

Supplementary Materials

For ‘The Colonial Origins of Modern Territoriality: Property Surveying in the
Thirteen Colonies’
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This appendix presents sources and data that were used in investigating the article’s main claim that the habitual practice of property surveying in the thirteen colonies gave rise to a modern territorial system of linear borders. Neither this claim nor its main rival explanations have been systematically investigated before with respect to the thirteen colonies by researchers, nor is the relevant evidence to be found in a small number of primary source collections. Thus it is necessary to reference far more sources and evidence than space would allow in the main text.

I first give additional explanation and justification of how I approached the evidence. I then present the data and sources used for investigating the observable implications identified in the article. I also investigate an additional observable implication of one of the alternative explanations. Finally I present the evidence used to investigate the claim that the habitus of surveying exhibited by settler societies led to linear borders between the US and the British, Spanish, and Russian Empires.

Methodology and Sources

The observable implications of the article’s main argument can be approached through direct investigation of available evidence on individual boundaries. However, no record of all boundary surveys attempted in the thirteen colonies exists, and even if one did, there would be a significant chance that some survey attempts would be missing from it. Rather than attempt to find every survey ever done, it is necessary to focus more closely on the aims of this study: to explain the emergence of a systematic practice of linear boundary-making. Thus the focus of the explanation

should be on the beginnings of the practice, not its continued repetition, and it should systematically take into account all the boundaries between the thirteen colonies.

I do not attempt to locate moments when disputes were fully settled because many intercolonial boundary disputes reemerged after the first survey efforts and continued long thereafter. Nineteenth-century Supreme Court cases on state boundaries then still in dispute, for example, provide some of the evidence below of the earlier history of colonial boundaries.¹ That a boundary was disputed says little about whether or not colonies regularly implemented linear boundaries, as bilaterally authorized demarcations sometimes coexisted with disputes. Nor would it make sense to look for, in each case where boundaries were bilaterally agreed, the moment when one or both governments somehow demonstrated ability and willingness to enact a border survey, as this would be difficult to determine in any meaningful way in many cases. Surveys could be delayed for decades after declaring an intention to implement one. In some cases, particularly Massachusetts, bilateral surveys were preceded by unilateral surveys, but these boundaries, which often provoked overlapping claims by the opposing side, do not count as examples of modern territoriality as understood here.²

Instead, examining all the first instances of surveyors running any part of a boundary, with bilateral governmental authority, is the most reasonable and reliable way to systematically assess the evidence in order to explain the emergence of linear borders. I examine the first survey of each intercolonial boundary up until 1741, of which there are thirteen instances (see observable implication 1 below). The 1686 New York-New Jersey survey, although in general a failure, is counted because it left one marker. The 1710 Virginia-North Carolina attempt, however, does not count because, although the surveyors met together under joint authority and took measurements, they could not agree on any part of the boundary and did not leave any marks.³

It is also a matter of judgement to determine the last border survey to be investigated. This is particularly because of the possibility that modern territoriality might have been entrenched in practices unevenly across the thirteen colonies, and an abundance of surveyed boundaries in one particular area does not necessarily indicate the end of the whole process being examined here. In order to ensure completeness, I include initial surveys up until 1741, the point at which each of the colonies had at least one bilaterally agreed linear border. At this point each also had at least one surveyed border, except for Georgia, whose border with South Carolina used a river. A system of modern territoriality had clearly emerged by this time. Earlier possible cut-off dates, such as when at least one border in each of the three conventional regions of the thirteen colonies, New England, Middle Colonies, Southern Colonies (1683), or after several occurred in relatively close succession (1683-1687), would not have changed the overall outcome. Moreover, 1741 roughly corresponds to the date of the first of France's treaties of limits (1738), which began France's move towards systematically demarcating its boundaries.⁴ It is primarily territoriality as it existed in North America before systematic linear borders in Europe that this article is concerned with.

Examining each of these initial survey attempts is appropriate for investigating most of the observable implications, as well as for assessing the first alternative explanation. It is less directly applicable for assessing the second alternative explanation and the additional observable implication associated with the second alternative explanation. This, as well as the approaches that are appropriate, is explained further in the relevant sections.

I use many different types of sources, including primary and secondary sources. The most useful primary sources are official colonial records and laws, which record attempts to survey property and colonial boundaries, as well as details about specific disputes. These are available in

¹ Eg. *U.S. Reports: Rhode Island v. Massachusetts*, 45 U.S. (4 How.) 591, 630 (1846).

² Massachusetts unilaterally demarcated its southern border in 1642 and its northern border in 1654. See section 8 below, in the discussion of the 'White Hills Map'.

³ 'Boundary Line Proceedings, 1710', *The Virginia Magazine of History and Biography* 4:1 (1896), 30-42.

⁴ Peter Sahlins, 'Natural Frontiers Revisited: France's Boundaries since the Seventeenth Century', *The American Historical Review* 95:5 (1990), 1439

published collections for most of the thirteen colonies. Also important are treaty texts, which allow us to see what kinds of borders, if any, were bilaterally agreed between polities in different times and places. As for secondary sources, I use a combination of recent scholarship and sources which date back often to the nineteenth century. In many cases these older sources are the latest available on disputes in very specific areas, as recent scholarship tends to focus less on the details of boundary disputes.

In general, I use a combination of different types of sources in order to mitigate against any bias that might exist within any particular type of source. The main exceptions to this are observable implications 1 and 3, which are investigated using secondary source evidence. There are enough histories of US boundaries, particularly Van Zandt's *Boundaries of the United States*, to establish when initial survey attempts were done (implication 1), using secondary sources, except for the Massachusetts-Plymouth boundary, which does not appear in state boundary histories because Plymouth colony ceased to exist in 1691. It is also reliable enough to cite secondary sources which show that a particular boundary surveyor occupied an official property surveying role. The other observable implications, as well as the alternative explanations, however, involve processes which take place over less specific dates and are less well-documented in secondary sources. Thus in order to provide more confidence I use several different sources on each boundary, of different types where possible.

Observable Implication 1: Intercolonial Boundaries Defined by Surveys

The following table lists the initial boundary surveys in the thirteen colonies.⁵ This shows that surveys were used in determining colonial boundaries, which is necessary for the article's argument, and justifies the focus on surveying as an activity which established linear boundaries. The surveys up until 1741 also serve as the set of cases which are examined below.

<i>Boundary</i>	<i>Year</i>
Massachusetts-Plymouth ⁶	1657 ⁷
Maryland-Virginia	1668
Connecticut-New York	1684
East Jersey-New York	1686
East Jersey-West Jersey ⁸	1687
Delaware-Pennsylvania	1701

⁵ Franklin K. Van Zandt, *Boundaries of the United States and the Several States* (Washington, DC: United States Government Printing Office, 1976); Clarence Bowen, *The Boundary Disputes of Connecticut* (Boston: James R. Osgood, 1882); William Whitehead, 'The Circumstances Leading to the Establishment, in 1769, of the Northern Boundary Line Between New Jersey and New York', *Proceedings of the New Jersey Historical Society* 8:157-186 (1859), 163; John Snyder, *The Story of New Jersey's Civil Boundaries, 1606-1968* (Trenton, NJ: Bureau of Geology and Topography, 1969); Bill Hubbard Jr, *American Boundaries: The Nation, the States, the Rectangular Survey* (Chicago: University of Chicago Press, 2009); Charles Paullin, *Atlas of the Historical Geography of the United States* (Washington: Carnegie Institution, 1932); *Interstate Compacts: A Compilation of Articles from Various Sources, Vol. I* (Denver: Colorado Water Conservation Board, 1946), 46-49.

⁶ Plymouth became part of Massachusetts in 1691. Van Zandt, *Boundaries of the United States*, 59.

⁷ This boundary was first delimited in 1640 by the colonial governments, but it is unclear if any demarcation was done. They did not delimit, however, the 60 acres of marsh to the east of the river that would belong to Hingham. Efforts to mark these marshes in the 1650s culminated in a joint effort in 1657 which was approved by both colonies. The rest of the colonial line was marked in 1664. E. Victor Bigelow, *A narrative history of the town of Cohasset, Massachusetts* (Boston: Samuel Usher, 1898), 132; Nathaniel Shurtleff (ed), *Records of the governor and company of the Massachusetts bay in New England, vol. III: 1644-1657* (Boston: William White, 1854), 437; Nathaniel Shurtleff (ed), *Records of the governor and company of the Massachusetts bay in New England, Vol. IV—Part II: 1661-1674* (Boston: William White, 1854), 114.

⁸ New Jersey was split into East and West Jersey from 1676 until 1702. Snyder 1969, 8.

Connecticut-Massachusetts	1713
Massachusetts-Rhode Island	1719
Connecticut-Rhode Island	1728
North Carolina-Virginia	1728
North Carolina-South Carolina	1735
Maryland-Pennsylvania	1739
Maine-New Hampshire	1740
Massachusetts-New Hampshire*	1741*
Delaware-Maryland	1751
Pennsylvania-New York	1774
Pennsylvania-Virginia	1784
Massachusetts-New York	1787
Georgia-North Carolina	1807

*This is the last boundary investigated in the process-tracing study

Observable Implication 2: Property Surveying Precedes Intercolonial Boundaries

1. Massachusetts-Plymouth, 1657

Plymouth Colony records show the first division of lands in 1623, listing the names of men as well as a few women, and how many acres they were assigned.⁹ A second division was done in 1627, this time naming ‘layers-out’ of the lots and requiring that ‘whatsoever the surveyors judge sufficient shall stand without contradiction, or opposition’.¹⁰ In 1640 the Plymouth Colony court decided ‘That the Governor and Assistants shall appoint and set forth the bounds of Townships as formerly they have done’, and the court records set out the boundaries of Plymouth town later that year.¹¹

The Massachusetts General Court ordered in 1634 that every town appoint five men to survey all the town’s lands, and in 1647 ordered representatives from all towns to meet and decide on the town boundaries, marking them with heaps of stones or trenches.¹² Moreover, town boundaries are described in records as early as 1633, when Massachusetts declared that an area recently marked out by some men of ‘Newe towne’ (later Cambridge) would belong to that town, and that the boundary with neighboring Charlestown would ‘end at a tree marked by the pale, & to pass along from thence by a straight line unto the midway betwixt the westernmost part of the Governor’s great lot & the nearest part thereto of the bounds of Watertown’.¹³

During these first decades, the proceedings of surveyors laying out the early towns do not survive and most likely in many cases remained verbal or were marked using fences or ditches. But historians have taken the recollections of witnesses written down during later property litigation as a good indication of New England surveying practices of the 1630s.¹⁴ They reveal that, while boundaries laid down by surveyors were not always complete or remembered well, they were nevertheless widespread across the New England landscape either in the form of people’s memories or as physical demarcations, and property disputes were addressed by referring to them. For example in 1659, Daniel Denison testified to a court at Ipswich that in 1635:

⁹ David Pulsifer (ed), *Records of the Colony of New Plymouth: Deeds, &c, vol. I, 1620-1651* (Boston: William White, 1861), 4-6.

¹⁰ Pulsifer, *Records, vol. I*, 14. Spellings altered for clarity.

¹¹ David Pulsifer, *Records of the Colony of New Plymouth: Laws, 1623-1682* (Boston: William White, 1861), 36.

¹² Allan Greer, *Property and Dispossession: Natives, Empires and Land in Early Modern North America* (Cambridge: Cambridge University Press, 2018), 347.

¹³ Nathaniel Shurtleff, *Records of the Governor and Company of the Massachusetts Bay in New England, Vol I, 1628-1641* (Boston: William White, 1853), 102.

¹⁴ Greer, *Property and Dispossession*, 347; David Konig, *Law and Society in Puritan Massachusetts: Essex County, 1629-1692* (Chapel Hill, NC: University of North Carolina Press, 1979), 35-63.

‘[T]he line of partition between the farme granted to Mr. Dudley & myselfe and Mr. Winthrop & Mr. Wade was agreed to...which line was to run from a walnut tree then standing neere the now dwelling house of Willm. fellowes, through a glade or hollow in the Eagle's nest, where the fence now standeth to Labour in vayne Creeke... [T]he Lot layers...layd out our farme from the sd line & particularly from a straight red oake then standing in the glade...which was marked by them or by their orders.’¹⁵

2. Maryland-Virginia, 1668

In Virginia, property surveys were done as part of a process of creating titles for land that was already held by settlers. By 1617 ‘every inch of land in the Bermuda Islands’, which was included by charter within Virginia, ‘had been surveyed and parcelled out to planters’.¹⁶ In 1621 the Virginia company appointed William Claiborne to be the first official surveyor of Virginia, providing him with land, ocean transport for him and two others, and twenty pounds for buying surveying instruments and manuals.¹⁷ In 1624 the Assembly decreed that every planter’s property ‘shall be surveyed and laid out in several and the bounds recorded by the survey’, with small disputes to be decided by the surveyor, a law repeated in almost exact form twice in 1632.¹⁸

In 1609 the second charter of Virginia stipulated that lands should be distributed ‘upon a Commission of Survey and Distribution, executed and returned for that Purpose’.¹⁹ In 1643, the Assembly declared that ‘all surveys made by allowed surveyors, are hereby approved as authentick’.²⁰ In 1646, surveyors were required to ‘deliver an exact plot [or map] of each parcell surveyed and measured’²¹ In 1659 a law stated, in response to an abundance of property disputes, that ‘all land surveyed shall be at the surveighing thereof plainly marked and bounded for all persons to take notice of’.²²

In Maryland, similarly, a surveyor was sent in 1634 along with the first colonists, and developed the office of the surveyor-general explicitly after the model of Virginia.²³ A 1644 commission for the government of the colony outlined the process for granting lands to settlers in the province, including a stipulation ‘that o^f Survey^r Generall there for the time being or his deputy shall have likewise certified vnder his hand on the backside of every such grant that the land therein mentioned hath beene truly surveyed & containes no more in quantity then it ought to doe by warrant from vs’.²⁴ By 1662 there were at least seven deputy surveyors working in the field under the surveyor-general.²⁵

3. Connecticut-New York, 1684

Connecticut in 1639 ordered its towns to provide a record of ‘every man’s house and land already granted and measured out to him, with the bounds & quantity of the same’, and passed a

¹⁵ *Records and Files of the Quarterly Courts of Essex County, Massachusetts, vol. 2* (Salem, MA: The Essex Institute, 1910), 169.

¹⁶ Virginia Bernhard, *Slaves and Slaveholders in Bermuda, 1616-1782* (Columbia, MO: University of Missouri Press, 1999), 6.

¹⁷ Kingsbury, Susan (ed), *The Records of the Virginia Company of London: The Court Book, Volume I* (Washington, DC: Government Printing Office, 1906), 494.

¹⁸ William Hening (ed), *The Statutes at Large; Being a Collection of All the Laws of Virginia, Vol. I* (New York: R. & W. & G. Bartow, 1823), 125

¹⁹ Hening, *Statutes at Large, Vol. I*, 39. Spellings in primary source quotes are adjusted for clarity.

²⁰ Hening, *Statutes at Large, Vol. I*, 262-263

²¹ Hening, *Statutes at Large, Vol. I*, 335

²² Hening, *Statutes at Large, Vol. I*, 518.

²³ Mary Wilheit, ‘Colonial surveyors in southern Maryland’, PhD Dissertation, Texas A&M University, May 2003, 21-22.

²⁴ William Browne (ed), *Proceedings of the Council of Maryland, 1636-1667* (Baltimore: Maryland Historical Society, 1885), 156.

²⁵ Wilheit, ‘Colonial surveyors’, 30.

law requiring towns to mark their boundaries in 1650.²⁶ Evidence of the implementation of town boundary demarcations appears in the colonial records, for example, in October 1663, when lot-layers were appointed to settle boundaries of New London, Norwich, Middletown, and Fairfield.²⁷

In 1654, after a Native sachem called Uncas complained that settlers of the Pequot Plantation were encroaching on his lands, Connecticut ordered, ‘with the consent of the said Vncus, that Maior Mason would as speedily as hee may, taking Mathew Grisswold, of Seabroocke, with him, goe to Pequett & joyne with Mr. Wintrop to draw the line betwne Pequett & Vncus according to the boudns graunted that towne, beginning their line & soe carrying it on in the most indifferent place & way...’²⁸ As an example of a report following a survey, in 1661 it was agreed ‘That y^e bounds between’ Southampton and East Hampton, then in Connecticut, ‘shal for euer be and remaine at the stake set down by Capt: How, an hundred pole eastward from a little pond...and soe to run from y^e South Sea to the stake, and soe ouer the Island by a strait line to y^e easterne end of Hogneck...’²⁹

New York: The first set of laws of the province, promulgated in 1665, included a requirement that towns lay out their boundaries and renew them every three years. In a phrase almost exactly copied from Virginia’s 1659 laws, it noted that ‘many Contentious Suites do arise about the bounds, Limits and titles to lands appertaining to Towns or particular persons occasioned much through the unskilfulness or fraud of pretended Surveyors’, and required surveyors to deposit any plots drawn in town and court records.³⁰ Surveys in New York were done in large groups, such as the survey done in 1670 by a commission of five surveyors to distribute lands in the towns of Kingston, Marbleton, and Hurley.³¹ In New York’s first decades the most prominent surveyor was Phillip Wells, who was appointed as a surveyor for New York in 1680, deputy-surveyor of New Jersey in 1683, and surveyor-general of New York in 1686.³² Over approximately ten years, Wells conducted about 157 surveys, at least 71 of these accompanied by maps, a higher proportion than usual in this context.

4. East Jersey-New York, 1686

East Jersey: The original agreement of the province of New Jersey with any settlers in the province, before it was split into East and West Jersey, stipulates a Surveyor General who ‘shall have power by himself or deputy, to survey, lay out and bound all such lands as shall be granted from the lords to the planters...and a particular thereof certify to the register to be recorded’.³³ Samuel Groome, an early surveyor general of East Jersey, and one of the proprietors, described in a 1683 letter to his fellow proprietors his surveying activities, for example: ‘I have spent a considerable time in making discovery: I have not as yet, had time to lay out much land for you, only about seventeen or eighteen thousand acres in one tract, good upland, near Elizabeth-Town... It may be well, if you would agree to take each one a twenty fourth part of lands as we lay them out, whether it be more or less, or else take five hundred acre lots, and let these lots be cast when twenty four times

²⁶ J. Hammond Trumbull (ed), *The Public Records of the Colony of Connecticut, Prior to the Union with New Haven Colony* (Hartford: Brown & Parsons, 1850), 37, 512.

²⁷ Trumbull, *Public Records, Prior to the Union*, 411-414.

²⁸ Trumbull, *Public Records, Prior to the Union*, 257.

²⁹ Trumbull, *Public Records, Prior to the Union*, 368.

³⁰ *The Colonial Laws of New York from the Year 1664 to the Revolution, Vol. I* (Albany: James Lyon, 1894), 18.

The Virginia law read, ‘many contentious suites do arise about titles to land occasioned much though the fraudulent and underhand dealing of surveighors’. Hening, *Statutes at Large, Vol. I*, 518.

³¹ B. Fernow (ed), *Documents Relating to the History and Settlement of the Towns along the Hudson and Mohawk Rivers (with the Exception of Albany), from 1630 to 1684* (Albany: Weed, Parsons and Co., 1881), 443.

³² Nathan Braccio, ‘Thomas Graves, Phillip Wells, and Colonial Mapping in Massachusetts, 1629-1688’, *Historical Journal of Massachusetts* 48:1 (2020), 164-165.

³³ Aaron Leaming and Jacob Spicer (eds), *The grants, concessions, and original constitutions of the province of New-Jersey* (Somerville, NJ: Honeyman & Co., 1881), 13.

five hundred acres is laid out; and where we can make greater lots, we may... I have laid out Amboy into one hundred and fifty lots, and have sent home a draught of it.³⁴

New York: see above (no. 3)

5. East Jersey-West Jersey, 1687

East Jersey: see above (no. 4).

West Jersey: In 1681 a comprehensive method for surveying the province was issued, including the following: 'All lands so taken up and surveyed, shall be seated within six months after it is so taken up; and if the same shall not be seated within the said time, then such choice and survey shall be void, and the same lands shall be free for any other purchaser to take up; provided he or they so taking up the same, do, or shall seat it, within one month after it is so taken up... That all lands be laid out on straight lines, that no vacancies be left between lands, but that they be joined one seat to another'.³⁵

6. Delaware-Pennsylvania, 1701

When the Delaware-Pennsylvania line was run in 1701, Delaware had not yet been separated from Pennsylvania.³⁶ Pennsylvania's first surveyor-general, Thomas Holme, was appointed in 1682.³⁷ Beginning with the first settlers in the colony, surveys were generally required in order to complete ownership over a plot of land. 'Usually the survey was drawn on paper as a protracted figure with corner markers and adjoining owners named, but sometimes the survey was only a verbal description'.³⁸ The earliest settlers had surveys done after taking up residence, but after 1685 a system developed whereby in order to claim a portion of purchased land, a settler was required to obtain a warrant, or order to survey.³⁹ Instructions to deputy surveyors were standardized in 1701, including the requirement that boundaries were to be clearly marked, using trees, rocks, posts, or stones.⁴⁰

7. Connecticut-Massachusetts, 1713: See above, nos. 1 and 3

8. Massachusetts-Rhode Island, 1719

Massachusetts: see above (no. 1)

Rhode Island: There is comparatively less evidence here of a centralized approach to boundary surveying than for other New England colonies, but many examples of surveying can be found in the colonial records before 1719. The early records of the town of Providence, for instance, consist predominantly of descriptions of parcels of land, many of which refer explicitly to physical boundary markers. For example, in 1670, Joseph Williams received 20 acres of land, 'laid out by Thomas Harris Senior, & Thomas olney jun^r : Surueiors for the Towne...The South westerne Cornner bounding with a wite oak tree; which tree is the wite oak, which upon a line from Saxefrax coaue unto it devideth the land of the pautuxett, from the land of the Towne of providence...'⁴¹

³⁴ Samuel Smith, *The History of the Colony of Nova-Caesaria, Or New-Jersey* (New York: Arno Press, 1972), 172-175.

³⁵ Smith, *History of the Colony of Nova-Caesaria*, 131-132.

³⁶ Richard Rodney, 'Early Relations of Delaware and Pennsylvania', *The Pennsylvania Magazine of History and Biography*, 54:3 (1930), 209-240.

³⁷ Oliver Hough, 'Captain Thomas Holme, Surveyor-General of Pennsylvania and Provincial Councillor', *The Pennsylvania Magazine of History and Biography* 19:4 (1895), 417.

³⁸ Donna Munger, *Pennsylvania Land Records: A History and Guide for Research* (Lanham, MD: SR Books, 1991), 40

³⁹ Munger, *Pennsylvania Land Records*, 42

⁴⁰ Munger, *Pennsylvania Land Records*, 46.

⁴¹ Horatio Rogers, George Carpenter, and Edward Field (eds), *The Early Records of the Town of Providence, vol. I* (Providence: Snow & Farnham, 1892), 14.

In 1639 the town of Newport ordered that ‘all the meadow groundes lying within the circuit and bounds of Newport, shall be layed out...and that the said companie which shall laye it forth, shall have foure pence an acre for every acre’.⁴² Or in 1640, it ordered ‘that a line of division be drawn between the Townes of Newport and Portsmouth...And that Mr. Easton and Mr. Porter, and Mr. Jeffreys and Mr. Samford shall lay out this Line by the first of November ensuing’.⁴³ In 1699 the Rhode Island Assembly ordered that ‘there shall be five persons appointed as Commissioners, to inspect and settle the differences between Kingstown, Westerly and Greenwich, relating to the bounds of the said towns’.⁴⁴

9. Connecticut-Rhode Island, 1728: See above, nos. 3 and 8.

10. North Carolina-Virginia, 1728

North Carolina: In 1665 (before North and South Carolina were separate provinces), the lords proprietors of Carolina established a set of rules ‘that the lands may be the more regularly layd out and all persons the better ascertained of there titles and possessions’.⁴⁵ This included a rule that the governor of each county should give to every person to whome land is due a warrant synded & sealed by himsele and y^e Major pte of his Councill and directed to y^e Surveyor Gen^{ll} or his Deputy comanding him to ley out Lymitt and bound [some number of] acres of Land’, and that the ‘Survey^r Gen^{ll} or his Deputy shall proceed and certifie to y^e Chiefe Secretary or Register y^e Name of y^e person for whome he hath layde out land, by virtue of w^t authority y^e date of y^e authority or warrant y^e Number of acres y^e bounds and on w^t poynt of y^e Compass y^e Severall Lymitts thereof lye’.⁴⁶

Similarly, the governor of Albemarle County, in the north of Carolina, was given instructions in 1679 which specified surveying procedures: ‘You are as soon as conveniently you can to cause the Surveyor Generall to divide the Countrey into squares of twelve thousand acres...Any person having transported himself or servants into the County to plant shall make the same appeare to yourselfe and Councell who shall thereupon issue out a warrant to the Surveyor Generall to lay him out a parsell of land according to the proportion mentioned in these our Instructions’.⁴⁷

Virginia: see above (no. 2)

11. North Carolina-South Carolina, 1735

North Carolina: see above (no. 10)

South Carolina: see North Carolina above for details on the early surveying laws in Carolina. ‘The typical Carolina traverse survey proceeded through five steps: selecting the site, discovering and marking its corners, connecting these corners with lines using compass directions, measuring the lines by chain, and figuring the total area of the tract...’⁴⁸ The surveyor general was also charged with surveying town and county boundaries. By 1685, although no townships had been laid out, the surveyor general of South Carolina, Stephen Bull, had surveyed the county boundary lines.⁴⁹

⁴² John Bartlett (ed), *Records of the Colony of Rhode Island and Providence Plantations, in New England, Vol. I, 1636 to 1663* (Providence: A. Crawford Greene and Brother, 1856), 88.

⁴³ Bartlett, *Records of the Colony of Rhode Island, Vol. I*, 109.

⁴⁴ John Bartlett (ed), *Records of the Colony of Rhode Island and Providence Plantations, in New England, Vol III., 1678 to 1706* (Providence: Knowles, Anthony & Co., 1858), 369-370.

⁴⁵ William Saunders, *The Colonial Records of North Carolina, Vol. I—1662 to 1712* (Raleigh: P.M. Hale, 1886), 90.

⁴⁶ Saunders, *The Colonial Records of North Carolina, Vol. I*, 91.

⁴⁷ Saunders, *The Colonial Records of North Carolina, Vol. I*, 236-237.

⁴⁸ Meaghan Duff, ‘Designing Carolina: The Construction of an Early American Social and Geographical Landscape, 1670-1719’, PhD Dissertation, College of William and Mary, 1998, 152.

⁴⁹ M. Eugene Sirmans, *Colonial South Carolina: A Political History, 1663-1763* (Williamsburg, VA: University of North Carolina Press, 1966), 43.

12. Maryland-Pennsylvania, 1739: See above, nos. 2 and 6.

13. Massachusetts-New Hampshire, 1741

Massachusetts: see above (no. 1)

New Hampshire: New Hampshire surveying practices were similar to other New England settlements. At a 1639 town meeting of Hampton, one of the colony's original towns, the first meeting of which there is a record, a committee was appointed whose responsibility it would be 'to measure, lay forth, and bound, all such lots as should be granted by the freemen there'.⁵⁰ They would be compensated with one penny for every acre surveyed. Frequent examples of disputes over land between townships can be found in the New Hampshire records, containing an order such as the following in 1656 in a dispute between Hampton and Salisbury: 'it is ordered that Mr Samuell Dudley...here the allegations of both parties and present a retourne with a plat drawne & signed by some artist at the next session of this court, with their full determination & explanation of the line between the said townes.'⁵¹

As an illustration of surveying practices, see the following example is from a 1656 surveyor's report on a division of a large purchase into several lots: 'The second division being 8 shares & one quarter belonging to Capt. Thomas Wiggan & partners, who have purchased & obtained the same, we assigne & lay out 3 miles square beginning at a plump of trees standing on a peece of old planting land about 40 poles below Sandy poynt, & up the river upon a straight line toward Exeter, the River being the bounds of it on the North side & at each end to run a lyne upon the southeast point of the Compass 3 miles into the land there to bound it on that side...'⁵²

Observable Implication 3: Boundary Surveyors Experienced in Property Surveying

Maryland-Virginia (1668): Edmund Scarborough⁵³, Surveyor General of Virginia⁵⁴

New York-Connecticut (1684): Philip Welles⁵⁵, Property surveying, NY, NJ (c. 1680-1687);

Deputy Surveyor, New Jersey (from 1683); Surveyor General, New York (by 1686)⁵⁶

New York-New Jersey (1686): Philip Welles⁵⁷, see above; Andrew Robinson⁵⁸, Surveyor General,

West New Jersey (1685-)⁵⁹; George Keith⁶⁰, Surveyor General, East New Jersey (from 1684)

East New Jersey-West New Jersey (1687): George Keith⁶¹, see above

⁵⁰ Nathaniel Bouton (ed), *Documents and Records Relating to the Province of New-Hampshire, from the Earliest Period of its Settlement: 1623-1686, Vol. I* (Concord: George Jenks, 1867), 152.

⁵¹ Bouton, *Records Relating to the Province of New-Hampshire, Vol. I*, 221.

⁵² Bouton, *Records Relating to the Province of New-Hampshire, Vol. I*, 223.

⁵³ Sarah Hughes, *Surveyors and Statesmen: Land Measuring in Colonial Virginia* (Richmond: Virginia Association of Surveyors, 1979), 12-13.

⁵⁴ Hughes, *Surveyors and Statesmen*, 12-13.

⁵⁵ Braccio, 'Colonial Mapping in Massachusetts', 164

⁵⁶ Braccio, 'Colonial Mapping in Massachusetts', 164

⁵⁷ Braccio, 'Colonial Mapping in Massachusetts', 164

⁵⁸ William Whitehead, 'The Circumstances Leading to the Establishment, in 1769, of the Northern Boundary Line Between New Jersey and New York', *Proceedings of the New Jersey Historical Society* 8 (1859), 162.

⁵⁹ Leaming and Spicer, *Grants, Concessions, and Original Constitutions of New Jersey*, 504.

⁶⁰ John Pomfret, 'The Proprietors of the Province of East New Jersey, 1682-1702', *The Pennsylvania Magazine of History and Biography* 77 (1953), 265.

⁶¹ John Pomfret, *The Province of East New Jersey, 1609-1702* (Princeton: Princeton University Press, 1962), 270.

Pennsylvania-Delaware (1701): Thomas Pierson⁶², Deputy Surveyor, New Castle County (by 1684); Isaac Taylor⁶³, Deputy Surveyor, Chester County (1701 shortly before boundary survey)
Connecticut-Massachusetts (1713): John Chandler⁶⁴, Surveyor of lands purchased from Mohegans (1705)⁶⁵

Rhode Island-Massachusetts (1719): John Chandler⁶⁶, see above

Rhode Island-Connecticut (1728): John Mumford⁶⁷, Commissioned by town of Newport to survey streets 1712,⁶⁸ Appointed by RI Assembly to survey 'vacant lands' in Naragansett in 1707⁶⁹

Virginia-North Carolina (1728): William Mayo⁷⁰, Mapped parish boundaries of Barbados (published 1720), surveyed in Henrico County, Virginia (1720s); Edward Moseley⁷¹, Surveyor General of N Carolina (1706-1711, 1724-1728)

North Carolina-South Carolina (1735): Edward Moseley⁷², see above

Maryland-Pennsylvania (1739): Benjamin Eastburn⁷³, Surveyor General, PA (1733-1741); William Rumsey⁷⁴, Deputy Surveyor, Cecil County, Maryland, (1728, 1732)

New Hampshire-Massachusetts (1741): Richard Hazzen, Laid out lots in Penacook (1727)⁷⁵ and Boscawen (1733)⁷⁶, New Hampshire

Observable Implication 4: Border Surveys Follow Property Disputes

Disputes can be classified either as type 1, in which individuals or groups disputed property boundaries, or type 2, in which colonial governments disputed the right to grant specific plots of land.

1. Massachusetts-Plymouth, 1657 (type 1)

Accounts written by governors of both Massachusetts and Plymouth state that the colonies' mutual boundary was initially delimited in 1640 in order to address a local dispute between the Massachusetts town of Hingham and the neighboring Plymouth town of Scituate.⁷⁷ According to the Plymouth governor, some Hingham residents assigned to the boundary area marked out some

⁶² John W. Jordan (ed), *Colonial and Revolutionary Families Of Pennsylvania, Volume I* (Baltimore: Genealogical Publishing, 1978), 343.

⁶³ Jordan, *Colonial and Revolutionary Families Of Pennsylvania, Volume I*, 1313.

⁶⁴ Bowen, *The Boundary Disputes of Connecticut*, 58.

⁶⁵ Bowen, *The Boundary Disputes of Connecticut*, 27.

⁶⁶ John Bartlett (ed), *Records of the Colony of Rhode Island and Providence Plantations, in New England, Vol. IV, 1707 to 1740* (Knowles, Anthony, & Co., 1859), 252.

⁶⁷ Bartlett, *Records of the Colony of Rhode Island, Vol. IV*, 414.

⁶⁸ Mark Hanna, *Pirate Nests and the Rise of the British Empire, 1570-1740* (Chapel Hill, NC: University of North Carolina Press, 2015), 347.

⁶⁹ Elisha Potter, Jr. (ed), *The Early History of Narragansett* (Providence: Marshall, Brown and Company, 1835), 110.

⁷⁰ Berland, *Dividing Line Histories*, 467

⁷¹ Berland, *Dividing Line Histories*, 465

⁷² Marvin Lucian Skaggs, 'The First Boundary Survey between the Carolinas', *The North Carolina Historical Review* 12:3 (1935), 226.

⁷³ Munger, *Pennsylvania Land Records*, 98.

⁷⁴ Edward Papenfuse, Alan Day, David Jordan, and Gregory Stiverson (eds), *A Biographical Dictionary of the Maryland Legislature, 1635-1789* (Baltimore: Johns Hopkins University Press, 1979), 709.

⁷⁵ See proprietary records in Nathaniel Bouton, *The History of Concord* (Concord: Benning W. Sanborn, 1856), 85.

⁷⁶ Ebenezer Price, *A Chronological Register of Boscawen* (Concord: Jacob B. Moore, 1823), 21.

⁷⁷ William Bradford, *History of Plymouth Plantation* (Boston: Massachusetts Historical Society, 1856), 368; James Kendall Hosmer (ed), *Wintthrop's Journal: "History of New England", 1630-1649, Vol. I* (New York: Charles Scribner's Sons, 1908), 287.

land for themselves, and some Scituate residents removed the markers. This confrontation prompted intercolonial negotiations which resulted the 1640 delimitation of most of the intercolonial line. No demarcation appears in the colonial records at this time, however. Moreover, the 1640 delimitation had referred to '60. acers of marsh at y^e mouth of y^e river, on Sityate side next to the sea' which was to be included in Massachusetts, but was not itself delimited.⁷⁸ These 60 acres continued to be disputed between Hingham and Scituate residents.⁷⁹ In 1651 Massachusetts records note 'There being a diffrence betweene the inhabitants of Hingham & of Scituate about sixty acors of meddow on the other side of Conehasset Riuer' and referred the matter to intercolonial commissioners.⁸⁰ In 1655 Massachusetts assigned two representatives to meet with Plymouth representatives to 'lay out that marish lying at Conahasset'.⁸¹ In 1657, one representative of Massachusetts and one from Plymouth agreed to accept a demarcation that had been previously done unilaterally by residents of the Plymouth town of Scituate, and this was ratified by Massachusetts.⁸²

2. Maryland-Virginia, 1668 (type 2)

In 1660 the Quakers of the eastern shore of Virginia were expelled from the colony.⁸³ They petitioned Governor Calvert of Maryland for land, and in 1661 they were granted land at Annamessex and Manokin.⁸⁴ The Surveyor-General of Virginia, Col. Scarborough, however, attempted to enforce Virginia law on these Quakers, claiming that Manokin was referred to as Wicomico River in John Smith's map, putting it south of Watkin's Point, which Virginia considered the boundary.⁸⁵ The Virginia Assembly then passed an act confirming that Smith's map was authoritative and ordering the surveyor-general to meet with Maryland representatives.⁸⁶ This afforded what Maryland lawyers later described as 'a pretext for Scarborough, in October 1663, to invade Annamessex and Manokin with an armed force, with the purpose to compel submission to the government of Virginia'.⁸⁷ The governor of Maryland then complained to the governor of Virginia that Scarborough entered 'many miles into this province to the Terror of the people at Monoakin & Anamessecks, beating, abusing & imprisoning the people there', actions which governor Berkeley denounced.⁸⁸ The meeting did, then, take place as ordered in 1668, at which point the boundary was run.⁸⁹ Maryland records show a list of around 30,000 acres of property, previously considered to be in Virginia, to be confirmed under Maryland law following the boundary survey.⁹⁰

⁷⁸ Bradford, *History of Plymouth*, 370.

⁷⁹ E. Victor Bigelow, *A Narrative History of the Town of Cohasset* (Boston: Samuel Usher, 1898), 128.

⁸⁰ Shurtleff, *Records*, Vol. III, 236.

⁸¹ Shurtleff, *Records*, Vol. IV—Part I, 230.

⁸² Shurtleff, *Records*, Vol. III, 437.

⁸³ Hening, *Statutes at Large*, Vol. I, 532.

⁸⁴ Browne, *Council of Maryland, 1636-1667*, 435-436.

⁸⁵ Browne, *Council of Maryland, 1636-1667*, 475. See map below, section 8.

⁸⁶ William Hening (ed), *The Statutes at Large; Being a Collection of All the Laws of Virginia*, Vol. II (New York: R. & W. & G. Bartow, 1823), 184.

⁸⁷ 'Abstract of the Maryland Statement', in *Report and Journal of Proceedings of the Joint Commissioners to Adjust the Boundary Line of the States of Maryland and Virginia* (Annapolis: Wm. T. Inglehart & Co., 1874), 37; See also Rebecca Anne Goetz, *The Baptism of Early Virginia: How Christianity Created Race* (Baltimore: Johns Hopkins University Press, 2012), 125.

⁸⁸ Browne, *Council of Maryland, 1636-1667*, 497.

⁸⁹ For the report of the commissioners describing their demarcation of the line: William Browne (ed), *Proceedings of the Council of Maryland, 1667-1687/8* (Baltimore: Maryland Historical Society, 1887), 45

⁹⁰ Browne, *Council of Maryland, 1667-1687/8*, 43.

3. Connecticut-New York, 1684 (type 1)

In 1664 the Dutch surrendered New Netherlands to England, out of which was created the Province of New York, and a nominal boundary with Connecticut was agreed on but not yet surveyed.⁹¹ Between 1681 and 1693 one Frederick Phillips made eight Native American land purchases making him the 'sole owner of the country from Spuyten Duyvil to the Croton River [a distance of about 35 km] and from the Hudson to the Bronx'.⁹² In 1682, residents of the Connecticut border town of Rye complained in to their colonial authorities in Hartford that people under New York jurisdiction, 'and particularly Mr. Frederick Phillips have erected, and lately, and are erecting certaine Mills and other edifices, and making improvements of land, within the limits of the township of Rye, and in the Bounds of this his Ma^{ties} Colony of Conecticut, neere unto Hudson's River...and not only so, but some of the sayd Improvers doe give out Threatening Speeches, that if any of our Colony's cattle shall come there, that they will not suffer our people peaceably to have them away...certain persons of o^r colony having run the [boundary] from Mamorroneck River unto Hudson's River have found it to come upon Hudson's River to the southward and westward of the places where the said edifices, mills, purchases &c. are sayd to be'.⁹³ A new boundary was then delineated by the two colonies, dated 28 November, 1683.⁹⁴ Connecticut on 8 May, 1684 ordered its representatives to meet with New York officials to demarcate the boundary.⁹⁵ The report of the surveyors is dated 10 October, 1684, and was approved on 23 February, 1685.⁹⁶

4. East Jersey-New York (type 2)

By 1686 settlers had been purchasing land from Native Americans in the New Jersey-New York border area. In particular, East Jersey acknowledged Native American purchases in the Tappan area in 1682.⁹⁷ New York in March 1686 recognized, in the same area, a purchase made by a group of sixteen Dutch settlers.⁹⁸ This grant was bounded by the Hackensack River and Tappan Creek, and stretched from the mouth of Tappan Creek to where it meets Hackensack River. Moreover, 'On February 20, 1685, George Lockhart obtained by patent from James II. 3,410 acres of land bounded on the west by the Tappan grant, and extending from Piermont [New York] to Closter, N. J.'⁹⁹ Without a survey it was unclear which colony the land was in.¹⁰⁰ New Jersey accused New York of forcing settlers to pay for grants to land for which they already held New Jersey grants, and repeatedly sought for the border survey to be completed.¹⁰¹ On 30 June, 1686, representatives of East Jersey and New York met and agreed to appoint their respective surveyors-general to meet in September and find the northernmost point of the boundary.¹⁰² On 1 September, 1686, Philip

⁹¹ Charles Baird, *Chronicle of a Border Town: History of Rye, Westchester County, New York, 1660-1870* (New York: Anson D. Randolph and Co., 1871), 108-109; 313-314.

⁹² Frederic Shonnard and W. W. Spooner, *History of Westchester County, New York* (New York: The Winthrop Press, 1900), 156.

⁹³ J. Hammond Trumbull, *The Public Records of the Colony of Connecticut, May, 1678—June, 1689* (Hartford: Case, Lockwood & Co., 1859), 313.

⁹⁴ Trumbull, *Public Records, May, 1678—June, 1689*, 330.

⁹⁵ Trumbull, *Public Records, May, 1678—June, 1689*, 141-142.

⁹⁶ Trumbull, *Public Records, May, 1678—June, 1689*, 337-339.

⁹⁷ Arthur Adams, *The Hudson River Guidebook* (New York: Fordham University Press, 1996), 125

⁹⁸ For the text of the patent, see Frank Bertangue Green, *The History of Rockland County* (New York: A. S. Barnes & Co., 1886), 15.

⁹⁹ Green, *Rockland County*, 27.

¹⁰⁰ Edward Price, *Dividing the Land: Early American Beginnings of Our Private Property Mosaic* (Chicago: Chicago University Press, 1995), 225.

¹⁰¹ Peter O. Wacker, *Land and People: A Cultural Geography of Preindustrial New Jersey* (New Brunswick, N.J.: Rutgers University Press, 1975), 234-235.

¹⁰² William Whitehead (ed), *Documents Relating to the Colonial History of the State of New Jersey, Vol. I, 1631-1687* (Newark: The Daily Journal, 1880), 517.

Wells, the surveyor-general of New York, was ordered to run the line.¹⁰³ The three surveyors observed the point where 41° N touches the Hudson River, representing the southern endpoint of the boundary, on 8 and 29 September, according to a note dated 11 November, 1686, signed by the New York and West Jersey surveyors.¹⁰⁴

5. East Jersey-West Jersey, 1687 (N/A)

The East Jersey-West Jersey line, surveyed partially in 1687, is one of two initial bilateral boundary surveys up to 1741 for which it is unclear whether any specific dispute was a cause. But even in this case the boundary survey secured private property in a different way, as the two provinces were both little more than profit-seeking, incorporated bodies of landowners, and while there was much land not yet allocated to individuals in 1687, this land was held corporately by shareholders.¹⁰⁵ In fact it was unclear whether the line had any political significance at all before 1680, when a legal decision ruled that the New Jersey proprietors possessed the right of governance and not only title to the land.¹⁰⁶ Landowner-shareholders held corporately the right to establish provincial laws and appoint governors. Property in land was periodically given out to shareholders as dividends, but while not all the land was yet divided up it was held corporately, and as the two governments were each entitled to half the area of New Jersey, implementing this division required a survey.

The boundary was delimited by arbitrators in an award dated 8 January, 1687.¹⁰⁷ ‘This recommendation was accepted and immediately afterward bonds were entered into by the deputy governors and the proprietors of each province, in penalty of £5,000, to abide by the award... Both parties agreed that the line would be run by George Keith who began work on April 22 and submitted his report on May 26’.¹⁰⁸

6. Delaware-Pennsylvania, 1701 (N/A)

This was the only initial boundary survey under examination which was already demarcated before it became an intercolonial boundary, as it was initially a county boundary line drawn before Delaware’s separation.¹⁰⁹ Thus, while it does break the pattern set by other intercolonial boundaries, this has more to do with the peculiar relationship of Pennsylvania and Delaware than with a lack of property disputes.

7. Connecticut-Massachusetts, 1713 (type 1)

The following reference to property disputes, leading to a boundary survey, appears in the Connecticut records in 1708: ‘Whereas there hath been divers outrages committed by some of the inhabitants of Suffield and Enfield, on several of the inhabitants of Windzor and Symbury, seizing sundry barrels of turpentine...and imprisoning divers persons belonging to this government...and destroying the estate or effects of the labour of the inhabitants... And for the preventing of all manner of injuries, quarrels and contentions between the inhabitants of this Colonie and the inhabitants of [Massachusetts], respecting any lands in controversie between them for want of the said line being settled, and particularly respecting the lands claimed by the towns of Windzor and

¹⁰³ Whitehead, *Documents*, Vol. I, 518.

¹⁰⁴ Whitehead, *Documents*, Vol. I, 520; see also Whitehead, ‘Northern Boundary Line’, 6; John Pomfret, *The Province of East New Jersey, 1609-1702* (Princeton: Princeton University Press, 1962), 270

¹⁰⁵ John Pomfret, ‘The Proprietors of the Province of East New Jersey, 1682-1702’, *The Pennsylvania Magazine of History and Biography* 77 (1953), 260.

¹⁰⁶ Maxine N. Lurie, ‘New Jersey: The Unique Proprietary’, *The Pennsylvania Magazine of History and Biography* 111:1 (1987), 79.

¹⁰⁷ Whitehead, *Documents*, Vol. I, 523-524.

¹⁰⁸ Pomfret, *East New Jersey*, 270.

¹⁰⁹ J. Carroll Hayes, ‘The Delaware Curve: The Story of the Pennsylvania: Delaware Circular Boundary’, *The Pennsylvania Magazine of History and Biography* 47:3 (1923), 238-258.

Symsbury within this government, and claimed also by the towns of Suffield and Enfield, in [Massachusetts], until the aforesaid line shall be run and fixed, and thereby it shall be determined whether the said lands controverted are truly within the bounds of this Colonie or the Massachusetts Province...¹¹⁰

According to a US Supreme Court decision in 1846, ‘Grants of land were made by Massachusetts and Connecticut on their common boundary, and also towns were established, without a strict regard to the line, which produced much contention’ between 1664 and 1702.¹¹¹

Connecticut resolved on 26 January that commissioners from both colonies should be appointed ‘to repair to the place of controversy and survey the vacant lands lying betwixt the towns of Suffield and Enfield of the Massachusetts side, and the towns of Winsor and Simsbury of Connecticut side, and with the assistance of a skilful surveyor to cause a plan to be made of the lines, extent and quantity of miles contained therein, and to take notice of the challenge as well of any of the said towns as of private persons to any grants within the same or other vacant lands upon the said divisional line betwixt the aforesaid governments, and to make report of their doings’.¹¹²

The commissioners’ report, dated 13 July, 1713, was approved by Connecticut on 21 July, 1713, and by Massachusetts on 13 February, 1714.¹¹³

8. Massachusetts-Rhode Island, 1719 (type 1)

In 1706 people of Mendon, MA, petitioned the Massachusetts general court to extend the town’s claim further south, based on their interpretation of a 1639 Native American purchase by Rhode Island.¹¹⁴ Massachusetts and Rhode Island both appointed boundary commissioners but no further action was taken. In 1707, according to a historian of Rhode Island, ‘an armed force from Mendon invaded Rhode Island, and seizing two of the inhabitants of Providence, carried them as prisoners to Boston.’¹¹⁵ The people of Providence then took ‘retaliatory measures’.¹¹⁶ According to a US Supreme Court decision, ‘Serious difficulties occurred between the border inhabitants of Massachusetts and Rhode Island on account of conflicting grants, and the establishment of towns’ before 1710.¹¹⁷

As the Rhode Island Assembly put it in October 1707, ‘Voted, this Assembly having considered the circumstances of the late difference that hath happened between the town of Providence and the town of Mendon...that there may be commissioners now appointed and fully empowered to treat and settle the same’.¹¹⁸ After a long delay, the demarcation finally took place in 1719.¹¹⁹

9. Connecticut-Rhode Island, 1728 (type 1)

The inhabitants of Westerly (Rhode Island) and Stonington (Connecticut) long disputed their town border from the late seventeenth century, well into the eighteenth. According to a Connecticut historian, ‘The contest was long and arduous, and had all the incidents usually attendant upon

¹¹⁰ Charles J. Hoadly (ed), *The Public Records of the Colony of Connecticut, From October, 1706, to October, 1716* (Hartford: Case, Lockwood and Brainard, 1870), 58; see also Benjamin Trumbull, *A Complete History of Connecticut, Vol. I* (Hartford: Hudson & Goodwin, 1797), 456.

¹¹¹ *U.S. Reports: Rhode Island v. Massachusetts*, 45 U.S. (4 How.) 591, 630 (1846).

¹¹² Hoadly, *Public Records*, 361.

¹¹³ Hoadly, *Public Records*, 391; Bowen, *The Boundary Disputes of Connecticut*, 58

¹¹⁴ Samuel Greene Arnold, *History of the State of Rhode Island and Providence Plantations, Vol. II* (Providence: Preston & Rounds, 1899), 26.

¹¹⁵ Arnold, *Rhode Island*, 29.

¹¹⁶ Arnold, *Rhode Island*, 29.

¹¹⁷ *U.S. Reports: Rhode Island v. Massachusetts*, 45 U.S. (4 How.) 591, 630 (1846).

¹¹⁸ Bartlett, *Records of the Colony of Rhode Island, Vol. IV*, 30.

¹¹⁹ For the text of the surveyors’ report on the demarcation, see Bartlett, *Records of the Colony of Rhode Island, Vol. IV*, 251-252.

border hostilities, such as overlapping deeds, disputed claims, suits at law, arrests, distrains, imprisonments, scuffles and violent ejections'.¹²⁰ After King Philip's War (1675-1678), according to another historian, 'Rhode Island protested because some Connecticut people had settled upon land which Rhode Islanders had deserted during the war.'¹²¹ Negotiation was attempted in 1670, but this broke down and, according to a historian, 'both sides in their frustration opted for force. The Connecticut commissioners ordered the residents of Westerly (which they called Squamacuck) to "submit to the government" of Connecticut...Instead, Tobias Saunders empowered James constable to arrest those claiming authority over them...Almost immediately, Badcock and Saunders were captured and brought before the Connecticut commissioners...Rhode Island, as usual, protested, but the following spring they asserted their own strong-arm tactics...The General Assembly warned that Connecticut citizens, particularly from Stonington, who disrupted Rhode Island lives would forfeit any land they owned east of the Pawcatuck River and would face additional prosecution'.¹²²

10. North Carolina-Virginia, 1728 (type 2)

Territorial disputes between Virginia and North Carolina from 1681 to 1728 related to numerous issues, including conflicting land grants.¹²³ William Byrd II, who was part of the boundary commission of 1728, wrote an account of the commission which is well known by historians.¹²⁴ According to this account, the boundary had been set at Weyanoak Creek, but the identity of this creek was lost, and was claimed by Virginia to be the same as Wicocon Creek, while North Carolina claimed it to be Nottaway River. 'In the meantime', according to Byrd, 'the People on the Frontiers enter'd for land, & took out patents by Guess, either from' Virginia or Carolina.¹²⁵

For example, colonial records show that the Virginia Council was informed in 1706 that 'one John Linington who pretends to be Deputy Surveyor of North Carolina hath lately Surveyed and laid out Sev^{ll} parcells of land on y^e Southside of Nottoway River, and that Sev^{ll} persons inhabitants of this Colony have made Entrys with the Said Surveyor for diverse tracts of land as if the Same were in the Province of North Carolina'.¹²⁶ The council further ordered that anyone taking out these North Carolina titles 'Receive no benefite by any Such Entrys, and shall be further liable to be prosecuted with y^e utmost Severity for disowning [Virginia's] title to y^e Said lands' and that a letter be sent to Carolina to 'desist from Surveying any land on or near the Frontiers of this Government untill the bounds betwixt y^e two Governm^{ts} be ascertained and that the like directions will be given to y^e surveyors here.'

11. North Carolina-South Carolina, 1735 (type 2)

Both North and South Carolina had granted land on the south bank of the Cape Fear River, and in 1713 the Lords Proprietors were 'complaining of injuries from illegal grants being issued for lands south of that stream'.¹²⁷ In 1732, the governor of North Carolina wrote to his South Carolina counterpart, 'I am informed that several persons in South Carolina, have taken out warrants there, to survey lands on the North side of Wackamaw river, and on the lands formerly possessed by the

¹²⁰ Frances Manwaring Caulkins, *History of New London, Connecticut: From the First Survey of the Coast in 1612 to 1860* (New London: H. D. Utley, 1895), 107.

¹²¹ Bowen, *The Boundary Disputes of Connecticut*, 39.

¹²² Richard Archer, *Fissures in the Rock: New England in the Seventeenth Century* (Hanover, NH: University Press of New England, 2001), 138.

¹²³ Hugh Talmage Lefler and Albert Ray Newsome, *North Carolina: The History of a Southern State* (Chapel Hill, NC: University of North Carolina Press, 1954), 66.

¹²⁴ Berland, *Dividing Line Histories*.

¹²⁵ Berland, *Dividing Line Histories*, 75.

¹²⁶ H.R. McIlwaine (ed), *Executive Journals of the Council of Colonial Virginia, Vol. III* (Richmond: Davis Bottom, 1928), 80.

¹²⁷ Skaggs, 'The First Boundary Survey', 216.

Congerree Indians, which are within *this* government. Therefore to prevent unadvised people from parting with their money to no purpose, and to give satisfaction to all persons whom it may concern, I have transcribed his Majesty's instruction for ascertaining the bounds of the two governments of North and South Carolina.¹²⁸

12. Maryland-Pennsylvania, 1739 (type 2)

In the 1680s, soon after the creation of the province of Pennsylvania, it became clear that the province's territorial claim overlapped with that of Maryland, but this dispute was long bogged down in legal proceedings.¹²⁹ During this time, many settlers, especially beginning in the 1720s, took up land in the Susquehanna River valley, even though legal title to this land was difficult to acquire because of the ongoing territorial dispute between the two colonies.¹³⁰ Some of these Pennsylvania settlers had uncertain titles, and some had no titles at all, such as a group of Irish Presbyterians who established a settlement called Donegal in 1719, without any legal title. Maryland officials then tried to persuade or force many of these settlers to acknowledge Maryland authority. For example, as a group of Dutch settlers, who had arrived in Philadelphia and sworn allegiance to Pennsylvania, complained to the governor of Maryland in 1736:

'That repairing to the great Body of their Countrymen settled in the County of Lancaster, on the East Side of Susquehannah, they found the Lands there generally taken up & possessed, & therefore some of them by Licenses from the Proprietors of Pennsylv^a, went over that River & settled there under their Authority, & others accord^s to a common practice then obtaining sate down with a Resolution to comply as others should with the terms of the Governm^t when called on, but they had not been long there till some pretending Authority from the Governm^t of Maryland, insisted on it that that Country was in that Province, & partly by Threats or actual Force & partly by very large Promises, they had been led to submit to the Commands of that Governm^t...That the first one Morris Roberts, pretending to be a Deputy Surveyor under Maryland, came & run out Lands for them...'¹³¹

In an effort to stop these Maryland officials, Pennsylvania officials confronted them, in a 1734 encounter where one Pennsylvanian was killed.¹³² This violence prompted the surveying of an intercolonial boundary, which was considered temporary, beginning in late 1738 and completed in 1739. A survey considered more permanent was conducted later, in the 1760s, by Charles Mason and Jeremiah Dixon. But the temporary line of 1739 was demarcated by surveyors with bilateral authority and is considered by historians to mark the end of the 'Conojocular War', or 'Cresap's War'.¹³³

13. Massachusetts-New Hampshire, 1741 (type 1 and 2)

By 1719, the Governor of New Hampshire noted that 'There are daily complaints made by the people that live near the [Massachusetts] lines of the Injustice they suffer by their remaining so long unsettled'.¹³⁴ These likely stemmed from what one historian referred to as 'carefully planned encroachments...made by the government of Massachusetts upon territory claimed by New

¹²⁸ Thomas Cooper, *The Statutes at Large of South Carolina, Vol. I* (Columbia: A.S. Johnston, 1836), 406.

¹²⁹ Nicholas B. Wainwright, 'Tale of a Runaway Cape: The Penn-Baltimore Agreement of 1732', *The Pennsylvania Magazine of History and Biography*, 87:3 (1963), 253.

¹³⁰ Patrick Spero, 'The Conojocular War: The Politics of Colonial Competition, 1732–1737', *The Pennsylvania Magazine of History and Biography*, 136:4 (2012), 377; Paul Doutrich, 'Cresap's War: Expansion and Conflict in the Susquehanna Valley', *Pennsylvania History: A Journal of Mid-Atlantic Studies* 53:2 (1986), 89–104.

¹³¹ Samuel Hazard (ed), *Pennsylvania Archives, First Series, Vol. I* (Philadelphia: Joseph Severns & Co., 1852), 492.

¹³² Spero, 'The Conojocular War', 386; Doutrich, 'Cresap's War', 93.

¹³³ Doutrich, 'Cresap's War', 100.

¹³⁴ Nathaniel Bouton, *Documents and Records Relating to the Province of New-Hampshire, From 1692 to 1722, Being Part II of Papers Related to that Period* (Manchester: John B. Clark, 1869), 753.

Hampshire’, where conflicts arose between settlers of the two provinces, particularly between Haverhill, Massachusetts and Londonderry, New Hampshire.¹³⁵ At a 1726 New Hampshire Council, it was ‘reported to the Board that in Pursuance of a late vote of the Gen^l Assem^y of the Province of Mass^a, sundry persons are going or gone to lay out, take possession of, & settle upon some of his Majesty’s lands within the limits of this Province, at or near a Place called Pennecook, without the consent of this Govern^t for so doing...It is therefore Ordered, That a Committee in behalf of this govern^t...immediately repair to s^d Pennecook & forewarn any persons whom they may find there or thereab^t from laying out, taking possession of, or settling at or near the Place...’¹³⁶

Alternative Explanation 1: Tax Revenue

Each boundary can be classified as follows:

- a) ‘no compromise’: one side won all the disputed territory, and thus no new tax revenue could have been anticipated by the other side,
- b) ‘no taxes’: at least one side was not levying taxes at the time of the initial boundary survey,
- c) ‘other’: some other reason can be given why substantial tax gains were unlikely, or
- d) ‘N/A’: none of the above

Massachusetts-Plymouth, 1657 (other): The dispute that gave rise to the Massachusetts-Plymouth boundary, as reported by governors of both colonies, essentially concerned a particular meadow area of about 60 acres between Hingham and Scituate, both coastal towns with centres about 15 km apart.¹³⁷ This area was demarcated unilaterally by Scituate people, before this demarcation was approved at the colonial level in 1657. It is extremely unlikely that this small area of land had any important tax value to either colony. In 1645 Hingham’s taxes were assessed at £15 in total, a small amount compared with Boston’s £100 or Ipswich’s £61.¹³⁸ If officials had been unable to collect taxes for the outlying portions of Hingham, it would have made little difference to the overall levy of £616 14s. 6d.

Maryland-Virginia, 1668 (no compromise)

Report and Journal Proceedings of the Joint Commissioners to Adjust the Boundary Line of the States of Maryland and Virginia (Annapolis: Wm. T. Inglehart & Co., 1874), 39.

Hening, *Statutes at Large, Vol. II*, 184.

Browne, *Council of Maryland, 1667-1687/8*, 43-45.

Connecticut-New York, 1684 (other): This boundary was technically between the claims of Connecticut and New York but was effectively a loss only for Connecticut. While all the shoreline towns from Rye to the Connecticut river were nominally in dispute, these towns were all effectively under Connecticut jurisdiction. Shortly before the boundary negotiations, New York passed a law dividing itself into counties, each with a specified list of towns, in which the Connecticut shore towns such as Rye did not appear. Instead, Westchester County was said to include several towns west of Rye and ‘all the land on the Main to the Eastward of Manhattan Island as far as the Government extends’.¹³⁹ Connecticut, on the other hand, included Rye on its tax assizes before 1683, and continued to collect taxes there intermittently even after the boundary was run between Rye and Connecticut.¹⁴⁰ Connecticut did not gain anything by

¹³⁵ Everett S. Stackpole, *History of New Hampshire* (New York: The American Historical Society, 1916), 283.

¹³⁶ Nathaniel Bouton, *Documents and Records Relating to the Province of New-Hampshire, From 1722 to 1737, Vol. IV* (Manchester: John B. Clark, 1870), 11-12.

¹³⁷ Hosmer, *Winthrop’s Journal*, 287; Bradford, *History of Plymouth*, 368.

¹³⁸ Shurtleff, *Records, Vol. III*, 28.

¹³⁹ *The Colonial Laws of New York from the Year 1664 to the Revolution, Vol. I* (Albany: James Lyon, 1894), 122.

¹⁴⁰ Baird, *Chronicle of a Border Town*, 114.

delimiting a boundary excluding Rye, as the status of the towns retained in Connecticut did not change.

East Jersey-New York, 1686 (no taxes)

Alvin Rabushka, *Taxation in Colonial America* (Princeton: Princeton University Press, 2008), 224-225.

Maxine Lurie, 'New Jersey: The Unique Proprietary', *The Pennsylvania Magazine of History and Biography* 111:1 (1987), 89.

Pomfret, *East New Jersey*, viii.

Lurie, 'The Unique Proprietary', 89.

Thomas Purvis, 'Origins and Patterns of Agrarian Unrest in New Jersey, 1735 to 1754', Maxine Lurie (ed), *A New Jersey Anthology* (New Brunswick, NJ: Rutgers University Press, 2002), 73.

East Jersey-West Jersey, 1687 (no taxes): See above for evidence on East Jersey's lack of taxes.

Delaware-Pennsylvania, 1701 (other): The Delaware-Pennsylvania line was first run in 1701, before Delaware was separated from Pennsylvania, meaning that the location of the boundary would not affect who owed taxes to which colony.¹⁴¹

Connecticut-Massachusetts, 1713 (other): An agreement was reached partitioning various properties, but the total acreage of all the properties continuing to be governed by Massachusetts that were south of the main east-west line of the new boundary were to be compensated to Connecticut with equivalent lands elsewhere.¹⁴² Thus any gains that Massachusetts might have made from taxes in the disputed area were likely to be offset in the future by losses elsewhere.

Massachusetts-Rhode Island, 1719 (N/A)

Connecticut-Rhode Island, 1728 (no compromise)

Francis Newman Thorpe, *The Federal and State Constitutions, Colonial Charters, and Other Organic Laws of the States, Territories, and Colonies Now or Heretofore Forming the United States of America, Vol. I* (Washington: Government Printing Office, 1909), 529-536.

Thorpe, *Federal and State Constitutions, Vol. VI*, 3211-3222.

Bartlett, *Records of the Colony of Rhode Island, Vol. III*, 474.

Bowen, *The Boundary Disputes of Connecticut*, 45-47.

North Carolina-Virginia, 1728 (no compromise)

Hugh Talmage Lefler and Albert Ray Newsome, *North Carolina: History of a Southern State* (Chapel Hill: University of North Carolina Press), 66-67.

Cecil Headlam (ed), *Calendar of State Papers, Colonial Series, America and West Indies, 1728-1729* (London: HM Stationery Office, 1937)

North Carolina-South Carolina, 1735 (N/A)

Maryland-Pennsylvania, 1739 (no taxes)

Theodore Thayer, 'The Land-Bank System in the American Colonies', *The Journal of Economic History* 13:2 (1953), 145-159

Rabushka, *Taxation in Colonial America*, 492-494, 545.

Massachusetts-New Hampshire, 1741 (no compromise)

Stackpole, *History of New Hampshire*, 283-290.

Elizabeth Forbes Morison and Elting E. Morison, *New Hampshire: A Bicentennial History* (New York: W.W. Norton & Co., 1976), 16.

Alternative Explanation 2: Representational Ideas of Territory

This section shows the maps referred to in the main article as evidence that maps are unlikely to have influenced settler governments to implement linear boundaries through surveys. Because of

¹⁴¹ Richard Rodney, 'Early Relations of Delaware and Pennsylvania', *The Pennsylvania Magazine of History and Biography*, 54:3 (1930), 209-240.

¹⁴² Bowen, *The Boundary Disputes of Connecticut*, 58. Trumbull, *Complete History, Vol. I*, 471.

the scarcity of available evidence, probing this alternative explanation requires a different approach than one examining individual initial boundary surveys. Indeed, the most important evidence here is the absence of evidence of any colonially-produced maps in the seventeenth century which showed boundaries that had not already been surveyed. Thus it is necessary to take a more general approach of asking what kinds of maps settler officials were most likely to have been exposed to by the time the first boundary surveys were implemented in the seventeenth century. This is guided by a range of secondary literature referenced in the main text, although some maps do survive, which we can examine directly.

As mentioned in the main text, few English maps of the early seventeenth century showed any boundaries at all in the American colonies. It is primarily these maps, rather than maps showing fully bordered and divided space, that are likely to have formed the basis of any expectations settlers would have had as to what maps should ideally look like. The two maps by John Smith below, for example, were the primary authoritative maps of New England and Virginia for English settlers.¹⁴³ They do not show any boundaries in any linear form.



John Smith, 'New England: The most remarquable parts thus named by the high and mighty Prince Charles, prince of great Britaine', London, 1616. Courtesy of the John Carter Brown Library (<https://jcb.lunaimaging.com/luna/servlet>).

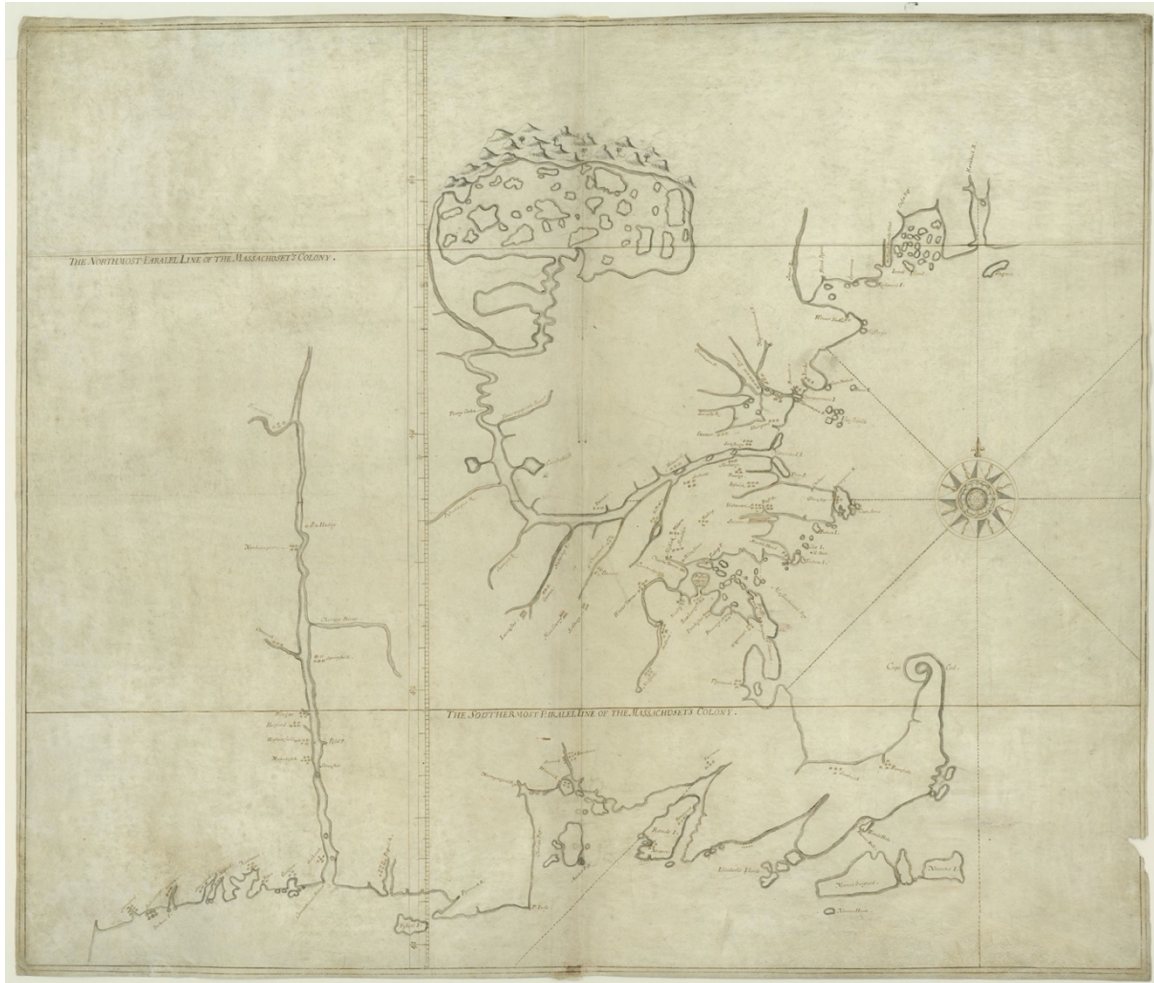
¹⁴³ Benjamin Schmidt, 'Mapping an Empire: Cartographic and Colonial Rivalry in Seventeenth-Century Dutch and English North America', *The William and Mary Quarterly* 54:3 (1997), 563-564.



John Smith, 'A map of Virginia vwith a description of the countrey, the commodities, people, government and religion', Oxford, 1612. Courtesy of the John Carter Brown Library (<https://jcb.lunaimaging.com/luna/servlet>).

Maps made in the English colonies were rare. The 'White Hills' map (below), is thought to have been the first map published in the English colonies. It shows prominently two parallel lines representing the lines of latitude that helped indicate the jurisdiction of Massachusetts Bay, as well as a lighter line representing the boundary agreed between Massachusetts and Plymouth. These three boundaries had already been at least unilaterally marked by Massachusetts by the time of the map's publication.¹⁴⁴ This means that the map does not provide evidence that the cartographic representation of these boundaries as lines was a factor leading to their demarcation.

¹⁴⁴ Massachusetts unilaterally demarcated its southern boundary in 1642. Bowen, *The Boundary Disputes of Connecticut*, 19; Van Zandt, *Boundaries of the United States*, 66. In 1654 Massachusetts surveyors left one mark at the northern latitude boundary of the colony's jurisdiction, using a series of astronomical measurements, which can be found in the surveyors' report: Shurtleff, *Records*, Vol. III, 361. The part of the Massachusetts-Plymouth boundary bordering the '60 acres' was demarcated by 1657 and given bilateral approval in that year, as noted above. The rest of it was demarcated in 1664; see surveyors' report: Shurtleff, *Records*, Vol. IV—Part II, 114-116.



Unknown author, '[New England, showing Massachusetts' boundaries]', [London], [1678]. Courtesy of the John Carter Brown Library (<https://jcb.lunaimaging.com/luna/servlet>).

One manuscript map sent from New York survives, dated 1698.¹⁴⁶ This map shows numerous property boundaries, as well as three colonial boundaries which had already begun to be surveyed, and no others. The absence of a New York-Pennsylvania boundary, for example, is conspicuous, as both provinces are labelled.

Additional Observable Implication for Alternative Explanation 1: Customs Enforcement

While the above discussion on alternative explanation 1, as in the main text, focused on tax revenue, customs duties also provide revenues through a process often thought to involve boundaries. This section explores, and rules out, the possibility that efforts to enforce customs, rather than property surveying, best explain the surveying of colonial boundaries. Similarly to alternative explanation 2, the scarcity of evidence here inhibits an approach based on examining individual boundaries. Instead, it evaluates the extent of customs enforcement that took place overall in the thirteen colonies and the extent to which it took place at defined land boundaries.

For Charles Tilly, the defining of political boundaries in Europe was an outcome of the process by which warfare and state-building reinforced one another, and by which states were forced to

¹⁴⁶ See Sara Gronim, 'Geography and Persuasion: Maps in British Colonial New York', *The William and Mary Quarterly*, 58:2 (2001), 376.

create bureaucracies and other institutions in order to finance warfare. Yet the regulation of trade also related to the defining of boundaries:

Even customs revenues depend on the existence of well-defined and well-defended borders; smuggling - the evasion of internal or external customs duties - became a crime precisely to the extent that European states attempted to define and defend their boundaries. In the ages of patrimonialism and brokerage, indeed, states often relied on tolls collected at strategic roads, ports, or waterways instead of customs collected all round a monitored frontier.¹⁴⁷

Control over trade, moreover, is not just for the purposes of revenue collection. For Benno Teschke, for example, the rise of mercantilist central economic policies are responsible for the creation of an externally bounded, though internally still differentiated, economic territory.¹⁴⁸ Central to the development of the absolutist state, on this view, was the ability of the state to minimize the wealth leaving the territory and maximize the wealth entering it, which depends on border controls, apart from any revenues generated by tariffs.

But while customs are important to various explanations of border formation, in the American colonies they can be mostly ruled out as a mechanism that made precise territorial borders necessary in the 17th century because, as far as we know, very little was actually done to enforce inter-colonial trade regulations, especially over land. Before the Navigation Act 1696, the task of collecting customs was given to a few naval officers haphazardly placed, rather than to a customs service.¹⁴⁹ Moreover, while intercolonial trade did incur customs, the impact of these customs were almost exclusively intended for the eventual transport of goods overseas, and so the main effort of enforcement fell upon ports rather than land borders.¹⁵⁰ It is thus extremely unlikely that any significant attempts were made to collect customs duties at land borders between colonies.

The papers of Edward Randolph, the administrator in charge of North American colonial customs in the 1690s, give us a good picture of customs collection efforts in the late seventeenth century, which reinforces this. Historians have highlighted Randolph's pivotal role in cementing imperial control over the colonies after a long period of relative neglect, and have referred to his efforts at enforcing and revising the Navigation Acts as particularly influential.¹⁵¹ In over twenty reports sent to London officials between 1689 and 1702, Randolph detailed vast quantities of smuggled goods seized, in all colonies from Massachusetts to South Carolina.¹⁵² Almost all of these were seized aboard ships, some seized from positions on land, waiting to be transported by water, and none seized in transit over land. Randolph does briefly note the presence of some overland smuggling in the area between Delaware, Maryland, and Virginia, but he does not say what was done to prevent it.¹⁵³ Intercolonial smuggling was a small part of the overall problem of smuggling, and the overland portion of this in turn was very small. In light of this, it is extremely unlikely that concerns about smuggling had anything to do with borders surveyed in the years during Randolph's activities or immediately afterwards.

A general scarcity of information on intercolonial trade has posed problems for historians, and based on the available information, historians have generally studied intercolonial trade as a

¹⁴⁷ Charles Tilly, *Coercion, Capital, and European States, AD 990–1992* (London: Blackwell, 1992), 88.

¹⁴⁸ Benno Teschke, *The Myth of 1648: Class, Geopolitics, and the Making of Modern International Relations* (London: Verso, 2003), 197-214.

¹⁴⁹ Emma Hart, 'Naturally Cut Out...for Unlawful Trade', in Peter Mancall and Carole Shammas (eds), *Governing the Sea in the Early Modern Era: Essays in Honor of Robert C. Ritchie*, (San Marino, CA: Huntington Library, 2015), 226.

¹⁵⁰ Rabushka, *Taxation in Colonial America*, 92-117.

¹⁵¹ One historian describes him as 'indisputably England's best-informed colonial expert' in his time: Michael Garibaldi Hall, *Edward Randolph and the American Colonies, 1676-1703* (Chapel Hill: University of North Carolina Press, 1960), 221.

¹⁵² Robert Noxon Toppan (ed), *Edward Randolph, Vol. V* (Boston: John Wilson and Son, 1899).

¹⁵³ Toppan, *Edward Randolph, Vol. V*, 211.

maritime phenomenon.¹⁵⁴ April Lee Hatfield's *Atlantic Virginia*, however, provides a window into the understudied realm of overland intercolonial movement, among other things. She concludes that, while overland movement may have in part provided motivations for defining borders, in the seventeenth century it was 'primarily Indian and involved only a few European traders and others (such as Quaker Public Friends and runaway servants and slaves)'.¹⁵⁵ The primary way in which colonial officials attempted to regulate overland intercolonial movement was by developing contacts with Native Americans and with officials in other colonies. 'Officials generally respected political boundaries by avoiding pursuit of criminals across boundaries and instead enlisting the help of officials in other jurisdictions'.¹⁵⁶ Communications, then, were more central to these efforts than the physical demarcation of boundaries, and the actual apprehension of criminals and slaves did not necessarily take place at or near intercolonial borders.

Evidence on Inter-Imperial Boundaries

European Treaties on North America before 1825: Lack of Explicit Boundaries

I examined twelve treaties in order to determine whether US independence temporally correlates with the linearization of borders in European imperial treaties.¹⁵⁷ For the 100 years prior to US independence I include the five major European treaties involving North America, based on Fred Israel's collection, *Major Peace Treaties of Modern History, 1648-1967*. From the 1783 Treaty of Paris through 1825, there are no 'major' European treaties involving North America, except for the treaties of the Napoleonic Wars, which only marginally involve North America. For this period, then, I follow the more complete treaty series collected by Frances Davenport and Charles Paullin, *European Treaties bearing on the History of the United States and its Dependencies*. Out of all these treaties, only one (Treaty of Paris, 1763) even partially delineates a linear border in North America.

The following is a representative example of what does not constitute a linear border, from the 1748 Treaty of Aix-la-Chapelle:

All the conquests, that have been made since the commencement of the war, or which, since the conclusion of the preliminary articles, signed the 30th of April last, may have been or shall be made either in Europe, or the East or West Indies, or in any other part of the world whatsoever, being restored without exception...¹⁵⁸

Central America: Lack of Explicit Boundaries

Linear borders were eventually delimited and demarcated by the republics that formed after the collapse of the Spanish Empire, some of which are included in North America. However, aside from the US-Mexican boundary, which at first followed the Adams-Onis Treaty the US had concluded with Spain in 1819, these boundaries were left undelimited until decades after independence. During the existence of the Federal Republic of Central America (1823-1841), there were only two of these in North America: the Federal Republic's boundaries with Mexico and with

¹⁵⁴ James F. Shepherd and Samuel H. Williamson, 'The Coastal Trade of the British North American Colonies, 1768-1772'; David C. Klingaman, 'The Development of the Coastwise Trade of Virginia in the Late Colonial Period', *The Virginia Magazine of History and Biography* 77:1 (1969), 26-45.

¹⁵⁵ April Lee Hatfield, *Atlantic Virginia: Intercolonial Relations in the Seventeenth Century* (Philadelphia: Pennsylvania University Press, 2004), 221.

¹⁵⁶ Hatfield, *Atlantic Virginia*, 189.

¹⁵⁷ These were: Treaty of Nijmegen (1678), Peace of Ryswick (1697), Peace of Utrecht (1713), Treaty of Aix-la-Chapelle (1748), Treaty of Paris (1763), Treaty of Paris (1783), Nootka Sound Convention (1790), Nootka Sound Convention (1794), Treaty of Aranjuez (1801), Treaty of Amiens (1802), Convention (1805), Treaty of Paris (1814).

¹⁵⁸ Fred L. Israel (ed), *Major Peace Treaties of Modern History, 1648-1967*, vol. I (Philadelphia: Chelsea House Publishers, 1967), 273.

Colombia, which then encompassed present-day Panama. These were not delimited until 1882 and 1900, respectively.¹⁵⁹

US-European Treaties: Linear Boundaries

Treaty of Paris (1783, Britain-USA): Delimits linear border.

Jay-Grenville Treaty (1794, Britain-USA): Confirms Treaty of Paris (1783), calls for surveys and commissions. Surveyed possible referents of ‘St. Croix River’ and their sources (1796-1797); Marker placed at source of St. Croix chosen by commission (1798).¹⁶⁰

Treaty of San Lorenzo/Pinckney’s Treaty (1795, Spain-USA): Delimits linear border. Surveyed and demarcated 1798-1800.¹⁶¹

Louisiana Purchase (1803, France-USA): No explicit border.

Treaty of Ghent (1814, Britain-USA): Confirms Treaty of Paris (1783), calls for surveys and commissions. Surveyed boundary from source of St Croix through the great lakes (1817-1820), and from Lake Superior to Lake of the Woods (1822-1825).¹⁶²

Convention with Great Britain (1818, Britain-USA): Delimits linear border from Lake of the Woods west to Rocky Mountains and stopped temporarily for 10 years.¹⁶³ Survey crew mobilized but then aborted (1827).¹⁶⁴

Adams-Onis Treaty (1819, Spain-USA): Delimits linear border. Treaty calls for survey, but prevented by Mexican independence, recognized by US in 1822.¹⁶⁵ US-Mexico treaty of 1828 confirmed terms of Adams-Onis Treaty, and called again for survey, but prevented by Texan independence.

Russo-American Treaty (1824, Russia-USA): Delimits linear border.¹⁶⁶

Observable Implications: Inter-Imperial Borders

The following details observable implications of the argument that the habitual practice of surveying led to US boundaries with neighboring empires.

Treaty Texts: In the 100 years prior to US independence in 1776, there were five major European treaties affecting territories in North America.¹⁶⁷ Additionally, between 1776 and 1815 there were seven European territorial treaties potentially applying to North America (Paullin 1937, 158-197). The texts of all these treaties do not describe the locations of any North American borders, with one exception. This was the 1763 Treaty of Paris, which partially defined the boundary between British and French territory, using the Mississippi River. With the defined part of this border not running over any land, this one border on its own at most represents weak evidence of a European-imported practice of modern territoriality.

¹⁵⁹ Paola Ortiz, ‘Guatemala-Mexico: Chiapas and Soconusco’, in Emanuel Brunet-Jailly (ed), *Border Disputes: A Global Encyclopedia, Vol. I* (Santa Barbara, CA: ABC-CLIO, 2015), 239; Leon F. Sensabaugh, ‘The Attitude of the United States toward the Colombia-Costa Rica Arbitral Proceedings’, *The Hispanic American Historical Review*, 19:1 (1939), 16-30.

¹⁶⁰ Carroll, *A Good and Wise Measure*, 17.

¹⁶¹ Cameron Strang, *Frontiers of Science: Imperialism and Natural Knowledge in the Gulf South Borderlands, 1500–1850* (Chapel Hill: University of North Carolina Press, 2018), 131.

¹⁶² Carroll, *A Good and Wise Measure*, 48, 95, 118.

¹⁶³ Van Zandt, *Boundaries of the United States*, 14

¹⁶⁴ Carroll, *A Good and Wise Measure*, 143

¹⁶⁵ William Manning, ‘Texas and the Boundary Issue’, *Southwestern Historical Quarterly* 17:3 (1914), 217-261.

¹⁶⁶ Frédéric Saalfeld (ed), *Supplément au Recueil des Principaux Traités*, vol. X, pt. 2 (Göttingen, 1828), 1011.

¹⁶⁷ Nijmegen (1678), Ryswick (1697), Utrecht (1713), Aix-la-Chappelle (1748), Paris (1763). A linear border between New England and New Netherlands was negotiated in 1650, but by settler officials acting independently, and was not recognized by London (Davenport 1929, 4-5).

By contrast, US treaties with European empires used linear borders. Between 1783 and 1819 Europeans accepted new US territory in four treaties.¹⁶⁸ To this we can add three other treaties during those years which added precision to those boundaries.¹⁶⁹ These treaties all either delimited new linear borders or reaffirmed existing ones, except for the Louisiana Purchase. This did not include any definition, despite potentially covering about a million square miles, if we include the contemporary US claim that it stretched to the west coast (Van Zandt 1976, 24). Yet this only draws attention to the vagueness with which 'Louisiana' had already been passed from France to Spain (1762) and back (1801) (Van Zandt 1976, 23-24). In those previous cessions Louisiana had not been given any textual definition at all. But subsequently, the US delineated the northern and southern boundaries of the land claimed through the Louisiana Purchase with Britain (1818), Spain (1819), and Russia (1824).

Native American 'Buffer States': Did European empires only collaborate with US officials to define borders precisely, or did they attempt to retain earlier practices of not defining borders?

While there is little evidence that maintaining the existing lack of definition was explicitly pursued, European officials repeatedly attempted to avoid a direct boundary with the US, by setting up Native American buffer states. First, during negotiations at the end of the War of Independence in 1782, France suggested spheres of influence among Native Americans, as a compromise between US and Spanish proposals.¹⁷⁰ Second, during US-Spanish discussions in 1786 over the disputed boundary, Spain proposed a sixteen-article draft treaty which included a Native American state under joint US and Spanish 'protection' south of the Ohio River.¹⁷¹ Third, Britain proposed a Native American buffer state north of the Ohio River 'from time to time in the 1790s', as it was supporting Native resistance to US settlers in the area.¹⁷² Finally, during negotiations following the War of 1812, arguing that 'protection of the interests of their Indian allies must be a *sine qua non* in the treaty', Britain 'insisted' on instituting a buffer state.¹⁷³

Boundary Commissions: Continuity of Practice: Between 1783 and 1825 there were three phases of bilateral boundary demarcations between the US and its European neighbors, each prescribed by treaty terms. First, following the Jay-Grenville Treaty (1794), a commission surveyed and marked a part of the boundary between Maine and New Brunswick (1796-1798) (Carroll 2001, 17). Second, the Treaty of San Lorenzo (1795) defined the US-Spanish border from Georgia and Florida to the Mississippi, and this boundary was surveyed (1798-1800) (Van Zandt 1979, 23-24). Third, after the War of 1812, the British-US border was confirmed (1815) and surveyed in three parts: from the Atlantic to the St. Lawrence River, from there through Lake Superior (both 1817-1820), and then from there to the Lake of the Woods (1822-1825).

Rather than importing European expertise, Britain and Spain chose only colonists who had already held official colonial posts overseeing property surveys, as head surveyors in charge of the technical aspects of these boundary surveys. For example Joseph Bouchette, Surveyor General of Quebec, was appointed lead surveyor on the British side in 1817 for the eastern section of the British-US boundary. William Dunbar, a Philadelphia merchant who later became a plantation owner and Surveyor General of Natchez, West Florida, served as lead surveyor on the Spanish side marking the southern US boundary.

¹⁶⁸ Paris (1783), Jay-Grenville (1794), San Lorenzo (1795), Louisiana Purchase (1803) (Van Zandt 1976, 12-24).

¹⁶⁹ Ghent (1814), 'Convention with Great Britain' (1818), Adams-Onis (1819) (Van Zandt 1976, 12-14, 26-27).

¹⁷⁰ Wharton 1889, vol. 6, 22.

¹⁷¹ Bemis 1960, 104.

¹⁷² Carroll 2001, 24.

¹⁷³ Carroll 2001, 23.

Boundary Treaty (parties: year concluded, years demarcated)	Surveyor's Name (Party Represented)	Surveying Experience
Jay-Grenville Treaty (US-UK: 1794, 1798)	Thomas Wright (UK) ¹⁷⁴	Surveyor General of colony of St. John's Island, 1773-1812 ¹⁷⁵
Treaty of San Lorenzo/Pinckney's Treaty (US-Spain: 1795, 1798-1800)	Andrew Ellicott (USA) ¹⁷⁶	Surveying in Washington, DC and elsewhere; ¹⁷⁷ Continuation of Mason-Dixon Line, 1784; several other state boundaries ¹⁷⁸
	William Dunbar (Spain)	Surveyor General of Natchez District, Spanish West Florida (by 1798) ¹⁷⁹
Treaty of Ghent: Article 5 (US-UK: 1812, 1817-1820)	Joseph Bouchette (UK, until 1818)	Surveyor General of Lower Canada, 1804-1840 ¹⁸⁰
	W. F. Odell (UK, from 1818)	Deputy Surveyor in New Brunswick; Surveyed lands of Miramichi Native Americans, 1808 ¹⁸¹
	John Johnson (USA)	Surveyor General of Vermont, 1812-1822 ¹⁸²
Treaty of Ghent (US-UK: 1812), Article 6 (1817-1820), Article 7 (1822-1825)	David Thompson (UK) ¹⁸³	Surveyor of Hudson's Bay Company, 1794-1797; Surveyor of North West Company, 1797-1812 ¹⁸⁴

¹⁷⁴ H.T. Holman, 'Wright, Thomas' in *Dictionary of Canadian Biography, Vol. V* (Toronto: Toronto University Press, 1983).

¹⁷⁵ Holman, 'Wright, Thomas'.

¹⁷⁶ Carroll, *A Good and Wise Measure*, 99

¹⁷⁷ Ellicott was the principal surveyor of the planned federal city of Washington, DC, responsible for laying not only its boundaries with Maryland and Virginia, but also individual lots within it. Catherine Mathews, *Andrew Ellicott: His Life and Letters* (New York: The Grafton Press, 1908), 83. Historians have also assumed that he was engaged in smaller-scale surveying work earlier in life, although records are unclear: Mathews, *Andrew Ellicott*, 18; William Buckner McGroarty, 'Major Andrew Ellicott and His Historic Border Lines', *The Virginia Magazine of History and Biography* 58:1 (1950), 101.

¹⁷⁸ Sally Kennedy Alexander, 'A Sketch of the Life of Major Andrew Ellicott', *Records of the Columbia Historical Society* 2 (1899), 158-202.

¹⁷⁹ George Webb, 'William Dunbar', *American National Biography Online* (Oxford University Press, published online 2000).

¹⁸⁰ Claude Boudreau and Pierre Lépine, 'Bouchette, Joseph', in *Dictionary of Canadian Biography, Vol. VII* (Toronto: Toronto University Press, 1988); Carroll, *A Good and Wise Measure*, 50.

¹⁸¹ D.M. Young, 'Odell, William Franklin', in *Dictionary of Canadian Biography, Vol. VII* (Toronto: Toronto University Press, 1988); Carroll, *A Good and Wise Measure*, 60.

¹⁸² Donald Wise, 'Surveying and Mapping the International Border in Northeast Maine: 1817-18', *Surveying and Mapping* 40:1 (1980), 420; Carroll, *A Good and Wise Measure*, 50.

¹⁸³ Carroll, *A Good and Wise Measure*, 98, 117

¹⁸⁴ John Nicks, 'Thompson, David (1770-1857)', *Dictionary of Canadian Biography, Vol. VIII* (Toronto: Toronto University Press, 1985).