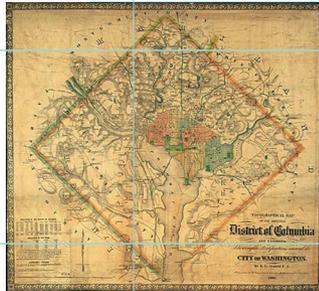


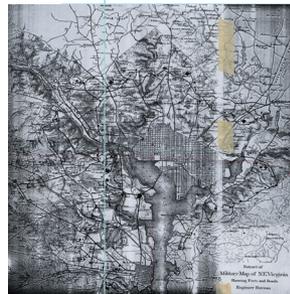
OF THE SURVEY....18



OF THE PEOPLE....16



OF THE CITY.....14



OF THE LAND.....12

Natural History happens according to a building's own recording over time. The events that happen in a building leave their own marks. By reading the "scars" of the building and its physicality, we can discover its natural history (in a way, this is an act of a building's weathering).



Geology plays a central role in the understanding of the development, plan and design of metropolitan areas. The selection of the site for the early settlements in the city, economic distribution of the population and the architectural form often depends on the local geology.



MILITARY MAP OF NE VIRGINIA.

The District of Columbia lays in two different geologic regions - the Coastal Plain and the Piedmont, spanning from east to west. The Coastal Plain region extends from northeastern New Jersey to Mexico and crosses the Washington area through Prince Georges-Montgomery County line and meets the Piedmont through the eastern parts of Prince William and Fairfax Counties. It consists of gravels, sands, clay and marls and it is a gently undulating plain that rises gradually westward to as high as 400 feet. The physiogeographic edge of the Coastal Plain and Piedmont area corresponds to the Fall Line whose width ranges from less than a mile to as much as 5 miles. This is where river falls and rapids are formed. The Coastal Plain side has more easily eroded sedimentary deposits and Piedmont side has more resilient rock formations. The Piedmont region lies westward of the Coastal Plain and encompasses most of Montgomery County and parts of Fairfax and Prince William Counties. It consists of rolling hills that stretch out from New York to Alabama with the elevation changes from near sea level to as much as 1,000 feet at the western edge. The Piedmont rocks are very resistant crystalline metamorphic rocks that have been intruded with igneous rocks. The indirect role of geology in the history of the Washington area has been the basis for the: (1) original location of early settlements and in some extent it dictated the (2) architectural and (3) economic distribution of the population.

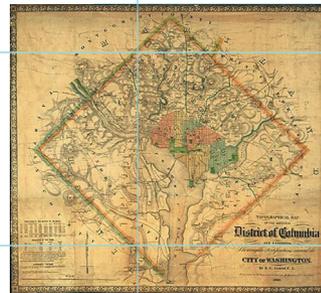
1. The head of the navigation system for trading ships was along the Fall Line on the Potomac and Anacostia Rivers where ships tied up to unload cargo for inland transportation and loaded produce for shipment to distant markets. Additionally, crossing of the rivers was the easiest along the Fall Line, so naturally, many major towns formed along this area.

2. The abundance of clay and stone sand influenced the architectural development of the region. Clay was used to make bricks, which became the major building material, and still today local brick continues to be a major building material in the metropolitan area. The first building stones were found in the Piedmont region. For easier transportation along the Potomac River, quarries were founded along the Fall Line. Foundations for the major buildings in the area, including the White House, Capitol, and Washington Monument, were built using local stone.

3. The third example of the role of geology in the history of metropolitan Washington is in the economic distribution of the population. We can compare the development of the eastern parts of the city to the western. The Prince Georges County lies in the Coastal Plain where the land is flat and very easy to farm. Therefore, this was the first area where the settlements were made. It consisted of many isolated and economically self-sufficient plantations that had almost no need for trade and commerce with neighbors. However, the Montgomery County lies on the west of the Fall Line where the land is hilly and more difficult to farm. This had settlements 100 years after the Coastal Plain developed. Most of the area was developed as small farms and towns were established as centers for trade.

On July 16, 1790 President George Washington signed the Residence Act into law that assigned the area for the permanent capital on the Maryland side of the Potomac.

As early as 1779, Congress discussed the need for a permanent capital, but final selection of the site came after many years of controversy and debate.



MAP OF WASHINGTON DC.

Some of the discussed locations for the new capital included Kingston, New York; Annapolis, Maryland; 20 square miles anywhere in New Jersey; and Williamsburg, Virginia. Also, if Williamsburg was not suitable, Virginia legislators offered to cede territory anywhere along Potomac and suggested that Maryland make an equal cession on their side of the river. The local inhabitants were to determine the exact area and the extent of the cession after the decision was made by the President. After many years of debate and inspecting many other sites, in June of 1790 the Senate approved the proposal to locate the capital on the Maryland side of the Potomac. At first the general site consisted of a vast area between the Eastern Branch (today's Anacostia River) and the Conococheague (a tributary that joins the Potomac at Williamsport, Maryland), an approximately 70 mile area northwest of Anacostia. The President appointed three commissioners to supervise the survey and purchase of the land - Thomas Johnson and Daniel Carroll of Maryland, and David Stuart of Virginia. After touring the designated area in October 1790, the President ordered plats of three sections: the vicinity of the Conococheague, the mouth of the Monacacy (40 miles upriver from Georgetown) and the vicinity of Georgetown. He also instructed Col. William Deakins and Benjamin Stoddert of Georgetown to buy land in the vicinity of Georgetown for government's use, but without admitting to local officials that they were acting for such purposes. After consulting with Secretary of State Thomas Jefferson about an exact site of the capital, on January 24, 1791 the President issued a proclamation "to survey and limit a part of territory of ten mile square on both sides of the river Potomac so as to comprehend Georgetown in Maryland

and to extend to the Eastern Branch." Following Jefferson's suggestions to include the eastern shore of the Eastern Branch and the port of Alexandria, the President asked the Congress to extend the boundary (originally set to a 4 mile square) to include the additional territory on its lower side of Maryland and the town of Alexandria, which was approved on March 3, 1791. After that, detailed instructions were sent to Major Andrew Ellicott requesting the survey of the ten mile square to be conducted by him. As a professional surveyor, Ellicott accepted the commission and immediately recruited Benjamin Banneker for his assistant. Banneker was a free black whose lifelong interest for mathematics led him to be one of the best astronomers in the U.S. at the time. Ellicott gave Banneker responsibility for making astronomical observations and the calculations necessary to establish the location of the south corner. After Banneker's proposal, base camp was set up near Jones' Point and the actual survey began on February 12, 1791. After the preliminary survey of the boundaries of the Federal territory was completed on April 15, 1791 the south corner stone was ceremoniously laid at Jones' Point. Major Pierre Charles L'Enfant joined Ellicott in mid-March to prepare the actual plan of the new city that was to be created within the ten mile square. After that, the work on the final survey began of the boundaries and of the major streets and avenues called for in L'Enfant's plan. A year later, relations between L'Enfant and the commissioners deteriorated and Ellicott was placed in charge of the entire project in March of 1792, including the plan of the city. On January 1, 1793 Ellicott submitted a formal report indicating that the boundary survey was completed and the stones were set.



GEORGE WASHINGTON AND MILITARY.

“During its formative centuries, from the sixteenth to the eighteenth, Atlantic civilization was shallow, feeble, and fragmentary. For all its transforming effects, the total amount of cross-ocean trade and colonization was small in comparison with those traditional in many other parts of the world. As American colonies developed their own identities, their own regional economies, and their own political preferences, they turned their backs on the ocean, sought independence from their European partners, and concentrated on expanding in their own hinterlands.”<sup>6</sup>

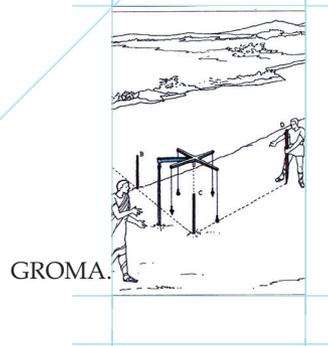
"When the settlers came to Virginia on December 20, 1606 there were thousands of Native Americans living in a land that they called "Pamahsawuh".<sup>7</sup>

Throughout the years, Powhatan religion and language were gradually replaced by Christianity and English. The native agriculture, technology of making vessels and houses remained in use with the adaptation of European implements such as new tools, shapes and functions. By the early colonial times many Indian villages disappeared and were replaced with European settlers. In the early 1800's, the prevailing white culture pushed the Indians off their homeland. European settlers divided Indian reservations and removed all state services to the tribes, which resulted in Indians selling their land in order to survive. During the 19th century, Virginian state law restricted Native Indians' ability to travel, testify in court or inherit the property. Strict divisions between white, Indian and black cultures resulted in multiple segregation in schools and churches.

"Colonists were sent by The Virginia Company of London in May, 1607 to establish a settlement on the southern Atlantic coast of North America. This river that they sailed down is known today as the James River. The colonists built a fort, which they named James Fort. The settlers suffered from great hardships during the early years. Under the leadership of Captain John Smith, the colony survived. In December of 1607, Powhatan's men kidnapped John Smith when he and several other men began to invade their territory. The plan to behead him was being carried out until Pocahontas spoke up on John Smith's behalf and talked her father into sparing his life. While being held by the English, Pocahontas met John Rolfe, who would become one of the primary tobacco farmers. Their marriage in 1614 helped to ensure peace between Powhatan's people and the people of Jamestown."<sup>8</sup>

"In 1619, slavery was established. It began when there was a shortage of Englishmen to work in the tobacco fields. The masters of the tobacco crops decided to take captives from Africa instead. The masters became very wealthy because they didn't have to pay for their labor. The children of the African captives became known as what we refer to today as slaves."<sup>9</sup>

According to the District of Columbia's Census Bureau, reported by Campbell Gibson and Kay Jung, in 1800 the population of D.C. was 8144 people; with 5,672 Whites and 2,472 Blacks (400 of which were free). In 1990 the population was 606, 900; with 179, 667 Whites, 399, 604 Blacks and 27, 629 Others.



The main task of the surveyor is to measure the surface of the earth. The early surveyor's tools included: the chain, the compass, groma, the transit and the level. The chain is normally 66' long consisting of 100 links. It can also be described as four poles of 16.5'. It is used for measuring and marking horizontal distances. The compass is used to determine the direction of a line in relation to earth. The compass's needle points to the magnetic North Pole, and the direction of the line can be determined by turning the compass in the same orientation as the line. A Groma was used by a surveyor to determine the right angles from the chain. It is a cross staff that has a cross piece and three small uprights; at the top of a staff four arms are located with sight slits at right angles. The transit is used to determine both horizontal and vertical angles. A surveyor uses a level to determine elevations in conjunction with a "level rod". With this, elevations of different points can be determined and transferred from one location to a distant location.

By using surveying tools and with the help of his crew, Ellicott's procedure for laying out the square was very simple: "...traced a meridian at Jones' Point on the west side of the Potomac River and then laid off an angle of 45° from this meridian to the northwest, and continued a straight line in that direction for ten miles. He made a right angle at the termination of this line with a straight line which carried in a northeasterly direction, also for ten miles, and then from the termination of this second line he carried a third line for the same distance at a right angle to it, to the southwest. Finally he carried a line from the terminal point at Jones' Point to meet the termination of the third line. He measured these lines by means of a chain, which he examined and corrected each day to ensure that the links had not opened and that there was no other change affecting its accuracy. He plumed it wherever the ground proved to be uneven, and traced it with his transit and equal altitude instrument."<sup>10</sup>

In the final formal report that was submitted on January 1, 1793, certifying that the boundary survey had been completed, Ellicott stated: "... lines are opened and cleared forty feet wide that is twenty feet on each side of the lines limiting the Territory, and in order to perpetuate the work I have set up square mile stones marked progressively with the number of miles from the beginning on Jones' Point to the West corner thence from the West corner to the North corner to the East corner and from thence to the place of beginning on Jones' Point; except in a few cases where the mile terminated on declivities or in waters; the stones are then placed on the first firm ground , and their true distances in miles and poles marked on them. On the sides of the stones facing the Territory is inscribed, 'Jurisdiction of the United States.' On the opposite side of those placed in the commonwealth of Virginia is inscribed 'Virginia.' And on those in the State of Maryland 'Maryland.' On the third and fourth sides, or faces, inscribed the year in which the stone was set up, and the conditions of the Magnetic Needle at that place."<sup>11</sup>