Major Andrew Ellicott, Esq. – Colonial American Astronomical Surveyor, Patriot, Cartographer, Legislator, Scientific Instrument Maker, Boundary Commissioner & Professor of Mathematics

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ABSTRACT

Major Andrew Ellicott, Esq. was perhaps the foremost astronomical surveyor during the terms of Presidents George Washington and Thomas Jefferson. Silvio Bedini, Esq. describes Ellicott:

"No other American man of science in his time could number as many achievements, or as important ones. Furthermore, he was truly a scientist by dictionary definition, for he was professionally trained in the sciences, and earned more than half his income from pursuit of them, a unique distinction for that period." (Bedini, 1975)

He existed amongst the scientific elite of the new republic. Benjamin Franklin, David Rittenhouse, Dr. James Madison, Robert Patterson, Thomas Hutchens, Isaac Briggs, Benjamin Banneker, Dr. John Ewing & William Dunbar were some of his friends and colleagues. In 1788, Benjamin Franklin penned a reference for his young friend that stated:

"I do hereby certify whom it may concern, that I have long known Mr. Andrew Ellicott as a Man of Science; and while I was in the Executive Council have had frequent Occasions, in the Course of Public Business, of being acquainted with his Abilities in Geographical Operations of the most important kind, which were performed by him with the greatest Scientific Accuracy. Given at Philadelphia this 10th Day of August, 1789. B. Franklin, late President of the State of Pennsylvania." (Mathews, 1908)

Perhaps the climax of Ellicott's career was the extraordinary expedition to survey and mark the 1st U.S. Southern boundary. President Washington appointed Ellicott as the Astronomical Commissioner to survey this Spanish-U.S. territorial boundary as defined in the 1795 Treaty of San Lorenzo el Real. The treaty had settled a 12 year long boundary dispute between Spain and the U.S. concerning jurisdiction over the Southeastern Indian Nations.

Ellicott's early career served as a prelude to the Spanish border expedition honing his skills and knowledge in the completion of numerous state & federal boundary commissions. This paper examines Ellicott's life and career using the Southern boundary expedition as a focal

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point to link his formative years to later surveys and his tenure as Professor of Mathematics at West Point.

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ELLICOTT'S EARLY YEARS UNDER GEORGE III

Andrew Ellicott was only nine years old when the King of England defined the Northern boundary of British East & West Florida. As a result of the 1763 Treaty of Paris, Great Britain had obtained all of the Spanish & French holdings in North America East of the Mississippi River. Louisiana and Florida, however, were a long way from Bucks County, Pennsylvania where young Andrew lived with his parents Joseph and Judith Bleaker Ellicott. The young lad might have first heard of Florida while attending a small Quaker school in Solesbury Township.

On October 7, 1763, King George III proclaimed the northern boundary of the Floridas to be that line "beginning at the intersection of the Mississippi River with the 31st parallel of north latitude, thence along the 31st parallel to the Chattahoochee River, thence with the Chattahoochee to the mouth of the Flint River, thence on a straight line to the source of the St. Mary's River, thence down the St. Mary's River to the Atlantic Ocean". George III's decree would later delineate the first southern boundary of the not yet conceived United States.

By 1764, the British Monarch had moved this line almost 170 miles inland and defined the boundary as running through the mouth of the Yazoo River thence East to the Chattahoochee River. The latitude of this line was approximately 32 degrees 28 minutes. The King effectively extended British colonial jurisdiction over a very strategic part of the Choctaw and Creek Nations and attempted to clarify the Georgia issue. And so this boundary remained for approximately 16 years under British rule. That same year the King of France gave his cousin, the King of Spain all of Colonial Louisiana (Lowrie & Clark, 1832)

THE REVOLUTIONARY WAR & THE YOUNG SURVEYOR

The Revolutionary War was on the wane and at the age of 26, Ellicott had been married for some five years to Sarah Brown. He had moved to Maryland and had joined the Elk Ridge Battalion of Militia with the rank Captain. A year later, he was promoted to the rank of Major. During this time, Spain came into possession of the British Floridas by force of arms. In 1779 and 1780, Don Bernardo de Galvez, Governor of Spanish Louisiana, captured British military outposts on the Mississippi River and Northern Gulf Coast including the strategic forts at Natchez, Mobile and Pensacola. His Catholic Majesty's prize was the Gulf coastal remnant of the Louis XIV's Colonie Louisiane. Spain now was in possession of a major

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portion of the aging French colony. The only exception was that North of Florida and East of the Mississippi River. Some feel that Galvez's campaign was in support of the rebellious United States. The events that transpired next, however, told a different story. (Hamilton, 1910)

After the Revolutionary war, Major Ellicott spent his days working with his brothers, Joseph and Benjamin at his father's Upper & Lower Mills located on the Patapsco River approximately ten miles West of Baltimore. No doubt, he also devoted a considerable part of his time to sharpening his mathematics, surveying and astronomy skills. One of his prime duties was to assist his father in the clock making business. (Bedini, 1975) His life was still far removed from the agitated state of affairs in the Spanish Floridas. His marriage and career as a Rebel militia officer had signaled the end to Ellicott's formal education. His career as a surveyor was now in its formative stage. The young Major, who, at the age of 15, had studied mathematics and astronomy under Robert Patterson (Bedini, 1975), was presented with the opportunity to apply the theoretical to the reality of performing delicate astronomical observations and surveying boundaries through the vast wilderness claimed by the fledgling United States.

By the 1780's, Ellicott's spare time was devoted to his special interests in astronomy and surveying. He publishing several almanacs, one entitled <u>The United States Almanack for the Year of our Lord 1782; Being the Second after Leap Year, and the Sixth Year of American Independence</u>. (Mathews, 1997) The freebooter skirmishes, Indian unrest, Spanish duplicity and Tory intrigue in Florida most probably still escaped young Ellicott's attention. The next fifteen years would be spent gaining the experience and practical knowledge that Ellicott would need to accomplish the greatest task of his career. That task would be to survey & mark George III's North boundary of the Floridas as the 1st defined Southern boundary of the United States..

Ellicott was nearing 30 years of age when the Treaty of Peace of 1782 was signed between the U.S. and Great Britain. The independence of the United States was acknowledged and all that territory East of the Mississippi River and North of the 1763 Florida line was ceded to the United States. In early 1783, Great Britain signed another treaty with Spain ceding the Floridas to His Catholic Majesty. Interestingly the latter treaty was silent on the north boundary of the Floridas. By the omission of a defined boundary in the treaty between Great Britain and Spain, a significant dispute was born between Spain and the United States.

Spain claimed by conquest to George III's 1764 line that began at the mouth of the Yazoo. Spanish officials argued that was the boundary at the time Galvez took Florida. In 1783, the Conde de Floridablanca raised the stakes by extending the Spanish claim to the Tennessee and Ohio Rivers to include the vast territory encompassed by the Choctaws, Chickasaws, Cherokees and Creeks. This dispute over the Spanish borderlands was not resolved for almost 12 years during which Ellicott's career was to be marked by a series of distinguished appointments allowing him to participate in major surveys of regional and national significance.

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THE EARLY STATE & FEDERAL BOUNDARY SURVEYS 1784-1795

Ellicott's first major boundary survey came in the Fall of 1884 having been appointed as a Commissioner by the new State of Virginia to mark the Western remainder of the Mason-Dixon Line, the boundary between Virginia and Pennsylvania. The Mason-Dixon expedition had been prematurely interrupted in 1767 by an uprising of the Native Americans who objected to the survey that encroached on their land (Mathews, 1997). Ellicott's debut on this expedition was held in the company of a veritable who's who North American surveyors, astronomers and scientists. His fellow commissioners were Dr. James Madison, Robert Andrews, John Page, Dr. John Ewing, John Lukens, Thomas Hutchens and David Rittenhouse. This survey also provided an opportunity for Ellicott to gain valuable experience in making astronomical observations to establish and mark a parallel of latitude. The boundary commission, in lieu of the time consuming task of surveying the actual parallel of latitude, utilized a guideline/offset method to establish the boundary, a method that Ellicott would find useful and expedient on subsequent surveys. Ellicott was awarded a Masters of Art degree from William and Mary College for his participation. (Mathews, 1997)

The Spring of 1785 saw Ellicott appointed along with David Rittenhouse and Andrew Porter as a Commissioner to run the Western Boundary of Pennsylvania. This survey was completed in October 1785. During the months that he was not engaged in the conduct of this boundary survey, he found time to teach mathematics at the Baltimore Academy and to represent the City of Baltimore in the Maryland legislature. In January 1796 Ellicott was elected to the prestigious American Philosophical Society.

Ellicott's reputation and resume was spreading amongst the U.S. scientific and political elite. In June of 1786 he was appointed along with David Rittenhouse to survey and mark the Northern boundary of Pennsylvania. This commission, like the Mason- Dixon expedition, was to finish another survey that had been prematurely terminated. In 1774, Mr. Rittenhouse had completed part of said North boundary in 1774 when the Revolutionary War brought the expedition to an abrupt halt. Ninety miles of this boundary was run by Ellicott and Rittenhouse in the Fall of 1786 and the remainder was completed in October 1787 (Mathews, 1997).

U.S. BOUNDARY COMMISSION SURVEYS

In the year 1788, Ellicott surveyed the islands in the Allegheny and Ohio Rivers for the Supreme Executive Council of Pennsylvania. The next year, he moved with his family to Philadelphia. That year, Ellicott was commissioned by the U.S. Government to run the West boundary of New York. The survey party encountered official hostility when they had to cross over into British jurisdiction at Niagra. The party was detained by the local authorities, then told to leave Canada. After some quiet diplomacy the British allowed the survey to proceed. His survey of Niagra Falls and Niagra River was the first accurate survey of those unique geological features. His nighttime use of lanterns to triangulate across lakes was to provide valuable experience he would later need. He completed the West boundary of New

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York in October 1790 and returned to Philadelphia for a short rest & visit with his family (Mathews, 1977).

In February of 1791, Thomas Jefferson requested Ellicott to survey the ten square mile boundary for the "Federal Territory" later to become known as the District of Columbia The survey was begun later that month and was expanded to include the layout of the streets and general plan of the "Capitol City". This project lasted over two years. Ellicott was briefly assisted in this survey by his old friend Benjamin Banneker, a black astronomer and surveyor. Isaac Briggs who, in 1803, was appointed Surveyor General of Lands South of Tennessee or the Mississippi Territory also helped Ellicott.

Ellicott had less than a month, after finishing his work in Washington, to visit his family before he left Philadelphia commissioned by Governor Mifflin of Pennsylvania to conduct a survey "for viewing and laying out, on the most eligible ground, a road from Reading to Presqu'Isle." The scope of this survey was expanded over the next year to include "Laying and establishing Towns and outlets within several tracts of land heretofore reserved for public uses. . ." During 1794, the survey was delayed by the Six Nations who claimed that the lands being surveyed had not been legally purchased by them, a common complaint against the American preemptors. This would not be the last time Ellicott's work would be interrupted by hostile Indians. The road and town surveys were finished by October 1795 and Ellicott once again returned for a relatively brief visit with Sally and his children in Philadelphia (Mathews, 1997). Little did Ellicott know as he was returning home, an historic event, taking place in Spain, would monumentally change his life and catapult him into a position of prominence among the scientific surveying community in the U.S..

THE U.S. SOUTHERN BOUNDARY

On October 27, 1795, His Catholic Majesty and the U.S. signed the Treaty of San Lorenzo el Real or Pinckney Treaty, which fixed the 1st Southern Boundary of the U.S. at George III's 1763 line that ran with the 31st parallel. This historic event was George Washington's greatest accomplishment in foreign affairs. The third article in the treaty called for a joint U.S.-Spanish boundary commission to survey and mark the line. This article also required the survey to commence within six months of the signing of ratification of the treaty.

On May 4, 1796, Washington appointed Major Andrew Ellicott as "Commissioner on Behalf of the United States . . . For Determining the Boundary Between the United States and the Possessions of His Catholic Majesty . . . " pursuant to the Treaty of San Lorenzo el Real. Washington also appointed Thomas Freeman as Surveyor on the Boundary Commission.

Ellicott had resided in Philadelphia for over six years and at the age of 42 was a seasoned astronomer and surveyor having participated on the numerous boundary surveys mentioned previously. What made this survey different was that the 1st U.S. Southern boundary, more than any other particular line of demarcation, would mark the end of the bloody tripartite struggle to control colonial North America. Ellicott was to define the limits for American expansion into the "old Southwest."

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Major Ellicott left Philadelphia September 16, 1796 with his survey crew and traveled over the mountains to the Ohio River. The boundary commission was joined by an U.S. Army escort of 30 soldiers in Pittsburgh. As he descended the Ohio, Ellicott encountered inclement weather, "miserable little villages" & destructive shoals. He arrived at the mouth of the Ohio on December 18, 1796. After celebrating the New Year on a bluff overlooking the two frozen rivers, Ellicott, as instructed by Thomas Jefferson, took a series of astronomical observations to determine the latitude & longitude of the strategic confluence of the Ohio and the Mississippi.

SPANISH DIPLOMACY, "IMMORALITY" & REVOLT IN NATCHEZ

By early February Ellicott was descending the Mississippi on his way to Natchez to meet the Spanish boundary commission. His party was routinely detained by the "surprised" Spanish authorities at New Madrid, Chickasaw Bluffs & Walnut Hills. Even though the Governor of Louisiana, the Baron de Carondolet had received a copy in August, the Spaniards feigned ignorance of the Treaty of San Lorenzo because they had been instructed to do everything in their power to delay Ellicott's descent. The American expedition was stopped twice on the Mississippi River by Spanish gunboats before finally arriving in Natchez on February 24, 1797 (Ellicott, 1803).

Carondolet and Manuel Gayoso de Lemos, Governor of the Natchez District, were "officially" astonished by the arrival of Ellicott. Ellicott, of course, had arrived with one purpose in mind- to begin the survey. The Spaniards matched his tenacity by delaying the commencement of the survey for over a year with a myriad variety of bureaucratic, military & political excuses. At one point the Spaniards had a cannon aimed at Ellicott's encampment for several weeks in retaliation for the U.S. Commissioner's refusal to lower the Stars and Stripes. Gayoso and Ellicott, adversaries as they were, however, communicating daily, sipping tea in the afternoon, wine and brandy in the evening, politely engaged in the diplomacy of delay. At one point, the frustrated boundary Commissioner became intricately involved in a "citizen's revolt" against Gayoso's overdue authority (Ellicott, 1803).

On the night of April 8, 1798, after taps was played, the Spanish troops quietly slipped out of Fort Panmure de Natchez. Ellicott left the next morning for the 31st parallel as the small contingent of U.S. troops entered the abandoned fort (Ellicott, 1803). Interestingly, the U.S. Congress had established the Mississippi Territory two days before the Spanish evacuation of the Fort Panmure. The southern boundary of the new territory was defined to run with the 31st parallel by Congressional enactment dated April 7, 1798 (Carter, 1952).

The relationship between Thomas Freeman, the Surveyor for the U.S. boundary commission and Ellicott had digressed to a point where they had become bitter enemies. Freeman accused Ellicott of hiring a "prostitute, of the lowest grade" as the washer woman for the U.S. expedition, who, as he alleged, was Ellicott's son's mistress. The depth of this rift between the U.S Commissioner and the U.S. Surveyor is shown by the testimony Freeman delivered in the April 10, 1811 trial of General Wilkinson. Freeman claimed that Betsy, the washer

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woman, shared a bed with Ellicott's son Andy. Freeman alleged that sometimes Ellicott made it a threesome. (Register, 1998) Ellicott wrote his wife, Sally, that Freeman "has turned out an idle, lying, troublesome, discontented, mischief making man." In another letter Ellicott said "Mr. Freeman is one of the greatest rascals and liars in existence, he has done everything in his power to put a stop to our business and it was with difficulty that I could for some months prevent a duel between him and Andy" (Mathews, 1997). Ellicott had Freeman dismissed from the expedition soon after the survey commenced. This blemish on Freeman's record, however, was evidently overlooked as he was commissioned in 1803 by the U.S. Treasury Department to survey the Vincennes Tract and in 1804 sent on a U.S. expedition to explore the Red River. On September 10, 1810 Freeman was appointed as Surveyor General of Lands South of Tennessee (Lowrie & Clarke, 1832).

THROUGH THE CHOCTAW NATION & A VISIT TO NEW ORLEANS

By May of 1798, nearing the 31st parallel, Ellicott erected an astronomical observatory on the east bank of the Mississippi River to determine a commencement point to begin the survey. He was joined by William Dunbar, the Astronomer on the Spanish side. Dunbar, who brought 60 of his personal slaves with him as laborers, surveyed 4 miles through the Mississippi river swamp, then abruptly retired from the survey to attend "business matters" at his plantation near Natchez. Ellicott and Esteban Minor, the Spanish Commissioner began the survey utilizing a tangent offset method to mark the actual 31st parallel on the ground. This method proved to be so laborious and time consuming that after the 21st mile, they agreed to use the more expedient guide line- offset method Ellicott had perfected in some of his earlier surveys. This method was used by the Ellicott and Minor for the remainder of the survey (Ellicott, 1803).

In early January 1799, Major Ellicott had completed his astronomical observations to determine the 31st parallel at the Pearl River. He left the expedition and canoed down the Pearl River to its mouth while the U.S. and Spanish surveyors began a new guide running East to the Mobile River. Gayoso, then Governor of Louisiana, sent "the Governor's barge" to escort Ellicott across Lake Ponchartrain to New Orleans. The official purpose of Ellicott's trip was to meet with Gayoso and approve the progress of the survey thus far. However, interestingly, Ellicott's visit conspicuously coincided with "the carnival season" or Mardi Gras.

While in New Orleans, Ellicott retained an anonymous "Spanish lady" to draw a portrait of him. He sent the image to his wife Sally and explained in an accompanying letter "When you consider the uninterrupted constant series of difficulties I have had to encounter you will not wonder at the serious cast of my countenance to remedy which, the lady who took my likeness, frequently desired me to laugh" (Ellicott, 1803).

Ellicott's visit in New Orleans lasted for over two months during which time he purchased an unfinished hull "built of live oak and red cedar" of a 40 ton schooner using funds guaranteed by the U.S. State Department. The schooner was outfitted per Ellicott's instructions. When the vessel was finished, he hired two seamen who "were both deserters from a British

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privateer" and on March 1st left New Orleans for the Mobile River "with those two sailors, who were completely illiterate, I undertook to navigate the vessel." Ellicott named the U.S. schooner "The Sally" after his wife and it was used to transport his scientific equipment for the remainder of the expedition (Ellicott, 1803).

By March of 1799, the guide line begun at the Pearl River had been pushed through the southern reaches of the Choctaw Nation without incident thanks to a secret treaty Ellicott had made with the principal Choctaw Mingos or Chiefs. The Choctaws had told the Spaniards several times they were going to massacre the U.S. survey party on the line (Holmes, 1966). Evidently Ellicott's talks & promise of annual U.S. subsidies and other gifts to the naive chiefs had worked to provide safe passage for the expedition. However, as Ellicott was not authorized to make such an agreement, the items promised to the Choctaws never materialized. The fact that the U.S. government did not follow through on Ellicott's illegal promises caused a recurring problem for Governor Sargent of the Mississippi Territory (Carter, 1952). The promises, however, sufficed for Ellicott's purposes.

SEYMOURS'S BLUFF ON THE MOBILE RIVER

On March 17, Ellicott found the U.S. and Spanish surveyors encamped at Seymours Bluff on the Mobile River at the termination of the guide line run from the Pearl River. Interestingly, as it were, the surveyors had encamped a little less than a mile south of Grog Hall, the only tavern within 40 miles. It seems that this innate ability to close the day in the near vicinity of a local pub is a universal skill propagated amongst survey crews regardless of the cultural context or environs (Spies, 1997).

Ellicott erected his observatory on the high bluff overlooking the Mobile River and began a series of astronomical observations, which lasted until early April. "The focal point of his operation was the observatory tent, which Ellicott located by tracing a meridian and then laying off an angle from it. It was at this observation point that he set up his large zenith sector and near which he placed his astronomical clock. The clock was a critical factor to all his observations, the one piece of equipment that habitually presented most problems. It was a precision timekeeper liable to derangement from many causes. Vibrations from movements upon the ground nearby, changes in temperature, and any contact with it might cause inaccuracy. For this reason he usually set the clock upon the stump of a tree which he had cut down for that purpose. Then he erected his observatory tent over the sector and the clock and his other instruments" (Bedini, 1975).

THE ELLICOTT STONE

At the close of his observations on Seymours Bluff, he determined that the astronomical station was some 8000 feet north of the 31st parallel. On April 9, 1799, Ellicott and Minor measured the distance due south and erected a large sandstone monument on the West Bank of the Mobile River. The monument is about 3 feet in height, 2 feet wide and about a half a foot thick. This irregular piece of brown ferruginous sandstone is marked on the North side

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"U.S. Lat. 31 1799" and on the South side "Dominos de S.M.C. CAROLUS IV. Lat. 31 1799".

It is, in fact, the only known stone monument set by Ellicott during his survey of the line of demarcation between the United States and Spain during the years 1797-1800. What is truly remarkable and makes the monument unique is that the Ellicott Stone is still standing <u>in situ</u> (i.e., in its original place).

In 1803, this monument was selected by Isaac Brigg's as the initial point for "Principal Meridian East of the Pearl River." Today this meridian is known as the St. Stephens Meridian and serves as the basis for all U.S. Public Land Surveys in Southern Alabama & Southern Mississippi and the Ellicott Stone is the oldest existing Initial Point in the U.S. (Spies, 1997)

The Ellicott Stone marks the line of demarcation which was, at one time or another, the Northern boundary of British West & East Florida, the North line of the Spanish Floridas, the international boundary between the U.S. and Spain (1795), the Southern boundary of the Mississippi Territory (1798), the St. Stephens Meridian Baseline (1805), the Louisiana-Mississippi State Line (1818), the Alabama- Florida State line (1821) and the Florida-Georgia State line (1821).

To project the 31st parallel across the flooded Mobile-Tensaw River Delta, Ellicott triangulated from a couple of high ridges that bordered the river swamp. He used an old technique of lighting fires at night to determine the location of the triangulation points. On the night planned for the observation, a squall blew through the region. The lightning contained in the thunderstorms lit fires on both sides of the delta bottomlands foiling the plan. The next night signals were made with the fires so that the surveyors would know which point of light was the correct one. Thus the parallel was projected into Creek territory.

A LINE OF JURISDICTION ACROSS THE CREEK NATION

Ellicott and Minor continued East with the survey of the boundary between Spanish Florida and the Mississippi Territory by running two more guide lines through the lower Creek Nation. While the Choctaws had been placated by Ellicott's promises, the Creeks, who perhaps had more experience with American encroachment into their lands, were more skeptical. In fact, the Tallasee Creeks had heard the "crooked talks" many times before and were determined to stop the survey (Ellicott, 1803).

In an attempt to pacify the Creeks, Ellicott, Minor and Colonel Benjamin Hawkins, the U.S. Indian Agent who had joined the surveyors in Pensacola, met the Indians on the Conecuh River near the boundary. The Spanish and the U.S. Commissioners attempted to explain the nature of the survey to Mad Dog, one of the principal Chiefs of the Upper Creek Nation. Ellicott records that "Capt. Minor, who explained in a forcible manner, the nature of our business: that the line we were tracing, was not a line of property, but of jurisdiction, a line between white people, and not intended in any way to affect the Indians in either their property, manners, customs or religion." (Ellicott, 1803)

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While Mad Dog's warriors agreed to accompany the surveyors to the Chattahoochee River, another faction of Creeks had different designs which included plundering the surveyors' camp on the Chattahoochee. The war party raided at night, stealing almost all of the horses and supplies. Ellicott was sent scurrying down the Chattahoochee with the Spanish and U.S. commissions. Fortunately, the surveying equipment and the fieldnotes were saved from the onslaught. One of the Spanish supply schooners anchored several miles below the camp had its rigging and sails stripped by the Indians. They also took what provisions were left onboard and proceeded to leave three sailors "guarding the vessel" naked and weaponless (Ellicott, 1803).

The Creeks had their way, in violation of the 1796 Treaty of Colerain just as they had in 1792 when they stopped the survey of the Creek-Georgia line by U.S. boundary commission which violated the 1790 Treaty of New York. The portion of the line from the mouth of the Flint River to the headwaters of the St. Marys River, now the Georgia- Florida line, was never marked on the ground because of the explosiveness of the situation with the Creeks.

TO THE OKEEFENOKE & THE ST. MARYS RIVER

Ellicott and Minor did manage to erect mounds at the East terminus of the line in the Okeefenoke Swamp. The survey was completed to the Atlantic Ocean by early March in the year 1800.

By the time Ellicott returned to Philadelphia, he had been away from his family for over three and one half years in the service of his country. While its significance was eclipsed by the 1803 Louisiana Purchase, the Southern Boundary expedition rivaled the more famous Lewis & Clark Expedition in magnitude and danger but was no less important to the early history of the United States.

Ellicott's survey of the 1st U.S. Southern Boundary, the creation of the Mississippi Territory, the Louisiana Purchase and the Purchase of Florida were all quasi-engineered by the U.S. and ushered the colonial powers out of this territory. This strategic land came under U.S. jurisdiction. The United States immediately began surveying the Public Lands and bringing the land to market to pay off the revolutionary war debt. This happened much to the dismay and ultimate demise of the once powerful indigenous Choctaw, Creek, Chickasaw & Cherokee Indian Nations. This was the prelude to the "Trail of Tears" and the beginning of the extinguishment of Indian title to the "old Southwest."

Despite the slight errors that have persisted for over two hundred years, the accuracy of the old line of demarcation that passes through Ellicott's Stone is astounding. Ellicott's accuracy can be attributed to the sophisticated apparatus and mathematical techniques he brought into the field when he constructed his astronomical observatory stations during the survey of the line from 1798 to 1800. Ellicott remarked:

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"Measurements when accurately executed, in a known parallel of latitude, are generally preferable to observations for distances, not exceeding 100 miles; yet in this case, the measurement is not entitled to that weight, being done in haste, with a common chain, through thickets, swamps and ponds, where pins of more than ordinary length had to be made use of, which involved an unsurmountable source of error: but not in so considerable a degree as to justify its rejection." (Ellicott, 1803)

Ellicott further elaborates on the conditions encountered on this expedition:

"It is presumed, that no apology will be necessary, for any small inaccuracies which may be discovered in the astronomical observations, when it is considered that they were made at temporary stations, and the apparatus frequently exposed to the weather, for want of tents, and other covering; and almost as frequently so injured by the transportation from one place, to another, through the wilderness, that if I had not been in the habit of constructing, and making instruments for my own use, our business must have several times suspended, till the repairs could have been made in Europe." (Ellicott, 1803)

Andrew Ellicott's work brought the American flag to the old Colony of Louisiana. His expedition, which brought the first U.S. astronomers and surveyors into what is now the Southeast U.S., encountered serious problems as it moved through this trackless wilderness. Despite impenetrable swamps and hostile Indians, Ellicott's Southern Boundary was completed from the Mississippi River to the Atlantic Ocean. Today that boundary "marked by mounds placed at intervals of 1 mile" stands in testimony to the failed strategies of European monarchs to secure the "old Southwest" and subjugate the "Indian nations." The Ellicott Stone and the Ellicott's "line of demarkation between the U.S. and the Possessions of His Catholic Majesty" stand as symbols of the United States' first diplomatic triumph, the first acquisition of territory outside of the original 13 colonies and the beginning of a "manifest destiny".

In the early years of the Mississippi Territory, the Mound Line became a line of freedom for runaway slaves escaping into what was still Spanish Florida. Yet this line of "jurisdiction" and "freedom" also monuments a darker moment in U.S. history- that period of American Indian removal. The Trail of Tears displaced hundreds of thousands of Indians from their homeland.

Ellicott published <u>The Journal of Andrew Ellicott</u> in 1803. That same year the Louisiana Purchase caused the American consciousness to focus on events father west than the Mississippi and Florida Territories. As Ellicott's career evolved into its final stages, he participated in several other major U.S. boundary commissions, most notably the 1811 Georgia-North Carolina boundary survey and the 45th parallel Canadian boundary survey conducted in 1817 pursuant to the Treaty of Ghent. He secured an appointment in July 1813 as Professor of Mathematics at West Point. Ellicott died while still in government service at West Point, August 28, 1820.

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Ellicott's legacy, in part, is perpetuated by his Journal and other documents in government and private archives. Yet, the existence of the great boundaries he surveyed which now separate private property, counties, states and nations are, perhaps, the greater part of his legacy. Boundary disputes and questions of jurisdiction that began soon after Ellicott left the line, are still common. In some cases, the boundaries and the monuments have all but been obliterated and obscured by urban encroachment, county roadways, pine plantations, fire lines, cotton fields and cattle ranches. But, the lines established by Major Andrew Ellicott remain a symbol of continuity with our past standing as a silent witness to the changes of jurisdiction and property ownership that inevitably come with the advance of civilization.

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