

BENJAMIN BANNEKER

BLACK COLONIAL SURVEYOR

From THE LIFE OF BENJAMIN BANNEKER, by Silvio A. Bedini.

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BIOGRAPHICAL SKETCH

Edward K. Elder is Senior Partner of Elder Company, private surveying firm in which his son is his partner. He has been a Land Surveyor since his registration in New Mexico in 1951 having graduated from the University of New Mexico in 1930.

His grandfather, as well as his wife's father and grandfather practiced surveying, and his son who started carrying stakes at age seven has been registered for seven years.

Elder served two terms as Chairman of the Land Surveys Division, is a Director of A.C.S.M., and has delivered more than twenty-five technical papers at State and National meetings of surveyors.

ABSTRACT

Benjamin Banneker, 1731-1806, although rather unknown was a completely self taught black mathematician, surveyor and astronomer who prepared and published almanacks for some dozen years. He was chosen by Major Andrew Ellicott to do the astronomical observations for the original survey of the Federal District, now the District of Columbia. Banneker was naturally interested in the anti-slavery movement, and is credited with influencing Thomas Jefferson to reverse his publicly stated belief that blacks were incapable of any appreciable mental capacity.

The biography here condensed was written by Silvio A. Bedini, Deputy Director of the National Museum of History and Technology of the Smithsonian Institution, Washington, D. C.

BACKGROUND

In 1683 a woman indentured servant arrived in America from England. Molly Welch had been accused of stealing a pail of milk from her employer on a cattle farm. She said the cow had kicked the pail over. Such a crime was punishable by death in those days, and the only escape from the death penalty was to "call for the book", which meant that if she could read, the sentence would be commuted to branding, or on recommendation of the judge, a pardon could be granted under the seal of the crown.

It was her ability to read which saved her. She was, however banished to America. Since a law then existed prohibiting the importation of convicts, she entered America as an indentured servant. This was her only way of paying her passage. The indentured servant was "sold" by the captain of

the ship to pay for the passage, and such bondspersons were sold all the way up and down the coast as soon as the ship arrived. This was also done up and down the Chesapeake Bay. Molly was sold to a tobacco planter on the Potapsco River (about ten miles west of present day Baltimore) where she worked out her indenture and earned her freedom in 1690.

She was a courageous and strong-willed woman, but she had acquired very little with her freedom. She probably rented a small farm for a modest fee, to be paid in tobacco annually. At first she worked alone clearing the land and planting her tobacco and indian corn. From time to time she was able to put aside a little money until she was able to purchase land of her own. After several years she had put aside enough tobacco to purchase two slaves; one was a healthy and strong young man who was a good worker, and the other was not, but the price was reasonable and she felt he would be a good investment. His name was Bannka or Bannaka, and he claimed to be the son of an African Chieftain. She spoke of him later as an African Prince.

He was a man of bright intelligence, fine temper, agreeable, and of dignified presence and manners. In a couple of years she gave her two slaves their freedom.

This was unusual in those times, and soon after, she married Banneky, as he was called, probably in about 1696. Inter-marriage was dangerous as it was contrary to law. However she lived in an isolated area, and she got away with it. She changed her name to Banneky and withdrew completely from her white neighbors.

They had four daughters, Mary, Katherine, Esther, and the youngest, whose name has not survived. In 1730, daughter Mary was wed to Robert, a native African from Guinea who had been captured and sold into slavery. He was converted to Christianity, became a member of the Church of England, and when he was baptised he was given the name of Robert, and received his freedom. Robert, having no surname, proudly took that of his wife and became Robert Banneky. He moved in with Mary in Molly's home.

Robert was a willing worker and the family prospered. He and Mary saved their share of the profits of the farm and they were able to purchase 25 acres of their own.

In 1731 their first child, Benjamin, was born. His grandmother, Molly, taught him to read from a large Bible she had sent to England for. But Benjamin's schooling was very limited as Molly was only able to send him for a very few years to a one-room country school which was only open during the winter and was attended by whites and blacks together. He soon grew too big to be permitted the luxury of school when he was needed, and was able to work on the farm.

INFLUENCES IN HIS LIFE

He did, however, develop a consuming interest in mathematics and he advanced in arithmetic as far as "double position". By that method a value is assumed for the number to be de-

rived, and inserted into given positions, computed, and then it can be seen how far wrong the result can be. We would probably call it "cut and try".

Benjamin grew up and was a great help to his family. His father, Robert, died in July, 1759, when he was 28, but Mary is believed to have lived until 1775. He bought his first book, a Bible, at age 32, and he owned a flute and a violin. In later years they became very comforting to him when he lived alone. He and his mother lived together ten years after his father's death, and he was known and generally respected in the community, but his color, even though he was free, restricted his activities in the area.

INFLUENCES IN HIS LIFE

As years passed he became known as a man of some learning. Reading and writing were only found among the wealthy plantation owners and their families in those days.

at the age of 22, with no other aid than a watch he had borrowed, he made drawings and computed the number of teeth, and the size of the many wheels, and made a striking clock. It was actually made entirely of wood with some small metal parts where necessary. It led to his being known in the neighborhood as a skilled craftsman and mathematician. The clock continued to run until his death, 50 years later.

Of most influence on him were Molly, first of all, then the unknown Quaker schoolmaster who taught him the rudiments of an elementary education and whetted his great thirst for learning, then George Ellicott, who was 29 years his junior.

The first Andrew Ellicott and his son, a second Andrew, came from England to Bucks County, Pennsylvania, during a period of business reverses, and although he came only for a visit, he never returned to England.

From these two grew a rather large family. The oldest son of the younger Andrew was Joseph. He became a millwright. Before age 21, and with the assistance of his brothers, Joseph built a gristmill. It was successful and they became known for their mechanical ability. The brothers were impatient to establish themselves independently, and they became interested in nearby Maryland. After a great deal of investigation and great care, they chose the Potapsco river as the site for a new mill. There were no grain or cereals grown there, but they made certain that they could be.

They built a mill about ten miles west of Baltimore, having acquired about 700 acres of land. At great cost in work and time, nearly the whole family moved their equipment and machinery from Bucks County to the new site, shipping and trans-shipping by water and land as required, and even building roads where none existed to complete their project.

Almost immediately upon construction of the mill the people of the area began growing grain, and the whole endeavor became successful. While the mill was being built, Benjamin and his mother, Mary, provided a great deal of the produce

and other farm products for the workmen. He found great fascination and pleasure in the new people who became his neighbors. A store was built, and thereafter a post office, and they became a center for the community to pass the time of day.

During the War for Independence free negroes were exempt from military service, and Maryland did not at any time experience military conflict during the war.

The fourth son of Andrew Ellicott, who was a brother of Joseph, the millwright, was George, who was 29 years younger than Banneker, and was only 12 when the family moved to Maryland. He was mechanically inclined, and was taught surveying by George Wall, Jr., a half-brother, who was well known as a surveyor in Bucks County. The mutual interests of Banneker and George Ellicott drew them together, and although their first meetings were probably in the store, George later went to Banneker's home many times, where they undoubtedly learned much from each other. Banneker had also become well acquainted with Joseph Ellicott as a result of their mutual interest in clockmaking.

Banneker was 58 when he first undertook his studies of surveying. It was during George Ellicott's survey of the road to Ellicott's Lower Mills that Banneker demonstrated to George his interest in this subject, and it must have been then that George lent Banneker his texts and surveying instruments which he later experimented with on his own farm. This association was also nourished by their mutual interest in literature which they shared.

It was thus that a change entered Benjamin Banneker's life, and the Mills became his link with the outer world. George, encouraged by his relatives, had developed an interest in astronomy. He acquired texts and instruments imported from London.

In 1790 George married a girl he had himself interested in astronomy, and had courted for four years. He built his own house at the Mills and used a gabled bedroom for his observatory. During these years it is almost a certainty that Banneker was among the numerous visitors who frequented George's home, and to whom he freely gave lectures and instruction in astronomy. It is known, however, that Ellicott was often away from home for varying lengths of time, and Banneker was, of course, busy with his farming and diverse other interests.

PROFESSIONAL DEVELOPMENT

He had learned to do his own cooking, mending, cleaning and washing after his mother's death, and these pursuits left him with little leisure time. It is understandable that it was several years before he was to take up the study of astronomy, which was to change his life so completely. George Ellicott and Benjamin Banneker had these many common interests which made a closer association inevitable.

At some time in the autumn of 1788 George offered to lend to Banneker several of his texts and instruments, intending to

visit him within a short time and get him properly started in his studies. He found that Banneker did not have the proper furniture for using a telescope and studying in the evening. He therefore sent along a heavy table which was seldom used. He also sent a broad-based tin candleholder which was more stable and gave better light for the studies.

George had business commitments which prevented him visiting Banneker for some time, and although letters were written to Ellicott and messages exchanged, Benjamin was well along in his mastery of astronomy before the two met again in person. After studying and mastering several texts, and obtaining others himself, he set about computing his first ephemeris. In those days these were published as "Almanacs", and contained much additional information besides the tables for the positions of the stars, etc., used by surveyors and navigators.

PROFESSIONAL ACCEPTANCE

He completed it and checked it over and over to be certain that each figure was correct. Unfortunately it was too late in the year to arrange for it to be published, although Banneker did try to accomplish that. From that time on for the next dozen years Banneker's Almanacs were published and distributed widely in Maryland, Pennsylvania, Virginia, Delaware, New Jersey and New York. It became a profitable endeavor for him, and was a source of enjoyment the like of which he had never had before.

The Planning for the National Capitol had been in progress for a long time. The Congress had met in eight different cities during, and immediately following, the War for Independence. The region selected was a ten-mile square between Georgetown and the port town of Alexandria. George Washington issued a proclamation on January 24, 1791, that a survey be made, and three commissioners had been appointed two days before to oversee it, and also the design of the City. Virginia and Maryland each granted to the Federal Government an area on each side of the Potomac.

The choice of a surveyor was an obvious one. Major Andrew Ellicott was appointed. He had been a professional surveyor all of his adult life, and had achieved distinction in his work. He was the son of Joseph, the Millwright brother who founded Ellicott's Lower Mills. He was born in 1753 in Bucks County, Pennsylvania, and arrived in Maryland in 1772. He surveyed the boundary between Maryland and Virginia in 1784, and with his brothers, Joseph and Benjamin, in 1789, he undertook the survey of the western boundary of the state of New York. His part of this work was completed in late 1790, and he then retired to his home in Baltimore for several months of rest and relaxation.

During this period he was interrupted to commence the survey of the boundaries of the new Federal City. Jefferson notified the commissioners of his appointment according to the wishes of President Washington, who as a young man had been a surveyor himself. In fact records indicate that he was first employed to help on a survey at the age of 14.

The urgency of completing the survey (when was it not so) was that the design of the City could not begin until the boundaries and interior topography were completed. His two brothers were still completing the work in New York state, and it would be several months before they would be available to join him in this survey. His young cousin, George (Banneker's friend) was offered the job of scientific assistant. He had the ability, although he did not have the field experience.

George replied that business pressures would not permit such a prolonged absence. In addition to operating the mills, he was in partnership with his brothers in several new ventures.

Banneker was suggested, and it was recalled that Andrew had the year before reviewed Banneker's first almanac at the request of the printer, Hayes. Banneker, although considered competent for the work, was known to Ellicott to be addicted to drink. This fact is confirmed by the records of the Ellicotts which showed that he bought a rather considerable amount of rum, wine and spirits.

Ellicott gave much thought to employing him, and discussed the shortage of competent persons with Jefferson, who suggested that Banneker might be quite useful until Ellicott's brothers were available. This fact is confirmed by a letter from Jefferson to the Marquis de Condorcet written about Banneker in 1792.

On his way from Philadelphia to the new Federal City, Ellicott stopped to visit his widowed mother at Ellicott's Upper Mills. While there he completed arrangements with Banneker, who was of course excited about the prospect, and made arrangements with his two sisters, who lived in the neighborhood, to look after his farm.

THE SURVEY OF THE FEDERAL DISTRICT

Banneker rode to the Upper Mills, stopping for a brief visit at the Lower Mills to bid goodbye to his good friend George Ellicott. The latter was almost as excited by the assignment as Banneker himself. They discussed the nature of the work and the possibilities for the use of astronomical instruments which would not otherwise have been possible. Andrew owned what were probably the finest instruments in the country at that time. Banneker would have been content merely to see Major Ellicott using them, to say nothing of handling them himself. He could hardly believe that he, a farmer sixty years old, with no education other than what he had gleaned from borrowed books, would have the chance to participate in what was unquestionably the most important surveying project in the new republic. One resolution he had made when Major Ellicott offered him the work was that during the course of the project he would do no drinking.

A touching evidence of the great esteem for Banneker which Elizabeth Ellicott shared with her husband, George, is this statement written by her daughter concerning the preparations made for Banneker's sojourn; "under the impression that Banneker would fall under the notice of the most eminent men of the country, whilst thus engaged, she was careful to direct

the appointments of his wardrobe, in order that he might appear in respectable guise, before the distinguished personages likely to be assembled there".

Banneker was with Ellicott when he arrived at the site of the survey in Alexandria, and his delight can be imagined at the prospect of employing his new skills and assisting in such an important way this highly technical work.

Bad weather delayed the start of the survey for several days, during which Banneker wandered around the seaport town of Alexandria, and his studies of history must have come alive for him in the sights and people he saw.

The survey was finally begun at the southern apex of the proposed square, near Alexandria. Ellicott's equipment included an astronomical clock, which was a precision timekeeper subject to derangement from many causes. It was placed upon the top of the stump of a tree cut down for the purpose, over which the observatory tent was set up. By far his most important instrument was the larger of his two zenith sectors, nearly six feet long, which had been made for him by David Rittenhouse, and to which he had added his own modifications. It was probably the most accurate scientific instrument in America at that time. Great care and repeated observations with this instrument enabled Banneker to establish precise results for the guidance of the surveyors.

From February 11, 1791 to February 23, Ellicott spent completing the survey of the Southwest line of the District, and crossing the Potomac on the Northwest boundary. History has reported that Ellicott and Banneker were the assistants of Major Pierre Charles L'Enfant, the engineer who planned and designed the City. This is not so. Washington had failed to inform L'Enfant that he was to be subordinate to the District Commissioners, so he was led to believe that he was responsible to the President, himself. This later led to friction between L'Enfant and the Commissioners and led to his dismissal.

It is to Banneker's great credit that during the survey, he did not drink.

The Georgetown Weekly Ledger announced in March of 1791: "Sometime last month arrived in this town Mr. Andrew Ellicott, a gentleman of superior astronomical abilities. He was employed by the President of the United States of America to lay off a tract of land ten miles square on the Potowmack, for the use of Congress--is now engaged in this business, and hopes soon to accomplish the object of his mission. He is attended by Benjamin Banneker, an Ethiopian, whose abilities as a surveyor and an astronomer clearly prove that Mr. Jefferson's concluding that race of men were void of mental endowments, was without foundation."

During that time there was a strong anti-slavery movement, and Banneker's accomplishments in intellectual pursuits was quickly adopted as evidence of the equality of the black man in mental ability.

HIS INFLUENCE IN THE ANTI-SLAVERY MOVEMENT

Pressures from the anti-slavery people were hardly necessary to induce Banneker to aid in helping his fellow blacks. Prominent, or at least sympathetic to the movement were the Ellicotts, who as a family were of the Quaker faith.

Since Thomas Jefferson was known to have publicly expressed his opinion that members of the negro race were incapable of any appreciable mental capacity, it was suggested to Banneker that he write Jefferson, calling his attention to the computation of his Almanac. This proposal he approached with great caution as he realized how the publication of such an exchange of letters with the then Secretary of State would be beneficial to advertising his Almanac, but at the same time he could visualize how a letter from an unknown amateur almanac maker could also be offensive to the statesman.

Suffice it to say, Banneker did write a long letter to Mr. Jefferson in which he politely called the attention of Jefferson to the accomplishments he had attained in producing his first Almanac, a copy of which he sent with the letter as a gift.

Jefferson was much interested in science, and he was above all else a fair man. He forwarded the Almanac to his friend, the Marquis de Condorcet, who was Secretary of the Royal Academy of Sciences at Paris, as evidence of the equal talents of the negro race.

Jefferson's reply to Banneker gave the latter immense satisfaction, although it was brief:

"Philadelphia, August 30, 1791

Sir, I thank you sincerely for your letter of the 19th instant and for the Almanac it contained. No body wishes more than I do to see such proofs as you exhibit, that nature has given to our black brethren talents equal to those of the other colors of men, and that the appearance of a want of them is owing merely to the degraded condition of their existence, both in Africa and America.

I can add with truth, that no body wishes more ardently to see a good system commenced for raising the condition both of their body and mind to what it ought to be, as fast as the imbecility of their present existence, and other circumstances which cannot be neglected, will admit.

I have taken the liberty of sending your Almanac to Monsieur de Condorcet, Secretary of the Academy of Sciences at Paris, and member of the Philanthropic Society, because I considered it as a document to which your whole colour had a right for their justification against the doubts which have been entertained of them.

I am with great esteem, sir your most obed't. Humble Ser't.

THOMAS JEFFERSON

HIS LATER YEARS

The years following these high points in Banneker's life were not too great a letdown: he worked on his Almanacs, took care of a garden, and generally had a good life. His esteem in the eyes of his neighbors was high, and he was well respected. He kept bees, had a small orchard, and he rented a part of his farm for pasturage. He cooked his own meals, which were quite simple, and as he had all of his adult life, he kept his "commonplace book", a journal of the events of his life. As his life drew to a close he became more and more interested in natural phenomena. Studies of bees, and of locusts were among the subjects discussed at length in his journal.

He was in the habit of taking a daily walk, and on a Sunday, October 9, 1806, he took his last one. While visiting with an acquaintance he happened to meet, he felt unwell and excused himself. They returned to Banneker's house, and he stretched out on his couch. He never spoke again, and in a short while he was dead. It did not come as a surprise to his family, who were summoned immediately, as he was only a month short of his 75th birthday.

He had the foresight to have given instructions for the disposition of his effects, and particularly the return of those items which had been lent him so long ago by George Ellicott. One of his sisters had been given a featherbed by Banneker several years before, and some time after his death, feeling a lump in the bed, she discovered a small hoard of gold coins. At the time of his death his Bible and a number of other items which he loved were removed from his house.

His funeral was held two days after his death, and just as his body was being lowered into the grave a few yards distant from his home, the house caught fire. The entire structure burned to the ground and everything in it: his clothing, his furniture, the manuscript copies of his Almanacs and his personal library, as well as the well-worn wooden striking clock he had made, and which had served him for more than forty years.

His death did not go unnoticed, and eulogies were printed about him. During the forty or so years following his death, historical articles were composed about him and read at meetings of various historical societies. A monument or two were erected to his memory which did not survive, partly due to vandalism. In 1836 a volume of collected letters and manuscripts was published as the first American account of his career. Some interest among the black people of the country was exhibited in his story, but until very recently when an exhaustively researched biography by Silvio A. Bedini was published in 1972, little was known about this fabulous self made man.

For you who have a further interest in this wonderful man, "The Life of Benjamin Banneker" is recommended.

