

HISTORY OF 19th CENTURY SURVEYS IN ARKANSAS 1815-1883 A LIVELY HERITAGE

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INTRODUCTION

I gained my first state registration as a professional surveyor in Arkansas in 1986: license number 1032. I subsequently qualified for licenses in 5 other states. I have no formal education in surveying. All I know is what I have learned at conferences like this one, from the excellent and generous surveyors I have worked with, and from a great deal of reading and independent research. Though my studies continue, I have done no paid surveying work in almost 7 years. Therefore, I am *not* qualified to lecture you on the topic of surveying practice. But I can reveal some of the history of our surveying system in Arkansas that you may find useful in your practice. A review of our history can put our present concerns and challenges into the context of both our noteworthy past and problematic future. I hope this will be a stimulating and useful discussion; I will try to restrain myself from pontificating.

Early in my career I encountered the following surveying maxim regarding boundary determination written by A. C. Mulford in 1912 in his book **Boundaries and Landmarks**: “It is far more important to have faulty measurements on the place where the line truly exists, than an accurate measurement where the line does not exist at all.” Given the importance of accurate measurement in our profession, this formulation posed a real conundrum for me. I struggled with it for years. Its validity reveals the importance of knowledge and careful investigation of the survey record combined with evidence found in the field. A precise measurement on the wrong line is not only of no value, but if placed into the survey record it is poisonous. It misleads and generates disputes. The syllabuses of our collegiate surveying programs rightly boast a powerful list of courses in surveying math, measuring technique, and statistics, but the art of identifying the *correct* lines and corners seems to me to be inadequately covered.

Boundary surveying is the art of applying correct measurement informed by historical knowledge to identifying the *correct* lines and corners that define the boundary.

THE IMPORTANCE OF PROPERTY BOUNDARY SURVEYS

Surveyors provide the boundary monumentation, plats, and legal descriptions that are indispensable for identifying real property - the single most valuable category of tangible wealth in the American economy. “Real estate is the biggest asset market in the world. The value of residential property in America – at around 34 trillion dollars – rivals the market capitalization of all listed American companies. Throw in commercial and retail property, together worth around 16 trillion dollars, and its value easily eclipses that of public firms.” *The Economist*, February 15, 2020, page. 61.

THE IMPORTANCE OF THE PUBLIC DOMAIN SURVEYS

The Genius of the System:

“In the West, by contrast [to the underdeveloped and former communist-bloc countries] every parcel of land, every building, every piece of equipment, or store of inventory is represented in a property document. They [all] can be used as collateral for credit. The single most important source of funds for new businesses in the United States is a mortgage on the entrepreneur’s house....Third world and former communist nations do not have this representational process. As a result, most of them are undercapitalized... Without representations, their assets are dead capital.” The Mystery of Capital, (MC), Hernando Desoto, page 6. “A modern government and a market economy are unviable without an integrated formal property system.” (MC), page 72.

WSJ Brazil article

The federal government’s objective in the original 19th century surveys in Arkansas (1815-1845) was to raise revenue by selling patents to the undeveloped parcels of the public domain to private individuals thereby giving these settlers title to the land... creating tangible wealth out of ancient and inert wilderness. “A secondary function of the land system, presumably unintended by the law makers who designed the system, was to promote the rapid economic mobility of individuals with the special skills necessary to manipulate or defraud the government to their special advantage.” Territorial Ambition, Land and Society in Arkansas, 1800-1840 (TA), S. Charles Bolton, page 75.

The Surveyors:

The surveys of the public domain were not a dispassionate process of imposing a flawless grid on the chaotic wilderness – it was a very human enterprise. Human nature infected and inflected everything.

- The Insiders

The peak of GLO surveying activity and settlement in Arkansas took place in the period 1829 through 1841. Coincidentally, this coincided with the presidencies of Andrew Jackson and Martin Van Buren; both were Democrats and believers in the “Spoils System.” of reserving appointive offices to party stalwarts. As historian Francis Fukuyama recently wrote in *The Wall Street Journal* (Dec.21, 2019): “President Jackson declared that he got to decide who served in the bureaucracy and that government work was something that any ordinary American could do [that included surveying the public domain]. The spoils system prevailed during a 100 year period in which virtually every U.S. official from cabinet ministers to postmasters got their job due to political patronage...the reality of American government in the 19th century was massive corruption and incompetence...” The following paragraph is from a 2014 article that Don Bragg of the U.S. Forest Service and I wrote for the *Arkansas Historical Quarterly*.

“Compounding the physical and technical challenges of the public land surveys was the pervasive intrigue, nepotism, and corruption associated with patronage appointments. Appointment as surveyor general and receipt of deputy surveyor contracts often came with considerable prestige and opportunity to profit. Not surprisingly the GLO bureaucracy in Arkansas was dominated by the Democratic political faction known as the “Family” or “Dynasty” that controlled most government offices prior to the Civil War. During the antebellum period, the members of the Conway and Rector families received scores of contracts for the survey of the public lands – 5 Conways and 10 Rectors served as deputy surveyors in Arkansas. Surveyor General William C. Rector taught his nephew, James Sevier Conway, the surveying business. Conway’s brother, territorial delegate Henry Wharton Conway, helped him to secure a contract to survey the southwestern boundary of Arkansas in 1825. Territorial delegate Ambrose Hundley Sevier (another cousin to the Conways) used his connections with President Andrew Jackson to help James Conway get one of the contracts to survey the Arkansas-Louisiana line in 1830 and then helped him to become the first Surveyor General of Arkansas in 1832. Conway held this position until 1836, when he resigned after being elected the first governor of the state of Arkansas. William Pelham, Charles Pelham’s younger brother, served as surveyor general from 1841 until 1849, a decade after his marriage to Mary Ann Conway (sister of James and Henry Conway). Elias Nelson Conway, a prolific deputy surveyor and brother to Henry, James, and Mary Ann, served as Arkansas Governor from 1852 until 1860, when their cousin Henry Massie Rector, surveyor general for Arkansas from 1855 until 1859, was elected.”

Money was scarce on the frontier. Some of the first fortunes were amassed by deputy surveyors. In a typical year, the federal government sent over \$100,000 dollars to Surveyor General Rector’s headquarters in St. Louis for the prosecution of the public land surveys. The Land Office Business, (TLB) Malcolm Rohrbough. These funds were duly deposited in local banks to be paid out to deputy surveyors *after they completed* their contracts. Most deputy surveyors had to finance the expenses of paying, transporting, and supplying their crews out of their pocket. Most had to obtain the money to fund performance of their contracts from the only source available – banks. Doubtless a recommendation from the surveyor general to the lucky bank where he had deposited his federal funds that it lend to favored deputy surveyors carried much weight.

“Hartwell Boswell, register of the land office in the Lawrence District “twice complained to his superior that the surveyors working under William Rector, surveyor general in St. Louis, were saving choice land for themselves.” (TA), page 58.

- **The Subcontractors** –

“He [Rector] realized their profits were limited by the amount of ground that a deputy could cover in a season. He solved the problem by subcontracting.” *Some Facts on the History of Surveying*, paper by Arkansas surveyor Larry Young, October 1978, page 6.

During William Rector’s term as Surveyor General of the Missouri Territory (which included Arkansas), 1813 – 1824) much of the field work was done by subcontractors who were loosely supervised by the privileged Deputy Surveyor’s appointed by Rector. In *The Land Office Business*, (page 187) Rohrbough quotes pioneer Gershom Flagg’s observation: “There is now considerable surveying to be done, but Surveyor General Rector, has so many connections that are surveyors that it is not possible for a stranger to get any contract of any importance. Some who are not surveyors make contracts for surveying and then hire it done.”

Getting the contracts was the first step to the cash they promised, but the arduous work had to be completed—and the more miles run, the more income was possible. The lucky recipients of the contracts frequently subcontracted the work to increase their productivity. Not surprisingly, then, the privileged few—the Rector boys, the Conways, and other insiders—frequently acted as brokers, offering the opportunity to participate in the contracts to those less well-connected. They recruited and deployed gangs of subcontract crews to do the field work with minimal oversight from the responsible deputy surveyor—work done at a fraction of the value provided in the original contract.

Across the Wide Missouri, The Diary of a Journey from Virginia to Missouri in 1819 and Back Again in 1822, with a Description of the City of Cincinnati by James Brown Campbell included many pages recounting his time working as a subcontract surveyor for James S. Conway. While in his early 20s, Campbell and three of his brothers moved with his family from western Virginia to Howard County, Missouri, probably to participate in the land boom on the frontier. Campbell had developed his surveying skills in Virginia, but the hardships of one season of surveys along the White River in Arkansas proved to be enough. After surveying 13 townships from May through September of 1821, he made his way back to the Boone’s Lick country of Missouri and with his family, packed up and went home.

Campbell’s diary tells a tale of hard work, inhospitable terrain, privation and sickness. Yet the Campbell family likely came to the Missouri Territory as optimistic participants in land speculation. Indeed the 1850 U.S. census listed Campbell’s occupation as “land speculator.”¹ The family’s relocation to Howard County was at the apex of the boom in New Madrid claims. These warrants were issued to settlers who

had documented losses to their properties because of the 1811-1812 earthquakes centered on the little village in the boot-heel of Missouri. The warrants allowed the holders to claim compensation by taking title to other lands they chose in the territory. Howard County was by far the most popular target for these “floating claims”. New Madrid warrants were freely negotiable and sold by speculators in St. Louis in a frenzied market. Legal disputes over their redemption roiled much of the region for decades to come, as they were often used by opportunistic persons to file claims for valuable properties (or those with good potential), such as occurred in the Hot Springs and Little Rock areas of Arkansas.

Apparently, at some point along his adventures in Missouri Territory, Campbell was recruited by James S. Conway to head a subcontracted surveying crew in Arkansas. Details of this original encounter are sketchy—Campbell’s diary mentions only three encounters with Conway, two of which took place before he commenced his surveys and the third when Conway delivered supplies of bear meat and bacon to his party. The plats of Campbell’s work usually were certified by Surveyor General Rector as “surveyed by Jas. B. Campbell for Wm. Shields and Jas. S. Conway”.

Conway’s partner William Shields worked in northern Arkansas with his own company of surveyors laying out the exteriors of the townships Campbell would later subdivide. Campbell’s block of townships was on the left (north and east) side of the White River in IZARD, BAXTER, and FULTON Counties. More than half of them were bounded by the river. His party fought its way through the dense cane brakes at the foot of towering limestone bluffs as they meandered the river, but made the best of it: “We wade chiefly in the water, get about 3 miles and encamp on the bank...Dry our things, sup on fish, and make a bed of cane, spread our blankets and sleep sound...”.

Working seven days a week, Campbell’s crew usually laid out about five miles of boundary each day—seldom more. The youthful Campbell took much in stride, as he penned in one diary entry: “Yet I enjoy the present moment although I am wet and cold...and so I start to correct my line.” When heavy rain confined them to camp one Sunday, Campbell joked in his diary that at last they were able to “keep one Sabbath”. And, indeed it was the only Sunday devoted to rest that summer. The notes of the deputy surveyors reveal that the only holidays they observed were the 4th of July and Election Day. Campbell’s crew made their way to a tiny settlement near present day Norfolk on August 6, 1821, presumably to cast their ballots. Campbell noted: “All the people in the country collected here and drinking whiskey very freely; they are truly a rough looking set of people.” His crew lodged at a nearby store where “people soon collect to drink brandy and play cards – which they do nearly all night.” Readers of accounts of frontier life are often surprised to find how available liquor was in even the remotest wilderness. Every hamlet seemed to have a great store of spirits available.

“Ague” (aches and fevers, probably from malaria) was a widespread curse visited upon the surveyors. One case presented a major crisis for Campbell’s crew. Their cook and camp keeper, Jackson, came down with it and the whole crew suffered—they no

longer began their day “briskly” after a breakfast with coffee and had to “quit work before night to cook our victuals.” Low on provisions and needing to hire replacements for his depleted crew, Campbell saddled his pack mule and rode all day to a settlement. His most urgent chore was to get “a quart of whisky for Nelson.” Finally, in mid-September, 1821, with his crew down to two sickly men, Campbell and Shields resolved to “finish the work on hand and go home” and on September 16th he bade Arkansas “an eternal farewell”.

We sometimes visualize the original surveys as a humble art enacted in a wilderness arcadia; but in fact, just as today, it was a tough business. For Campbell’s labors he received fifty cents a mile out of the three dollars that went to Conway, the owner of the contract – poor wages for all those miles and little recompense for all the other miles trekked from Virginia and back again.

Optimism and hard work often provided a path to success on the frontier, but family and political connections offered a surer way to wealth and privilege in the Arkansas Territory. As one eager newcomer exclaimed in 1819: “...all the teeming possibilities of a new country were yet to be unraveled.” But then again, he was referring to the opportunities offered by a political appointment. Office holding was the “source of wealth and authority” – the opportunity to rake in a lion’s share of the federal dollars the labor of less well connected settlers made possible.

After Campbell’s departure, the fortunes of his erstwhile contractor, James S. Conway, continued to rise. In March of 1823 alone, Conway’s surveys of thirty-one townships in the southwest corner of the territory were certified and paid. He was later awarded prestigious contracts to survey some of the western (in 1825) and the southern (in 1830-1831) boundaries of Arkansas Territory, and in 1832 was appointed the first Arkansas-based surveyor general. Conway parlayed his surveying earnings and successful land speculation into a 2000 acre plantation in Miller County and 80 slaves. In 1836, he resigned as surveyor general to become the first governor elected for the newly minted state of Arkansas. Although illness limited him to one term, Conway lived the remainder of his life in the comfort of his plantation.

Rector’s crews surveyed over 8,000 miles of General Land Office (GLO) boundary lines in Arkansas between 1818 and 1822, much more than any other territory. However, Rector’s success provoked hostility among politicians, in particular Senator David Barton of Missouri. Investigations were instigated in Washington D.C. He was removed from office for questionable conduct by President James Monroe in June of 1824.

- **Monuments Over Measurements**

From the very beginning the surveys of the public domain did not meet the high standards set by the foundational documents of the government’s Rectangular Surveys – The Land Ordinance of 1785, The Northwest Ordinance of 1787, and the Act of May 18, 1796, 1 Stat. 464. The Act of February 11, 1805 established the core principles of

the government surveys: the corners set and certified by the Surveyor General remain fixed regardless of any errors and “fixes the lines actually run and marked as the true boundary lines... and corners of half and one-quarter sections, shall be established as nearly possible equidistant from [section and ¼ corners] which stand on the same line”.

Treasury Secretary Gallatin sent the 1805 Act to the Surveyor General with a letter of instructions which read in part: “... the principal object which Congress has in view, that the corners and boundaries of the section[s] should be definitely fixed, and that the ascertainment of the precise contents [bearings and distances of the boundaries] of each is not considered as equally important.” The paramount object was speedily creating titled land that generated revenue much needed by the new republic. In this early period, the federal government was inclined to accept “crude and inaccurate” surveys. A History of the Rectangular Survey System, (HRSS), C.A. White, page 18.

GARRISONING THE FRONTIER

- **Settlers and Squatters:** –

The speed of settlement far exceeded the progress of the government surveys. The population of the Arkansas Territory in 1820 as the GLO surveys began was barely 14,000. It doubled to over 30,000 in 1830 and tripled to 97,574 by 1840. Many pioneers claimed and improved their homestead well before the GLO surveyors appeared on the scene. They had boldly garrisoned the unsettled and dangerous frontier fulfilling America’s Manifest Destiny. In their view, their courage and hard work was a more than adequate payment for their land. They were impatient with talk of “public domain” and “patents”. On the other hand, the U.S. government believed in the ancient principle that only the sovereign can convey original title to land and threatened to forcibly remove trespassers from the public lands.

“In England, occupying a plot of land for a long period without a title – ‘squatting’ was against the law. In the United States, with no initial resistance and many opportunities, squatting on available land quickly became a common practice.” (MC), page 113.

“The history of the adoption of occupancy laws in the United States is the history of the rise of extralegals as a political force... These measures contributed to ‘the two great principles of equity in [American] statutory law: the right of occupants to their improvements and the right of settlers on privately owned land, unchallenged for seven years and paying taxes thereon, to a firm and clear title to their land no matter what adverse titles might be outstanding.” (MC), page 130. But “In *Green v. Biddle*, the U.S. Supreme Court ruled against Kentucky’s occupancy law by pointing to ‘the rules of property’ established under the precedents of English common law.” (MC), page 131.

“Between 1834 and 1856, Missouri, Alabama, Arkansas, Michigan, Iowa, Mississippi, Wisconsin, Minnesota, Oregon, Kansas, and California all adopted occupancy laws similar to the Kentucky law rejected by the Supreme Court in *Green v. Biddle*.” (MC), page 134.

“In 1830, a coalition of Western and Southern Congressmen passed a general preemption act that applied ‘to every settler or occupant of the public lands... who is now in possession and cultivated any part thereof...’. A squatter could claim 160 acres of land, including the lands he had improved, for \$1.25 per acre... by 1841, the preemption principle had become so firmly established that Congress enacted a general prospective preemption bill.” (MC), page 135.

“Large-scale immigration to Arkansas began in the 1830s, a decade of unprecedented expansion for the United States as a whole.” (R&R), page 17.

Land offices finally opened about 1822 at Poke Bayou (later Batesville) and Little Rock. As large blocks of land were surveyed and platted over the next 25 years, additional land offices were opened and sales scheduled. Announcement of a pending sale attracted many potential purchasers, but others showed up who went to the head of the line. Squatters who attested to their occupation and improvement of land had “priority”, first claim to the tract. Various warrants gave the holder the prior right to claim a parcel of certain acreage anywhere in the territory. These warrants, issued by the government to reward worthy citizens or compensate them for a loss, usually were purchased by speculators. In many cases a syndicate of speculators actually created fraudulent claims to obtain valuable warrants. Examples of such warrants follow.

- **Speculators**

The early government surveys in Arkansas were closely entwined with rampant land speculation. As lands in the west of the newly founded United States were wrested from Native Americans, white settlers rushed in to extract the wealth beckoning them from the wilderness. Most of those riches were inextricably tied to the land—surveying the public domain was the essential process of converting formless wilderness into tracts with legal title that could be bought and sold.

The military bounty lands set aside for veterans of the war of 1812 were surveyed between 1816 and 1818. “Many of the veterans who received their quarter sections of land, in Arkansas and elsewhere, seem to have sold them immediately to land speculators, and very few actually immigrated to the territory.” (TA), page 63.

“By the time Arkansas became a territory... political office was no longer a reward ‘for established social wealth and authority’ but rather was itself ‘the source of wealth and authority’. Office holding had less to do with responsibility and more to do with opportunity... Arkansas Territory represented the possibility of advancement, not only for settlers who wanted fertile and inexpensive land but also for aspiring politicians who wanted offices and the influence that came with them.” Arkansas, 1800-1860, Remote and Restless (R&R), S. Charles Bolton, page 24.

In consequence of the New Madrid earthquakes of 1811-12, Congress authorized grants of land to compensate citizens in the tiny hamlet for their loss. The New Madrid

grants in Arkansas were mostly certified in the 1820s. They conveyed some of the most desirable property in the state. Three were in what is now downtown Little Rock. Another was a square 170 acre tract centered on “the hot springs upon the waters of the Ouachita River”...today’s Bath House Row...this one was disallowed by the federal government. Some of the claims were in areas where the original GLO surveys had not yet been completed. These were described by metes and bounds and later government surveys tied into these grants which were senior. The grants were usually laid out by a deputy surveyor under special instructions, some very detailed, issued by the Surveyor General.

“This act proved to be a monumental headache for Rector. It has been said that each city lot in New Madrid was parlayed into 160 acres and up to 640 acres in some cases. The New Madrid claims impeded progress of the rectangular surveys for many years.” (HRSS), page 61.

In the Arkansas Territory the singular interest of both the common citizen and the ruling elite was to shake the federal money tree and harvest the resulting shower of wealth that fell in the form of land warrants. A whole menagerie of frauds and schemes resulted. Land speculators hired straw men to file and witness bogus preemption certificates and questionable colonial land grants from France and Spain. When Washington donated land to settlers who were displaced by adjustments to the boundaries of the Indian reservations, the number of claims far exceeded the number of inhabitants of the affected lands – as was also the case with the New Madrid claims. The choice of Little Rock for the new capital was influenced by the blandishments of the syndicate that held the New Madrid claims there – officeholders saw profitable opportunities for land speculation and bought into the syndicates that held claims.

In 1807, at the very beginning of the GLO surveys, Congress had passed the Unlawful Intrusion Act making it a crime to settle on the public lands without a legal claim – a patent from the land office. In 1815, President Madison threatened the use of federal marshals and troops to remove squatters. However, public domain could not be sold and patented without first being surveyed and the pace of settlement far exceeded that of the public land surveys. In 1820 there were over 14,000 settlers in Arkansas, yet the surveys had commenced only 4 years previously and, despite heroic efforts, were not completed for another 25 years. Thus most of the population were squatters. Congress eventually responded to heated pleas from the territories beginning in 1815 with a series of Preemption Acts. In simple terms these statutes provided that settlers who had built a habitation and cultivated a piece of ground could, once the GLO survey was complete and the plat delivered to the land office, register a claim to the surrounding 160 acres of land with the land office and pay a nominal price for it. Such claims had priority over all other purchasers at GLO land sales.

Squatter rights were the source of surveyor/speculator William Russell’s claim to the hamlet of Little Rock vindicated in a federal court in 1821. Russell had purchased the rights to a preemption claim registered in the name of a footloose bear hunter named William Lewis which alleged that in 1812 he had erected a hut at the “Little

Rock” outcropping on the south bank of the Arkansas River and planted a pumpkin patch.

The decision by federal judge Benjamin Johnson’s court in Russell’s favor in June of 1821 sparked a serious disturbance of the peace of the small settlement when a drunken mob of masked citizens spent a torch-lit night moving, by main force and wagon teams, the cabins, barns, outbuildings and other improvements that occupied the town site that spread around the point of rocks for which the town was named, several hundred yards to the east onto lands from which the Quapaw tribe of Native Americans had been recently removed. What they could not move, they burned. This portion of Little Rock, presently north of MacArthur Park and east of Rock Street became known as the Quapaw Quarter.

The citizens who pulled up stakes and migrated east across the Quapaw boundary had relied on the losing side in the case – a consortium, including Stephen Austin, that owned New Madrid claims for the same land. New Madrid claims had been intended to compensate land owners adversely affected by the earthquakes of 1811-1812 that destroyed that town in the Missouri boot heel. A hot market for New Madrid certificates existed in St. Louis. [An article by Steven Weible, summer 2016 issue]. Indeed all of Section 3, Twp. 1 N., Rng. 12 W. which became the nucleus of downtown Little Rock was claimed by holders of New Madrid certificates, one of whom was the first territorial governor, James Miller.

Another case before Judge Johnson’s court provoked the GLO to take action. In the course of 5 days in December 1827, Johnson confirmed 124 Spanish land grant claims for a total of over 50 thousand acres. This batch of claims, the “Bowie Claims” had been manufactured in New Orleans by John Bowie, brother of the famed Jim Bowie. The GLO could not stand having the land market flooded with these claims and losing the revenue from these lands. At the urging of the GLO, the federal government appealed. George Graham, Commissioner of the GLO, hired an expert to investigate the evidence in the case. The investigator’s report revealed obvious forgeries and fraud. Arkansas political figures dismissed the affair as a scheme that had originated in corrupt New Orleans, but it was soon revealed that prominent Arkansas attorneys and office holders, including Robert Crittenden and possibly Ambrose Sevier, Judge Johnson’s son-in-law, were beneficiaries of the scheme. The court was pressured by the federal government to reverse itself and invalidate the claims, but it delayed doing so until 1830 by which time most of the claims had been sold to third parties.

The wild and wooly land grabbing in territorial Arkansas was only the first chapter in what would be a very long book, if it were ever written. Several excellent books that **have** been written provided insight and information for this article:

- United States District Courts and Judges of Arkansas, 1836 – 1960, containing articles by eminent Arkansas jurists, edited by Frances Mitchell Ross. University of Arkansas Press, 2016. (My thanks to Mort Gittleman, esq.
- Arkansas 1800 -1860, Remote and Restless, S. Charles Bolton, University of Arkansas Press, 1998.
- The Land Office Business, Malcolm Rohrbach, Oxford University Press, 1968.

INDIAN REMOVAL

Soon after the Louisiana Purchase (April 30, 1803) acquired vast territory west of the Mississippi River for the United States, Indian tribes were pressured to abandon their tribal lands east of the river and move west across the river into the newly acquired lands – primarily the territory that would become Arkansas. In the early nineteenth century many Native Americans saw Arkansas as a refuge – a place beyond the encroaching white settlers. However, by 1830 all the “Indian Cessions” in Arkansas had been extinguished and the tribal people relocated again; this time to “Indian Territory” (Oklahoma) – again driven out by the ceaseless westward progress of white settlement.

Timeline of Indian Removal in Arkansas:

“It is my opinion that there never will be quietness on any of these frontiers until the Indians are removed over the Mississippi.” Return J. Meigs, Federal Indian Agent, 1808.

1808. Osage Indians cede all tribal lands lying north of the Arkansas River and east of the Cherokee Line which ran from near Morrilton to Batesville.

1811-1812. The New Madrid earth quakes wipe out Cherokee settlements along the St. Francis River.

1812. Approximately ¼ of the Cherokee Nation voluntarily migrated to Arkansas from Georgia and North Carolina. They settled between the White and Arkansas Rivers in northwestern Arkansas.

1818. Quapaw Indians in Arkansas sign a treaty accepting a reservation of 1 million acres between the Arkansas and Ouachita Rivers. The Osages agree to give up all their remaining lands in northwest Arkansas and remove to a reservation in Indian Territory.

1819. Treaty grants 3 million acres in Arkansas to Cherokees in exchange for their relinquishing all tribal lands east of the Mississippi.

1820. White settlers in Arkansas begin agitation for the federal government to remove Indians from the Lovely Purchase lying west of the Cherokee Line.

1824 -1836. Presidency of Andrew Jackson – an enthusiastic supporter of Indian Removal.

1824. The decimated Quapaws ceded all their tribal lands in Arkansas.

Treaty of 1828. Cherokees agree to vacate the Lovely Purchase and migrate to Indian Territory (Oklahoma).

1830. The U.S. Congress passes the Indian Removal Act.

1838 1839. The Trail of Tears. The last remnants of southeastern tribes are removed to Indian Territory. All the various branches of the Trail passed through Arkansas, including one that passes ½ mile from my house in Fayetteville. The Indian Territory was defined as being “west of the Arkansas Territory”. Thus Arkansas’ western boundary defined the ultimate eastern limit of Native American settlement. That line moved steadily west.

ORIGINAL SURVEYS (1817 – 1845)

During the period of the original surveys the deputy surveyors completed plats of Arkansas’ 1547 full and fractional townships. Their work was directed by federal law and a series of instructions.

- Act of February 11, 1805, U.S. Congress. established the core principles of the government surveys: the corners set and certified by the Surveyor General remain fixed regardless of any errors and “fixes the lines actually run and marked as the true boundary lines... and corners of half and one-quarter sections, shall be established as nearly possible equidistant from [section and ¼ corners] which stand on the same line”
- 1815 Instructions – Commissioner of the GLO, Edward Tiffin. Set forth the basic scheme for running township boundaries and laying out the component sections. Navigable rivers: The course and width of all navigable and significant streams that were crossed to be recorded. Closing corners were to be set on the north and west township boundaries and meridional lines within townships were to be parallel with each other from east to west. All work was to be done by the deputy surveyor or under his personal supervision. An 1831 circular from the GLO Commissioner stated, “The lines of subdivisions of ¼ sections and fractional sections are to be merely indicated on the maps. It is not contemplated by existing laws that they should be actually surveyed at the expense of the U.S.”
- 1833 Instructions – Arkansas Surveyor General, James S. Conway. Bluntly stated that “Subcontracts are illegal.” Magnetic variation was to be determined by “observation of the pole star.” Enjoined that all the deputy surveyors and crew were to be “free white person[s] – this was repeated in all later instructions. With regard to navigable streams, “should you continue surveys on opposite banks... you are to show the connection of such surveys with certain posts or points on

the opposite side, and these connections as well as the mode by which they were ascertained are to be shown in your field book.”

- 1837 Instructions – Arkansas Surveyor General, Edward Cross. “...in lieu of posts you may insert endways into the ground to a depth of 7 or 8 inches. A stone...12 inches wide and 14 inches long and 3 inches thick.”. “Witness mounds” 6 inches high could also be erected in treeless areas provided cinders were placed under the mound and a stone set in its center. “Witness corners” were permitted where the “circumstances of [the true corner’s] locality shall be such as may prevent or prove unfavorable to establish.” Meander corners must be set at the intersection of section lines and a navigable river.
- 1843 Instructions– Arkansas Surveyor General, William Pelham. For the first time limits of closure were specified: “Limits within which your surveys must close ...” on a township line, 5 chains. On a section line, 1 chain. On a meander line, 1 chain and 50 links per mile. With regard to field notes: “No memorandum or writing of any description should be made in the field book except such as relates exclusively to the surveys.” (This was probably intended to stifle D.S. Granville McPherson’s garrulousness.) Also:” If an instance should occur from inclemency of weather that you cannot write in your book without obliterating and defacing your notes, you can, in that case, take notes on a detached piece of paper, which however you must write off into your regular field book in the proper place as soon as the weather will permit; and the scraps must in all cases, be returned with your regular original field books to this office, that they may be compared.” Anecdotal evidence suggests that taking temporary notes on scrap paper was a common practice with the rough notes being transcribed into the regular field book at night in camp.

RESURVEYS (1845 – 1859)

As settlers acquired the aliquot parts of the component sections of the townships, problems soon became apparent: boundaries shown on the plats found impossible to locate on the ground, corners missing or apparently placed at incorrect locations, absent or mis-identified witness trees, sections and townships whose component lines were wildly non-rectangular, and more.

In 1849, IZARD County Surveyor, Cyrus Crosby wrote to Arkansas Surveyor General Gibson of the need to “bring to light the long hidden ‘things of dishonesty’ ...the errors are such that no compass, chain, or even surveyor is required to detect them at once. Any backwoodsman, who can read field notes, can distinguish a pine from a post oak...and as to their relative position, compared with the notes, *none* can be found to coincide... in short, the errors are so general in all respects...but one conclusion is forced upon the mind of the observer; which is, that these notes were never taken upon the field work.”

In the roughly 20 year period of 1821-1845, Deputy Surveyor Charles Pelham performed the original surveys of 188 of the 1547 townships laid out by the GLO in Arkansas (1540 have survived the subsequent western ambulation of the Mississippi River). Beginning in 1845, the Arkansas GLO resurveyed a total of 185 townships due to fraud and error in the original surveys. D.S. Charles Pelham was a prime offender, but not the only deputy surveyor whose work was found to be infected with serious errors or completely fraudulent and therefore listed for resurvey. In April 1856 Deputy Surveyor Granville McPherson, who was attempting to retrace an original survey from Pelham's notes, wrote in *his* notes that he had found Pelham's "as False as the Black Prince of Hades."

When the GLO office in Little Rock closed in 1859, 64 of Pelham's suspect surveys remained to be resurveyed. The end to the Arkansas GLO resurveying operations made for considerable uncertainty that continues in parts of the state to this day. With the closure of the GLO office, property owners, local surveyors, and the legal system were left to unravel the skein of flawed surveys. "These men began almost immediately to write letters to the Commissioner requesting advice on how to do resurveys, restore 'lost' corners, and subdivide sections. There were no official instructions for resurveys... many County Surveyors often moved original corners to their "proper" position, particularly quarter-section corners. Various methods were used to restore lost corners; confusion and litigation soon followed." (HRSS), page 117. The very first set of instructions for the restoration of lost and obliterated corners was issued by the Department of Interior in 1883 – 24 years later !.

Throughout the 1840s the GLO struggled with resurveys, nothing in the instructions thus far issued by the federal government provided much guidance. The various Commissioners of the GLO issued case by case instructions to Surveyor Generals who were dealing with defective surveys. Michigan was surveyed and settled during the same period as Arkansas and experienced the same problems. In March 1852, the Surveyor General of Michigan received a letter from the Commissioner that classified resurveys:

"FIRST CLASS, *Incomplete*

Surveys – where a portion only of the lines in a township is found to have been actually surveyed and wherein some lines have been run and some corners established which lines and corners can now be found. That portion of such original surveys which shall have been determined to be thus available, by retracing the same, is to remain undisturbed and be respected... and the residue of such townships must be surveyed, as if originally, but made to connect in all particulars with the former. [In effect a dependent resurvey]

SECOND CLASS, *Fraudulent*

Surveys [In effect an independent resurvey] – where there is no evidence found in the field of any good intent on the part of Deputy Surveyor to comply with the terms of his contract – no system being manifest in the field work, and an entire absence of marks and monuments whereby to designate the *corners*, where no lines are *traceable* – In this class of cases the lines will have to be run and corners established, as if originally, and all the old irregular lines and corners must be most carefully and thoroughly obliterated, but their connections with the true survey must be taken and exhibited in the

notes so that they may be represented on the [new] township plats..."(HRSS), page 115. "The true independent resurvey as it is now known was not instituted until 1897." (HRSS), page 116.

Some of the shortcuts used by the deputy surveyors to save time and which violated their instructions from the Surveyor General:

- Inadequate or omitted blazes of line or witness trees.
- Lines stubbed out instead of closed on senior lines.
- Witness trees omitted and the reference information falsified.

The Face of the Plat often reveals problems such as:

- The field work was done by a subcontractor. The Deputy Surveyor responsible for the survey was not present during the work, nor did he inspect the completed work.
- The field work was done decades before the plat was prepared and the land patented. An unscrupulous surveyor could be certain he would be long gone before his faulty work was discovered.
- Lack of topographic detail indicating omitted field work. Or topographic detail that differs significantly from the actual lay of the land as revealed by inspection of a USGS Quadrangle sheet.
- Presence of large lakes or other meandered water features on the plat may indicate omitted lands, particularly in northeast Arkansas.

The 1845 annual report of the Surveyor General of Arkansas to the GLO Commissioner, stated, "It is Mr. King's [a deputy surveyor hired specifically to review plats] opinion...that all the old plats of the townships that are not authenticated by the Surveyor General should be made out anew from the field notes. There is a book on file in this office, containing 382 plats, besides some loose ones, which bear no mark of authentication, all of which were received in this condition from the Surveyor's Office in St. Louis at the time of the establishment of this office [in Little Rock in 1832]."

Under Surveyor General Milbourne, the Little Rock office began maneuvering to resurvey the flawed original surveys of Deputy Surveyor Charles Pelham and a handful of other deputy surveyors in earnest as a means to both fix problematic surveys and prolong the operations of the Arkansas GLO. This is apparent in Milbourne's 1854 annual report, for which a new table listing the townships that had "...been discovered defaced, fraudulent, or erroneous..."

- **Meanders** (lines run along the margins of rivers or large lakes to allow the computation of tract acreage) PLSS parcel boundaries did not usually extend across large rivers.

Subsequent to the 1917 U.S. Supreme Court decision in the Moon Lake case (Lee Wilson v. United States, 245 US 24 (1917)), BLM completed many extension surveys of omitted lands in northeast Arkansas (see attached table). I think I found most of them in 38 townships which added 104,361 acres (163 square miles) to the public domain. Surveyors working in this area should be diligent in including these surveys in their research. Such extension surveys are extremely unlikely today, mostly because the BLM probably discovered all of the possible omitted lands in the decade following the Moon Lake case.

The 2009 BLM Manual of Surveying Instructions includes a detailed exposition on the survey of meanders for an extension survey of omitted lands. Obviously the BLM considers such surveys to be within the realm of possibility – perhaps even in Arkansas. A surveyor should be familiar with the proper method of retracing a meander line.

Regarding the “Sunk Lands” in general, I think the reason the meanders were so far from the St. Francis River was that virtually all of the original surveys were done in the period of September through January (see table), to avoid the lethal insects and impenetrable underbrush present in the warm months. During fall and winter of the year shallow flood waters spread for miles across the lowlands. The projects to drain the “Sunk Lands” begun after the Civil War exposed much previously submerged land. There is an excellent book on the Sunk Lands and the New Madrid Quake (and tangentially the surveys in the region) – The Lost History of the New Madrid Earthquake by Conevery Bolton which I highly recommend.

The attached “Map of the New Madrid and St. Francis River Swamp” shows an unsurveyed area along the St. Francis and the Little St. Francis Rivers which is identified as swamp land. Twentieth century mapping shows only one lake of any size in the area, “Big Lake”, with an area of approximately 6 miles by 2 miles – the rest of the area is under intense cultivation.

- **Swamp and Overflowed Lands, passed in 1850**

“For many years attempts had been made to have the large swamp land and marsh areas turned over to the states. In September 1847, the Surveyor Generals were ordered to submit estimates of the amount of swamp lands that had been surveyed.” (HRSS), page 111.

“The Swamp Lands act of 1849 had granted the swamp lands to Louisiana only. The 1850 act extended the grant to Arkansas and all other states then in the union.” (HRSS), page 114. In Arkansas, the original GLO plats and notes were used to identify the swamp and overflowed lands, not field surveys. Arkansas was the third largest recipient of swamp lands – 7.6 million acres.

Over the years extensive fraud by the Arkansas Board of Swamp Land Commissioners became notorious. “The act of April 29, 1898, 30 Stat. 367, is known as the ‘Arkansas Compromise Act’, by which Arkansas relinquished her claim to all of the remaining unclaimed swamp lands in that state.” (HRSS), page 185.

THE ROLE OF THE COUNTY SURVEYORS

- Then and Now

2009 BLM Manual, 3-132: “The work of the local surveyor usually includes the subdivision of sections into the legal subdivisions shown on the approved plat. In this capacity, the local surveyor is performing a function contemplated by law.”

The office of County Surveyor was first listed as an elective county office in Arkansas’ 1836 constitution enacted when the state was admitted to the Union. The authority of county surveyors is still spelled out in Arkansas statute law. The original role envisioned in the constitution for the office was to retrace the original exterior boundaries laid out by the General Land Office surveys and then “break down” and monument the interior aliquot subdivisions of the USPLSS sections for the patentees of the land. An order of the County Court could direct him to survey any tract whose boundary was in dispute – the findings of his survey constituted *prima facie* evidence in the matter before the court. *Prima facie* evidence is presumed to be correct until disproved by persuasive evidence. Boundary surveys by private surveyors were undoubtedly performed during the 19th century, but they are seldom found in the public records. The statutory intention was that disputed lines would be reconciled by the county surveyor. During most of the period, statute law required that both parties must agree to the involvement of a private surveyor in the issue. It is evident from the records that most of the surveys were to partition the lands of a decedent owner between his or her heirs.

In keeping with our state’s history of Jacksonian populism, no demonstrable competence in surveying was required to hold the office.

The present Arkansas Code provides:

Title 14-15-701 requires that the county surveyor be a licensed professional surveyor.

Title 14-15-706 (2014) provides that the County Surveyor “shall make his or her survey conformably to the original survey.”

Title 14-15-711 (2014) “No act or record by any county surveyor shall be conclusive.”

A real problem emerged after 1968 when Arkansas adopted a law requiring the testing and licensing of those who practiced surveying. The office of county surveyor offered a convenient bypass to professional licensure – anyone elected to the office could practice surveying without a license or any proven competence.

In 1986 University of Arkansas Surveying and Engineering professor David Knowles and State Surveyor Everett Rowland successfully lobbied Arkansas legislators to rewrite the law to require holders of the office to be licensed as an Arkansas Professional Surveyor.

Excerpt from ***Restoration of Lost and Obliterated Corners***, March 13, 1883:
“The increasing number of letters from county and local surveyors received at this office, making inquiry as to the proper method of restoring to their original position lost or obliterated corners marking the survey of the public lands of the United States, or such as have been willfully or accidentally moved from their original position, have rendered the preparation of the following general rules necessary, particularly as in a very large number of cases the immediate facts necessary to a thorough and intelligent understanding are omitted. Moreover, surveys having been made under the authority of different acts of Congress, different results have been obtained, and no special law has been enacted by that authority covering and regulating the subject of the above-named inquiries. Hence the general rules here given must be considered merely as an expression of the opinion of this office. [Emphasis added]... To restore extinct boundaries of the public lands correctly, the surveyor must have some knowledge of the manner in which townships were subdivided by several methods authorized by Congress. Without this knowledge he may be greatly embarrassed in the field, and is liable to make mistakes invalidating his work and leading eventually to serious litigation....In some instances corners have been moved from their original position, either by accident or design, and county surveyors are called upon to restore such corners to their original position, but owing to the absence of any and all means of identification of such location, are unable to make the result of their work acceptable to the owners of the lands affected by such corner. In such cases the advice of this office has invariably been to the effect that the relocation of such corner must be made in accordance with the orders of a court of competent jurisdiction, The United States having no longer any authority to order any changes where the lands affected by such corner have been disposed of. [Emphasis added]

A few years ago, while doing research at the Independence County court house I found a thick binder on a top shelf in the Circuit Clerk’s vault. Apparently in the 1960s a conscientious clerk had gathered up all the available County Surveyor records into the binder. They were impressive documents – neatly drawn in ink with very ample field information. They dated back to 1866, the year after the Civil War ended. I spent hours reviewing the contents of the binder and was struck by how seldom the surveys originated at or tied to an original GLO corner. Monuments set by previous County Surveyors marked the location of the government corners. Apparently shortly after the original GLO surveys were completed around 1840, the county surveyors were dealing with a dearth of original corners.

During the Civil War in Arkansas, court houses were burned and records lost. An article in the Independence County historical quarterly written by a local surveyor recounted the experience of that county seat which was plundered twice during the war: "From the County Court records [April 1862], 'the Court hereby authorizes the said clerk to remove the records ...to a such a place as he may think proper in order to secure them from peril...' Were the records evacuated as provided by the court? No actual record of removal is known but there is some evidence that they were. M.A. Wycough was County Clerk at this time and the only entry found in his records during the period from December 1862 to 1865 was a will which he filed. It is surmised that Mr. Wycough, fearing the court house might be burned, took the records to his home..." Indeed over the years many reams of records have exited the court house with retiring County Surveyors only to molder away in barns and garages. Not so with Tobe Chastain:

Tobe Chastain, Randolph County Surveyor, 1906: "... during my term in office, I have located many section and quarter section corners from the original witness trees that was in such a state of decay that you will never see the evidence of lines and corners as I have saw and found it... It is a deplorable fact that so many government corners were not set where theory would have placed them, but law and justice demand that surveyors locate all gov. corners where they were originally set (and not where they should have been set) by the deputy surveyors who sectionalized our country." (From the survey records of Randolph County, Book 3, page 93, provided to me by professional surveyor Terry Throesch of Randolph County.)

Tobe was working from evidence of the original surveys that was a mere 60 years old. He was in a much better position to retrace the work of the GLO surveyors than we are 175 years removed. The venerable records of the county surveyors are of tremendous value and most are tragically lost or neglected by contemporary surveyors. A concerted effort by our professional community to recover and catalog these records in the State Surveyor's database would be a great service to surveyors and the public.

"Where public lands have been sold to private parties, through the medium of subdivision of sections, such subdivision lines have become for the purpose of private property rights as sacred as township or section lines." Clark on Surveys and Boundaries (3rd Edition), page 183.

"A decision to set aside previously fixed local survey subdivision corners must e supported by evidence that goes beyond mere demonstration of technical error ... the law gives these activities repose." 2009 BLM Manual, 3-137.

Accept or Resurvey?

Most surveyors share Jeffery Lucas' (surveyor, attorney and author of The Pin Cushion Effect) despair and anger when they find fresh pins on the interior of a section set a few feet from venerable stones honored for decades and now dishonored by some yahoo with a license and GPS gear who is on a mission to fix the errors of the unilluminated surveyors who preceded him.

- **THE GUIDE?**

Section 3.1.B of the current Arkansas Standards of Practice for Property Boundary Surveys and Plats reads:

“The **current** BUREAU OF LAND MANAGEMENT (BLM) MANUAL OF SURVEYING INSTRUCTIONS shall be used as **the** guide for the restoration of lost or obliterated corners and subdivision of sections.” [emphasis added]

Doctors Knowles and Elgin's manual for Arkansas surveying practice, The U.S. Public Land Survey System for Arkansas, states in section 4-1: “What are the rules or the law relative to the reestablishment of lost corners on Arkansas' version of the USPLSS? We have explained how the ***current BLM Manual is not particularly applicable to our system*** [emphasis added] and how the 1883 booklet, Restoration of Lost and Obliterated Corners [see page 18 herein] does speak to our system. If the current BLM manual is at best advisory... then just what is the Arkansas law relative to the reestablishment of lost corners?” The short answer is that there is *no black letter law dictating the exact requirements for a retracement*. But there are a number of useful references that can guide the professional surveyor through this process including: the Knowles and Elgin manual, the 1883 Restoration booklet, the applicable instructions of Surveyor General Tiffin and later Generals issued between 1815 and 1843, and state law applicable at the time of the original work (the State Constitution of 1836, for example). All of the above set forth the procedures to be used for the original USPLSS surveys in Arkansas

Use of the current BLM manual (2009) as “**the guide**” for retracement and restoration can lead to conflicting results, as the 1883 GLO Corner Restoration circular explains, original surveys must be retraced with reference to **the instructions applicable at the time they were done** or with a recognition of the fact that they were carried out when there were ***no*** controlling federal instructions, as was the case from 1856 to 1883.

The choice between accepting found corner evidence as an obliterated corner or declaring the original corner “lost” and using proportional measurement to replace it is of critical importance. Yet if the “current” BLM manual was indeed being followed, a retracement survey conducted in, say, 2000, when the 1974 manual was current, and one conducted in 2010 when the 2009 manual was current, could easily result in a corner marked by conflicting monumentation. This is because the BLM in 2009 changed the standard of proof for accepting evidence of an obliterated corner from “beyond a reasonable doubt” to a lesser standard of “substantial evidence.”

Obviously the professional surveyor must have much wider insight than a mere familiarity with the current BLM manual when restoring lost or obliterated corners and subdividing sections.

It is a simple fact that a 21st century professional surveyor using the current BLM manual as his or her only guide to retrace a 19th century original survey which conformed to Tiffin's instructions is unlikely to follow in the footsteps of the GLO surveyor. The 2009 BLM manual is an excellent guide to the current procedures for restoring lost original corners by proportional measure. However, proportional measure as a procedure was **not** promulgated by the BLM as a policy until almost a half century after the original surveys in Arkansas were completed.

Nineteenth century Arkansas statutes directed county surveyors to erect earthen mounds or set dressed stones at the corners they set on retracements or section breakdowns. A present day surveyor who finds such a monument that conforms to the county surveyor's record should give serious consideration to honoring it as the correct corner location. If a corner can be identified from the record as having been set by a county surveyor acting under authority of the Arkansas constitution **when no other authority existed**, how can we say they were wrong and alter their work? Of course, if the stone or cairn is *not* of record, but merely within the search area, its location would join the list of found collateral evidence the surveyor would consider in proving the location of the original corner or deciding that the "substantial evidence" test is not met and the corner is lost.

*** Note. The BLM definition of what constitutes a "lost" corner was fundamentally changed by the 2009 manual. Earlier manuals provided that a corner was lost if its location could not be proven "beyond a reasonable doubt", the same standard required for a criminal conviction. The 2009 manual adopted a more flexible standard requiring only "substantial evidence" of the corner's location. Refer to the 2009 BLM Manual, pages 147 through 180 inclusive.

"The two fundamental principles of surveying land are: (1) the surveyor is an "Original Surveyor" laying out new lines and corners in a subdivision of land for a common grantor, or (2) the surveyor is a "Retracing Surveyor" whose only function is to find where the boundaries have become established on the ground, not to correct them. These two principles cannot be seriously challenged because they have been repeated for hundreds of years by the courts in every jurisdiction. These principles are the foundation upon which the entire Public Land Surveying System (PLSS) stands and were codified in the federal Act of 1805... , an original subdivision of land is a measurement and math task. The goal is to, as precisely as possible, lay out the geometry from the plat. In contrast, a retracement survey is an evidentiary exercise." Jeffrey Lucas, Surveyor, Attorney, and author of The Pin Cushion Effect in POB magazine, May 6, 2020.

Now we should try to imagine a retired Tobe Chastain in 1904 reflecting on his career as a surveyor which began at the close of the Civil War reading the newly published 1902 BLM Manual and thinking, "Oh, that's how I should have done it!"

Finally, an aside: I highly recommend the book The Boundary Hunters by Lewis Green, University of British Columbia Press, 1982, about the surveys between 1903 and 1920 that determined and marked the boundaries of Alaska. It is the very best of the many books I have read on the history of surveying. It's out of print, but a used copy may be obtained at Amazon for \$30 or so.)

Title 43 US Code 752 & 753, Rev. Stat. 2396 & 2397