

Mason and Dixon: Fact and Fiction

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Introduction

The literature on Mason and Dixon is fairly circumscribed. It is limited in quantity and, for all practical purposes, complete. The discovery of additional material of any consequence would be a great surprise. The amount of material is not small, but it is manageable.

The literature consists of two works of fiction and a considerable amount of factual material. The two works of fiction are novels, Barbara Susan Lefever's *the Stargazers* (1986), and Thomas Pynchon's *Mason & Dixon* (1997). The principal factual material is *The Journal of Charles Mason and Jeremiah Dixon* (1969), along with letters of instruction and reports to the Commissioners. The most important secondary factual material is contained in twenty-two (22) research articles by Thomas D. Cope (1939-1956). All this material is elaborated upon in three books - Hubertis M. Cummings' *The Mason and Dixon Line* (1962), Edwin Danson's *Drawing the Line* (2001), and William Ecenbarger's *Walkin' the Line* (2000) - and some articles in popular magazines - among them A. Hughlett Mason and William F. Swindler's "Mason & Dixon: Their Line and Its Legend" (1964), and Celia Holmes and Greta Latzel's "One Step and You're in Maryland" (2001). - There are also reports on the recovery of the set stones - William H. Bayliff's "Boundary Monuments on the Maryland-Pennsylvania and the Maryland- Delaware Boundaries," Roy R. Fuller's "Two Hundred Years and No Stones Turned" (in Chester County, PA), and T. Robert Bechtol's "An Assessment of the Status and Condition of the Boundary Markers on the Mason and Dixon Line in Cecil County, Maryland."

The focus of this paper is the two novels. Surveyors of my acquaintance have low regard, if not disdain, for these novels, for the simple reason that they are fictional accounts of the work of Mason and Dixon. They inherently lack the objectivity to which surveyors are so accustomed. They portray these men as having feelings, speaking words, thinking thoughts and taking actions, the source of which can only be the imagination of their authors. The portrayals may sound true, but they are for the most part unverifiable. The *Journal* itself is notably lacking in self-revelation and sparse even in providing details of the progress of the survey. There is no known portrait of either of the two astrometricians, scant information about their personal lives, their character and their personalities. The portrayals also require a multitude of words. I suspect that surveyors shy away from the novels mainly because they are unbearably long.

But the novels relate an historical occurrence and cannot be completely fictitious. They cannot not be factual. The novels can only build on the facts, once the facts have been admitted. To my knowledge, neither author slights or misrepresents the facts. Both authors go so far as to quote the *Journal*, Lefever more often than Pynchon. Lefever even cites all her quotes. She also appends as complete a bibliography as was available at the time she wrote the novel (1986), and acknowledges the help of more than two dozen people. Pynchon does none of these, but a careful reading of his novel reveals that he has done his homework, no less than Lefever. Both novels are therefore factual to a greater extent than surveyors may be willing to grant.

Consider, for example, the verse at the beginning of Chapter 26 of Pynchon's book:

For fourscore years, the Boundary Dispute	1
Had lain in Chancery, irresolute,	2
As Penns and Baltimore's were born, and passed,	3
And nothing ever seemed to move too fast.	4
Tho' Maryland's case be stronger on the Merits,	5
Yet Penn's the Friend at Court of certain Ferrets,	6
Who'll worry every dimly doubtful Acre	7
(the betting in the Clubs is with the Quaker).	8
Let Judges judge, and Lawyers have their Day,	9
Yet soon or late, the Line will find its Way,	10
For Skies grow thick with aviating Swine,	11
Ere men pass up the chance to draw a Line.	12
So, one day, into Delaware's great Basin,	13
With strange Machinery sail Mr. Mason,	14
And Mr. Dixon, by the Falmouth Packet,	15
Connected, as with some invisible Bracket,-	16
Sharing a Fate, directed by the Stars,	17
To mark the Earth with geometric Scars.	18

This verse presents the background to the survey more succinctly and more accurately than some history books. Except for line 8, which presages the outcome of the court case, and lines 9-12, which express the human propensity "to draw a Line" metaphorically as an explanation of the inevitability of drawing this one literally, the rest of the lines state fact upon fact.

Conversely, the secondary factual material is often tainted with "fictions," i.e. distortions of the facts or mistakes. One is a misrepresentation (the identification of the Post Marked West as the Stargazer's Stone); another is a misconception (the almost unerring precision of the stellar observations and the accuracy of the placement of the stones); another still is a misunderstanding (the termination of the survey for fear of hostile Indian action, rather than by agreement with the Indians). One is an erroneous supposition (Mason's second wife being John Harland's daughter), and one is a questionable derivation (Dixie from Dixon).

We must also read the three books with a critical eye. All of them repeat the entries into the *Journal* quite faithfully, but they all restate them in more readable form. The authors add words which not only express their own appreciation of the entries, but also frame them in such a way that they will appeal to the readers. To make their point, they give the entries a spin.

Hubertis Cummings reproduces the *Journal* most closely and fully. But to be emphatic, he sometimes states historical facts as contingencies:

Establishing the latitude of the southernmost point of the city of Philadelphia by means of their zenith sector would require the remainder of December, 1763, and the first days of January, 1764. Finding a point by further means of that sector and by aid of the stars, '30 or 35 Miles west of this Point, having the same latitude' would keep them busy at the Forks of the Brandywine from mid-January of 1764 to March 1. Measuring horizontally and exactly from this point due south for 15 miles would require more anticipatory observations, and the direction of the labors of axemen cutting a visto for them through field and woodland and over hill and stream would require another six weeks. (p. 2-3)

William Ecenbarger is more selective and places his account of the survey in italics. He often simply quotes the *Journal*, but also allows himself to express an occasional opinion:

Nothing is recorded [in the *Journal*] of the local reaction to these star-gazing, tree-chopping invaders, but doubtlessly it ranged from hostility to hospitality, from fascination to disdain. (p. 146)

Much of their food was obtained from the wilderness, prepared by camp cooks. Berries, fish, and game. But it is also very likely that they brought a flock of sheep with them - these were Englishmen, after all. (p. 192)

The bulk of Ecenbarger's book, in straight print, relates his experiences retracing large portions of the line, only a few years ago, and his discoveries of local incidents related to the survey itself and to its aftermath. Most often, these incidents concern slaves "walkin' the line," and being helped by sympathetic residents or caught and then shipped south.

Ecenbarger checks his sources carefully, to avoid being "hornswoggled." The term refers to a fraud perpetrated by a William Franklin Horn. *The Horn Papers: Early Westward Movement on the Monongahela and Upper Ohio, 1765-1795* (1932), allegedly based on diaries of his 18th Century ancestors, included reports and a map of the survey hitherto unknown and subsequently proven to be a hoax (exposed by *Time* magazine in 1947).

In the book's epilogue, Ecenbarger dispels several popular notions about Dixon. One is that he came to Mason's aid financially after their return from America. But "Mason and Dixon parted when they got to England, and there is no evidence that they had any communication afterwards." (p.217)

Another is that Dixon at some point of his sojourn in America wrenched a whip from a slave owner or merchant and beat him with it. This is very likely an apocryphal story. To wit:

Newcastle Chronicle (Feb. 14, 1914): "Dixon brought the whip home to England as a trophy, and I am told it was to be seen in the North of England up to some years ago... I was told it was taken to Wilberforce Museum in Hull." Letter from Jayne Tyler, Keeper of Social History at Wilberforce House:

"Wilberforce House had a number of whips on display prior to 1983, many of which were taken off display as their provenance was not clear and the curator at the time could not guarantee their authenticity." (p. 222)

Still another concerns Dixon's red coat.

George Wayman Dixon: "Some historians associate [Dixon] with the army because he wore a red coat. But the truth is that he went to Royal Woolwich Academy in London [on a visit?], and he liked its paramilitary red tunic and cocked hat so much that he wore nothing else for the rest of his life." (p. 221)

Finally, Ecenbarger tries to come to terms with the origin of the word "Dixie."

In 1859, Dan D. Hammett composed the song, "I Wish I Was in Dixie's Land," for use in a minstrel show... Later the title was shortened to "Dixie" and it became the Confederacy's unofficial national anthem. Etymologists credit Hammett with coining the word, but are uncertain what he had in mind when he did. One theory is that the word refers to the Mason-Dixon Line. But another is that it comes from a ten-dollar bill that circulated in the South marked with the French word for ten - "dix." Neither seems totally plausible, and the mystery is not likely to be solved. (p. 219 - 220)

Edwin Danson is a geodetic surveyor and is most authoritative in his discussion of the observations. Throughout the book and in the appendix, he superbly illustrates and explains the observations and the technical aspects of the survey. The *Journal* is not specific about which of the two men did what, but it seems proper to credit Mason with making the observations and Dixon with supervising the survey. Joel Bailey, a reputable surveyor at the time, is known to have assisted them. The only named chainmen are William Darby and Jonathan Cope. Danson surmises that, later on, "In all probability there were three chaining crews working leapfrog; a practical and efficient method of progressing, and expeditious under the circumstances." (p. 175) He is puzzled by an adjustment Mason makes in the initial part of the survey, the measurement of the 15 miles south from the stargazer's stone. Apparently, it was a correction for a systematic error that was discovered, namely, the lengthening of the chain by the wear on the links. (p. 99)

The book also provides the broader context for the survey. Its bibliography contains as many books on history as it does on surveying and astronomy. (Notably missing is Cummings' book and all but one of Cope's articles, but it is the only book with an index). To give depth to the narrative, Danson often juxtaposes events occurring in different places at the same time.

Danson writes his entire narrative in the simple past tense, "was," even when he can only mean the modal auxiliary in the past perfect tense, "must have been." For this reason, it reads like a novel. For instance, he expands a note beside the observations made on Dec. 25, 1766 ("Moist weather with a little rain: The snow that fell 2nd & 3rd nearly gone") into a detailed description of Christmas at the Harland house:

Snow flurries swept the barren garden and drifted against the tent: the winter vegetables became shapeless humps beneath a snowy blanket. Christmas morning dawned cold and cloudy; a little rain fell. The Harlands and their English guests met at the breakfast table, where the children sang a Christmas hymn, and Mason's thoughts turned toward his own dear family, so far away. The house was decorated from top to bottom with garlands of holly and green boughs from the woods. Mason ventured outside at midday to measure the temperature, which had risen to forty-six degrees Fahrenheit. Inside, the Harland family, with their friends and guests, celebrated the holy feast with a plain meal followed by bowls of hot punch, sitting in front of the blazing log fire. There would be no special presents for the children - the great Dickensian Christmas was still a hundred years away. Instead the mellowed adults played with the youngsters and told stories. Carols were sung and parlor games enjoyed. Each man stood and gave a recitation, or spouted a few lines of nonsense, and Jeremiah Dixon told them a story about a fierce sea battle. (p. 164-5)

Given all these twists and turns of the facts, we would do well, at this point, to consult their sources, beginning with

Mason's Journal.

Mason and Dixon were contractually obligated to keep a journal. Each of the two Boards of Commissioners was to be, and actually was, presented a copy of it. The published version of the journal (which mysteriously turned up in Halifax, Nova Scotia, in 1860) is, apparently, the original daily record of the progress of their work. It is written entirely by one hand, and that hand, by self-proclamation, is Mason's. Occasionally, Mason uses the first person plural ("we placed a post marked W on the west side and N on the north side", "...a copy of our Journal"). But Dixon is mentioned only three times by name (once as "J. D." and twice as "Mr. Dixon").

The *Journal* contains reams of observations of stars (Alpha Lyrae, Gamma Cygni, Castor, Capella, and many others), adjustments (for aberration, nutation, precession and refraction), and the calculations for the offsets of the mile markers from the survey line. They are just numbers to the layman. These numbers far outnumber the words. Most of the words, moreover, record the progress of the work in terse phrases, starting on Nov. 15, 1763 with "Arrived at Philadelphia," "Attended a meeting of the Commissioners...", "Set up the Sector and found it had not received any damage," and throughout "Continued the Line" or even just "Ditto," and ending Sept. 11, 1768 "At 11h 30m A. M. went on Board the Halifax Packet Boat for Falmouth. Thus ends my restless progress in America." (By skipping the numbers and skimming most of these phrases, the *Journal*, all 231 pages, can be read in about two hours.)

On rare occasion, Mason makes note of an event. Most times, it is the occurrence of a natural phenomenon (lighting, an eclipse, a meteor, a threatening cloud, a sudden snowfall, or intense cold). At other times, it is the observation of a natural formation (a cave, a waterway or mountain, the type and abundance of timber) or an artificial formation (a mound, the visto). A few times, the event is a personal experience (the near drowning of his horse on the trip to New York or his fall from it on his return) or a setback in the work (due to weather or to personnel). A few times, Mason expresses a sentiment. He speaks of the elegance of the campus at Princeton, of the abomination of the killing of the Indians at Lancaster, of the beauty of the visto as seen from the summit of Town Hill, and of the pleasing sight of the woods along the Nanticoke.

In his spare time, Mason made two trips, both out of "curiosity" (to Lancaster in January 1765, ostensibly to learn about the Indian massacre, and to Williamsburg in February 1766, just to "see the country"). Upon his return from Lancaster, he also rode to New York. He does not say why, but mentions only that, while there, he "Wrote to Mr. (Robert) Williams" (whose daughter Mary, eventually his second wife, was taking care of his two sons by his first marriage).

Strewn throughout the *Journal* are the names of people and places. The Stargazer's stone is located in John Harland's rear yard, and the Point Mark'd West in Alexander Bryan's field. The commissary for the entourage on its westward trek, who at times fed as many as 115 people, is Moses McClean (or McLane). The instruments are left with Evan Shelby for the winter in 1765. The first shipment of imported stones is unloaded on John Twiford's farm. Along the inhabited parts, the owners across whose property the line passes are named; at one point it passes through Rice Price's house. All along the line, the streams and creeks, hills and mountains that it crosses are named; the last named is Dunchard Creek. The exact location of the owners' residences and of the natural features is noted. Most of these names and distances found their way onto the map of the survey. James Hamilton and Horatio Sharpe, the governors of Pennsylvania and Maryland, are named, but the Commissioners, for whom the journal was after all kept are not named (as, apparently, Mason and Dixon are not named in the minutes of the Commissioners' meetings).

As a record of the progress of the survey, the *Journal* is evidently complete. But it takes a lot for granted, such as the background and the personal lives of two men, the instruments and the techniques they used, and the contribution of other people, in both England and America, to the enterprise. The questions it raises were quite thoroughly pursued in

Research Articles by Thomas D. Cope and others (listed in sequence of publication).

- (23. "The Mason and Dixon Line," by H. G. Dwight, *The Yale Review*, 1926)
1. "The Stargazers' Stone," *Pennsylvania History*, Oct. 1939
2. "The Apprentice Years of Mason and Dixon," *PH*, Jul. 1944
3. "The Zenith Sectors and Discoveries made with Them, Linked with More Recent Events in Pennsylvania," *Proceedings of the Pennsylvania Academy of Science*, 1944
4. "The First Scientific Expedition of Charles Mason and Jeremiah Dixon," *PH*, Jan. 1945
5. "A Frame of Reference for Mason and Dixon," *PPAS*, 1945
6. "John Shelton's Astronomical Clock used by Mason and Dixon at Brandywine," *PPAS*, 1945
7. "Charles Mason and Jeremiah Dixon," *The Scientific Monthly*, Jun 1946
8. "Westward Five Degrees in Longitude," *PPAS*, 1948
9. "In Reply to Your Questions," *PPAS*, 1948
10. "Collecting Source Materials about Charles Mason and Jeremiah Dixon," *Proceedings of the American Philosophical Society*, May 1948
11. "More about Mason and Dixon," *PPAS*, 1949
12. "Degrees of the West Line, the Parallel between Maryland and Pennsylvania," *PAPS*, May 1949
- (24. H. W. Robinson, "A Note on Charles Mason's Ancestry and His Family," *PAPS*, May, 1949)
13. "Mason and Dixon, English Men of Science," *Delaware Notes*, 1949
14. "A Clock Sent Thither by the Royal Society," *PAPS*, June 1950
- (25. "Description of a Clock made by John Sheraton, Owned by the Royal Society and Used by Maskelyne on His Visit to St. Helena in 1761 and probably by Mason and Dixon in Pennsylvania," by H. Alan Lloyd, *PAPS*, Jun 1950)
15. "Some Contacts of Benjamin Franklin with Mason and Dixon and Their Work," *PAPS*, 1951
16. "Mason and Dixon and Franklin," *PPAS*, 1951
17. "Charles Mason, Jeremiah Dixon, and the Royal Society," co-authored with H. W. Robinson, *Notes and Records of the Royal Society of London*, Oct 1951
18. "The Astronomical Manuscripts which Charles Mason Gave to Provost the Reverend John Ewing during Oct. 1786," co-authored with H. W. Robinson, *PAPS*, Aug 1952
19. "A Mountain in Perthshire," *PH*, Jul 1954
20. "When the Maryland-Pennsylvania Border Changed from a Political and Legal Struggle into a Scientific and Technological Project," co-authored with H. W. Robinson, *PAPS*, Dec 1954
21. "Some Local Scholars Who Counseled the Proprietors of Pennsylvania and their Commissioners during the Boundary Survey of the 1760's," *PAPS*, Aug 1955
- (26. "The Post Marked West on the Mason-Dixon Survey," by William T. Mahoney, *Delaware History*, Sept 1955)
22. "When the Stars Interrupted the Running of a Meridian Line Northward up the Delaware Peninsula," *PAPS*, Dec 1956

Dwight's article does not contain any new facts, but does bring the *Journal* to scholarly attention. Cope (any relation to the chainman Jonathan Cope?) almost singlemindedly pursued questions raised by it. With the penetrating eye of a scientist, he began research in 1939. He was interrupted by the war, but continued research for another dozen years after the war. In the process, he enlisted the help of the librarian of the Royal Society, H. W. Robinson. Beside the articles by these two men, only two other articles, those by LLoyd and Mahoney, are known.

A quick look at the titles of these articles reveals that the vast majority of them deal with scientific and technical matters. A few deal with the personal lives of Mason and Dixon, but even these contain more about their scientific knowledge and their technical know-how than they contain about their lives apart from their work. Briefly stated, we learn that

Charles Mason (1728-1786) was the son of a miller/baker; a graduate of a university, albeit not the best; an Associate of the Royal Institute of Astronomy, ambitious for advancement and willing to do whatever painstaking work it required. He was a mannered Englishman, recently widowed and morose.

Jeremiah Dixon (1733-1779) was the son of a wealthy coal baron, a mathematical whiz, a devotee of astronomy and a registered surveyor, but largely self-taught because his father deprived him of a university education. Rebellious, he was also a fun-loving bachelor, prone to drinking, and flamboyant for a Quaker. (*Backsights*)

About science and technology, we learn that advances in both happened none to soon. James Bradley, Royal Astronomer, only several decades before the survey was commissioned, discovered how to adjust (1) for the distortion of the observations due to the time it takes for the light from the observed stars to reach earth, known as aberration, (2) for the wobble of the earth due to its uneven rotation around its axis, known as nutation, and (3) the uneven speed of the earth orbiting the sun due to its elliptic orbit, resulting in precession. As an Associate Member, Mason learned of these astronomical breakthroughs directly from Bradley. John Bird, the best surveying instrument maker of his time, poured his expertise into the Zenith Sector and other instruments made specially for the survey of the line. As a fellow native of Durham, he was apparently instrumental in bringing Dixon to the attention of the Royal Society. John Harrison, the clock maker who helped solve the problem of determining longitude, also lived at this time. But Mason relied on stellar observations, rather than clocks, to establish the meridian.

The research articles provide a greater wealth of information than is here summarized. Despite it all, however, there are still gaps in our knowledge of the two men and of their work. These gaps are fertile ground for imagination, which the two novelists exploit with great skill.

the Stargazers

The gap which Susan Lefever exploits is our lack of knowledge about Jeremiah Dixon. She introduces two unfounded elements into the narrative, his romance with Margaret Whiteley and his contracting of malaria. Both elements throw light on otherwise unexplained facts about Dixon, and thereby make the narrative more coherent.

Margaret, Jeremiah's supposed sweetheart, is said to have entered into marriage all too soon after his departure for America. Lefever makes of it a marriage of convenience - Margaret being pregnant. An actual romance with Margaret would imply some obligation on Dixon's part, which he satisfied by the bequest in his will to her two daughters.

Dixon's contracting of malaria is a more far-reaching invention. It explains Dixon's near absence from the pages of the *Journal* - which is silent about his part in making observations, measurements and calculations and his activities during the times when they could not work.

Malaria is a disease caused by tiny parasites that are carried and spread by mosquitoes and live in the red blood cells of those who contract the disease. The victim of malaria experiences intense attacks of chills and fever, and becomes anemic, as the body tries to rid itself of the parasites. Each attack is followed by a period of physical calm lasting several weeks. But the body cannot eliminate the dead parasites, and they accumulate in the liver. The result is a bloated liver, the rupture of which can be fatal.

Ill from malaria, Dixon would need to be nursed and be unable to work steadily. Lefever shows him as being laid up much of the time in Harland's homestead, unable to work or travel. The disease provides a reason for Mason's trip to New York, namely, to enlist the service of a surveyor known to be competent in making observations, to replace Dixon. It also provides the opportunity for Stephen Harland (son of John) to become Mason's steady companion. In awe of Mason, he is depicted as shadowing Mason on the survey of the west line, at one point extracting venom from a snake bite in his leg, and serving as his guide, especially on his adventurous trips. The ailment would also account for Dixon's virtual retirement upon his return to his parental home (though, in actuality, he made numerous surveys, engaged in other businesses, and went to Norway in 1769 to observe another transit of Venus for the Royal Society, without Mason.)

Contrary to all indications, Lefever describes an ever closer emotional bond developing between the two men. She shows Mason, on the one hand, being protective of Dixon - ever since he supposedly saved Dixon's life when the Seahorse, the ship that was to take them to Sumatra, was attacked by a French warship, but especially after his contracting of malaria - and she shows him, on the other hand becoming increasingly dependent on Dixon financially and emotionally - due to his growing family, but meager income, and the lack of a promotion of either of them to full membership in the Royal Society. (He was made a member of the American Philosophical Society. Whether Dixon was, I do not know.)

It is known that Mason got into financial straits. He labored to improve the Lunar Tables used by mariners to determine longitude, for the then Royal Astronomer, Neville Maskelyne, who discounted the efficacy of chronometers for this purpose. He also went to Scotland for the Royal Society to select a mountain where the attraction of a plumb line could be tested. But he was paid a pittance. Apparently, he received aid from his miller-father, who left him one more loaf in his will, and from his father-in-law, who left the couple his entire estate. His receiving aid from Dixon, however, seems to be pure speculation. But Mason's eventual return to America can only have been an act of desperation. In a letter to Franklin two weeks after he landed, he admits to being deathly ill (probably from the voyage) and broke. (His wife did not fare better on her return to England. She repeatedly petitioned the Royal Society for adequate compensation of her husband's efforts on its behalf, and sold the Royal Society manuscripts - excluding, however, the *Journal* - which Mason had offered to John Ewing, provost of the College of Philadelphia. - Had she hocked the *Journal* in Halifax, to provide for herself and her six children on the return trip?)

Whatever the truth in Lefever's depiction of the relationship between Mason and Dixon, she makes two things clear. The first is that, despite the differences in their backgrounds and dispositions, they were able to rely upon each other unquestionably in the performance of their work. Mason does not hesitate to admit errors in measurements on the ground, but they are not Dixon's fault, and Dixon seems to have been every bit as accomplished as Mason in making the stellar observations. The second thing she makes clear is that their unstinting efforts ruined their health and their lives. Both died young (Dixon at 45, Mason at 58). Dixon never married, while Mason sired an unsustainable family. They died apart from each other, but more importantly, isolated from the center of their intellectual ambitions, the royal observatory in Greenwich (Dixon in his native Durham, Mason in his adoptive land). They died without the recognition they deserved.

Mason & Dixon

Unlike Lefever's structured story, Pynchon's is a free-for-all. It is more far-ranging (and twice as long). It relates incidents that are only marginally relevant to the survey (a Washington scouting expedition, Jesuitical intrigues). It amplifies and distorts actual events (the indefinite westward extension of the line, the Commissioners' shenanigans). It resorts to anachronisms (the invention of pizza, a mall along the vistro, a self-winding watch). It employs language difficult to read (antick Spelling and Latinate words), and introduces characters that are - well! - characters.

The principal new character in the book is the narrator, the Rev'd Wicks Cherrycoke. The Reverend claims to have been the chaplain of the survey party, and is an indefatigable raconteur. But he is not so much a minister as a master of ceremonies. He makes the introductions and lets the performers take center stage. He is Pynchon's mouthpiece; through him, Pynchon injects his own mind into the narrative. (He is also the fictional substitute for the aforementioned Rev. John Ewing. The idea of a narrative written from his perspective is suggested by Thomas Cope at the end one of his articles. But I doubt that Cope had anything like Pynchon's book in mind.)

Among the other fictional characters, there is the poet, Timothy Tox. He is amply quoted, makes a brief appearance, only to disappear into the woods, never (like Pynchon himself) to be seen again. There is the geomancer, Zheng (Chang), who joins the survey party when it is fairly well along its westerly trek, mainly to convey the ominous implications of such an arbitrary line. There is the French chef whose specialty is duck, and who is ironically pursued by a mechanical duck capable of all the natural functions. There is the axeman Stig, whose axe is razor sharp, and whose intention is to spy for the Swedish settlement in Delaware.

Among the historical persons, Benjamin Franklin is met in an apothecary, wearing tinted spectacles and dispensing aphorisms ('Strangers, heed my wise advice, - Never pay the Retail Price.'). Washington is met on his farm in Virginia, indulging in a smoke, whether of tobacco or hemp is left to the reader's imagination. And an unnamed redheaded young man asks permission to quote Dixon, spouting off in a local bar about life, liberty and the pursuit of happiness.

Mason and Dixon themselves are represented as adversarial in person. They engage in a lot of manly banter. Their derogatory nicknames for each other are "lensman" and "fencerunner." When Mason closes the *Journal* by referring to his progress as restless, Dixon rejoins that his was not exactly restful either. The title of Pynchon's novel intentionally uses the ampersand (& = "and"), placing the congeniality of their relationship in question.

But the gap in the knowledge about Mason and Dixon which Pynchon exploits is that of the broader sense of the undertaking. Its immediate intention is to apply a theoretical discipline, astronomy, to a jurisdictional necessity, the delineation of a boundary. But that is not its entire meaning. To Pynchon, the survey is the focal point of the divergent and somewhat incongruous interests of all those involved in, affected by, even just exercised by the survey: the proprietors and the colonials, the settlers and the Indians, northerners and southerners, the religious and the worldly, astronomers and astrologers, contemporaries and later generations (including us). The meaning of the survey lies in the juxtaposition of all these interests.

The juxtaposition of all these interests seems to add up to little more than pandemonium. Pynchon's novel conveys the unsettled character of the time and the circumstances of the survey. Life on the frontier was more uncertain and disordered than usual. Control of the frontier came

slowly. The survey contributed to its control. It was a historic achievement in itself, and it set the standard for future surveys of its kind.

Unfortunately, the true significance of such an achievement is seldom known to those who participate in it. Mason and Dixon were agents not simply of the Commissioners of the two provinces, but agents of wider historical movements, both scientific and political. To Pynchon, they were willing pawns, but still pawns. Even to their contemporaries, they were hirelings, the unwitting heads and hands of their contenting interests.

Conclusion

All the written material on Mason and Dixon, including Mason's *Journal*, re-present what Mason and Dixon did. The *Journal* is merely the most immediate form of this re-presentation, a daily record of their activities. All the other writings are further removed, rely on other sources, and are at least to some degree interpretive. The novels differ from the factual material in that their form of re-presentation is dramatic, rather than descriptive. They re-enact what Mason and Dixon did - if only on paper.

In this dramatic re-presentation, what Mason and Dixon did becomes the plot of the story and the two men become characters in the story.

The plot of every story has a beginning, middle and end. The survey of the boundary line between Pennsylvania and Maryland actually constitutes the middle of the plot. Its beginning is Mason and Dixon's joint venture to observe the passage of Venus across the Sun in 1761, and its end is their separate observations of another such passage in 1769.

On the basis of the factual evidence, the beginning, middle and end of this plot are just episodes in the lives of Mason and Dixon. Their first joint venture might have also been their last - and they would have probably faded into anonymity - except for a historical coincidence, the settlement of the dispute over the boundary between Pennsylvania and Maryland. Mason and Dixon were the obvious, perhaps the only, choice of experts to locate this line. Since they then went their separate ways, the survey is really the end of their story. But then again, since the two observations neatly frame their survey, the second seems to be the fitting end to their story. Both novels - and many of the factual representations of their work - therefore end with it.

Finally, factual representations appeal only to our intellect. As dramas, the novels appeal to our feelings as well. But the two novels appeal to our feelings differently. We are saddened by *the Stargazers*, because the careers of both Mason and Dixon are ruined by the survey and their lives come to bitter ends. The novel is therefore a tragedy. By contrast, we are amused by *Mason & Dixon*, because, apart from the technical aspect of their work, they seem to take their endeavor lightly; they act almost as if a joke were being played on them. The novel is therefore a comedy. Tragedy and comedy - the story of Mason and Dixon is both.