“There is no branch of detective science which is so important and so much neglected as the art of tracing footsteps.”

—Sherlock Holmes, *A Study in Scarlet*
What is retracement

Following Fading Footsteps

“It has been declared that all the rules of law adopted for guidance in locating boundary lines have been to the end that the steps of the surveyor who originally projected the lines on the ground may be retraced as nearly as possible;1 furthermore, that in determining the location of a survey, the fundamental principle is that it is to be located where the surveyor ran it.”

To survey a parcel of land means to locate it on the surface of the earth. When the surveyor is retained to locate a boundary line which has heretofore been established, he/she ‘traces the footsteps’ of the ‘original surveyor’ in locating existing boundaries. The sole duty, function and power of the retracement surveyor is to locate on the ground the boundaries, corners and boundary lines established by the original survey. The following surveyor, rather than being the creator of the boundary line, is only its discoverer and is only that when he/she correctly locates it. —Rivers v. Lozeau, Fla.App. 5 Dist., 539 So.2d 1147 (Fla., 1989).

Locating previously established boundaries and corners can sometimes be a formidable and frustrating task, particularly if they are ancient and their evidence and remains have disappeared. Knowing how surveyors did their work and the inherent errors in their results can often be the key to discovering where they went, and to finding traces of evidence they left behind. Often an individual project is a forensic study of the highest order, demanding expertise, time and patience to achieve the goal of locating corners and boundaries in accordance with rules of law—where they were originally established.

Three Potential Truths

That which was intended to be surveyed - agreements, deeds, etc.;

That which was actually surveyed - physical evidence; and

That which was claimed to have been surveyed - descriptions, plans, reports, etc...........
Surveyors Duty & Responsibility

Resurveys. In surveying a tract of land according to a former plat or survey, the surveyor’s duty is to relocate, upon the best evidence obtainable, the courses and lines at the same place where originally located by the first surveyor on the ground. In making the resurvey, he has the right to use the field notes of the original survey. The object of a resurvey is to furnish proof of the location of the lost lines or monuments, not to dispute the correctness of or to control the original survey. The original survey in all cases must, whenever possible, be retraced, since it cannot be disregarded or needlessly altered after property rights have been acquired in reliance upon it. On a resurvey to establish lost boundaries, if the original corners can be found, the places where they were originally established are conclusive without regard to whether they were in fact correctly located, in this respect it has been stated that the rule is based on the premise that the stability of boundary lines is more important than minor inaccuracies or mistakes. But it has also been said that great caution must be used in reference to resurveys, since surveys made by different surveyors seldom wholly agree. A resurvey not shown to have been based upon the original survey is inconclusive in determining boundaries and will ordinarily yield to a resurvey based upon known monuments and boundaries of the original survey.

—12 Am Jur 2d Boundaries, § 61

Retracement is the process of uncovering physical evidence of monuments and corners by intelligent search on the ground for the calls of the description and field notes of the original survey, guided by the controlling influence of known points. It should proceed from a known location to hypothecate the unknown. In public land states, those in which the land was once under Federal domain, the known starting point is almost invariably some section or quarter section corner, accepted and recognized as having been established by the original government survey. When such starting point called for by the legal description is missing, it must first be re-established in its original position before the retracement may proceed. Such location, too, is governed by the rules of retracement.²

The retracement, commencing at some known point which was recognized and accepted by the original survey, is run in accordance with the plan of the original survey to ascertain the probable position of each succeeding point. An intensified search for evidence of the original location of each succeeding point is made in the vicinity hypothecated by retracement. The search may uncover the actual monument in its undisturbed position, which may be identified by its conformity in character to that described in the record (legal description, field notes and plat or map) and by its physical appearance as mellowed by age and elements. Or, the search may uncover record accessories or witness marks, which, if not greatly at variance with record ties, may satisfactorily establish the exact location of the original monument. Accessories or witness marks to section and quarter section corners may be such things as bearing trees (trees blazed and marked), bearing objects, mounds of stone, or pits dug in the sod or soil. Accessories to private survey corners may be such things as discs set in trees or poles, offset pipes or stakes driven into the ground, nails, tacks or cross-cuts in pavement or sidewalk, or the corner of some permanent object such as a house or other building. The record may disclose distances between such accessories and the missing survey corner. The missing corner may be re-established by intersecting two or more such known distances.³

³Griffin, supra.
Retracement and Resurvey

The location upon the ground of property lines is determined by re-survey. One of the methods of re-survey is retracement which is a surveying method for resurrecting evidence of the location of a once established property corner. Its aim is to follow, as closely as possible, in the footsteps of the original surveyor and re-establish property corners in the exact position in which he originally placed them.

Rules and principles of retracement. The purpose of a re-survey of land is to locate and mark upon the ground the boundaries of the parcel of land evidenced by the description in a particular deed. The legal description fails as a complete protection of the boundaries, however, because it merely describes what they are and how they are to be determined. The extent of the parcel actually transferred by the deed is resolved by the intention of the grantor, so far as that intention is effectively expressed in the deed interpreted in the light of the then existing conditions and surrounding circumstances. The expression of the intention in the deed may be incomplete and ambiguous; but, regardless of how bunglingly expressed, there is a strong presumption that the grantor intended a certain encompassing boundary to define the lands granted. The fact that uncertainties or ambiguities appear in the legal description does not nullify the rule of intention, but rather makes its application even more pertinent. The intention of the original grantor (emphasis added), as expressed and is inferred from the deed, is the paramount consideration in determining the location of property lines and corners.

When a deed is interpreted in the light of the then existing conditions and surrounding circumstances, the interpreter considers the original survey which marked the boundaries. The highest and best proof of intention lies, not in the words of expression, but in the work performed upon the ground itself. Lines actually run and corners actually established upon the ground prior to the conveyance (emphasis added) are the most certain evidence of intention. It is by the work as executed upon the ground, not as projected before execution or represented on a plan afterward, that actual boundaries are determined. When the monuments or marks of the original survey are found and they lie

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4 Skelton, The Legal Elements of Boundaries and Adjacent Properties, § 2, 26 (1930).
5 Perry v. Buswell, 113 Me. 399, 94 A. 483 (1915). The cardinal rule for the interpretation of deeds and other written instruments is the expressed intention of the parties gathered from all parts of the instrument, giving each word its due force, and read in the light of existing conditions and circumstances. It is the intention effectually expressed, and merely surmised. This rule controls all others.
6 Griffin, Retracement and Apportionment as Surveying Methods for Re-establishing Property Corners, (1960)
7 Numerous sources, see Griffin, Ibid
8 Wells v. Lagorto, 112 Va. 522, 71 SE 713 (1859); Wisconsin Realty v. Lull, 177 Wis. 53, 187 N.W. 978 (1922).
9 Oven v. Davidson, 10 U.C.C.P. 302 (1859). Exceptions to the rule as quoted: It has no application where: 1. The lines were never located and definitely fixed upon the ground. Nisley v. Moeslein, 23 Pa. Super. Ct. 119 (1903); 2. The monuments or stakes of the original survey are not referred to in the deed or on the plat. Warren Powers v. Henry Jackson, 50 Cal. 429 (1875). See Larson v. Richardson for modern ruling.
wholly within the original grantor's ownership, the resurvey is complete and the boundaries conclusively established.\textsuperscript{10}

\begin{center}
\textbf{PRINCIPLE}

\textit{Location of a Boundary Line is Determined as of the Time of its Creation}
\end{center}

A boundary line once established should remain fixed in its original position through any series of mesne conveyances.\textsuperscript{11} A grantee who purchases the entire extent of particular lands owned by the grantor determines the boundaries of his purchase as of the time that the particular parcel was carved out of some larger tract. He takes to the bounds of the estate of his grantor, who in turn took to the limits of his grantor's estate, etc., to the time of creation of the boundary. A grantee purchasing only a part of the lands of his grantor will determine the common boundaries as of the time of the conveyance, while he while he will determine boundaries on the perimeter of the grantor's original tract with reference to the time that they were created. \textit{Each line of the same parcel must be considered separately and a determination of the proper surveying method to be used must be made with respect to each line of the parcel (emphasis added).}

The time of creation principle is closely related to the original government survey of public lands, since private boundary lines often run along lines established by this first survey or are described and located in relation to the original survey corners.

\textbf{Griffin's article:}

\textbf{Robert J. Griffin, Replacement and Apportionment as Surveying Methods for Re-establishing Property Corners, 43 Marq. L. Rev. 484 (1960).}

Available at: \url{http://scholarship.law.marquette.edu/mulr/vol43/iss4/5}

In \textit{Deeds/Senior Rights v. Junior Rights}, James J. Demma, L.S., Esq. analysed the case of \textit{Millar v. Bowie}, 115 Md. App. 682 (1997). His closing statement was, “In synthesizing all of the case law quoted in \textit{Millar}, it becomes clear that when the language of a senior deed is sufficiently clear and definite to convey an exact parcel of land, without reference to other evidence, later deeds are irrelevant to the establishment of the boundary.”

\textit{——Legal Notes; Professional Surveyor, January/February, 1998; Volume 18, Number 1.}

\textsuperscript{10}Griffin, \textit{Retracement and Apportionment as Surveying Methods for Re-establishing Property Corners}, (1960).

\textsuperscript{11}Diehl v. Zanger, 39 Mich, 601(1878). It is not how an entirely accurate survey would locate these lots, but how the original stakes located them.
Although title attorneys and others who regularly work with them develop expertise as to land descriptions, the only professional authorized to locate land lines on the ground is a registered land surveyor. In fact, the definition of a legally sufficient real property description is one that can be located on the ground by a surveyor (emphasis added). However, in the absence of statute, a surveyor is not an official and has no authority to establish boundaries; like an attorney speaking on a legal question, he can only state or express his professional opinion as to surveying questions. In working for a client, a surveyor basically performs two distinctly different roles or functions:

FIRST, the surveyor can, in the first instance, lay out or establish boundary lines within an original division of a tract of land which has theretofore existed as one unit or parcel. In performing this function, he is known as the "original surveyor" and when his survey results in a property description used by the owner to transfer title to property* that survey has a certain special authority in that the monuments set by the original surveyor on the ground control over discrepancies within the total parcel description and, more importantly, control over all subsequent surveys attempting to locate the same line.

SECOND, a surveyor can be retained to locate on the ground a boundary line which has theretofore been established. When he does this, he "traces the footsteps" of the "original surveyor" in locating existing boundaries. Correctly stated, this is a “retracement” survey, not a resurvey, and in performing this function, the second and each succeeding surveyor is a “following” or “tracing” surveyor and his sole duty, function and power is to locate on the ground the boundaries corners and boundary line or lines established by the original survey; he cannot establish a new corner or new line terminal point, nor may he correct errors of the original surveyor. The following surveyor, rather than being the creator of the boundary line, is only its discoverer and is only that when he correctly locates it (emphasis added).

——Rivers v. Lozeau
539 So. 2d 1147(1989)

*This is a most important qualification
Retracement is the process of uncovering physical evidence of monuments and corners by intelligent search on the ground for the calls of the description and field notes of the original survey, guided by the controlling influence of known points. It should proceed from a known location to hypothecate the unknown. In public land states, those in which the land was once under Federal domain, the known starting point is almost invariably some section or quarter section corner, accepted and recognized as having been established by the original government survey. When such starting point called for by the legal description is missing, it must first be re-established in its original position before the retracement may proceed. Such location, too, is governed by the rules of retracement.12

The retracement, commencing at some known point which was recognized and accepted by the original survey, is run in accordance with the plan of the original survey to ascertain the probable position of each succeeding point. An intensified search for evidence of the original location of each succeeding point is made in the vicinity hypothecated by retracement. The search may uncover the actual monument in its undisturbed position, which may be identified by its conformity in character to that described in the record (legal description, field notes and plat or map) and by its physical appearance as mellowed by age and elements. Or, the search may uncover record accessories or witness marks, which, if not greatly at variance with record ties, may satisfactorily establish the exact location of the original monument. Accessories or witness marks to section and quarter section corners may be such things as bearing trees (trees blazed and marked), bearing objects, mounds of stone, or pits dug in the sod or soil. Accessories to private survey corners may be such things as discs set in trees or poles, offset pipes or stakes driven into the ground, nails, tacks or cross-cuts in pavement or sidewalk, or the corner of some permanent object such as a house or other building. The record may disclose distances between such accessories and the missing survey corner. The missing corner may be re-established by intersecting two or more such known distances.13

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12Griffin, supra.
13Griffin, supra.
When ambiguities appear in the description, and when discrepancies arise between adjoining descriptions or between the description and the physical evidence of the boundaries as it exists on the ground, rules of construction are applied to determine intention. The rules, which are based on reason, experience and observation, and pertain to the weight of evidence, state the order of preference and relative importance of calls in a grant. This order of priority is as follows: (1) lines actually surveyed and marked prior to the original conveyance control over calls for monuments. (2) calls for fixed monuments control over calls for adjoiners. (3) calls for

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14 The term ambiguity is interpreted as connoting any doubt, uncertainty, double meaning, or vagueness that is inherent in the descriptive words themselves, or that may arise in the application of the description to its subject, the surface of the earth. 68 ALR 4, Admissibility of parol evidence to explain ambiguity in description of land in deed or mortgage.

When, and only when, the meaning of a deed is not clear, or is ambiguous or uncertain, will a court of law or equity resort to established rules of construction to aid in the ascertainment of the grantor's intention by artificial means where such intention cannot otherwise be ascertained. Unlike a settled rule of property which has become a rule of law, rules of construction are subordinate and always yield to the intention of the parties, particularly the intention of the grantor, where such intention can be ascertained.

Since all rules of construction are in essence only methods of reasoning which experience has taught are best calculated to lead to the intention of the parties, generally no rule will be adopted that tends to defeat that intention. 23 Am Jur2d § 224, 221. However, the modern tendency is to disregard technicalities and to treat all uncertainties in a conveyance as ambiguities to be clarified by resort to the intention of the parties as gathered from the instrument itself, the circumstances attending and leading up to its execution, and the subject matter and the situation of the parties as of that time. Substance rather than form controls. Hence, in the construction of deeds, surrounding circumstances are accorded due weight. In the consideration of these various factors, the court will place itself as nearly as possible in the position of the parties when the instrument was executed, and where the language of a deed is ambiguous, the intention of the parties may be ascertained by a consideration of the surrounding circumstances existing at the time of the execution of the deed. In this connection, it has been said that in interpreting a deed, the choice of words used to grant the land may show the aptitude of the scrivener and is a pertinent factor. Beduhn v. Kolar, 202 N. W. 2d 272, 56 Wis.2d 471(1972).

15 Requirements for the Control of Lines Marked and Surveyed:
(a) Lines must be marked prior to or at the time of the conveyance. Woodbury v. Venia, 114 Mich. 251, 72 N. W. 189 (1897).
(b) Lines marked must be adopted by the grantor, either directly, or indirectly through reference to a plat or map showing them, or by incorporating them into deeds. Missouri, K. & T. Ry Co. of Texas v. Anderson, 36 Tex. Civ. App. 121, 8] S. W. 781 (1904).
adjoiners control over calls for course and distance. (4) calls for course and distance control over calls for quantity.  

Rules of Construction for the Interpretation of Land Descriptions

- **Intent** of the parties is the controlling consideration
- In ascertaining the intention of the parties, separate deeds or instruments executed at the same time and in relation to the same subject matter, between the same parties, may be taken together and construed as one instrument.
- A deed must be construed as a whole, and a meaning given to every part thereof.
- Words in a deed are presumed to have a purpose.
- Documents are to be viewed in light of the surrounding circumstances.
- Descriptions are to be construed according to their plain terms, and words given ordinary meaning.
- A document should be construed in light of the law in existence at the time it was executed.

(c) Must be identifiable, otherwise they lack the essential qualifications of monuments. City of Eldora v. Edgington, 130 Iowa 151, 106 N. W. 503 (1906).

(d) Where they do not agree with course and distance, evidence of their actual location must be clear and convincing. Albert v. City of Salem et al, 39 Ore. 466, 65 Pac. 1068 (1901).

Where there are no monuments contradicting the measurements on a parcel of land, and no substantial reason to establish their inaccuracy, course and distance control.

Considering the problem from a different point of view, mention of adjoiners could be dropped from the rules of construction. A call for an adjoiner unequivocally exhibits an intention that the property described extends only to the line of abutting property called for as an adjoiner. Hence, no need to apply title rules to construct intention. The problem then, is resolved to the question: Where is the boundary line of the adjoining property? The best proof of its location lies in its monumentation and delineation upon the ground. The rules of construction, absent adjoiners, should then be applied to the description of the adjoining property. Transfer of concentration from the property primarily concerned, to the property called for as the adjoiner seems [to this author] to be the key to the solution. Griffin, supra.

In Fortenbury et al v. Cruse, et al, 199 S.W. 523 (1917), where the description was incomplete, a call for quantity played a large part in determining the location of boundaries. Rioux v. Cornier, 75 Wis. 566, 44 N. W. 634 (1890): Where it is clear that intention is to convey a certain quantity of land, that intention is decisive and controlling.

See Wilson, Interpreting Land Descriptions, for an extensive explanation and discussion of rules of construction.
• A deed should be construed with reference to the actual state of the land at the time of its execution.

• Technical words should be construed according to their technical meaning.

• Words which have definite legal significance must be given their legal effect.

• A specific, or particular, description controls a general one.

• References are part of the description.

• Descriptions are to be construed against the grantor and in favor of the grantee.

• A false or erroneous description, or statement, may be disregarded.

• A meaning and intending clause will not limit or enlarge the grant.

• Punctuation is ordinarily given slight consideration in construing a deed.

• Words will control punctuation marks rather than the other way around, however, punctuation will be resorted to in order to settle the meaning of an instrument, after all other means fail.

• Courts generally take judicial notice of commonly used initials and abbreviations in descriptions.
Relative Importance of Conflicting Elements

Lines actually run on the ground control; when not so run and marked they are to be located by the calls of the description properly construed, including references to other surveys and the lines of adjoining parcels.

*C.J.S. Boundaries, § 14*

Corners and Marked Lines

A. Natural Monuments

B. Artificial Monuments

Maps, Plats, and Field Notes

Adjoiners

Metes and Bounds

C. Courses

Angles

D. Distances

E. Area

Generally, interpretation of descriptive words in deeds and grants, courses and distances, and admeasurements and ideal lines should yield to known and fixed monuments, natural or artificial, upon the ground itself.

*Hofer v. Carino, 4 N.J. 244 (1950)*

**General Rules of Construction**

In determining what the boundaries area, as surveyor may not rest his judgment on what he thinks intention of the parties may have been contrary to certain accepted positive rules of law which control and which parties to real estate transactions must heed if they would effectuate their intent and avoid consequences they did not intend.

*Conary v. Perkins, 464 A.2d 972 (Me., 1983)*

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19See Wilson, *Interpreting Land Descriptions*, 2015 for an extensive treatment of this topic. Actual location on ground of original lot lines will control, if ascertainable. *Neill v. Ward, 103 Vt. 117 (1930).*
In Summary

Where a survey of a parcel of land has been made by a surveyor, monuments placed or ascertained, and boundary lines established by such monuments and a plat is made thereafter and recorded which subdivides the land so surveyed into lots, the boundary lines of such lots as so established on the ground itself are primary. The plat is derivative and secondary. [emphasis supplied].

2. Where the original monuments as located by such surveyor are still ascertainable, the boundary lines determined by such monuments will determine the boundaries of the respective lots irrespective of deviation from the course or distance as set forth in the plat.

3. Wooden stakes placed by a surveyor on the land to mark corners of lots or the intersection of boundaries and measuring lines constitute monuments.

4. The primary duty of one making a resurvey of a parcel so surveyed to ascertain the boundaries of a lot is to discover the boundaries and corners as established by the original surveyor on the land itself irrespective of deviation from the course and distance indicated on the plat.

5. Where an original monument as set by the first surveyor is obliterated but its location may be ascertained by parol or other evidence, the monument so located is the equivalent of the original monument.

— Sellman v. Schaaf
269 NE.2d 60, 26 Ohio App.2d 35 (1971)

That being said, and assuming that it is clear, it may be seen that several courts have not only emphasized the philosophy, or directive, but have made it clear that anything other than locating an existing line placed by a surveyor (whether marked or not) is outside of the surveyor’s responsibility when surveying (locating) a boundary. In fact, the court stated in Pereles v. Gross, 126 Wis. 217 (1905) that anything other than locating the original, existing, line may be unlawful:

“In resurveying a tract of land according to a former plat or survey, the surveyor’s only function or right is to relocate, upon the best evidence obtainable, the corners and lines at the same places where originally located by the first surveyor on the ground. Any departure from such purpose and effort is unprofessional, and, so far as any effect is claimed for it, unlawful.

To fix lines variant from the originals and according merely to his notion of a desirable arrangement of lots and streets leads naturally to confusion of claims among lot owners, and, when done by a city surveyor as a basis for occupation of land for streets, is attempted confiscation.”

It was held that the east line of the street was where the original surveyor placed it, not where it should be according to resurveys or subsequent surveys; that subsequent surveys are worse than useless; they only serve to confuse, unless they agree with the original survey.” — Johnson v. Westrick, 200 Wis. 405 (1930).
Failure to Locate Original Corners, Lines or Titles

A survey establishing a line between adjacent landowners will not revive the right of an original owner against an established boundary, since all the survey does is establish the line and not the title. —Grell v. Ganser, 155 Wis. 381 (1949).

Precisely accurate resurvey cannot defeat ownership rights flowing from original grant and boundaries originally marked off. —U.S. v. Doyle, 468 F.2d 633 (1972).


Purpose of resurvey is merely to ascertain lines of original survey, and original boundaries and monuments, and parties cannot be bound by any survey not based on that originally made and monuments erected thereunder. —Day v. Stenger, 274 P. 112 (Idaho, 1929).

The purpose of a resurvey is to ascertain lines of original survey and original boundaries and monuments as established and laid out by survey under which parties take title to land, and they cannot be bound by any resurvey not based on survey as originally made and monuments erected.

All the three surveys in question here were resurveys, binding on no one, unless one of these perchance should ultimately in a proper proceeding be found to be correct. —Hagerman et al. v. Thompson et al., 235 P.2d (Wyoming, 1951).

Where footsteps of the surveyor are not found, it is the court’s duty to ascertain the surveyor's intention by his field notes and circumstances and conditions surrounding the survey. —Howell v. Ellis, 201 S.W. 1022 (1918).

Purpose of resurvey is to trace footsteps of original surveyor, and when marks of his footsteps are found, they control, but when they cannot be found, old use and occupancy and old recognition must suffice. —Ballard v. Stanolind Oil & Gas Co., 80 F.2d 588 (Texas, 1935).

Recent Decision:

Beckman/Tillman v. Bennett
Fla. Court of Appeals, First Dist.
July 19, 2013

A surveyor cannot set up new points and establish boundary lines unless he is surveying unplatted land or subdividing a new tract. See Willis v. Campbell, 500 So.2d 300, 302 (Fla. 1st DCA 1986); Tyson v. Edwards, 433 So.2d 549, 552 (Fla. 5th DCA 1983). Subsequent surveyors may only locate the points and retrace the lines of the original survey; they cannot establish new lines or corners. See Tyson, 433 So.2d at 552. Collier, 794 So.2d at 618 (emphasis added).
After carefully reviewing the deposition testimony of each surveyor, we conclude that only Beckham/Tillman's surveyor conducted a proper retracement utilizing the original monuments. As it was explained in *Tyson v. Edwards*:
The surveying method is to establish boundaries by running lines and fixing monuments on the ground while making field notes of such acts. From the field notes, plats of survey or "maps" are later drawn to depict that which was done on the ground. In establishing the original boundary on the ground the original surveyor is conclusively presumed to have been correct and if later surveyors find there is error in the locations, measurements or otherwise, such error is the error of the last surveyor. Likewise, boundaries originally located and set (right, wrong, good or bad) are primary and controlling when inconsistent with plats purporting to portray the survey and later notions as to what the original subdivider or surveyor intended to be doing or as to where later surveyors, working, perhaps, under better conditions and more accurately with better equipment, would locate the boundary solely by using the plat as a guide or plan. Written plats are not construction plans to be followed to correctly reestablish monuments and boundaries. They are "as built" drawings of what has already occurred on the ground and are properly used only to the extent they are helpful in finding and retracing the original survey which they are intended to describe; and to the extent that the original surveyor's lines and monuments on the ground are established by other evidence and are inconsistent with the lines on the plat of survey, the plat is to be disregarded. When evidence establishes a discrepancy between the location on the ground of the original boundary survey and the written plat of that survey the discrepancy is always resolved against the plat. (emphasis mine – DAW)

**Selected Significant Retracement Cases**

**U.S. v. Champion Papers**  
361 F.Supp. 481 (1973)

This case deals with the perpetuation of corner evidence through a series of retracement surveys over a period of time. It emphasizes that the parties intent is the same as the surveyor’s intent. It also resolves ambiguities in field notes.

**Wood v. Starko**  
197 S.W.3d 255 (Tenn.App. 2006)

This is a very important case not only for Tennessee, but for all metes and bounds surveys. The court review a number of retracement cases, summarizing principles and demonstrating consistency. It is an excellent case from which to begin legal research on retracement procedures.
The Concept of Creation of Title & Boundaries

"Ancient deeds are to be construed as written in light of the then use of properties conveyed and adjacent land, and cannot be cut down by vagueness in subsequent conveyances."

——Harvey v. Inhabitants of Town of Sandwich, 152 N.E. 625, 256 Mass. 379 (1926).

"Descriptions are not to identify land but to furnish the means of identification."

——City of North Mankato v. Carlstrom, 2 N.W.2d 130, 212 Minn. 32 (1942).

"A survey with no research is virtually worthless. Often surveyors survey only from the description presented to them."

——Understanding Your Professional LIABILITY as a Land Surveyor

Boundaries specified in the original patent, in the absence of intervening descriptions in deeds, by metes and bounds, are presumed to continue.

Van Blarcom v. Kip, 26 N.J. Law, 351 (1857)

Terminology.

*An original survey* is a survey called for or presumed to have been made at the time a parcel or parcels were created. An original survey creates boundaries, it does not ascertain them Brown, Robillard & Wilson, 1994.

*First survey.* When a parcel or parcels are created on paper, without a survey being conducted, and the surveyor is later requested to place one of these paper-described parcels on the ground, this survey should be considered the "first" survey, in that it is the first survey to be placed on the ground after the description. Brown, Robillard & Wilson, 1994.

*Original survey vs. first survey:* the difference is whereas the original survey controls, the first survey is nothing more than an opinion by the surveyor where the description should be placed. Brown, Robillard & Wilson, 1994.

*Resurvey* means to survey again, and applies to land which has been surveyed once. Trudeau v. Town of Sheldon, 20 A. 161, 62 Vt 198 (1890). Words and Phrases.

A *resurvey* is a reconstruction of land boundaries and subdivisions accomplished by rerunning and re-marking the lines represented in the field-note record or on the plat of a

A dependent resurvey is a retracement and reestablishment of the lines of the original survey in their true original positions according to the best available evidence of the positions of the original corners.

An independent resurvey is an establishment of new section lines, and often new township lines, independent of and without reference to the corners of the original survey.

The purpose of a resurvey is to determine where the footsteps of the original surveyor were located, that is, to restore the original surveyor's lines in the same position as they were originally marked. The concept of “footsteps” is one of determining where the evidence of the original survey is located. Brown, Robillard & Wilson, 1995.

A retracement is a survey that is made to ascertain the direction and length of lines and to identify the monuments and other marks of an established prior survey. Retractions may be made for any of several reasons. In the simplest case it is often necessary to retrace several miles of line leading from a lost corner which is to be reestablished to an existent corner which will be used as a control. If no intervening corners are reestablished, details of the retracement are not usually shown in the record, but a direct connection between the two corners is reported as a tie. On the other hand, the retracement may be an extensive one made to afford new evidence of the character and condition of the previous survey. Recovered corners are rehabilitated, but a retracement does not include the restoration of lost corners or the reblazing of lines through the timber. The retracement may sometimes be complete in itself; but usually it is made as an early part of a resurvey.  

Retracement survey. Surveyor retained to locate on the ground a boundary line which has theretofore been established performs a "retracement survey." Rivers v. Lozeau, Fla. App. 5 Dist., 539 So. 2d 1147 (1989). Words and Phrases.

When there are no remaining traces of the monument (or its accessories), its location may yet have been preserved. This is known as an obliterated corner.

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20In the case of Cragin v. Powell, 128 U.S. 691(1888), the Supreme Court of the United States cited with favor the following quotation from a letter of the Commissioner of the General Land Office to the surveyor general of Louisiana: "The making of resurveys or corrective surveys of townships once proclaimed for sale is always at the hazard of interfering with private rights, and thereby introducing new complications. A resurvey, properly considered, is but a retracing, with a view to determine and establish lines and boundaries of an original survey but the principle of retracing has been frequently departed from, where a resurvey (so called) has been made and new lines and boundaries have often been introduced, mischievously conflicting with the old, and thereby affecting the areas of tracts which the United States had previously sold and otherwise disposed of.
DEFINITION

An obliterated corner is one at whose point there are no remaining traces of the monument or its accessories, but whose location has been perpetuated, or the point for which may be recovered beyond reasonable doubt by the acts and testimony of the interested landowners, competent surveyors, other qualified local authorities, or witnesses, or by some acceptable record evidence.  

*Manual of Instructions, Bureau of Land Management (1973)*

The point has been perpetuated by collateral evidence. Its location may be recovered by recourse to the acts and testimony of interested landowners, competent surveyors, or witnesses who observed where the corner was originally established. In this area courts often accept hearsay testimony as matters of public interest or, in the proper situation, as declarations against interest. A location that depends solely upon such collateral evidence can be accepted as the true location, however, only when it bears a proper relation to known corners and is in substantial agreement with the field notes regarding distances to natural objects, brush lines, water courses, etc., or when the testimony is impeccable.

A lost corner is a point of survey whose exact location cannot be determined to a reasonable certainty either from traces of the original monument or its accessories, or from acceptable evidence or testimony that bears upon the original location. Original location can be restored only by reference to one or more interdependent corners.

DEFINITION

A lost corner is a point of a survey whose position cannot be determined, beyond reasonable doubt, either from traces of the original marks or from acceptable evidence or testimony that bears upon the original position, and whose location can be restored only by reference to one or more interdependent corners.  

*Manual of Instructions, Bureau of Land Management (1973)*

Restoration of a corner as lost should not be considered until every other means of identifying its original position has been exhausted. The legal description may afford sufficient evidence of the position of the lost corner if it is not ambiguous and will yield but one location for the lost corner; and must check out favorably with field measurements between either known or ascertainable, interdependent corners recognized and accepted by the original survey.  

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21Griffin, *supra*, who states as a footnote: “it should be noted that the primary authority relied upon for this section was the Manual of Instructions for the Survey of Public Lands of the United States (1947). Although it is not statutory authority for the restoration of private property lines and corners, its good sense and technical outline of proper surveying techniques make it an excellent work for general application to private as well as public lands." The Manual states specifically that it "is for the guidance of the employees of the Bureau of Land Management. To all others this surveying practice should be regarded as advisory, with no attempt to interpret State law respecting the survey of private property,." Its supplement, *Restoration of Lost or Obliterated Corners and Subdivision of Sections*, states; "In the New England and Atlantic Coast States, except Florida, and in Pennsylvania, West Virginia, Kentucky, Tennessee, and Texas, jurisdiction over vacant lands remained in the States. The public land surveys were not extended in
For corners to be lost, they must be so completely lost that they cannot be replaced by reference to any existing data or other sources of information, and before courses and distances can determine boundary, all means for ascertaining location of the lost monuments must first be exhausted.

Means to be used to locate lost monuments or corners include collateral evidence such as boundary fences that have been maintained, which should not be disregarded by surveyor, and artificial monuments such as roads, poles, and improvements may not be ignored; surveyor should also consider information from owners and former residents of property in the area.  

*U.S. v. Doyle, (Colorado) 468 F.2d 633 (1972)*

**Definition of corner**

A corner has been defined as the intersection of two converging lines or surfaces; an angle, whether internal or external; as the “corner” of a building, the four “corners” of a square, the “corner” of two streets. A mere variation in a line does not constitute a “corner.” *Christian v. Gernt. et al.*, Tenn. Ch., 64 S.W. 399 (1900).

**Types of Corners**

**Corner, Existent.** One whose position is identifiable by evidence of monument, its accessories, or description in field notes, or can be located by acceptable supplemental survey record, some physical evidence, or testimony. *Reid v. Dunn, 20 Cal. Rptr. 273 (1962).*

**Corner, Nonexistent.** A corner which has never existed cannot be said to be lost or obliterated and established under the rules relating to the establishment of lost or obliterated corners, but should be established at the place where the original surveyor should have put it. *Lugon v. Crosier, 240 P. 462, 78 Colo. 141.*

**Corner Accessory.** A physical object adjacent to a corner, to which the corner is referred for future identification or restoration. Accessories include bearing trees, mounds, pits, ledges, rocks, and other natural features to which distances or directions, or both, from the corner or monument are known. Accessories are part of the monument, and in the absence of the monument, carry the same weight.

*Lugon v. Crosier, 78 Colo. 141, 240 P. 462 (Colo. 1925)*

The plaintiffs in error say, however, that if the monument is rejected, the rule of the General Land Office as to restoring lost monuments must be followed. The rule invoked is Gen. L. O. Reg. 47:

> In all cases where no public lands are involved, the surveying procedure must necessarily be brought into harmony with the State law and court opinion. In such cases, the methods and explanations of the Bureau of Land Management must be regarded as advisory only, as the Bureau is without jurisdiction unless Federal lands are involved.
'A lost or obliterated closing corner from which a standard parallel has been initiated or to which it has been directed will be reestablished in its original place by proportionate measurement from the corner used in the original survey to determine its position.'

The corner in question is a closing corner, but not one from which a standard parallel has been initiated nor one to which a standard parallel has been directed; we do not see, therefore, that the rule relates to this case, but if it did we doubt that the corner can be regarded as lost or obliterated. It never existed, and so cannot, strictly speaking, be said to be lost or obliterated. If the monument were lost or obliterated there would be some reason to attempt to relocate it, and perhaps the method prescribed in rule 47 is as good a way as any other, but when it is a myth, never on the ground, the natural, straightforward, and sensible way is to establish the corner at the place where the original surveyor ought to have put it, and that is where the north course of the east line of the section meets the correction line at right angles, and that is where the report puts it. Everybody knows that that is where the section line ought to have closed, and where the original surveyor, honest or dishonest, meant to close it; that his duty required him to close it there, so that the inclosure of his lines might be a rectangle or nearly so. Why should courts be less reasonable than reasonable men?

Just remember……………

A corner which was never set cannot be either lost or obliterated

Lugon v. Crosier, 240 P. 462, 78 Colo. 141.

Important thing to remember:

“While these general rules apparently have their origin in surveys reflecting government grants, such rules are equally applicable to private surveys.”

quoting Staub v. Hampton, 117 Tenn. 706, 101 S.W. 776 (1907)

Lloyd v. Benson, 2006 ME 129, 910 A.2d 1048 (Me. 2006)

When a monument referenced in a deed is missing, it does not lose its significance as a monument if its original location can be determined. We have previously expressed this principle in both positive and negative terms. For example, in Theriault v. Murray, 588 A.2d 720, 722 (Me. 1991), we stated: "The physical disappearance of a monument does not end its use in defining a boundary if its former location can be ascertained." In contrast, in Milligan v. Milligan, 624 A.2d 474, 478 (Me. 1993), we stated, "[t]he physical disappearance of a monument terminates its status as a boundary marker unless its former location can be ascertained through extrinsic evidence." (Emphasis added.) We concluded in Milligan that "[b]ecause the unrebutted testimony in this case was that no pin . . . was ever located at [the terminus described in the deed], the pin could no longer be considered a monument." Id.
Regardless of whether expressed in the positive or negative, the principle remains the same: The location of a monument that is described in a deed, but is missing from the face of the earth, can be established through extrinsic evidence. See Hennessy, 2002 ME 76, 796 A.2d at 48. Once so established, the monument has the same legal significance as if it were not missing. Theriault, 588 A.2d at 722 (stating that if the locations of missing monuments can be determined, the "monuments as a matter of law must prevail over the deed’s course and distance calls"). [1]

Milligan v. Milligan, 624 A.2d 474 (Me. 1993)

A physical object is not a monument unless the deed's description makes a reference to it for that purpose. Proctor v. Hinkley, 462 A.2d 465, 469 (Me.1983).

The physical disappearance of a monument terminates its status as a boundary marker unless its former location can be ascertained through extrinsic evidence. Ricci v. Godin, 523 A.2d 589, 592 (Me.1987) (citing Bailey v. Look, 432 A.2d 1271, 1274 (Me.1981)). Because the unrebutted testimony in this case was that no pin (other than that placed by the defendants' surveyor) was ever located at 450 feet along the shore, the pin could no longer be considered a monument.

Resurveys have been made since the early days of the public land surveys. Initially they were made as corrective surveys under the general surveying appropriations when gross errors were found. Resurveys of particular public lands in certain states were later authorized by special acts of congress. General legislation providing for resurveys was enacted when it became apparent that many older surveys were so obliterated or distorted that the lines could not be identified with certainty.22

In summary, it can readily be seen from the above that there is some overlapping of definitions as well as some conflict between definitions. To be on the safe side, one could adopt a strict set of rules for work within public domain lands, and a different set of rules outside of the public domain. There would necessarily be some overlapping in requirements, or some duplication in definitions, but not entirely. The Manual itself merely calls itself guidance, and without jurisdiction outside of public domain lands.

The courts have detailed proper procedures, but it is not a simple manner of finding a single decision, or a few related decisions, in a particular state for guidance. Such demands considerable research into the cases from several states. One would think that doing so would result in further conflict and considerable confusion but, refreshingly, the courts have been consistent and with great wisdom, banding down rules and guidelines which, if studied, leave no doubt as to proper procedure. The remainder of this work will rely on that wisdom and guidance in an attempt to assemble and explain the proper procedures for "following the footsteps."

“Following the Footsteps”

REFERENCE


The calls in a deed must be followed as of the date thereof, nothing else appearing.

*Greer v. Hayes, 216 N.C. 396 (1939)*

Titles to land are not to fail merely because old markers may have disappeared or because it may be difficult to trace footsteps of the surveyor.

In suit involving boundary question, search must be made for the footsteps of the original surveyor and, when found, the case is solved.

*Hart v. Greis, 155 S.W.2d 997 (1941)*

Knowing the Surveyor

Who was this person? Educated or not? Surveyor, engineer, forester, other? Check it out.

Tools of the Surveyor

Angle measuring devices, types of compass, type and style of tape. Or was the survey done by some other method? What kind of textbook, if any?
Survey Records

Textbooks, notes, copybooks. Land descriptions, particularly probate records (dowers and divisions).

Words and Phrases

REFERENCES

Webster’s Dictionary
Law Dictionaries
  Black’s
  Bouvier’s
  Ballentine’s
  others
Words and Phrases
100 volumes containing definitions and interpretations by the various courts on a case by case basis.

Survey Monuments

Miscellaneous - who left what behind?

Trees

REFERENCES


Tree Names. All living things have one established scientific name made up of three parts, a genus (or generic name) and a species (or specific) name, followed by the name of the author, or discoverer of that animal or plant:

Tsuga canadensis (L.) Carr.
All living things have one accepted common name, established by the International Committee for Biological Nomenclature, but may have many colloquial names, depending on region or who is talking about it:

Eastern Hemlock
aka
Spruce Pine
Hemlock Pine
Hemlock Spruce
White Hemlock

Trees marked and used as evidence were usually identified by the surveyor or farmer who measured the boundaries, marked the lines or compiled the description.

REFERENCES


Softwood Key—

1. CROSS-SECTIONAL FACE
2. RADIAL FACE
3. TANGENTIAL FACE
4. ANNUAL RING
5. EARLYWOOD
6. LATEWOOD
7. WOOD RAY
8. FUSIFORM RAY
9. VERTICAL RESIN DUCT
10. HORIZONTAL RESIN DUCT
11. BORDERED PIT
12. SIMPLE PIT
Softwoods

Resin canals
  Large…………………………..Pines
  Small
    abrupt transition…………….Douglas-fir
    Larch
    gradual transition…………...Spruces

No resin canals
  No odor
    abrupt transition…………….Hemlocks
    less than abrupt transition…..Firs
  Odor……………………………Cedars

Other: ..............................Redwood
        Baldcypress

Hardwoods

Ring Porous
  Late wood pores in small multiples or solitary
    single - row ..................Hickory
    multiple - row ...............Ash
  Late wood pores radial ..........Chestnut
    Oaks
  Late wood pores in tangential bands…Elm
  Late wood pores in clusters ........Sassafras
    Locust
  Other ........................... Magnolia

Semi-Ring Porous
  Large Pores ......................Walnut
    Butternut
  Rays indistinct under lens ..........Willow
    Cottonwood
    Aspen

Diffuse Porous
  Pores very numerous & crowded ……Cherry
  Pores crowded ........................Sycamore
    Beech
  Pores not crowded………………….Dogwood
    Maple
  Pores not in radial lines……………Birch
  Rays distinct - naked eye ............Basswood
  Rays distinct - under lens ..........Gum
    Apple
    Alder
Remains

Pieces, rotten wood, stump holes, etc.

REFERENCES


Fences

Kinds and styles of fences. Wood, stone, wire, brush, stump, sod.

**Ancient fences.** Ancient fences used by a surveyor in his attempt to reproduce an old survey are strong evidence of the location of the original lines and, if they have been standing for many years, should be taken as indicating such lines as against the evidence of a survey which ignores such fences and is based upon an assumed starting point. It is said that a long-established fence is better evidence of actual boundaries settled by practical location than any survey made after the monuments of the original survey have disappeared. Accordingly, a fence erected on a surveyed line shortly after the land has been surveyed may serve as a monument to control courses and distances or a subsequent survey after the stakes set out at the time of the original survey have disappeared.23

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The general reputation of the location of a line, if unexplained, is presumed to arise from knowledge of the location of the original surveyor’s footsteps.


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23 12 Am Jur 2d, Boundaries, § 71. **Stakes and fences.**
Courtesy
Devil’s Rope Museum
Measurements

Units, definitions. Several conversions for things like feet, mile, rod, arpent, acre, etc.

Directions

Based on which meridian? In the earlier surveys made in the United States, it seems to have been the practice to run the lines on the ground according to the magnetic meridian and not according to the true meridian. In localities in which this is assumed to have been the case, the courts, in interpreting descriptions of boundaries in deeds or patents based on such surveys, may recognize a presumption that the lines were run according to the magnetic meridian. In certain states the courses in a deed are invariably presumed to have been run according to the magnetic meridian unless there is something in the instrument to indicate a different method.24

Magnetic Bearings

70 ALR3d 1220
Boundaries: Description in Deed as Relating to Magnetic or True Meridian

In weighing evidence of recent surveys of ancient lines, consideration must be given to variation of needle in determining magnetic course. Milliken v. Buswell, 313 A.2d 111 (Me., 1973)

CAUTION
Be aware of north reference!

E 10° N
is the same as
N 80° E

70 ALR3d 1220
Boundaries: Description in Deed as Relating to Magnetic or True Meridian

A court, in adjudicating upon surveys, is bound to notice judicially the magnetic variation from the true meridian

_Bryan v. Beckley_

16 Ky (Litt. Sel. Cas.) 91, 12 Am. Dec. 276 (1809)

**Important N.H. Decision**

_Wells v. Jackson Iron Mfg. Co._

48 N.H. 491(1869)

Where a line is found marked and is admitted or proved to be a line of the grant as originally surveyed, which line exhibits a variation from what the needle pointed when the survey was made, to ascertain the other lines as originally surveyed and called for in the grant, but which are not marked, they should be run with the same variation.

If, in running the lines of a grant, one line be found marked, which is admitted or proved to be a line of the grant, and which will run with a variation from the calls of the grant, if no other marked lines be found, the other calls should be run with the same variation as that found on the marked line, to ascertain the land granted.

_Sevier v. Wilson; 7 Tenn. (Peck) 146 (1823)_

The court cannot judicially take notice that any variation of the magnetic meridian has occurred between the date of the entry and the date of the survey—the variation between given periods is a fact to be proved.

_Vance v. Marshall_

6 Ky (3 Bibb) 148 (1813)

Declination Tables

U.S. Department of Commerce
National Geophysical and Solar-Terrestrial Data Center (D62)
Boulder, Colorado 80302

or

www.ngdc.noaa.gov
### Values of Magnetic Declination

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Table prepared by National Geophysical Data Center, N.E.S.D.I.S., N.O.A.A. 09/12/1987.
Distances

How measured? Instrument used, paced, or estimated?

80 ALR2d 1208
Boundaries: Measurement in Horizontal Line
or Along Surface or Contour

Area

Measured or estimated? Units?

Survey Procedure

In relocating or reestablishing the lost lines of an old survey, the tracks of the original survey should be followed so far as it is possible to discover them, and the purpose of a resurvey is to find where the original lines ran. All locations, calls, and distances must, if found, be followed. While visible and actual landmarks are to be preferred, if they cannot be ascertained resort must be had to courses and distances, from which no departure should be made except in case of necessity, when distances will, as a rule, yield to courses; and it is the general practice in restoring lost lines to begin at an established corner and so to locate them. In running courses, allowance must be made for magnetic variation from the true meridian, and proper allowance should be made on each line for the unevenness of the ground over which it passes. However, variations in the magnetic needle need not be considered where the survey is not a magnetic needle survey.\textsuperscript{25}

\textsuperscript{25} 11 C.J.S. Boundaries, § 15. Relocation of Lost Line.
Beckley v. Bryan & Ransdale

1 Ky (Ky. Dec.) 91 (1801)

As the law requires every official surveyor to see the survey plainly marked by trees or natural boundaries, the presumption is, that every survey has been thus marked, or bounded, when made, though the abuttals may not now be found.

The beginning corner in a plat and survey is of no higher dignity or greater importance than any other of the corners.

When one or more of the corners of a survey are lost, they must be ascertained by running the courses and distances called for in the survey, from the remaining corners.

Where a departure from either course or distance becomes necessary, in order to close the survey, distances must yield, as being the more uncertain.

Where a portion of the lines and corners of a survey is lost, and the survey can not be closed by lengthening or shortening the distances, then, and not otherwise, there may be a deviation from the course.

Bryan &c. v. Beckley

16 Ky (Litt Sel Case 91)(1809)

To restore lost lines and corners. Course and distance not to be departed from, but in cases of necessity. Distances must first yield. Allowances to be made for variation of the needle. Unevenness of ground to be allowed for. Mistake in distance originally committed in one line, could have affected only the opposite. A mistake in one course, not to be presumed to have affected any other course. Court bound to take notice that there is a magnetic variation from the true meridian. Surveyors general took their courses from the magnetic meridian. Horizontal measure to be attained, being the basis of the art of surveying. The variation of the magnet since the original survey, is the allowance to be made Existing lines and corners to govern, however variant from tile courses called for. When visible and actual landmarks fail, resort is to be had to courses and distances. Departure from distance not indulged, further than necessary.
Cherry v. Slade’s Administrator
3 Murph. (N.C.) 82 (1819)

The rules which have been established by the decisions of the courts, for settling questions relative to the boundary of lands, have grown out of the peculiar situation and circumstances of the country; and have been moulded to meet the exigencies of men, and the demands of justice.—

These rules are,

1. That whenever a natural boundary is called for in a patent or deed, the line is to terminate at it, however wide of the course called for, it may be: or however short or beyond the distance specified.

2. Whenever it can be proved that there was a line actually run by the Surveyor, was marked and a corner made, the party claiming under the patent or deed, shall hold accordingly, notwithstanding a mistaken description of the land in the patent or deed.

3. When the lines or courses of an adjoining tract are called for in a deed or patent, the lines shall be extended to them, without regard to distance: Provided those lines and courses be sufficiently established, and no other departure be permitted from the words of the patent or deed, than such as necessity enforces, or a true construction renders necessary.

4. Where there are no natural boundaries called for, no marked trees or corners to be found, nor the places where they once stood ascertained and identified by evidence; or where no lines or courses of an adjacent tract are called for; in all such cases, we are of necessity confined to the courses and distances described in the patent or deed: for however fallacious such guides may be, there are none other left for the location.

Riley, administratrix, &c. v. Griffin, et al.
16 Ga. 141 (1854)

Marked trees, as actually run, must control the line, which courses and distances would indicate.

If nothing exists to control the call for courses and distances, the land must be bounded by the courses and distances of the grant, according to the Magnetic Meridian: but courses and distances must yield to natural objects.

All lands are supposed to be actually surveyed; and the intention of the grant is, to convey the land according to that actual survey.

If marked trees and marked corners are found, distances must be lengthened or shortened, and courses varied so as to conform to those objects.

Where the calls of a deed or other instrument, are for natural, as well as known artificial objects, both courses and distances, when inconsistent, must be disregarded. And this rule is supposed to prevail, in most of the States of this Union.

Whenever a natural boundary is called for in a grant or deed, the line is to determine at it: however wide of the course called for, it may be, or however short, or beyond the distance specified.

Whenever it can be proved that there was a line actually run by the surveyor, or was marked, and a corner made, the party claiming under the grant or deed, shall hold accordingly, notwithstanding a mistaken description of the land in the grant or deed.

When the lines or courses of an adjoining tract are called for in a deed or grant, the lines shall be extended to them, without regard to distances, provided these lines and corners be sufficiently established.
When there are no natural boundaries called for, no marked trees or courses to be found, nor the places where they once stood, ascertained and identified by the evidence; or where no lines or courses of an adjacent tract are called for, in all such cases, Counts are of necessity confined to the courses and distances described in the grant or deed.

Courses and distances occupy the lowest, instead of the highest grade, in the scale of evidence, as to the identification of land.

Any natural object, and the more prominent and permanent the object, the more controlling as a locator, when distinctly called for and satisfactorily proved, becomes a land-mark not to be rejected, because the certainty which it affords, excludes the probability of mistake.

Courses and distances, depending for their correctness on a great variety of circumstances, are constantly liable to be incorrect; difference in the instrument used, and in the care of surveyors and their assistants, lead to different results.

In ascertaining boundaries, the locations of the original surveyor, so far as they can be found, are to be resorted to; and where they vary from the proprietor's plan, the locations actually made, will control the plan.

Whenever, in a conveyance, the deed refers to monuments, actually erected as the boundaries of the land, it is well settled that these monuments must prevail, whatever mistakes the deed may contain, as to courses and distances.

Courses and distances are pointers and guides, rather to ascertain the natural objects of boundaries.

Seaman v. Hogeboom and others
21 Barb. 398 (New York, 1855)

If, on running out the land according to the courses and distances laid down in the deed, the lines of the survey will not close, so that, relying solely upon the courses and distances, to arrive at the intent of the parties, the conveyance is void for uncertainty, it is not an inflexible rule in construction that they are to control.

Under such circumstances, resort may be had to other particulars stated in the description of the premises, to ascertain what land the deed was intended to cover, and thus to uphold the grant.

Where there are certain particulars in the description of the thing intended to be granted, which can be sufficiently ascertained, the addition of any mistaken or uncertain circumstance will not be allowed to frustrate the intention of the parties.

And if there be certain particulars sufficiently ascertained in the description to locate the land intended to be conveyed, the addition of any false or mistaken particulars may be rejected, or disregarded.

As a general rule, when a deed describes land by course and distance, and also by known, visible monuments, the latter govern, and natural will overcome artificial monuments. Where no monuments exist, resort must be had to the next most certain call of the deed. This is, ordinarily, course and distance, but not invariably so.

If there are other more certain evidences of the intent of the parties, or if, by a resort to courses and distances exclusively, the result is to frustrate the grant, whilst the description contains other matter to render the intent entirely certain, it is not an unbending rule that the call of course and distance in a deed must alone be resorted to in the absence of natural or artificial monuments or ground marks.
Where a survey of a parcel of land has been made by a surveyor, monuments placed or ascertained, and boundary lines established by such monuments and a plat is made thereafter and recorded which subdivides the land so surveyed into lots, the boundary lines of such lots as so established on the ground itself are primary. The plat is derivative and secondary.

Where the original monuments as located by such surveyor are still ascertainable, the boundary lines determined by such monuments will determine the boundaries of the respective lots irrespective of deviation from the course or distance as set forth in the plat.

Wooden stakes placed by a surveyor on the land to mark corners of lots or the intersection of boundaries and measuring lines constitute monuments.

The primary duty of one making a resurvey of a parcel so surveyed to ascertain the boundaries of a lot is to discover the boundaries and corners as established by the original surveyor on the land itself irrespective of deviation from the course and distance indicated on the plat.

Where an original monument as set by the first surveyor is obliterated but its location may be ascertained by parol or other evidence, the monument so located is the equivalent of the original monument.
The Ohio experience
Survey systems and their surveyors

Selected original surveys affecting Ohio boundaries

Charles Mason and Jeremiah Dixon established the boundary between Pennsylvania and Maryland (between William Penn and the Calvert family), 1763-1767.

Andrew Ellicott surveyed the line northward from the southwest corner of Pennsylvania between West Virginia and Ohio, 1786; he and David Rittenhouse, whom Jefferson declared to be the greatest astronomer in the world, employed the use of a zenith sector they had designed, along with a theodolite and quadrants. Thomas Hutchins was involved with the survey of the south end of the line, from the corner to the Ohio River.

In 1785, Hutchins was appointed by George Washington as First Geographer of the United States, and surveyed the north line of The Seven Ranges, called the Geographer’s Line. The survey party reached the Ohio River on August 20 and set up camp. Sometime later, late September, or October, Hutchins determined the position of the starting point with a sextant. According to Linklater, modern methods indicate that he was actually twenty-five seconds, or about 850 yards, farther north than he calculated, an acceptable error for the day without the use of a zenith sector.

The surveyors then proceeded westward, with Hutchins observing bearings with a compass. At each mile they put in a marker post. Barely a week after they had begun, the party received news that a nearby village had been raided by Indians. On October 8, 1785, they retreated back to Pittsburgh, after surveying no more than 4 miles. The following year, Congress sent Hutchins back with instructions to run his line westward for just seven squares, or ranges – a distance of just 42 miles, to disregard the land to the north and concentrate on surveying southward to a bend in the Ohio River.

In 1786 the party was joined by more surveyors, notables such as Israel Ludlow and Winthrop Sargent, both of whom were acting for the Ohio Company of Associates. With a military guard the work progressed, and every 6 miles a new survey party began running a line due south, and a fresh east-west line begun 6 miles below the Geographer’s Line. By winter, only half the area had been surveyed.

The survey of the Seven Ranges was not completed until June of 1787, and the work was not only late, but not very precise. For example, the Geographer’s Line did not run due West, but instead dropped about two degrees to the south. Few of the east-west lines crossed the north-south lines at right angles, resulting in instead of an intended grid of squares, it was a grid of diamonds and irregular quadrilaterals. The result being far below Hutchins’ usual standard of work, may have been because his crews did not follow directions carefully, or competition from two private land companies, the Ohio Company and an individual speculator, John Cleves Symmes. At least three of Hutchins’ surveyors, Ludlow, Sargent and Absalom Martin, were agents for his competitors.

At the end of 1786, Hutchins left the Seven Ranges, went back East, and ran the boundary between Massachusetts and New York.
In the spring of 1788, Rufus Putnam led 47 settlers to the Ohio Company’s new land. During the summer he sent out several survey parties under the leadership of Ludlow and Martin, who had worked on the Seven Ranges. They were required to survey the exterior lines of the townships and to mark each mile with a post or a blazed tree to serve as section corners. Ludlow’s work was “haphazard” such that one modern surveyor stated “scarcely two sections could be found of the same shape or of equal contents.” The surveyors used the circumferentor for direction and Gunter’s chain for distance. They set posts or blazed trees for the corners.

John Symmes, in 1788, hired Ludlow to survey most of the Miami Purchase. His work, though done quickly, was chaotic, and led to disputes among the settlers over his boundaries.

According to Sherman, the south and west lines of the Connecticut Western Reserve, run by Seth Pease, were also erroneously located.

While the original surveys for the most part were done with great difficulty, some, where care was taken, were amazingly accurate, while others, mostly affected by hardships and the desire to be done quickly, resulted in less than accurate locations. Many of the records have been made available today, as well as the history of the surveys preserved in writings. Following footsteps, even though they may not fit the design perfectly, can be followed, and control the location of the boundaries.

Compiled from sources listed below, with excerpts from Linklater (2002).

REFERENCES


Closing Summary

*The safest way to ascertain boundaries is to compare the grants with the marks and natural objects on the ground; that the proper method for ascertaining the boundaries of a grant is to find, if possible, the lines which the surveyor surveyed on the ground; that the boundaries of a grant as actually surveyed are the limits of grantee’s right; and that the calls which are most certain, about which there is less probability of mistake or inaccuracy, are to prevail.*

*Richardson et al. v. Schwoon, et al., 3 Tenn. App. 512 (1925)*