned once in every week during the eight months from April to November, and once in two weeks during the four months from December to March. Owing to the small width of the majority of them it is not practicable to use machines, and the sweeping is all done by hand. The alleys are thoroughly sprinkled, however, before sweeping, in order to avoid creating a dust during the operation. The lowest bidder for the current year was R. Carns, at \$4,275 per annum, to whom the work was awarded.

During the past year the alleys were swept once in a week during six months, and once in two weeks during the remaining six months of the year. The cost of the work was \$4,160 43 for the year.

#### STREET-LIGHTING.

There are at present on the streets of Washington 3,681 street-lamps, and in Georgetown 387 lamps, lighted at the expense of the district. The contract with the Washington company is \$28 70 per annum, and with the Georgetown company \$32 per annum for each lamp, to burn 2,200 hours per annum with a 6-foot burner. The companies also light, extinguish, clean, and repair the lamps, as part of their contract, without extra expense.

During the past year 80 new lamps were erected. On Pennsylvania avenue the lamps are placed at intervals of every 100 feet of curb; on the other streets the intervals vary up to 250 feet. About 5 miles of improved streets have no lamps at all.

During the past year the street signs of the new pattern were placed on the corner lamps throughout the city. These consist of a light iron frame, rectangular in shape, resting on the frame of the lamp, and inclosing on each side a piece of glass 16 inches long and 3½ inches high. On these glasses the names or numbers of the streets were cut by sand-blast. The advantage of this arrangement lies in the fact that the signs are independent of the lamp proper, and are not liable to be broken in cleaning the panes. Twelve hundred and twenty-three signs were placed on the lamps, at a cost of \$2,140 25.

The district is connected with the Virginia shore by three bridges across the Potomac. Long bridge, which has a track for the Baltimore and Potomac railroad and a carriage-way for vehicles and pedestrians, is laid on piers. The Aqueduct bridge, at Georgetown, is the only toll-bridge in the district. The Chain bridge, a suspension bridge, at Little falls, 4 miles above, has given place to an iron truss bridge, erected in 1874, but generally designated by the old name. Across the Anacostia runs the Navy-yard bridge, an iron structure, erected in 1875, and Benning's bridge, of wood, lies about a mile above the navy-yard.

*Tree-planting.*—The planting, care, and protection of trees in the streets, squares, reservations, and parks of Washington are in charge of a parking commission, consisting of three members. They report to the engineer commissioner for the year ending June, 1880, as follows:

During the year 3,000 trees were planted, and 248 old and decaying ones removed.

The planting of trees has now become a small item in the expenditures of the commission. So much is required for the ordinary care and keep of those already planted, that comparatively few can be added to the number with the present appropriations. The materials for repairing and reconstructing old tree-boxes and the purchase of 3,500 new ones cost \$4,298 82, while the cost of labor for setting and repairing boxes amounts to \$3,079 07. Other items of expenditure may be noted, such as for pruning, \$418 23; watering, \$540 75; mowing and cleaning reservations and parks, \$169 87; taking out old trees, \$78 75; whitewashing boxes and trees, \$114 37; paving around trees, \$583 11; weeding and cultivating around trees, \$326 14.

The expenses incurred in the purchase and repairs of boxes could now be largely reduced if it were practicable to discontinue their use. Perhaps two-thirds of all the trees in the city would be improved by removal of the boxes, but where this has been attempted the trees have suffered from horses being allowed to gnaw the bark, and also from the malicious use of knives and hatchets in the hands of evil-disposed persons, by which the bark is cut and torn away in strips, so that it has been found necessary to replace the boxes in order to save the trees from total destruction. This vandalism is much to be regretted, as it would improve the appearance of the city far beyond ordinary expectation if the tree-boxes could be dispensed with.

With regard to horses, we would renew our suggestion of inserting rings in the curbstones for securing horses in the absence of drivers. It would be an economical measure to do so, as the cost of repairing broken boxes and replacing broken trees, caused by runaway and stray horses for one year, would go far toward supplying these rings. \* \* \*

It may be remarked that after midsummer the insects are more unsightly than injurious to the trees; the young growths have then acquired a considerable degree of maturity and solidity, and they are not materially injured by the destruction of the leaves; in fact, the tree is much more permanently injured from the removal of infested branches by the pruning-shears.

#### WATER-WORKS. (a)

The water-supply of the city is brought from the Great falls of the Potomac, along the east bank of the river, by the aqueduct, a distance of 12 miles, to its termination in a distributing reservoir, 2 miles from Rock creek and 4½ miles from the capitol. The aqueduct is a cylindrical conduit of 9 feet interior diameter, constructed of stone and brick laid in hydraulic cement, and covered by an embankment or tunneled through the hills, and is carried across the streams flowing into the Potomac by magnificent bridges, and has a fall of 9½ inches to the mile. Some

2 miles before the distributing reservoir is reached there is a receiving reservoir used for the storage of water. This is a natural basin, formed by an embankment 65 feet high across Powder Mill creek, and retains the water within the encircling arms of the surrounding hills. It has a surface area of 52 acres, a greatest depth of 53 feet, and drains 40,000 acres of the adjacent country. In the south end is the sluice-tower. A conduit extends around the south end, connecting the aqueduct without passing through the receiving reservoir, the capacity of which is 163,000,000 gallons. The height of water herein is controlled by a channel cut in rock. The aqueduct here passes through a tunnel 800 feet long, pierced through the solid rock.

In the effluent screen-well at the distributing reservoir are laid four 48-inch mouth-pieces for the supply of the city, three of which are reduced in the pipe-vault to 36, 30, and 12 inches, respectively. Leaving the vault, these three mains run parallel across the country to a small stream known as Foundry branch. Near this point they strike the road along the Chesapeake and Ohio canal, which they follow through Bridge and Aqueduct streets, in Georgetown, to Rock creek, a distance of 2 miles. On the way the 30-inch and 12-inch mains cross College pond over an arch of 120 feet span, composed of two 30-inch pipes. The 36-inch main is laid in the bottom of the creek. At Rock creek two of the three mains are joined, so that the water is conveyed through two 48-inch pipes, which form an arch of 200 feet span across that stream. These arches also sustain a roadway for general traffic between Washington and Georgetown. Crossing this bridge, at the east abutment the three mains are resumed, and thence the vast water-supply for the public and private buildings and fountains of the capital is distributed by mains of 36, 30, 20, 12, 10, and 8 inches. The total length of mains in the District of Columbia is a little over 175 miles; there are 826 fire-plugs and 317 hydrants (268 in Washington and 49 in Georgetown), and there are in the neighborhood of 20,000 water-takers. The daily supply is about 30,000,000 gallons, and the consumption of water is about 17,000,000 gallons. The full capacity of the aqueduct is 80,000,000 gallons.

In Georgetown, at the head of Market street, is the Georgetown high-service reservoir, supplying all that part of Georgetown which lies at an elevation of over 100 feet above tide. It consists of a domical reservoir of brick, 120 feet in diameter, with a capacity of 1,000,000 gallons, and is fed from the aqueduct mains at the bridge over Rock creek by two pumps. The surface-water is 215 feet above tide and 70 feet above the distributing reservoir. There is also a stand-pipe of limited capacity on the hill north of Sixteenth street west for the supply of that high-lying neighborhood.

By statute the water-rates are limited to the cost of laying new pipes, keeping the old ones in repair, and the current expenses of administration. The expenses of the water department for the year ending June 30, 1880, were, including \$74,025 interest paid to the sinking-fund, \$166,338 18.

#### GAS. (a)

The city is lighted by two private companies, the Washington Gas Light Company and the Georgetown Gas Light Company.

The United States government provides for the lighting of all public buildings and grounds, and the District of Columbia for the lighting of the avenues and streets. The average daily production of the Georgetown company is 45,924 feet; of the Washington company, 884,731 feet; together 930,655 feet. The charge per 1,000 feet of the former to private consumers is \$2 50, of the latter \$2 25, and for public buildings \$2. These figures are for the year 1879.

The number of miles of lighted streets is.....	112.38
The number of lamps on streets and alleys .....	4,163
The number of lamps on United States reservations .....	663
The total number of lamps .....	4,826

On January 1, 1880, a district contract was made with each company which reduced the price of gas 25 cents per 1,000 feet.

#### PUBLIC BUILDINGS.

The government of the District of Columbia hires rooms for offices, etc. The more important of the national public buildings may be described briefly as follows:

The Capitol occupies a position near the center of the city, and stands 89½ feet above ordinary low tide in the Potomac. It is constructed with a central building and two projecting wings of great extent, and is ornamented on the east front with 68 Corinthian columns of marble. The entire length of the building is 751 feet and 4 inches, with a width of from 121 to 324 feet in the different portions. The material of the central building, the original structure, is Virginia freestone; that of the wings is Massachusetts marble. The whole edifice covers nearly 3½ acres. The height of the center and wings from the ground to the roof is 70 feet. From the main or central building springs a lofty iron dome, 287 feet high and 135½ feet in diameter at its base, and containing 3,575 tons of cast and wrought iron. The apex of the dome is surmounted by a lantern 15 feet in diameter and 50 feet high, and

this is crowned by a bronze statue of Freedom, designed by Crawford, and facing the east, the height of which is  $19\frac{1}{2}$  feet. The extreme height of the crest of the statue from the base-line is  $307\frac{1}{2}$  feet. The Senate chamber occupies the center of the north wing, is 81 by 113 feet in dimensions, and has seats for 76 senators. The south wing of the capitol is occupied by the House of Representatives and its offices and committee-rooms. The hall of the House measures 139 by 93 feet, and is 36 feet in height. The galleries will accommodate about 1,500 persons, while the floor affords ample space for 300 members. The Library of Congress occupies the main portion of the western projection of the central building. The Supreme Court room and offices occupy the old Senate chamber in the central building and rooms adjacent. The total expenditure upon the capitol for erection, extension, and repair has been a little more than \$13,000,000. The present central structure dates from 1818 (completed 1827), and the extension or wings from 1851. The first capitol, begun on the same site, was destroyed by the British in August, 1814.

The Treasury department is at the corner of Pennsylvania avenue and Fifteenth street. It is an imposing edifice, Ionic in style, and with a stone balustrade running around its entire roof. It has four fronts. The eastern, constructed 1836-'41, of Virginia freestone, is the oldest part of the building. The other three, built 1855-'64, are of solid Maine granite. The monolithic columns of the south front are among the largest in the world, being  $31\frac{1}{2}$  feet high and  $4\frac{1}{2}$  feet in diameter. The whole building measures 468 by 264 feet, exclusive of porticos and stairways, contains some 200 rooms, exclusive of attic and sub-basement, and cost \$6,000,000. The bureau of Engraving and Printing, a branch of the Treasury, occupies a separate building on the mall, corner of Fourteenth and B streets southwest. It is built in Romanesque style, and is 220 by 135 feet, costing \$300,000. It is of pressed and molded brick, and is fire-proof.

The structure accommodating the departments of State, War, and the Navy is located just west of the Executive Mansion, and consists of three great buildings united by connecting wings. Its dimensions, exclusive of projections and steps, are 471 by 253 feet, the greatest length running north and south. The extreme height from the level of the terrace is 128 feet. The building was begun in 1871, and the south pavilion was finished and occupied by the State department four years later. The entire structure contains 150 rooms, and cost \$5,000,000.

The department of the Interior, better known as the Patent Office building, stands near the center of the city, occupying the entire square between F and G streets, and running from Seventh to Ninth street. This building is massive, though simple, in its proportions, and in the Doric style. It measures 453 feet from east to west, and 331 feet from north to south, including the projections of the portico. Its height is 75 feet. The older part, built in 1837-'42 and fronting on F street, is of freestone; the three remaining fronts, built 1850-'64, are of Maryland marble; and the interior, fronting on an open court, is of New England granite. In this building are located, besides the Patent office, which occupies by far the largest portion of its 191 rooms, the Indian office and the office of the public lands, together with the offices of the Secretary of the Interior and clerks. The patent business of the United States is of enormous extent, and the models exhibited in this building just previous to the fire in 1877, by which 80,000 were destroyed, numbered upward of 160,000. The building cost \$2,700,000. The reservation on which it stands covers  $4\frac{1}{2}$  acres, while the structure itself covers  $2\frac{3}{4}$  acres.

The Postoffice Department building is directly opposite the Patent Office, occupying the square between Seventh and Eighth streets, and E and F streets. The E-street portion, begun in 1839, is of marble from New York quarries. The extension of the building over the northern portion of the square to F street was built in 1855, of Maryland marble. The style is Corinthian. The building is 300 feet north and south, by 204 feet east and west, and is two stories high. In the center is a court measuring 193 feet by 95 feet. The cost was \$1,700,000.

The building for the department of Agriculture is of brick, with brownstone trimmings, in the renaissance style. It is 170 feet by 61 feet, and stands on the public reservation adjoining the Smithsonian Institution. It was erected in 1868, at a cost of \$140,000. Connected with it are green-houses, graperies, and experimental grounds, covering about 10 acres. The ground is terraced in front and planted with beds of assorted flowers.

The Naval Observatory occupies grounds to the extent of 19 acres on the bank of the Potomac, east of Annapolis island. The main building was erected in 1844.

The Army Medical Museum, formerly Ford's theater, where Lincoln was assassinated, is on Tenth street, between E and F streets. It contains the hospital records of the army, in over 10,000 manuscript volumes, as well as the library of the surgeon-general's office, embracing about 40,000 volumes, and a vast assemblage of curious and instructive specimens representing the effects upon the human body of wounds, morbid conditions of the mind, surgical operations, and other matters incident to army life.

The Government Printing-office and bindery occupies a plain painted brick building at the corner of North Capitol and H streets. It is L-shaped, 243 by 175 feet in size,  $61\frac{1}{2}$  feet deep, and is four stories high. The printing of Congress and of the executive and judicial departments is done here. Its equipment is very complete.

The Washington Navy-yard, established in 1804, embraces 27 acres, on the Anacostia river, at the foot of Eighth street. There are within it two ship-houses, several boat-houses, and shops for the manufacture of ordnance, together with buildings for officers' quarters. This yard, though practically no longer used for ship-building, is an important depot for the manufacture of naval supplies. Near it are Marine barracks, an extensive though unattractive building, forming the headquarters of the Marine Corps of the United States Navy.

The President's house, known as the Executive Mansion, or White House, built in 1818-29, is on Pennsylvania avenue, on a reservation of about 20 acres, between the Treasury and the State departments. It is of freestone painted white, 170 feet long by 86 feet wide, two stories high, and has a colonnade of eight simple Ionic columns in front, and a semi-circular portico in rear. The grounds about it are laid out with walks, trees, shrubbery, and fountains, and a conservatory stands to the west. The first President's house, built in 1792, was occupied by President Adams in 1800, but was among the buildings burned by the British army in 1814.

The city hall, occupied until 1871 jointly by the municipal government of Washington and the United States courts for the District of Columbia, became, by purchase in 1873, the sole property of the United States. It is now devoted entirely to district judicial purposes. It stands on the south line of Judiciary square, fronting Four-and-a-half street west. Its erection was begun in 1820, and the east wing was finished in 1826, and the west wing in 1849. It is of two stories, is 47 feet high, and consists of a recessed center 150 feet long, with two projecting wings, each of 50 feet front and 166 feet deep, the entire frontage being 250 feet. It is built of brick, stuccoed, and painted white.

The Smithsonian Institution, founded on the bequest of James Smithson, of England, for the "increase and diffusion of knowledge among men", stands in a reservation of 52½ acres, about 1 mile west of the capitol. The extreme length of the building, including the porch of the east wing, is 447 feet; the breadth of the center of the main building and towers, including the carriage-porch, is 160 feet. It is built of freestone found in the red sandstone formation on the Potomac, about 23 miles from Washington. The corner-stone was laid in 1847, and the building was completed nine years later. Its cost was \$450,000, leaving in the Treasury of the nation a fund of \$650,000, from the income of which the expenses of the institution are paid. The institution devotes its energies to ascertaining and publishing scientific information, as well as to conducting exchanges between the government and scientific bodies of this and foreign countries. It also has the care of the National Museum. This latter is a brick building, 327 feet square, standing east of the Smithsonian Institution some 50 feet.

Besides the public offices occupying buildings erected by the government there are others in rented buildings in various quarters of Washington, notably the department of Justice, the Pension Office, the Census Office, the Coast Survey, and the Signal Service.

Among the minor public buildings erected by the government are the Naval Hospital, at the corner of Pennsylvania avenue and Ninth street southeast; the Columbia Institution for the Deaf and Dumb, founded in 1857, accommodating 100 pupils and occupying 100 acres of ground at Kendall Green; the Government Hospital for the Insane, a large building, opened in 1855, on the east bank of the Anacostia, opposite Washington, surrounded by 419 acres of ground, belonging to the Army and Navy and the District of Columbia conjointly; and the Reform School of the District of Columbia (established in 1871), with 150 acres of ground, 3 miles from the capitol, on the Bladensburg turnpike.

In 1848 the erection of the Washington National Monument was begun, on a plateau south of the Executive Mansion and west of the mall near the bank of the Potomac, by an association incorporated by Congress. After an outlay of \$230,000, raised by voluntary subscriptions, the work came to a standstill, but in 1876 Congress undertook its completion. It is a plain obelisk, 70 feet square at the base, and when finished will be 555 feet in height. It is built of great blocks of crystalline Maryland marble, lined with blue gneiss stone.

The Soldiers' Home, established in 1851 by the purchase of 200 acres of land 3 miles north of the capitol with the residue of the money levied by General Scott on the city of Mexico, is a national institution for the invalid soldiers of the regular army. It is sustained by a fund derived from retaining 12½ cents a month from the pay of each private in the army, and since its establishment its grounds have been more than doubled in extent. These grounds, laid out in groves and meadows, and dotted with lakes, afford 7 miles of beautiful drives, serving as a free public park for the city of Washington. The buildings are handsome, and form an attractive feature in themselves.

There are many charitable institutions in Washington, not a few of which have received continuous or occasional aid from the national treasury by act of Congress. Those most worthy of mention are Providence Hospital, a large building accommodating 200 patients, standing on Capitol hill; the Louise Home, for indigent gentlewomen, on Massachusetts avenue, erected and endowed in 1871 by W. W. Corcoran, esq.; the Columbia Hospital for Women, the National Soldiers' and Sailors' Orphans' Home, the Washington Orphan Asylum, Saint Joseph's and Saint Vincent's orphan asylums, Saint John's Hospital for Children, the Freedmen's Hospital, the Home for the Aged, under the care of the Little Sisters of the Poor, and the Washington Eye and Ear Infirmary.

#### PUBLIC PARKS AND PLEASURE-GROUNDS.

In the plan of the city numerous desirable localities were set apart for parks, for sites of public buildings, and for other purposes of the government. These reservations had a total area of 541 acres 109 rods, and were numbered from 1 to 17. Several have been sold or granted away, but the rest, amounting to 513 acres, are designated on the maps of the city by their original numbers, though they are popularly known by the name of the buildings situated on them or to the ones to which they are assigned, as "the Capitol grounds and mall", etc. Most of the grounds attached to public buildings have already been described. There are, however, numerous beautiful squares in different parts of the city, as follows:

*Franklin Square*, lying between Thirteenth and Fourteenth streets west, and I and K streets north, has an area of 4 acres, planted with trees and shrubs, and contains a fountain in its center, together with several drinking-fountains. In order to secure control of a fine spring located thereon, and whose waters were considered superior to that of the Potomac, the government purchased the ground in 1829, and pipe connection was made with the Executive Mansion in 1832, since which time the water has continued to be used there for drinking.

*Scott Circle*, with an area of 1 acre, lies at the intersection of Sixteenth street and Massachusetts and Rhode Island avenues. It is adorned by a bronze equestrian statue of General Winfield Scott, 10 feet in height (total height, 15 feet), weighing 12,000 pounds, and cost \$20,000.

*McPherson Square*, area  $1\frac{1}{2}$  acre, located on Vermont avenue, between I and K streets north and Fifteenth street west, is laid out in walks, with shrubbery and drinking-fountains. In its center is a bronze equestrian statue of General James McPherson. It weighs 7,000 pounds and cost \$23,500.

*Lafayette Square*, north of the President's house, between Fifteen-and-a-half and Sixteen-and-a-half streets, contains 7 acres, tastefully laid out with gravel walks and seats, and adorned with trees and choice shrubbery. Clark Mills' equestrian statue of Andrew Jackson stands in its center. It is a colossal figure, weighing 15 tons, and cost \$50,000.

*Farragut Square*, area  $1\frac{1}{2}$  acre, lies on Connecticut avenue, between I and K streets north and Seventeenth street west. In it is a colossal bronze statue of Admiral David Glasgow Farragut. The figure is 10 feet high, weighs 1,500 pounds, and cost \$20,000.

*Lincoln Square* is 1 mile east of the capitol, on East Capitol street. It is  $6\frac{1}{2}$  acres in extent, and is beautifully laid out. In it stands the bronze group "Emancipation", representing Abraham Lincoln standing, and holding in his right hand the proclamation of emancipation. A slave kneeling at his feet, with chains broken, is about to rise. On his left is the trunk of a tree, with manacles and a lash strewn about. The group is 12 feet high, weighs 3,000 pounds, and cost \$17,000.

*Judiciary Square*, with  $19\frac{1}{2}$  acres, extends south from G street north to the intersection of Louisiana and Indiana avenues and Four-and-a-half street west. This latter front is occupied by the city hall. Originally this square was known as reservation No. 9, and was set apart for the buildings then under contemplation for the accommodation of the judicial branch of the government.

*Greene Square*, situated at the intersection of Massachusetts and Maryland avenues, is handsomely laid out, and contains a colossal equestrian statue in bronze of General Nathaniel Greene. The figure is  $13\frac{1}{2}$  feet high and weighs 6,000 pounds. The whole structure cost \$50,000.

*Mount Vernon Place*, lying at the intersection of Massachusetts and New York avenues and K and Eighth streets northwest, is well laid out and planted. In the center, on a raised circular space, is a bronze fountain.

*Rawlins Square* is on New York avenue, southwest of the State department. Its acre and a quarter of ground is handsomely laid out with walks, trees and shrubbery, and rustic fountains. It contains a heroic statue in bronze of Brigadier General John A. Rawlins, 8 feet in height, weighing 1,400 pounds and costing \$2,500.

*Stanton Place*, comprising  $3\frac{1}{4}$  acres, adjoins Greene square.

At the convergence of New Jersey and North Carolina and South Carolina avenues, and but a short distance south of the capitol, is a tract of land,  $23\frac{1}{2}$  acres in extent, on which it was originally designed to erect the town house or city hall, but nothing has as yet been done, and it is still without improvement.

There are in the southeastern part of the city other squares, but they are vacant and unimproved. The spaces at the intersections of the avenues and streets are called triangular reservations, while those at the intersection of the more important avenues are termed circles. Many of the former, east and west of the capitol, are planted with trees and shrubs and adorned with small fountains.

Among the circles may be mentioned *Washington Circle*, at the junction of Pennsylvania and New Hampshire avenues. It contains an equestrian statue of Washington cast from guns donated by Congress, and cost \$50,000.

*Thomas Circle* is at the intersection of Massachusetts and Vermont avenues, and contains the bronze heroic statue of Major General George H. Thomas. This is 16 feet high, weighs 7,500 pounds, and cost \$50,000.

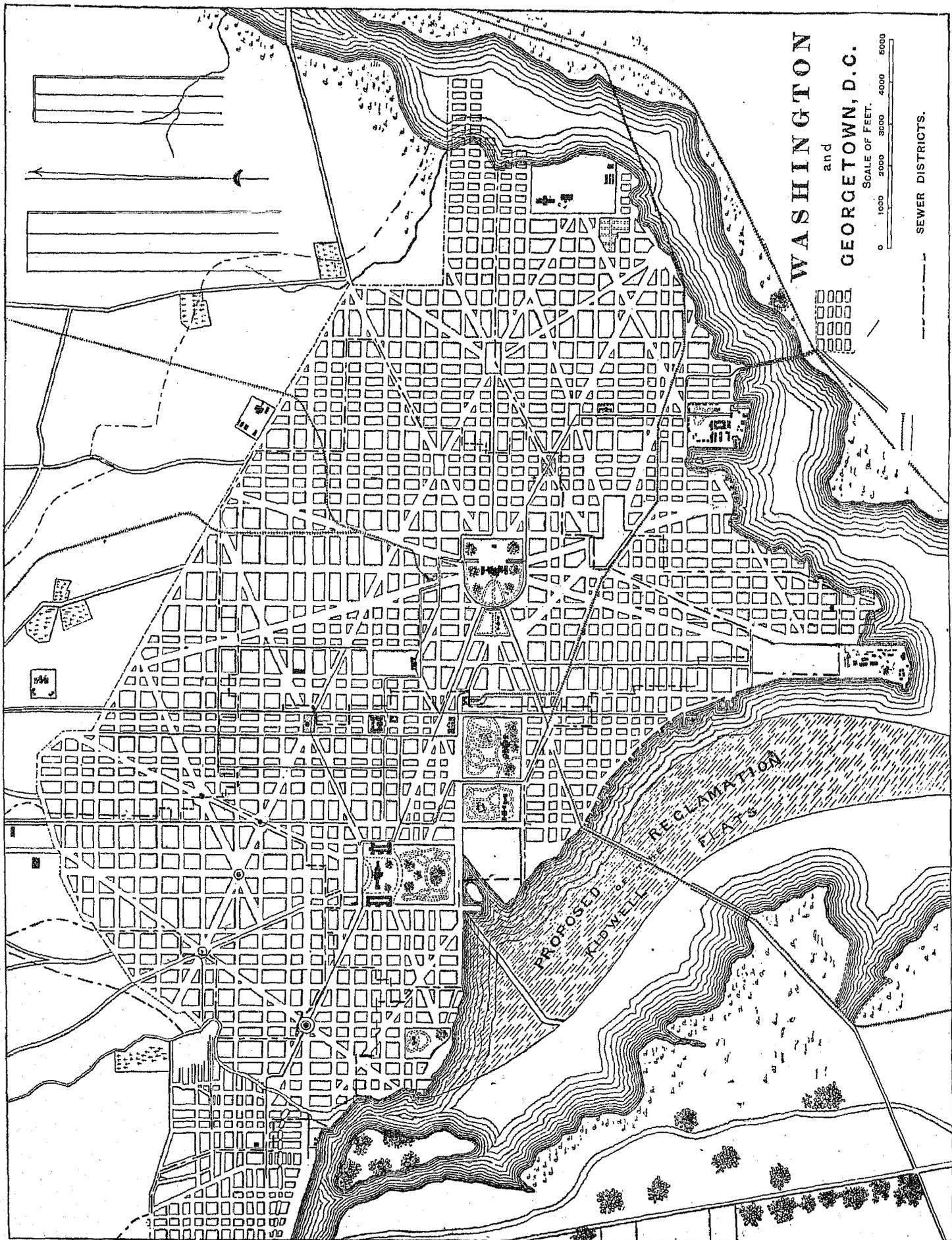
*Dupont Circle* is at the intersection of Massachusetts, Connecticut, and New Hampshire avenues. Congress appropriated, in 1872, the sum of \$10,000 for the erection here of a base and pedestal for a proposed statue of Rear Admiral Samuel Francis Du Pont, United States navy.

#### PLACES OF AMUSEMENT.

The principal places of amusement in Washington are Ford's opera-house, on Ninth street west, and the National theater, on E street north. Stock companies appear here during the season, varied at intervals by the presence of the operatic and theatrical stars. No further information upon this subject was furnished.

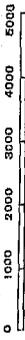
#### DRAINAGE.

Washington was adopted as the site for a city for reasons among which sanitary advantages had no conspicuous place, and it has grown to be a great capital without reference to these sanitary advantages, indeed largely in spite of their absence. Aside from the heavy rainfall to which the locality is subject, it lies across the outlets of a wide



WASHINGTON  
and  
GEORGETOWN, D.C.

SCALE OF FEET.



SEWER DISTRICTS.

outlying drainage area whose storm-waters pour upon it in torrents. Much of the city is level, and its heavy soil at different points retains moisture almost to the point of saturation, while a large part of its area lies so near the level of tide-water as to prevent satisfactory drainage even were the soil more porous. In addition the streets of the city are, and probably will be, mainly paved with asphaltum and water-proof stone-block pavements, with no power of absorption.

The rivers by which the borders of the city are swept, in addition to the degree to which their shoal shores prevent the requisite drainage of the city, accumulate deposits which, exposed at low tide, maintain in the immediate neighborhood a most prejudicial decomposition of organic matter fouled by the overflow of the sewers. The emanations from this decomposition in such close proximity to the heart of the city are a recognized and palpable source of ill-health.

In 1878 the defects in the main system of sewerage of Washington became so pronounced that means for their relief was sought. Lieutenant R. L. Hoxie, of the United States Engineer Corps, made a report on the condition of the principal main sewers, and at the same time presented a plan of relief, which is now in part being carried out.

The most serious defect noted was the failure to discharge the sewage into the deep water of the Potomac river. To remedy this the extension of the main sewers through the marshes bordering the river-front and the reclamation of the latter was suggested, but as this work of improving the harbor rests with the general government, Lieutenant Hoxie recommended a temporary bulkhead inside the line of the new water-front, to be constructed down stream to a point where an open canal could be made to meet the B-street sewer. This was intended to enable this sewer to discharge into deep water, and as the improvement of the harbor-front was perfected, all the sewers would finally discharge their lighter flow into the deep running-water channel of the Potomac and into the Anacostia, as far up as the Navy-yard bridge. The deposits in the sewers themselves must remain considerable. Lieutenant Hoxie further said:

That defect of the present sewer system which has provoked most complaint is the want of capacity to discharge the rainfall of the violent storms which are of common occurrence in the District of Columbia. The remedy is in the construction of auxiliary sewers, and the use of certain temporary expedients for keeping the storm-water out of the present sewers until the latter can be constructed.

The present sewers will not carry off the storm-water. The surface of the streets, smoothly paved as most of them are, affords an ample water-way. If the water is allowed to enter the sewers they become gorged, and the back-flow through the house-connections inundates the cellars and basements of houses. If turned upon the streets the most serious inconvenience will be the condition of the streets during the storms, for any permanent injury from this may be readily prevented, and at a small expense. This is at least the case in the higher parts of the city, where the declivity of the streets is such as to throw off the water rapidly. In the lower areas, where the grade is flat and only a few feet above tide, in part submerged by freshets in the river, the accumulation of water is greater and special treatment is required.

The two principal drainage areas then under consideration were that of the B-street sewer and that of the main Tiber sewer. These two sewers were flooded at every heavy storm, notably in 1875 and again in 1878, the former backing up into its several branches, so that cellars and streets were flooded, while the latter overflowed into the Botanical Gardens, and at last burst and deluged the city along Third street and Missouri avenue toward Sixth and B streets. The bursting of the Tiber sewer occurred on August 5, 1878, during a rain-storm in which 2 inches of water fell in 40 minutes, equivalent to a rate of 3 inches per hour. An examination of the sewer after this storm showed that the arch had been lifted bodily, breaking at the crown, and with marked uniformity at the haunches on either side, about 6 feet from the springing-line, for a distance of about 400 feet, and in falling again into position with the subsidence of the head of water had been broken apart midway between the crown and the fracture at the haunch. This part of the sewer was therefore covered by two brick beams, resting on the haunches of the arch, and abutting against each other at the crown. The pieces had settled more or less out of position, so that the abutting surfaces were in some places 9 inches less than the thickness of the arch, the fractured ends projecting this distance into the sewer.

For the relief of these two drainage areas Lieutenant Hoxie recommended a plan that would include, for the Tiber district, an intercepting sewer on Boundary street, from Eighth street west to the Eastern branch, varying in diameter from 8 to 22 feet, with an open canal 1,600 feet in length; and for the B-street district an intercepting sewer on New York avenue, and another on B street, to terminate at the canal through the Kidwell flats to deep water in the Potomac. The estimated cost of this work was a little over \$670,000.

The present sewerage system of Washington is divided into 5 districts, as follows: All the northwest portion of the city, including what was formerly known as Georgetown, is drained by 7 miles of brick and 30 miles of pipe sewers, with a main sewer one-half mile long, with its outfall at Rock creek. The Boundary district includes all that portion of the city between the Boundary, N, and Fourteenth streets, and the sewer here is intended to relieve the Tiber sewer by intercepting the storm-waters coming down from the hills back of the Soldiers' Home. There are 5 miles of brick and 15 miles of pipe sewers. The Tiber district has an area of about 5 square miles, with 16 miles of brick and 30 miles of pipe sewers, and includes all that part of the city lying east of Sixth street. The main sewer here is the largest in the city, the Tiber creek passing through part of its length. That portion of the city between the foot of Capitol hill and Seventeenth street, north and south of the mall, is drained by the B-street sewer. There are about 30 miles of laterals—13 miles being brick and 17 miles being pipe sewers.

That portion of the city contiguous to the two rivers forms another district, with 24 miles of sewers, draining into the two streams at different points.

In his report for the year ending June 30, 1880, Lieutenant Hoxie has the following regarding the present system of sewerage:

The sewerage of Washington and Georgetown is to be turned into deep water of the Potomac at the natural outlets of the sewers at four points on the Potomac front, where the storm-water of the corresponding drainage areas has its exit. The boundary intercepting sewer is to convey, ordinarily, no sewage whatever to its outlet. It is simply a water-course to the Eastern branch, into which the sewers of its drainage area will overflow in time of storms. An intercepting sewer along the Eastern branch, with overflows for storm-water, will carry the dry-weather flow of the sewers in the contiguous drainage areas to deep water below the bridge, and a similar intercepting sewer along the basin below the Long bridge will turn the corresponding dry-weather flow into the James Creek canal.

Under this plan each of the principal main sewers, following the line of natural drainage, discharges through a broad and deep channel into deep water at intervals along the water-front. This is advantageous in diffusing the sewage through the water in the main channel. The sewage is checked for a time in the outlet canals by the influx of the tide, which dilutes, while the efflux diffuses it.

The action of the James Creek canal, the outlet of the Tiber sewer, which is nearly completed to deep water, may be cited as illustrative of the present working of the canals. The canal is 7,450 feet long, and should have a depth of 6 feet at low tide, but has been silted up to much less than this, and requires dredging. The tide makes up into the Tiber sewer above the head of a canal about 5,000 feet. The sewer is an elliptical arch, 30 feet span, on side-walls 3 feet high, with a plank floor, which, in the lower part of the sewer, is horizontal and about 3 feet below mean low tide. It is not of recent construction, and may require modification.

About 3,000 feet above the head of the canal, bars of sand and gravel form at certain short curves in the sewer, and while these bars remain, mud, consisting of firm sand and clay, will accumulate. With the removal of the bars the mud disappears. Some of it is arrested in the canal, but a large proportion of the deposit here is sand, which is dredged up and used for building purposes. The ordinary flow of Tiber creek through the sewer is insignificant, but the storms are of great violence and bring down large quantities of coarse detritus. Sand and gravel are taken from the sewer and from the canal in large quantities, and are perfectly inoffensive when taken out for some time after a storm, or after a few days' exposure to the air at any time. It is all used for building or paving, and its value for this purpose more than pays the cost of removal. The dredging of the mud in the canal will be all outlay, but it is prevented from entering the river, and can be conveniently removed.

The ample water-way of the canals lowers the flood surface of water in the sewers by giving ready exit through the low grounds, and at all times performs to the best advantage the office of a settling tank for the protection of the river-channel, arresting sand, gravel, and the detritus of the streets.

Above the influence of the tides the sewers have all a constant overflow, and a size adapted to storm-water. Their oval shape concentrates the dry-weather flow of sewage in the invert, and the large air-space above this is favorable to the prompt oxidation of such gases as may form during the short time occupied in flowing to tide-water. The grated manhole-covers at short intervals effect a perpetual renewal of the air.

The principal main sewer of Georgetown furnishes an example of the successful working of the system upon which London still depends—air and water cure—without a distant outfall, and with very imperfect sewer construction. This is a large semi-circular sewer on vertical side-walls, with a flat wooden floor. It is more than fifty years old, and requires constant repair. It follows the bed of the original water-course, and is of a size to carry the storm-water, draining the greater part of the most thickly settled district of Georgetown. The fall is very rapid—about 150 feet in four-fifths of a mile. In its lower part the stream becomes a cataract which plunges under the water-wheels of two large mills, and receives the waste water from the tail-race of the mills before rushing over a rocky bed into the river-channel where the latter has a depth of 30 feet. The outlet of this sewer presents no evidence whatever of its character. The sewage disappears forever without a sign.

To recapitulate: The work now projected and in progress contemplates the reclamation of the flats along the water-front of Washington and the rectification of the channel of the river. It provides for the effective drainage of Washington and Georgetown, and the adaptation of the system of drainage to sewerage as well; providing in such manner for the possible separation of the systems at some future time, that, while the combination of the two shall be made to the best possible advantage, all of the work done in that direction shall be applicable to the separate system of sewerage. It contemplates, as the indispensable prerequisite of any system of sewerage by water-carriage, and of any reasonable condition of health and comfort consistent with modern civilization, the introduction of a liberal water-supply at a sufficient elevation.

The modifications described in Lieutenant Hoxie's report—some of which are now in course of execution—hardly compass the real evils of the case.

Like the proposed method of reclaiming the Kidwell flats, they will secure superficial improvement rather than the radical sanitary reformation that is so urgently demanded.

#### CEMETERIES.

Early in the present century two squares, known as the Eastern and the Western burial-grounds, were allotted by the government for the interment of the dead. The first, which stood in the eastern part of the city, was removed a few years since; the same thing is about being done with the western, later known as the Holmead, cemetery, which is located on Nineteenth street, between S and T streets northwest.

*Congressional (or Washington Parish) Cemetery* is situated on the banks of the Anacostia. This cemetery was laid out in 1807, and originally embraced about 10 acres, but additions have increased this to 30 acres. The name "Congressional" originated from the fact that a number of sites are set apart for the interment of members of Congress, in return for government donations of land and money. The small freestone cenotaphs to the memory of deceased members of Congress form a conspicuous feature. The grounds are adorned with drives, walks, trees, shrubs, evergreens, and a large fountain.

*Oak Hill Cemetery* is situated on the north side of Georgetown, on the northern slope of the heights. The original area, 10 acres, incorporated by Congress in 1849, was the gift of W. W. Corcoran, esq., from whom it has an endowment of \$120,000. The present area is 30 acres, occupying a romantic spot, formerly Parrott's woods. It has a fine chapel and a public vault.

*Glenwood Cemetery* is situated at the head of Lincoln avenue,  $1\frac{1}{2}$  mile north of the capitol. It was incorporated in 1854, and contains 90 acres. The grounds are beautifully laid out in walks and drives. The public vault is a fine structure. Outside the gateway are *Prospect Hill Cemetery*, area 17 acres, incorporated in 1860, and *Saint Mary's* (Roman Catholic) *Burying-ground*, with an area of 3 acres.

*Mount Olivet Cemetery* lies just outside the city, to the northeast of the capitol, and covers 70 acres. It was incorporated in 1862 in the names of the parish priests of the four Roman Catholic churches of Washington. The grounds are well laid out and shaded with oak and evergreens.

*Graceland Cemetery* is situated immediately outside of the eastern limits of the city. It was opened in 1872, and comprises about 40 acres.

*Rock Creek Cemetery* (with church) lies northwest of and contiguous to the Soldiers' home, which lies about 3 miles north of the capitol. The cemetery comprises about one-half of "the Glebe", of 100 acres, the gift of John Bradford in about 1819.

*National Military Cemetery* lies north of and adjoins the Soldiers' home, being just east of Rock Creek cemetery. It was established in 1861, and contains nearly 5,500 bodies. Here are a fine keeper's lodge and conservatory.

*National Cemetery* is located on Arlington heights, opposite Georgetown, and across the Potomac. It comprises about 200 acres of land, set apart out of the estate of General Lee when it was taken possession of by the government in 1864 for the interment of deceased soldiers of the army. The cemetery was formally established in 1867. To the rear of Arlington house is an amphitheater capable of accommodating 5,000 persons, erected in 1873, and designed for use in the ceremonies annually observed here on Decoration day. The grounds are laid out with special reference to the purpose. The bodies of nearly 16,000 soldiers, from battle-fields around Washington and hospitals in the city, here find rest. The west cemetery is devoted to white and the north to colored troops. A short distance south of the mansion is a granite sarcophagus, surmounted by cannon and balls, placed in 1866 over the grave of 2,111 unknown soldiers gathered after the war from the fields of Bull run and the route to the Rappahannock. The carriage entrance on the southeast is through a freestone gateway of composite order. On the frieze are suitable inscriptions, and over the arch the words "Here rest 15,585 of the 315,558 citizens who died in defense of our country from 1861 to 1865".

#### MARKETS.

There are 8 public markets in the district—2 being in the city of Georgetown and 6 in Washington. The largest is the Center market, situated between Seventh and Ninth streets, and Pennsylvania and Louisiana avenues and B street northwest. The retail-market building covers 60,175 square feet of ground, and is a one-story brick structure. It has also a wholesale market connected with it, a two-story brick building, 270 by 36 feet. The retail market contains 666 stalls—192 for butchers, 72 for butter and cheese mongers, 30 fish-stalls, 36 bacon-stalls, and 336 used for miscellaneous purposes. The buildings cost \$350,000, and the average monthly rental of stalls is \$8 35 each. The market is open daily, except Sunday, from 4 o'clock a. m. to 1 o'clock p. m., and is owned by a private company.

The Northern Liberty market, next in size, is situated on the corner of Fifth and K streets northwest. It is a one-story, arched-roof, brick structure, covering 41,600 square feet of ground, and containing 284 stalls, distributed as follows: 104 butcher-stalls, 16 bacon-stalls, 10 fish-stalls, 104 vegetable-stalls, and 50 used for miscellaneous purposes. This structure, owned and managed by a private company, cost \$152,000, and the average monthly rental of stalls is \$5 90 each.

The Riggs market, another private institution, is situated on P street, between Fourteenth and Fifteenth streets northwest, and is a one-story frame structure, 130 feet long by 70 feet wide. It contains 60 stalls—20 for butchers, 4 for fish, and 36 for vegetables and miscellaneous purposes. The building cost \$5,000, and the average monthly rental of stalls is \$4 33 $\frac{1}{2}$  each; market days, Tuesday, Thursday, and Saturday, from 4 a. m. to 1 p. m.

The Corcoran market is a low frame structure, or rather collection of old sheds, belonging to the district, and located on O, near Seventh street northwest. It contains 187 stalls—25 butcher, 27 bacon, 70 vegetable, 9 butter and cheese, 14 fish, and 42 used for miscellaneous purposes.<sup>(a)</sup> The average monthly rental is \$3 56 each. The market days are Monday, Wednesday, and Friday; also Saturday night.

The Western market is owned by the district, and is located on the southeast corner of Twenty-first and K streets northwest. It is a one-story brick structure. It contains 105 stalls—38 for butchers, 6 butter and cheese, 5 fish, 4 bacon, 31 vegetable, and 21 used for miscellaneous purposes. The market days are Monday, Tuesday, and Friday, from 4 o'clock a. m. to 1 o'clock p. m., and also Saturday night. The average monthly rental of stalls is \$3 63 each.

The Butchers' market, situated on High between First and Second streets, Georgetown, is a one-story brick structure, 80 by 60 feet, owned by a private company, and cost \$5,000. It contains 48 stalls, of which number 16 are for butchers, 4 butter and cheese, 15 vegetable, 8 bacon, and 5 miscellaneous. The average monthly rental is \$3 80 each. The market is open every week-day.

<sup>a</sup> These sheds were torn down later, in 1880, and a high-school building was erected on its site. A market building was put up on the next corner at the same time.

The Georgetown market is situated on Bridge street, fronting Market street. It is a one-story brick structure 36 by 240 feet, owned by the district, and containing 75 stalls—28 butcher, 8 bacon, 24 huckster, 11 butter, and 4 fish. The average monthly rental is \$1 92 each. The building cost \$60,000.

The Eastern market, situated at the corner of Seventh and C streets southeast, is a one-story brick structure, by 47 feet, covering 75,774 square feet of ground, and cost—ground and building—\$90,000. It contains 85 stalls 20 for butchers, 8 butter and cheese, 5 fish, 39 vegetable, 6 bacon, and 7 miscellaneous. The market-days Monday, Wednesday, and Friday, from 4 a. m. to 1 p. m., and also Saturday night, the average monthly rental per stall being \$3 75.

There are two food-inspectors appointed at a salary of \$1,200 per annum each, and two privates of police detailed to act in conjunction with these officers. It is the duty of each inspector of food to attend the markets within his inspection every morning at the time when sales begin, and carefully inspect all meats, fowl, game, and vegetables offered for sale, and condemn, seize, and cause to be removed such as may be diseased from any other cause rendered unfit for food; also to visit, as early as practicable each day, every green-grocer or other place within the district where articles of food are kept for sale, and perform his duty of inspect, condemnation, seizure, and removal, as hereinbefore described. He reports his official proceedings daily to the health officer, and in the performance of his duties is under the direction of said officer.

#### SANITARY AUTHORITY. (a)

The sanitary condition of the city and of the district is in the care of the "health department of the District of Columbia", which is represented by one official, known as the health officer, who is appointed by and under the direction of the commissioners of the district, and is a physician. The ordinary annual expenses of the health department are \$25,000, incurred for the salaries of employes and contingent or office expenses. No provision is made for increasing the expenditures of the department in case of an epidemic. The salary of the health officer is \$3,000 a year, and he is always on duty. His powers and duties require him to provide for the removal of nuisances dangerous to health; to secure full and correct records of the vital statistics of the district; to prevent the sale of unwholesome food and drink; to prevent, so far as possible, the introduction or spread of contagious and infectious diseases; to prevent the running at large of domestic animals; and, generally, to preserve the healthfulness of the district.

There are employed six sanitary inspectors and two food-inspectors; two of these are physicians, and none exercise police powers. The city is divided into sanitary districts, inspections and reports being made daily. Each inspector is held responsible for the condition of the territory under his charge. When nuisances are found and reported, the responsible parties are notified to abate them; on failure so to do they are taken before the police court and fined. Constant inspection is extended to defective house-drainage, privy-vaults, cesspools, and sources of drink water, and when such are found, notices are issued allowing a certain number of days for correction; if these are not complied with the subsequent proceedings are the same as for other nuisances. In the case of defective sewerage, street-cleaning, etc., streets and sewers being under the charge of the engineer department of the district, the health department can only request the abatement of such defects. The table following shows the number of 25,587 nuisances reported and abated during the year ending June 30, 1880:

Alleys .....	448	Hydrants .....	26	Sewers, house-connection ...	109
Alleys needing repair .....	18	Lots, filthy .....	163	Stables .....	156
Areas .....	35	Lots, stagnant water .....	83	Stables, cow .....	119
Ashes .....	425	Manure .....	293	Streets, filthy .....	48
Cellars .....	136	Markets, public .....	6	Streets needing repair .....	5
Drainage, defective .....	645	Miscellaneous .....	965	Traps, sewer .....	225
Excavations .....	5	Pumps .....	4	Yards .....	3,438
Factories, soap .....	2	Pipes, water .....	27	Yards, cow .....	23
Garbage .....	241	Ponds .....	23	Vaults, privy .....	2
Gutters .....	208	Privies, filthy .....	6,517	Water-closets .....	133
Hog-pens .....	119	Privies, dilapidated .....	87	Wharves .....	14
Houses, filthy .....	191	Privies, full .....	8,532		
Houses unfit for habitation ..	139	Privies, leaky boxes .....	1,518	Total .....	25,587
Houses, slaughter .....	19	Roofs, leaky .....	111		
Houses, no privy .....	59	Sewers .....	270		

Concerning garbage, the health officer superintends its removal, which is done (very imperfectly) by contract. In case of death, the department issues the necessary permit for burial upon the proper certificate from a registered physician.

The pollution of waters, other than those used for drinking purposes, does not seem to be definitely forbidden. None but those authorized by the health department may clean and remove the contents of privy-vaults. This must be done by means of some air-tight apparatus or pneumatic process whereby the contents are agitated or exposed to the open air during the operation; and said contents may be deposited only as and where directed by the department.

<sup>a</sup> Information on this subject is furnished chiefly by Smith Townshend, M. D., health officer of the district.

If premises in which small-pox patients are found are so situated that proper isolation can be had, it is allowed; otherwise they are removed to the small-pox hospital. There are no regulations touching the isolation of scarlet-fever patients. The department does not take cognizance of the breaking out of any contagious disease in the public schools, except small-pox, in which case the patient is at once isolated or removed to the hospital. Vaccination is made compulsory when it is considered necessary, and among the poorer classes is done at the public expense.

No record is kept of such diseases as do not result fatally; but what is believed to be a very complete registration is made of births and deaths, the data for such being required to be returned to the health officer—in the case of births, by the attending physician, midwife, or other person in charge, within six days; and in the case of deaths, by the attending physician or coroner, through the undertaker, within twenty-four hours in ordinary cases, but within eight hours in cases of contagious or infectious disease. Monthly reports of births, marriages, and deaths are published by the health officer, who also makes an annual report to the commissioners of the district, which is by them forwarded to the President, who transmits it to Congress, by which body it is printed as a public document.

The following summary of the work of the health department for the year ending June 30, 1880, is from the annual report of the health officer:

The work of the health department has progressed during the past year under more favorable circumstances, with probably one exception, than in any year since the inauguration of the service. Every year the number of persons who appreciate the labors of the health officials is increased, and assistance is now often lent where obstruction was formerly put forth. The masses begin to recognize the fact that no means so surely promotes the elevation of the lower classes as does the promotion of public and private cleanliness, and agitators of sanitary reform are no longer confined to the medical fraternity alone. The seed implanted in the minds of the public during latter years is beginning to bear fruit, and many who do not place the strongest recognition upon godliness are attending to cleanliness. It is encouraging to those engaged in the good work to find many who had to be forced formerly to abate nuisances existing on their premises, now conforming strictly to sanitary laws, and urging like action upon those around them.

The following synopsis shows, in condensed form, the nature and amount of work performed:

There were 25,587 nuisances reported and abated; 43,064 pounds of meat, 13,942 bushels of fruit and vegetables, 112,501 pounds of fish, and 11,236 bushels of oysters condemned as unfit for food; examinations and reports made on 2,134 citizens' complaints; orders issued for burial at public expense in 597 cases; examinations made to ascertain local cause of disease in 112 cases; 2,160 official letters written; 2,584 official notices issued; 99 cases referred to the attorney for prosecution under the health ordinances; 2,625 animals impounded; 4,338 dead animals, 7,456½ tons of garbage, and 22,153 barrels of night-soil removed; 254 deaths referred to the coroner for investigation; 4,720 permits for burial issued, and the office work of registry, compilation, etc., conducted.

#### MUNICIPAL CLEANSING.

*Street-cleaning.*—The district commissioners assume the cleaning of streets, and have the work performed by contract. Sweeping-machines are used entirely except in narrow alleys and on those rotten wooden streets where the holes and ruts are too deep for their use, when hand-cleaning is necessitated. The streets are divided into classes, the three principally used being swept daily, as follows:

Pennsylvania avenue, from First street to Seventeenth street.

C street, from Seventh street to Eighth street (Market space).

Fifteenth street, from Pennsylvania avenue to New York avenue.

The following are swept twice per week:

Seventh street northwest, from B street to Q street.

Ninth street northwest, from B street to K street.

Others are swept once per week, others twice per month, and the remainder once per month. The following statement shows the number of square yards of each class:

Total square yards swept daily .....	99,844
Total square yards swept twice in each week .....	57,277
Total square yards swept once in each week .....	839,328
Total square yards swept twice in each month .....	570,566
Total square yards swept once in each month .....	638,732

Total .....

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2,255,747

The following is a yearly summary of street-sweeping:

Total square yards swept daily for one year .....	36,443,060
Total square yards swept twice in each week for one year .....	5,956,808
Total square yards swept once in each week for one year .....	46,245,056
Total square yards swept twice in each month for one year .....	13,693,584
Total square yards swept once in each month for one year .....	7,664,784

Total square yards swept annually .....

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110,003,292

The service is said to be very thoroughly performed. Its annual cost to the city is 23½ cents per 1,000 yards, or \$26,125. The sweepings are deposited temporarily on vacant lots, being sold as manure, and removed thence

within 48 hours. In reply to the request to specify merits and defects of the system and of the mode or place of final deposit it is stated:

The system has no defects except in the method of dumping. The deposits sometimes remain longer than 48 hours. There is, however, very little complaint about this.

*Garbage and ashes.*—The removal of garbage appears to be very incomplete. There are no regulations as to the conservancy of garbage while awaiting removal, except that it must be kept separate from ashes. It is taken to a point 15 miles below the city, and there utilized in the manufacture of fertilizers. The cost of removing garbage is \$10,355 per annum. The following, from the report of the health officer for the year 1879-'80, seems to cover the whole case:

*The garbage question.*—I do not approach the discussion of this subject with any extra degree of pleasant reflection thereon. Indeed, I have become so thoroughly disgusted in ceaseless, untiring, and, withal, unavailing effort to secure some improvement in this service of the collection of garbage, that the very mention of the word is almost sufficient to nauseate.

It seems strange that we of the District of Columbia should have so much trouble with a service which is satisfactorily performed in almost every other city, yet the fact remains; and during the past two years the public has been forced to submit to the greatest discomfort and doubtless, at times, injury to health, resulting from accumulations of decaying animal and vegetable matter allowed to remain for days, and even weeks, upon premises throughout our cities. This, too, when parties had entered into contract, under bond, with the authorities, guaranteeing a prompt semi-weekly and tri-weekly removal of garbage from all dwellings.

I find, however, that the history of the sufferings of the community from neglect in the removal of offal dates back as far as the records of the health organization, and proves rather interesting as a study of the patience which people will sometimes exert. In the first report of the late board of health (1872) I find reference made to this subject in the following language: "There is no nuisance that has given more trouble and has been more inefficiently removed than this." The failure at that time was charged to insufficient number of collectors, and it was urged upon the legislature to increase the number from sixteen to thirty-two. The next year trouble seems to have continued, and it was claimed that collectors, having been appointed for political services, had employed irresponsible boys or men, who knew little or cared less about the work they had to perform. The force, it seems, was deemed too small, as I find the following assertion: "To impose upon twenty-one collectors of garbage the burden of work requiring forty, and then complain that the work is not thoroughly done, is manifestly unjust, but such has been the burden imposed during the past year." In 1874 a change for the better seems to have occurred, as the health officer says:

"The garbage service probably never was as satisfactorily and economically performed as at the present time. Being directly under control of this office, and not subject to the whims of politics or personal prejudice, we have been able to select faithful and efficient men who are anxious to excel in their labor, knowing that their position depends upon their excellence as garbage-collectors.

"Twenty men are now employed, the city having been divided into as many garbage districts, so defined as to place each collector under the direct superintendence of one of the nine sanitary inspectors, and each inspector is held responsible for the condition of his district in regard to garbage as to other nuisances injurious to health, so that virtually there are nine superintendents of the work."

The delightful state of affairs depicted in the above did not last long; it seems to have been entirely too good to last, and in the year following we find that the spirit of economy has come into their dreams, and the garbage service has fallen into the hands of a contractor who is to experiment with a new system.

The experiment inaugurated in 1875 is, I regret to say, still in progress. During the interim between that time and this the different ones engaged in the work of conducting this experiment seem to have been actuated by a determination to ascertain who could perform the least labor in getting through with the contract. \* \* \* Now, however, I think an opportunity is afforded for securing a change for the better, and I would urge with all the earnestness possible that it be not allowed to pass again. It is generally accepted as a fact that the contract for this work was taken at too low a figure to enable the contractor to comply with its terms and pay expenses. Now if a sufficient sum is appropriated for securing a proper performance of the work the trouble may be avoided in future.

There were removed during the year ending June 30, 1880, 7,456.4 tons of garbage.

Concerning the removal of ashes, the same officer says:

This is a subject of no small importance, and one upon which action has, I think, been too long delayed. No provision is made for the removal of ashes by the authorities, and as a consequence large accumulations are found in alleys, yards, and vacant spaces over the entire area of the two cities. These accumulations of ashes become also a place of deposit for filth and refuse of all kinds, and notice the creating and maintaining of numberless nuisances. On a majority of premises in Washington and Georgetown you will find in cellar, area, or yard such an accumulation. In some cases it is kept in box or barrel, in others it is dumped on the ground or pavement in one corner of the yard. To it is added daily some portion of refuse, animal or vegetable, potato-parings, egg-shells, dish-water, and other refuse. If in the cellar—which you will find in many instances is the case—the foul odors and noxious gases emanating therefrom permeate the entire house, and their constant inhalation by the inmates results in some form of low fever, which no one can account for, and which is accordingly set down in case of death therefrom as a "visitation of Divine Providence". The ash of wood or coal is not set down in the category of nuisances, and taken alone there is nothing in either to prove injurious to health; but, as I said before, the accumulation invites deposits of animal and vegetable matter, and these decaying do create a nuisance, and one which, if within a building used as a dwelling, is liable to prove injurious to the health of the inmates.

I think, therefore, it would be a wise measure for the authorities to take steps looking to the regular removal of ashes from dwellings. This is a work performed in many cities, and one which, I think, could be inaugurated and successfully conducted here at no very great expense. It will be noticed, by reference to the table, that 425 nuisances resulting from accumulations of ashes are recorded thereon.

*Dead animals.*—Dead animals are reported to the health department by the police, or by persons on whose premises they have died, and are at once collected and removed by persons who utilize their carcasses in various ways. The work is performed without cost to the city. In the year 1879-'80, 6,415 carcasses were removed, and the system is said to work very satisfactorily.

*Liquid household wastes.*—Nearly all of the liquid household wastes of the city are run into public sewers. Cesspools or dry wells are not allowed. A close box above ground for night-soil is the only receptacle allowed, except the sewers, for such matters.

*Human excreta.*—It is estimated that about three-fifths of the houses of Washington have water-closets; the remainder depend upon privy-boxes, vaults not being allowed. All water-closets deliver into sewers, and all privy-boxes are water-tight. The following is the ordinance regulating the construction of these boxes:

Any privy within the cities of Washington or Georgetown, or the more densely populated suburbs of said cities, including Uniontown or Anacostia and Mount Pleasant, in the District of Columbia, constructed of other material than brick, cement, or wood, or which is not provided with a sufficient box, bucket, or vessel for the reception of filth, and the inside of which is not at least 5 feet distant from the line of any adjoining lot, and at least 2 feet distant from any street, lane, alley, camp, square, or public place, or public or private passage-way; and any privy so constructed that it can not be conveniently approached and cleaned, or in such manner that each and every vault, box, bucket, or vessel thereof is not made tight and close, so that the contents thereof can not escape therefrom, except as may be permitted by means of a passage-way or conduit under ground, for the purpose of carrying away the contents of such vault, box, or vessel into any common sewer or drain, is hereby declared a nuisance injurious to health; and any person who shall create, maintain, or continue such nuisance, and shall fail, after due notice from this board, to abate or remedy the same, shall, upon conviction, be fined not less than \$5 nor more than \$25 for every such offense.

The regulation concerning their emptying is this, having been in force from the 5th of October, 1873:

No part of the contents (except substances not soluble in water) of any privy, privy-box, vault, sink, or cesspool, within said cities [of the District of Columbia] or their said suburbs, shall be removed therefrom, nor shall the same be transported through any of the streets, avenues, alleys, or other public places of said cities or of their said suburbs, except as the same shall be removed and transported by means of some air-tight apparatus, pneumatic or other process, so as to prevent the said contents from being agitated or exposed in the open air during said process of removal or transportation.

The dry-earth system is not in use. Night soil is manufactured into poudrette and used as a fertilizer. There is no law prohibiting its use as such within the gathering-ground of the public water-supply, but, as the latter is taken from the Potomac, danger from this source is hardly to be apprehended.

*Manufacturing wastes.*—As Washington is not a large manufacturing city, there are no special regulations controlling the treatment or disposition of manufacturing wastes.

#### POLICE.

The Metropolitan police force, as distributed among the 8 precincts of the city, consists of 238 members, including the head of the department. Their positions and annual salaries are as follows:

1 major and superintendent .....	\$2,610
1 captain and inspector .....	1,800
6 detectives (each) .....	1,320
10 lieutenants (each) .....	1,200
20 sergeants (each) .....	1,140
7 acting sergeants (each) .....	1,080
120 privates, class 2 (each) .....	1,080
73 privates, class 1 (each) .....	900

There are also connected with the force—

1 secretary and property clerk .....	1,800
1 clerk .....	1,500
1 messenger .....	900
3 telephone operators (each) .....	780
1 ambulance driver .....	600
16 station-keepers (each) .....	516
3 surgeons (each) .....	450
8 laborers (each) .....	420
1 messenger .....	360
1 major and superintendent, mounted service (additional allowance) .....	360
2 drivers (additional allowance to each) .....	300
1 captain and inspector, mounted (additional allowance) .....	240
50 lieutenants, sergeants, and privates, mounted (additional allowance to each) .....	240

During the year ending June 30, 1880, the force made 13,558 arrests, the chief causes for which were: Intoxication, 4,391; violation of ordinances, 1,421; petit larceny, 1,029; assault and battery, 1,020; disorderly conduct, 965; vagrancy, 811; suspicious, 645; drunk and disorderly, 463; profanity, 426; threatening, 385; assault, 290; affray, 217; witnesses, 127; carrying concealed weapons, 105; fugitives, 103.

These arrests were classified as follows:

Total number of arrests .....	13,558
Males .....	11,432
Females .....	2,126
Married .....	4,520
Single .....	9,038
Could read and write .....	6,130
Could not read and write .....	7,428

Offenses against the person were committed by 8,315 males and 1,741 females.

Offenses against property were committed by 3,117 males and 385 females.

The cases were disposed of as follows: Dismissed, 6,188; fined, 3,364; sent to workhouse, 1,784; sent to jail, 1,158; bonds (personal), 216; bonds (to keep the peace), 155; *vol. pros.* entered, 128; bonds (for grand jury), 110; variously disposed of, 346; remaining, 109.

The following list indicates the nature of the miscellaneous work performed by the department:

Attempted suicides .....	6
Accidents reported .....	323
Assistance rendered .....	284
Abandoned infants found .....	26
Broken lamps reported .....	174
Dead infants found .....	47
Dangerous holes in carriageways and sidewalks .....	106
Doors and windows found open and secured .....	176
Dead bodies found .....	14
Dead animals reported .....	445
Deaths where coroner was notified and no inquest held .....	20
Fire-plugs reported out of repair .....	31
Fires attended .....	172
Filthy alleys reported .....	67
Horses and vehicles found and returned to owners .....	196
Hydrants out of repair .....	123
Inquests attended .....	29
Loads of coal weighed .....	1,171
Lost children restored to parents .....	195
Lodgers accommodated .....	7,461
Nuisances reported .....	177
Owners of insecure buildings notified .....	13
Pumps out of repair .....	157
Permits examined .....	94
Sudden deaths reported .....	45
Sewers in bad condition .....	46
Suicides reported .....	9
Sunstroke .....	1
Trees and tree-boxes reported broken .....	1,121
Telegrams sent and received .....	48,434
Water-notices served by police .....	7,017

The mounted force consists of the major and superintendent, the captain and inspector, 4 of the lieutenants, 3 of the sergeants, and 43 of the privates. With the help of this force county beats are more thoroughly patrolled. Their services are also very valuable in the city, where they are kept constantly moving throughout their several precincts.

The district government owns the station-houses in the 3d, 4th, and 8th precincts; all others, including the police headquarters, and a substation at Uniontown, are rented at an annual rental of \$5,960.

In his annual report for the year ending June 30, 1880, the superintendent of police says:

A great objection to the rented station-houses is the close proximity of the cells, lodging-rooms, and water-closets to the rooms occupied as sleeping-rooms by the officers and privates, and although the greatest attention is paid to the cleanliness of the cells and water-closets, it is found nearly impossible to keep them so clean, especially at night, when occupied by prisoners and lodgers, as to prevent them from being extremely offensive to the sense of smell. The noise, too, very often prevents the tired-out patrolman and sergeant from taking the rest and sleep so much needed after their tour of duty, or equally required to perform that on which they are preparing to enter. More especially is this the case during the summer months.

This matter of station-houses is one of the greatest importance to the health and comfort of the force, and I therefore earnestly call the attention of the commissioners to the great necessity of erecting buildings for such purposes to take the place of those now rented. On economical principles, too, it would also be desirable, as suitable buildings could be built that would cost much less than the district has to pay at present.

It is confidently believed that the discipline of the force is as near perfection as any similar organization in this country. To enforce it, there have been cited before the trial committee during the past year, on complaints preferred, eighty-one members of the force, as is shown in the table:

Conduct unbecoming an officer of police .....	1
Conduct unbecoming a policeman .....	10
Gross neglect of duty .....	12
Intoxication .....	10
Intoxication and insubordination .....	1
Insubordination and neglect of duty .....	1
Malicious arrest .....	1
Neglect of duty .....	17
Neglect of duty and disobedience of orders .....	1
Unlawful arrest .....	2
Violation of rules and regulations .....	25
Total .....	81

A branch of the police department is the sanitary office. The following from the report of the sanitary officer for the same period (1879-'80) sufficiently explains its province:

The daily duties of this office are principally to provide for the sick and poor, especially those who have no friends and are compelled to go to hospital for treatment, which includes not only the indigent sick poor and insane persons residents of the District of Columbia, but many transient sick and insane persons who are found in our midst in a destitute and deplorable condition, belonging to the different states and territories. Each case is carefully examined into, and, if found to be a fit subject for treatment, the patient is promptly conveyed to the hospital [to] which he or she is entitled to admission under the law. In connection with the removal of these sick and insane cases to the several hospitals and asylums, I wish to call attention to the great amount of service performed by the ambulance during the past year. \* \* \* A great many of those cases are found to reside a great distance from the hospital to which they are assigned, some even in the extreme end of the county, and it frequently occurs that a patient is removed in the morning from a certain locality and another reported from near the same place in the afternoon; each case is generally reported to be urgent, and consequently must be removed without delay. It will thus be perceived the hard work the horses attached to the ambulance, as well as the driver, have to perform, traveling often without even having time to partake of food; frequently, after having worked hard all day, there is an urgent call at night, owing to accidents, etc., and the ambulance is \* \* \* brought into service, as though it had done no duty during the day. The consequences are that the horses break down from overwork. \* \* \* I therefore suggest that a light single-horse wagon, suitable for conveying such sick patients as are able to sit up (though unable to walk), and those residing outside of the city limits, be provided for the use of the office. \* \* \*

In my last annual report I referred to the fact that a number of non-resident insane paupers were found by the officers of this department wandering about the streets, and that under the law the district was compelled to defray the expenses of their support in the government hospital for the insane until their legal place of residence is ascertained, a matter which is sometimes impossible, owing to the fact that many of them are not possessed of mind enough to give any account of their friends or place of residence. Those who can, are conveyed under escort to their homes, while the others are retained at the asylum, both at the entire expense of the district. I therefore suggest that Congress be requested to make special appropriation out of the United States Treasury to defray both the cost of their support while in hospital as well as transporting them to their homes, as they have no claim whatsoever upon the district, inasmuch as they belong [to] and are residents of the different states.

This office is also charged with furnishing transportation to persons who come here to this city in hopes of getting employment, or who have some claim against the government—for instance, soldiers and widows of soldiers applying for pensions, and who \* \* \* find that they not only fail to obtain the object of their mission, but that the general government has made no provision whatsoever with which they could be sent to their homes. The result is, they apply, like all others, to the police department for assistance; and as they are not tramps, and can not be classed as such, being simply subjects of adverse circumstances, they must be treated with the consideration due to humanity, and therefore it has been the practice of this office to extend to those people, or at least to the most distressed ones among the number, relief by way of transportation to or toward their homes. Owing to the small amount appropriated, relief can not be extended to one applicant out of ten. The cost of such transportation is borne by the district, though the beneficiaries are residents of the different states, and with few exceptions have some claim on the general government, inasmuch as the greater number of them have been soldiers or [are] the widows or orphans of soldiers who served in the late war. I therefore suggest that the amount be increased to \$5,000, as there is no money appropriated by Congress which does more good in relieving persons in distress than that expended in transporting this class of worthy people to their homes.

The number of sick and destitute persons sent to the several hospitals and asylums by this department during the year was as follows:

To Washington asylum.....	327
To Freedmen's hospital.....	313
To Providence hospital.....	144
To Government hospital for the insane.....	73
To Children's hospital.....	8
To Columbia hospital.....	7
To Women's Christian Association home.....	2
Total.....	<u>874</u>

The number of non-resident paupers furnished with transportation to other cities, procured from the commissioners of the District of Columbia, was 372.

The number of cases removed in police ambulance from the scene of accident, and from the several dispensaries, to their respective homes, averaged about 4 per week.

The total cost of the Metropolitan police department for the year ending June 30, 1880, was \$301,926 25.

FIRE DEPARTMENT.

The fire department of Washington is divided into 6 engine companies and 2 truck companies. The apparatus consists of 8 engines, 8 hose-carriages, 3 hook-and-ladder trucks, and 1 fuel-wagon. Of the engines, 5 are in good order and the rest in fair condition. The hose-carriages are all in good condition, and 2 of the trucks with ordinary repairs will last several years. There are on hand 15,600 feet of fabric hose in good, 3,700 feet in fair, and 3,400 feet in bad condition. The houses are 8 in number, and 6 of them are in excellent condition; but No. 4, in south Washington, and No. 5, in Georgetown, are really unfit for fire purposes, the latter, especially, being too old and small, and so dilapidated as to render it unsafe. The department has 38 horses, 32 of which are in active service. The *personnel* of the force and their salaries are:

2 commissioners at.....	\$200	8 hostlers at.....	\$800
1 commissioner and secretary at.....	400	6 firemen at.....	800
1 chief engineer at.....	1,800	2 tillermen at.....	800
1 assistant chief engineer at.....	1,400	54 privates at.....	720
8 foremen at.....	1,000	3 watchmen at.....	720
6 engineers at.....	1,000		

During the year ending June 30, 1880, there were 120 alarms, of which 109 were for actual fires, 4 false alarms, 6 chimney fires, and 1 test alarm. The actual fires involved an alleged loss of \$133,450, with an insurance of \$100,050.

The fire-alarm telegraph is used in connection with the department, and gives great satisfaction, though 50 additional signal-boxes are recommended by the superintendent.

The cost of the fire department for the year closing June 30, 1880, is \$109,659 38.

The following is copied from the annual report of the fire commissioners for the same year:

Without a proper water-supply the services of the fire department are of but little avail. Particular attention is therefore asked to that portion of the chief engineer's report which suggests the erection of new and the change of old fire-plugs, the increase in size of water-mains, and the construction of cisterns in certain exposed and illy supplied sections of the district.

We are again constrained to call attention to the fact that no provision is made for members of the department rendered unfit for active service by disability incurred in the line of duty. We are compelled to carry these men on the rolls, or else discharge them from the force, broken in health and unable to make a living for themselves or families. We again recommend that provision be made for such men in other branches of the public service better suited to their physical condition. Where men are so far broken in health or maimed by accident as to be totally unfit for any duty whatever, they should be retired upon pay sufficient to keep them comfortably during the continuance of their disability. There are men now on the rolls who will never be able to perform active duty as firemen, and provision should be made at once for them, and their places on the force filled by active men.

The general good conduct of the officers and men is notable in so large a force, and seems to increase from year to year, as shown by the decreasing number of punishments inflicted for violations of the rules, while the efficiency of the department is also increasing, as shown by its almost uniform success in confining fires to the structures in which they originated.

The following is from the report of the chief engineer for the same period:

On this topic [water-supply] I can not do better than renew my recommendation of last year, as follows:

I beg leave to call your attention to the comparatively unknown fact that in the business portions of the city the present supply of water, or water-fixtures, is inadequate to properly work the full force of the department in the event of a large fire. This is a most important subject, and the proper and permanent remedy would be either in larger water-mains, or in reopening the old and constructing new cisterns in several sections of the city. This can be done at a comparatively small cost, and the advantages to be derived will be great.

It is useless to ask for the erection of additional fire-plugs along the line of 6- or 4-inch mains, for those now up can not supply sufficient water for our engines working at a high pressure, and for this reason I urge either cisterns or large mains, or both.

In addition to this, the old plugs with 9-inch outlets should be at once altered to 10 inch, as this will secure uniformity, and in many cases secure a larger flow of water.

A special point in the city to which I beg leave to call your attention is the Government Printing Office, a building which, in addition to the host of persons who are employed there day and night, contains so much valuable property. This building is old, illy constructed, and, although crowded with inflammable material, was constructed without any regard to safety from fire. In its vicinity there are but few plugs, and they are small mains. I beg that a 12- or 20-inch main be placed around the building, additional plugs erected, and that at least two cisterns be dug in that locality; for, besides the printing-office, there are in that vicinity several hundred buildings, built in rows, many of them without even brick partition-walls, and all liable to rapid destruction in the event of a fire without a full supply of water.

For the fifth time I call attention to the necessity of fire-escapes in all large buildings where numbers of persons congregate.

In addition to fire-escapes I would recommend that on all government buildings and hotels in the city iron ladders, reaching from the ground to the roof, be constructed and kept in position at all times, thus providing a mode of reaching or escaping from the roof in time of fire. Such ladders could be placed against the inside or court-yard walls of the public buildings, and in the others suitable places could be found so as to prevent their interfering with the appearance of the building. I notice with regret that many of the merchants have been permitted to erect upon the tops of their buildings large sign-boards, mostly of wood. This is a most dangerous practice, for in the event of a large fire they are liable to be lifted up by the heat and in this burning condition carried squares distant, to the imminent danger of other property. Further than this, in the business portion of the city, all large mercantile houses should be furnished with iron shutters. If these suggestions could be incorporated in the building laws I am sure they would add greatly to the security of property in the event of fires.

#### PUBLIC SCHOOLS.

The number of youth of school age (6 to 17, inclusive) in the District of Columbia, according to the census of 1878, was: White, 26,426; colored, 12,374; total, 38,800. The whole number of pupils enrolled in the public schools for the school year ending June 30, 1880, was: White, 16,914; colored, 9,505; total, 26,419; increase over the enrollment of last year, 1,289.

The average number of pupils enrolled in the public schools for the school year ending June 30, 1880, was: White, 13,978; colored, 7,602; total, 21,580. The increase over last year was 1,191.

The number of teachers employed for the school year ending June 30, 1880, was: In the white schools, 281; in the colored schools, 152; total, 433.

The total payment for the support of the public schools for the school year ending June 30, 1880, was \$438,567 42.

The number of school-rooms owned is, for white schools, 166; for colored schools, 98; total, 264.

The number of school-rooms rented is, for white schools, 93; for colored schools, 27; total, 120.

An appropriation for two buildings of twelve rooms each, one for the white schools and one for the colored schools of Washington, has been made, and the work on them is already begun, and will be finished by the end of the present school year.

Estimating the average cost of a site and school-building of twelve rooms at \$40,000, the following is the estimated cost of buildings needed to supply the place of the rented rooms:

For white schools: In Washington, \$281,250; in Georgetown, \$7,500; in the county, \$15,000; total, \$303,750.

For colored schools: In Washington, \$45,000; in the county, \$11,250; total \$56,250. Grand total, \$360,000.

## MANUFACTURES.

The following is a summary of the statistics of manufactures of Washington for 1880; being taken from tables prepared for the Tenth Census by William H. Boyd, 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 .....	971	\$5,552,526	5,496	1,380	261	\$3,024,012	\$5,865,400	\$11,882,310
Awings and tents .....	3	2,050	4	0	.....	3,581	4,043	13,924
Blacksmithing (see also Wheelwrighting) .....	77	31,165	113	.....	1	45,408	39,474	140,219
Bookbinding and blank-book making .....	4	4,200	9	1	2	4,332	2,280	10,731
Boots and shoes, including custom work and repairing .....	73	40,220	60	1	2	31,111	42,225	127,107
Brass castings .....	3	132,038	61	.....	.....	22,087	67,152	90,760
Bread and other bakery products .....	63	120,340	164	7	8	73,148	400,698	600,286
Brick and tile .....	16	330,000	576	.....	120	123,161	62,678	314,293
Carpentering .....	58	48,145	245	.....	8	135,626	247,006	480,702
Carriages and wagons (see also Wheelwrighting) .....	25	173,702	140	.....	5	60,496	53,277	163,205
Clothing, men's .....	35	104,550	157	68	2	98,778	178,302	370,005
Coffee and spices, roasted and ground .....	3	17,600	14	.....	.....	6,856	84,680	100,020
Coffins, burial-cases, and undertakers' goods .....	14	61,425	32	.....	.....	19,631	41,440	92,040
Confectionery .....	27	85,575	80	24	2	40,181	122,203	221,002
Cooperage .....	3	6,700	28	.....	.....	11,300	10,770	25,770
Dentistry, mechanical .....	6	4,975	6	.....	.....	2,032	5,600	19,200
Drugs and chemicals (see also Patent medicines and compounds) .....	5	54,000	25	.....	1	10,190	31,330	69,025
Engraving and die-sinking .....	3	3,000	5	.....	1	1,965	3,000	12,375
Fertilizers .....	3	95,000	87	.....	.....	29,600	156,250	207,250
Flouring- and grist-mill products .....	9	230,400	40	.....	.....	21,508	1,071,600	1,172,375
Foundry and machine-shop products .....	10	230,000	198	.....	9	75,102	155,008	358,100
Furniture (see also Mattresses and spring beds; Upholstering) .....	19	46,125	72	.....	.....	30,385	39,005	113,375
Grease and tallow .....	3	25,000	7	.....	.....	3,422	47,018	69,400
Hairwork .....	12	6,600	.....	27	.....	3,276	6,500	14,300
Instruments, professional and scientific .....	5	30,100	14	2	1	13,724	7,750	37,501
Iron railing, wrought .....	5	3,275	11	.....	.....	3,912	4,685	13,403
Jewelry .....	11	19,600	21	.....	2	12,444	11,810	37,533
Kindling wood .....	6	18,465	28	.....	7	11,114	21,060	40,050
Lime .....	5	19,100	24	.....	.....	11,959	17,424	51,648
Liquors, malt .....	10	208,300	60	.....	4	30,180	162,739	275,232
Lithographing (see also Printing and publishing) .....	5	33,200	40	.....	3	23,164	10,860	52,334
Lock- and gun-smithing .....	6	11,700	10	.....	.....	5,595	3,745	13,546
Looking-glass and picture frames .....	10	15,000	32	.....	.....	16,308	28,700	65,227
Lumber, planed .....	10	90,200	86	.....	5	40,920	124,925	192,792
Marble and stone work .....	25	113,745	137	.....	1	60,490	91,806	198,699
Masonry, brick and stone .....	31	10,500	100	.....	.....	63,750	90,950	200,970
Mattresses and spring beds (see also Furniture) .....	3	3,250	6	2	.....	2,000	12,040	17,440
Mineral and soda waters .....	3	19,200	24	.....	8	13,432	10,100	33,700
Models and patterns .....	7	7,200	12	.....	.....	6,338	2,605	10,440
Painting and paperhanging .....	37	16,600	101	.....	2	50,044	49,337	143,471
Patent medicines and compounds (see also Drugs and chemicals) .....	5	5,600	9	.....	.....	7,098	7,200	20,454
Paving materials .....	5	56,000	259	.....	.....	99,500	171,250	310,500
Photographing .....	16	34,750	34	5	.....	16,291	10,515	55,551
Plumbing and gasfitting .....	31	47,750	129	.....	6	66,194	102,799	225,193
Printing and publishing (see also Lithographing) .....	28	971,800	1,023	688	28	1,478,880	827,519	2,806,312
Saddlery and harness .....	26	30,400	45	.....	.....	19,471	33,157	30,349
Soap and candles .....	5	60,966	22	.....	1	7,735	41,678	66,563
Tinware, copperware, and sheet-iron ware .....	42	66,965	7	.....	3	44,857	96,472	102,681
Tobacco, cigars and cigarettes .....	43	25,950	31	.....	8	31,628	45,092	118,818
Umbrellas and canes .....	5	1,150	3	3	1	785	2,070	6,218
Upholstering (see also Furniture) .....	10	18,550	25	5	1	12,341	27,016	56,191
Watch and clock repairing .....	32	17,460	40	.....	5	24,361	6,345	42,360
Wheelwrighting (see also Blacksmithing; Carriages and wagons) .....	10	6,565	7	.....	1	2,252	3,230	11,323
All other industries (a) .....	60	1,702,785	795	550	13	371,113	459,354	1,573,703

a Embracing artificial limbs; bags, paper; baskets, rattan and willow ware; bluing; boxes, cigar; boxes, fancy and paper; brooms and brushes; carpets, rag; cars, railroad, street, and repairs; cheese and butter; clothing, women's; cordage and twine; dyeing and cleaning; electroplating; engraving, steel; engraving, wood; files; fruits and vegetables, canned and preserved; furniture, chairs; glass; glass, cut, stained, and ornamented; gloves and mittens; ink; iron and steel; iron work, architectural and ornamental; leather, curried; leather, dressed skins; leather, tanned; lumber, sawed; mantels, slate, marble, and marbleized; musical instruments and materials (not specified); oil, neat's-foot; paints; paper; perfumery and cosmetics; shirts; spectacles and eyeglasses; stationery goods; stereotyping and electrotyping; stone- and earthen-ware; taxidermy; terra-cotta ware; type-founding; vinegar; wirework; and wood, turned and carved.

From the foregoing table it appears that the average capital of all establishments is \$5,718 36; that the average wages of all hands employed is \$549 20 per annum; that the average outlay in wages, in materials, and in interest (at 6 per cent.) on capital employed is \$9,910 57.

#### PECULIARITIES OF LIFE IN WASHINGTON.

Early in the present century Washington had little else than a temporary population, brought together by the needs of government administration, and changing more or less with each Presidential term. Congress and the families of members, with their social associations, have been a part of Washington scarcely twelve months in each two years, while government employes have retained their legal residence in the localities to which they are accredited. At the present time there are not less than 15,000 persons busy or resident in Washington connected in one way or another with the government, together with the representatives of foreign nations. The local attachments of these people and of their families, which may aggregate 50,000, are elsewhere, and some of them are not even enumerated in Washington, but at their legal residences.

A considerable portion of those occupied in Washington leave their families, at least a part of the time, at their legal homes. The great mass of those employed by the government are adults, the number of pages and messengers yet minors being small. This has given peculiar form to household life in Washington. On every hand are rooms to rent, furnished and unfurnished, with or without board. The price paid for furnished rooms usually includes their care, fuel, and lights. Furnaces, heating- and cooking-stoves, and ranges are to an unusual extent a part of the fixed equipment of rented houses. The great majority of household servants do not sleep at their places of service, but return to their homes at night. Many people prepare coffee or tea and the simpler dishes at their rooms for breakfast, under the name of "light housekeeping", taking a full meal once a day at a boarding-house. Others have meals sent by caterers. The ordinary unit of board- and rent-bills is the calendar month. The duties in the offices confine thousands from 9 a. m. to 4 p. m., with a half-hour at noon for lunch. Thus the chief meal of the day is dinner after office hours, varying from 4 to 6 p. m. The midday meal is necessarily a trifling refreshment taken within the building occupied, or close by. The following list of cheap dishes furnished for such calls in many places about the city is not a mere matter of cash economy, but grows largely out of the inadequacy of time to take a full meal at midday, although such lunches can be had at all hours:

#### LUNCHES.

	Cents.
French coffee, with cream, rolls, and butter.....	10
French coffee and pie.....	10
Toast and tea.....	10
Oat-meal and milk.....	10
Oat-meal and cream.....	15
Soup, bread, and butter.....	10
Baked beans, bread, and butter.....	10
Cold meats, coffee, bread, and butter.....	15
Milk toast.....	10
Cream toast.....	20

The list given above might be considerably enlarged, but is a fair sample in the matter of prices. An individual or a family may find comfortable, neat quarters for a day, for a week, or for a month, securing lodgings and board under the same roof or under separate roofs. Numerous coffee-houses support themselves as business enterprises. One may live wholesomely at a small cost, or he may command the attendance and luxury of hotels and boarding-houses equipped for the wealthy. Good board is obtainable as follows: 3 meal-tickets, \$1; 16 meal-tickets, \$5; table board per month, \$20.

# GEORGETOWN, DISTRICT OF COLUMBIA.

POPULATION IN THE AGGREGATE, 1800-1880.		POPULATION BY SEX, NATIVITY, AND RACE, AT CENSUS OF 1880.
	Inhab.	
1790 .....		
1800 .....	2,993	Male .....
1810 .....	4,948	Female .....
1820 .....	7,360	
1830 .....	8,441	Native .....
1840 .....	7,312	Foreign-born .....
1850 .....	8,366	
1860 .....	8,733	White .....
1870 .....	11,384	Colored .....
1880 .....	12,578	

\*Including 1 Japanese.

[For "Financial Condition", see *Washington*.]

## HISTORICAL SKETCH.

It is believed that the ground now occupied by the city of Georgetown was visited as early as 1608 by Captain John Smith, and that the famous navigator met the Indians in conference at or a little above this point. In 1748 the legislature of Maryland formed Frederick county, and, by an act passed May 15, 1751, created a commission, composed of 5 members, for the purpose of laying out a town on the Potomac river, above the mouth of Rock creek, in the new county. The land at this place was owned by two persons, but the act gave the commission power to purchase 60 acres, and, in case of failure to agree on satisfactory prices with the owners, to have the land appraised. After some little trouble with one of the proprietors, the necessary ground was acquired, and a survey and plat of the proposed town were completed February 27, 1752, the town being laid out in 80 lots, with streets and lanes. The town was called "Georgetown", not, as many suppose, after the first President of the republic, but in honor of George II, king of England, whose faithful subjects the colonists then were.

The town seems to have remained under the jurisdiction of a commission for several years, as the early records show that the "commissioners" met and appointed a "flour inspector" in February, 1772. In 1783 the town was increased by the addition of 61 acres, and, in 1784, 20 acres, divided into 65 lots, were added. In 1789 Georgetown was incorporated by an act of the Maryland assembly, with a mayor, recorder, board of aldermen, and common councilmen, and some years later the charter was changed so as to bring Georgetown into existence as a city. However, even before the incorporation, Georgetown had become a place of some importance, and as early as 1779 pupils from Bladensburg and the adjacent country came here to take advantage of the educational facilities that then existed.

It was believed that the Potomac would become a great thoroughfare for both foreign and domestic commerce. In 1784 the Potomac Company was chartered for the improvement of navigation up the river, and the work was begun at once, a canal being constructed around the falls of the Potomac. At the Great falls, where the difference of level is 76 feet 9 inches, there were 5 locks on the Virginia side, 2 being cut in the solid rock and 3 lined with red sandstone, while at the Little falls there were 4 locks, to surmount the 37 feet of difference of level. The red sandstone used in the locks was obtained at Seneca creek, a few miles distant, and was of such endurance that even now these locks may be seen with the tool-marks as plain as if just made.

In 1790 Georgetown was made a port of entry, and on October 1 of that year a collector of customs was appointed. In 1790 there were not more than 75 post-offices in the United States, and one of them was located here. Georgetown, however, is said to have had a post-office as early as 1776.

The completion of the locks and canal around the falls soon had an effect on the business of Georgetown, and the laying out of the city of Washington, with the work incident thereto, materially increased the population of the older town. For many years after the removal of the national government to the District of Columbia, part, and sometimes nearly all, of the officials lived in Georgetown. In 1801 Georgetown passed from the jurisdiction of the state of Maryland to that of the District of Columbia, retaining, however, its separate corporate existence. In early years the trade of Georgetown was with the surrounding country; later a large traffic was done on the upper Potomac, during the full stage of water; and then a brisk trade was carried on with European ports, as well as with Baltimore, New York, Boston, etc. In 1825 the Potomac Company was succeeded by a canal company, under which the Chesapeake and Ohio canal was begun in 1823, and completed for a distance of 134 miles in 1839, the remaining 50 miles to Cumberland, Maryland, its present terminus, being finished in 1850. In addition to the tobacco trade, which grew to quite large proportions, the flour and produce trade became of great importance, and until the completion of a railroad to Washington, in 1835, Georgetown supplied the district and the country adjacent. From 1815 to 1835 the value of produce exported to foreign markets from Georgetown amounted to \$4,077,708, while the total value of American produce shipped from the port coastwise from 1826 to 1835 amounted to \$5,190,540. The average tonnage engaged here during this time amounted to 170,158 per annum.

The progress of Georgetown from 1830 to 1860 was slow, owing in a great measure to the rapid growth of Washington. Business languished, houses ceased to be built, and during the three decades the total increase of population was only about  $3\frac{1}{2}$  per cent. In 1833 work was begun on the Alexandria aqueduct and canal (connecting the Chesapeake and Ohio canal at Georgetown with Alexandria), and completed in 10 years, water being turned into the aqueduct July 4, 1843. The aqueduct was continued in use until 1861, when it was seized by the government, the water drawn off, and the aqueduct used as a military road. After the war it was restored to the company, but not in a condition for the use for which it was originally intended.

In 1853 an act was passed by the legislature of Maryland incorporating the Metropolitan Railroad Company, and authorizing the construction of a road from Point of Rocks, on the Baltimore and Ohio railroad, to Georgetown. In order to have the terminus of the road here, the city subscribed for 5,000 shares of the stock, equal to \$250,000, and the first installment was paid in 1855. On June 21, 1856, the city passed an ordinance to provide for the payment of the second installment, then due, but the ordinance was vetoed by the mayor. The ordinance was at once passed over the veto, and then the mayor, finding his opposition to the measure becoming a law useless, refused to sign the bonds. This refusal prevented the payment of the second installment, and the railroad company, not being able to go on with its work, lost its charter. By this action Georgetown lost the advantage of becoming a railroad terminus with direct all-rail communication with the West.

Georgetown college, under control of the Society of Jesus, was planned in 1785. Its first building was erected in 1789, and three years later pupils were admitted. In 1815 the college was raised to the rank of a university, with power of conferring degrees in any of the faculties. During the war, 1861-'65, its grounds, at times, were occupied as camps, and its buildings, after the first battle of Bull Run, were used as hospitals. At present there are about 200 pupils, 40 being day scholars, and 14 instructors. Its age and literary standing give the institution prominence.

## GEORGETOWN IN 1880.

Georgetown is situated on the left bank of the Potomac river, adjoining the northwest boundary of Washington, from which it is separated by Rock creek, a small stream that enters the Potomac at this point. The position of the city is favorable to good natural drainage, being elevated on hills that slope toward the creek and the river. Just above Georgetown the channel of the Potomac is obstructed by the rapids called the Little falls, to which the tide extends. Between these rapids and the city the channel is so rocky and narrow that practically Georgetown may be considered at the head of tide-water navigation. The harbor, which is here formed by the channel of the Potomac, has an average width of 800 feet, with an average depth of 25 feet. The depth of water over the bar in the channel, just below the city, is only 10 feet at mean low water, but this has been increased to 15 feet by dredging. This gives Georgetown water communication with the Chesapeake bay and the Atlantic ocean, while the Chesapeake and Ohio canal affords a water-route to Cumberland, Maryland, and the coal-fields of that region.

There are several fine buildings in the city, among which may be mentioned the custom-house, the post-office, the market-house, and the public school on Second street. Two street-car lines, running beyond the capitol in Washington, traverse the city and afford ample means of communication with the larger town.

All reports of the commissioners being made for the "district", no separate reports on the internal improvements, etc., of Georgetown can be shown here, and therefore such information regarding these subjects as was available is included under the present condition of Washington city.