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The Colonial Origins of Modern Territoriality: Property Surveying in the Thirteen Colonies

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Most scholars agree the rise of states led to modern territoriality. Yet globally the transition to precise boundaries occurred most often in colonies, and there are virtually no systematic explanations of its occurrence outside Europe. This article explains how precise boundaries emerged in the earliest context where they were regularly and generally implemented: seventeenth- and eighteenth-century colonial North America. Unlike explanations of modern territoriality in Europe, it argues property boundary surveys became an entrenched practice on the part of settlers and were a readily available response to intercolonial boundary disputes. After independence, settlers who were accustomed to surveys pursued linear boundaries with Britain, Spain, and Russia. Moreover, the article argues that linear borders (delimited linearly and typically physically demarcated), not sovereignty, are constitutive of modern territoriality. *By disentangling the literature's Eurocentric confusion between modern territoriality and sovereign statehood, the article makes possible a global comparative study of the emergence of modern territoriality.*

Modern territoriality, or the systematic allocation of territory through precise delimitation and demarcation of boundaries, deeply shapes contemporary international politics.[1] Regardless of local context, all political boundaries, including internal administrative boundaries, are linear. That is, they are expected to be defined in sufficient detail in official documents or in accurate representational maps such that they can be marked along a series of points, defining a line. These requirements limit the ways that legitimate authority can be exercised and determines the kinds of territories that can be governed or fought over. As a geographical configuration of international politics, it is unique to the modern world and is a result of a centuries-long transformation from more vaguely defined or zonal frontiers to geometrically exclusive territories.

This article advances the study of that fundamental transformation by explaining how modern territoriality emerged where it first appeared, in colonial North America during the seventeenth and eighteenth centuries. The process can be outlined in three roughly chronological steps: First, settlers depended on land surveying techniques to create a vast number of individual property claims, and the surveying practice was internalized into the dispositions of settler elites. Second, this habitual reference to surveyors and their techniques made linear borders possible, from the mid-1600s. Finally, after US independence, settler officials accustomed to boundary surveys overturned the preexisting European imperial practice of leaving borders vague and relatively rapidly fixed boundaries with Britain, Spain, and Russia. To show this, I use an extensive range of primary sources, including the governmental record books of most colonies, colonial charters and statutes, Native American and interimperial treaties, colonial and imperial maps, and US Supreme Court cases, as well as secondary sources, which are all fully cited in an appendix.

In global-historical perspective, the emergence of modern territoriality in North America was not, in itself, "the end of an epoch and the opening of another," as Leo Gross once described the 1648 Peace of Westphalia (de Carvalho, Leira, and Hobson 2011, 739). Before the late nineteenth century, vague frontiers rather than linear borders were still the global norm (Goettlich 2019). It was, however, a crucial step toward the current global condition of modern territoriality, being the first time it was systematically practiced, first across a whole group of territories and then across a whole continent.

By tracing the origins of modern territoriality, many scholars have sought to explain the current international system's configuration and to understand fundamental changes in international politics (Abramson 2017; Philpott 2001; Reus-Smit 1999; Ruggie 1993; Spruyt 1994; Teschke 2003). In doing so, however, they have generally looked for its origins as part of the formation of sovereign states. This conceptual framing has empirically limited their search to Europe, where modern territoriality and the sovereign state developed together as closely linked processes. However, that aspect of European history is relatively unique. It is well known that, by contrast, when many European colonies gained sovereign independence, there were almost no changes at all to their borders. In many of these cases modern territoriality emerged earlier and separately from sovereignty. Thus the appearance of modern territoriality outside Europe, as a distinct

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[1] Scholars have noted various ways in which the institution of borders shapes international politics (see Simmons 2019).

component of the modern international system, has not been systematically addressed.

The contribution of the article is twofold. First, it contributes to recent discussions around the colonial emergence of modern territoriality by explaining the mechanism of its emergence and the primary historical sequence (Branch 2014; Nisancioglu 2020). Second, it reconfigures the terms under which investigation of the history of territoriality is done. I argue that an understanding of *modern territoriality* that centers on linear borders rather than sovereignty not only is more logically coherent but also avoids certain forms of Eurocentrism. The confusion between modern territoriality and sovereignty is an outcome of the literature's European focus, and it is likely to lead future inquiry back in the same direction. Scholars that seek to reexamine the origins of "the modern system of territorial rule" (Ruggie 1993, 151) should specify which of the two they mean, or in what combination. Although space does not allow much defense of the claim that the systematic implementation of linear borders was novel in the American colonies, that claim is not an original contribution of this article.[2] Instead, the contribution is to explain *how* linear borders emerged there and to argue that systematically implemented linear borders—not sovereignty—are the distinguishing feature of modern territoriality.

The first section argues that existing scholarship problematically confuses modern territoriality and sovereignty. The second clarifies the concept of modern territoriality and defines key terms. I then elaborate an explanatory framework for the emergence of modern territoriality in North America, which the bulk of the article empirically investigates.

MODERN TERRITORIALITY OUTSIDE THE SOVEREIGN STATE

Scholarly attempts to explain and understand the historical origins of modern territoriality, or the distribution of legitimate rule into "territorially defined, fixed, and mutually exclusive enclaves" (Ruggie 1993, 151), have been limited by a largely unquestioned assumption. Scholars take for granted that the origins of modern territoriality can be subsumed under those of the sovereign state, or sometimes the nation-state. This article abandons that deeply entrenched assumption, showing how modern territoriality emerged in colonial North America independently of its emergence in European sovereign states. Doing so opens up the possibility of explaining how modern territoriality emerged outside Europe, a question that cannot be exhausted by one article but has to date received almost no attention from scholars.

The historical origins of modern territoriality have long been debated (Abramson 2017; Branch 2014; Goettlich 2019; Philpott 2001; Reus-Smit 1999; Ruggie 1993; Spruyt 1994; Teschke 2003; or of "*territory* itself": Elden 2013, 3). In much international relations (IR) scholarship, this forms a crucial part of the medieval-to-modern transition that is considered the paradigmatic example of systemic change (Costa Lopez 2020). Scholars have posited factors from economics to religion and periods from the fourteenth century to the nineteenth. It remains generally agreed, however, that the European state system was the central location of the causal dynamics at work and that subsequently "the Western European model of territorial division between states was exported to much of the rest of the world" (Elden 2019, 217; although see Zarakol 2018). Based on this regional focus, there is a virtually unchallenged assumption in a range of disciplines, from political science to political geography, that "Territorial delineation and nation-statehood were largely co-constitutive processes" (Simmons 2019, 258; see also Storey 2012, 45). At the same time, others have noted that geographically linear definitions of authority claims first appeared as an ideal in European empires, not nation-states (Branch 2014, 100–19). Yet attempts to explain *how* the practice of modern territoriality emerged have been generally confined to European states.

It is partially because of this regional focus that scholars have remained unclear on the distinction between the terms "sovereign statehood" and "modern territoriality." In order to specify the term modern territoriality, scholars (e.g., Ruggie 1993) rely on the European experience between the medieval and modern periods, in which two things happened: on the one hand, what Tilly (1992) calls "national states" emerged, and on the other, vague frontiers were replaced by precise boundary lines. In European history these two processes are usually considered one and the same process, or at least tightly interconnected. Outside Europe, however, these two processes rarely occurred together. In much of Asia, Africa, and North America, when colonies became sovereign states, their mutual boundaries were already quite well defined and the political struggle for sovereignty did not necessarily involve any efforts at all of delimitation or demarcation.

While some scholars treat territoriality as little more than an attribute of sovereignty (Thomson 1995, 227), others argue that the geographical consolidation of rule within a precisely defined area "is distinct from sovereignty and not necessary to it" (Buzan 2004, 182). But scholars have not fully acknowledged the logical consequence of distinguishing them: sovereignty is not a necessary condition for modern territoriality. Simply because a form of rule is confined to a precisely defined area does not imply that it is a sovereign state.

While this confusion does not in the first instance pose problems for the analysis of contemporary international politics, it is a critical obstacle to an adequate analysis of territoriality in historical international systems, which continues to be a goal of IR scholars. The blurring together of sovereignty and territoriality encourages a bias against examining empirical material from hierarchical systems, where modern territoriality might have developed relatively independently. The many accounts of sovereign statehood outside Europe

[2] See Branch 2014, chap. 5; Sack 1986, chap. 5.

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(e.g., Philpott 2001, 153–250) have been accompanied by few, if any, systematic attempts to explain how modern territoriality came to exist outside Europe.[3]

However, a growing literature has moved beyond defining international relations in a way that excludes modern empires such as the British or Japanese empires, stressing that hierarchy is an enduring dimension of international relations (Bially, Mattern, and Zarakol 2016). As polities in super- and subordinate relations with each other have recently come to be considered central material for IR, then, empirical confinement to the European state system is increasingly difficult to justify. This article addresses the bias toward sovereign state systems by examining the emergence of modern territoriality in a colonial system.

In global history, by comparison, the sovereign state has been much less conceptually entrenched. The specific kinds of territoriality found in empires and colonies matter, and they sometimes affect politics in the metropole in surprising ways (Fitzmaurice 2014; Maier 2016; Stoler 2006). Rather than simply reproducing metropolitan practices, colonial states were often "mishmashes of local and imperial political norms, forms, and practices often cobbled together through an unending series of temporary compromises" (Hopkins 2020, 19). Moreover, colonialism afforded opportunities for concepts and practices of private property to interact with those of sovereignty in important ways (Fitzmaurice 2014, chap. 6; Greer 2018). At the same time, my argument demonstrating how modern territoriality appeared first among colonies adds complexity to a schematic sometimes appearing in global history that holds that the "space of states aspires to frontiers stabilized by treaty," unlike the "space of empire," which is more "restless and contested at its perimeter" (Maier 2016, 14–5). Although Stoler (2006, 137) critiques the common tendency to see empire "as an extension of nation-states, not as another way—and sometimes prior way—of organizing a polity," the important difference for her between the two is that "Boundaries matter to nation-states in ways that for vast imperial states in expansion they cannot." This article builds on global historians' claims that the territoriality of empires has to be understood on its own terms rather than, as IR typically understands it, as an extension of the nation-state. But it also insists, particularly in the case of eighteenth-century North America, that this is because the precise demarcation of colonial boundaries mattered more, not less, than it did in European nation-states.

Moreover, it has been an important insight of global historians to point out how complex territoriality is and how nonlinear the historical progression toward modern territoriality has been (Benton 2010; McKeown 2008; Stoler 2006;). Historical regimes of territoriality in both metropoles and colonies, far more often than is typically recognized, have been aspirational, with clear, bold lines on maps that are often more useful as ideology than as an accurate characterization of political practice. Accordingly, global historians more frequently refer to territoriality and borders as historically negotiated "practices" rather than as conditions that are either present or not or as attributes of sovereignty. Contrary to IR's frequent references to the 1648 Peace of Westphalia, global historians more often emphasize the late nineteenth century as a turning point at which sovereignty and territoriality became fully linked conceptually and legally (Benton 2010, 3; Hopkins 2020; Maier 2000). This is a crucial insight, making it possible to ask, as a question relatively distinct from the centralization of sovereign authority, how clear and precise lines on maps did ultimately become more or less accurate depictions of defined boundaries.

DEFINITIONS: LINEAR BORDERS AND MODERN TERRITORIALITY

If modern territoriality is not an attribute of sovereignty, then, what is it? In this section I provide further specificity to this frequently used but not well-defined term. The goal here is not to define or analyze territory or territoriality in general, as this is the subject of much literature (Branch 2017; Elden 2013; Kadercan 2015; Painter 2010; Sack 1986). Instead, the goal is to specify certain central features that are characteristic of territoriality that are unique to modernity. As Branch (2017, 139) points out, many accounts that "explain the shift to territorial statehood … explain only the basic notion of claiming some control over a place or space, without accounting for the particularities of modern territoriality." This section sets out what the most important of these particularities are.

To begin with territoriality itself, modern or not, Sack (1986, 5) provides a commonly used definition: "a primary geographical expression of social power" or "a powerful geographic strategy to control people by controlling area." As Sack uses the term, it has no necessary relationship whatsoever to sovereignty, but instead it is a strategy used to a greater or lesser extent by virtually all human organizations. He gives the example of the Chippewa Native Americans in the early days of European contact, who were "hardly territorial as a 'nation', although they may have been occasionally territorial as individual bands," by allocating land for particular families to cultivate (8). As long as some actions by some people are permitted by some authority in one space rather than other spaces and as long as it is clear enough in practice where this space is, we can call this a use of territoriality.

What, then, makes territoriality specifically *modern territoriality*? What is "modern" and what does the term add?[4] In one of the few efforts to specify the term *modern territoriality*, Ruggie (1993, 151) argues that

[3] Although see Herbst (2000, 66).

[4] Chakrabarty (2011, 669) distinguishes *modernization* from *modernity*: "modernization" is (quoting Immanuel Wallerstein), "the supposed triumph of humankind over nature, through the promotion of technological innovations," whereas "modernity" involves reflective thought about modernization. Modern territoriality is a product of modernization in this sense rather than of modernity.

"the distinctive feature of the modern system of rule is that it has differentiated its subject collectivity into territorially defined, fixed, and mutually exclusive enclaves of legitimate dominion." This rules out some important historical formations of power, such as universal empires that acknowledged no limits to their authority. But there are still various ways of interpreting this definition. It could, for example, apply to the Warring States period of Chinese history (481–221 BCE), in which a collection of many "large territorial states" were governed by "absolute monarchs" (Lewis 1999, 598). If the term modern territoriality applied to an ancient group of polities, this would appear to empty the term of its distinctive content.

I propose solving these problems by focusing on the precision and linearity of borders (cf. Philpott 2001, 3; Reus-Smit 1999, 114; Spruyt 1994, 154; Teschke 2003, 171). Mandating a certain degree of precision or maximum margin of error would be one way to specify this, but it would be difficult to measure in most historical contexts and would inevitably be highly arbitrary. Instead, I draw on categories of practice used by boundary specialists to highlight not a *degree* of precision but a *kind* of precision characterized by certain practices termed "delimitation" and "demarcation." Since the early twentieth century, boundary scholars and practitioners have debated about how to conceptualize the different practices defining the historical evolution of boundaries (Boggs 1940; De Lapradelle 1928; Jones 1945). They suggested some practices, such as "allocation," or the political negotiation of who should control what territory, which occur whenever territory exists. But some of them have only been systematically pursued within modernity—namely, "delimitation" and "demarcation." Accordingly, we can define linear borders as those that are *delimited* and *demarcated* and modern territoriality as *the systematic implementation of linear borders.* We can further specify these definitions by inquiring into what boundary scholars and practitioners mean by delimitation and demarcation.

Delimitation is "the allocation of territory by straight lines, or by lines related to the uncertain distribution of physical and cultural features" (Prescott and Triggs 2008, 64; See also Jones 1945, 57). Prescott and Triggs recognize two kinds of delimitation: either a line is so completely defined in an agreement that for surveyors to trace the line is a merely technical matter or the surveyors can be given leeway within a defined area to specify the line conveniently. Either way, delimitation gives instructions for surveyors to trace a line precisely on the ground. Lists of places belonging to each polity, whether in the partitions of the medieval Carolingian Empire (e.g., Du Mont 1726, 17), or the 1648 Westphalia treaties, or the 1659 Treaty of the Pyrenees (Branch 2014, 125–30) count as premodern territoriality because they do not give precision to where a boundary line might be between these groups of places.

Demarcation, in the literal, technical sense of the word used by boundary specialists, means "marking the delimited boundary … on the landscape" (Prescott and Triggs 2008, 66; see also Jones 1945, 165). Not all boundaries today are fully demarcated at every turning point, but a linear demarcation must in principle be possible without further "political" input. Thus, a map depicting a political realm as bounded, as in sixteenth-century European maps (Branch 2014, 56) or the twelfth-century Chinese atlas *Lidai dili zhizhang tu* (Yee 1994, 59), does not on its own count if it does not reduce demarcation on the ground to a "technical" matter.

An important caveat is that an individual linear border does not in itself constitute modern territoriality. Modern territoriality is universally applicable; today the expectation is that all borders should be delimited and demarcated regardless of location. Some ancient polities occasionally delimited individual linear boundaries, or used some kind of physical demarcation suggesting a line, or both.[5] For example, the Roman historian Livy (2019, section 21.2) relates that Rome concluded a treaty (226 BCE) with Carthage making the river Ebro in Spain "the limit of the authority (*imperium*) of each." But because rivers eventually end at a source, they alone cannot be the basis of a whole system of modern territoriality.[6] Such individual borders are precursors, but cannot be considered sufficient for our purposes until there is an effort to systematically and generally delimit and demarcate borders.

One possible objection to borrowing from boundary practitioners this definition of "demarcation," which involves physical markings indicating the whole length of a boundary on the ground, is that common usage of the word is much wider. However, loose usage of the term obscures important differences between different topics under discussion. For example, for Spruyt (1994, 155), "territorial demarcation" was "present" in France as soon as supreme royal authority was established over a particular set of geographically contiguous subjects. For Reus-Smit (1999, 114) and Teschke (2003, 171, 230), however, territory is not demarcated until territorial units are fixed in the long term, despite dynastic intermarriages. Meanwhile, some refer to all possible ways in which limits of authority are articulated as different kinds of demarcation (Kadercan 2015, 130). These different usages of the term, though generally unacknowledged, lead to important differences in when and where demarcation is said to have taken place. Moreover, these wider definitions lose the potential to clearly distinguish between various kinds of territoriality visible almost throughout human history from the kind of territoriality specific to our era. That markers consistently appear along territorial borders, or at least that borders have the kind of precision that makes this possible, is a crucial feature of the modern configuration of rule, and boundary specialists assume this routinely. Under this definition, a system of modern territoriality began to emerge in the English colonies of North America during the seventeenth

[5] I thank an anonymous reviewer for this point and that of the following paragraph.

[6] Mountain ranges, sometimes used similarly, are never really as linear as they appear on some maps, and modern mountain boundaries always require additional specification (Goettlich 2019, 208).

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century, whereas in Europe this became widespread in the early nineteenth century (Branch 2014, 135).

MODERN TERRITORIALITY IN NORTH AMERICA: EXPLANATORY FRAMEWORK

In the English colonies of North America during the seventeenth century, a system of modern territoriality, understood as outlined above, began to take shape. In colonial North America, elites' habitual reliance on surveying practices, emerging out of frequent property disputes, led to the first systematic use of geometric surveying techniques for political boundaries. In this section I clarify this claim, first by reviewing the secondary literature from which it is derived and then by outlining a causal mechanism.

Property Disputes and Boundary Surveying in the Thirteen Colonies

My account here builds on observations made by historians of surveying, property, and boundary disputes in the American colonies. Three themes emerge from this literature: property surveying was integral to the dispute-ridden settler colonial society, intercolonial boundary disputes were common and addressed through surveys, and property disputes and intercolonial boundary disputes were tightly interlinked.

First, there is wide agreement among a range of historical literatures that in the 13 colonies, the practice of surveying private property was attributed a special significance in society (Brückner 2006; Greer 2018; Hughes 1979; Kain and Baigent 1992; Kovarsky 2014; Onuf 1987; Strang 2012). This importance of the surveying practice can be explained in terms of historically particular conditions, including an intense competition among settlers for land (Brückner 2006, 24). The surveying practice is seen as a powerful technique, both for individual settlers claiming land and for colonial governments attempting regulate settlement, without great means of direct coercion.

Colonial property surveying was often less accurate than in Europe, but it had much greater influence in important ways. There were few professionals in the colonies dedicated exclusively to the surveying practice in the seventeenth century, and the latest surveying technology was less accessible. But unlike in Europe, practically any white male in the English colonies could acquire property in land, creating vastly more surveying work (Keene 2002, 65). European surveying was becoming more accurate, but its usage was limited. Properties in Europe were beginning to be surveyed geometrically at this time, but this surveying work could be handled by a relatively small, autonomous group of professionals (Greer 2018, 319). Importantly, in the seventeenth century surveying was used for territorial boundaries in the colonies, but not in Europe. The reason for this early emergence of surveyed territorial boundaries in the colonies, I argue, was precisely that knowledge of delimitation and demarcation was widespread, rather than limited and professionalized, and thus deeply influenced society at large.

Disputes surrounding these new property titles plagued colonial governments, making surveying a salient political issue. Colonies responded by instituting surveys to solidify the legitimacy of existing property titles and limit property disputes. The reason often cited in colonial property laws was that these numerous disputes overwhelmed the colonial court system (Hening 1823, 518; Hughes 1979, 60). At a more fundamental level, however, the expectation of clear and outright ownership of land was what attracted many settlers away from Europe's feudal tenures, and disputes might have inhibited settlement (Keene 2002, 66). In contrast to Europe, where an aristocracy could oppose state attempts at property surveys to try to avoid taxation, no such class materialized in the North American colonies (Kain and Baigent 1992, 169, 182).

Thus, reliance on surveying became so widespread among colonial governments and landowners that surveying acquired a deep presence in politics, society, and even literature (Brückner 2006, 16–50). "Colonial landowners generally possessed rudimentary land surveying skills… . The needs of local landowners created an imperative demand for self-instruction" (Kovarsky 2014, 5–9). By the time of US independence, a significant portion of the colonial elite, including George Washington and Thomas Jefferson, were surveyors.

A crucial precondition for widespread white male land ownership and for the drawing of property boundaries over the landscape, as though over a blank slate, was the erasure of Native American land ownership. Using various degrees of coercion, many settlers did purchase land directly, outside of the imperial legal system, giving rise to a source of contention between England and its settler colonists, but purchased lands still had to be surveyed with precise boundaries (Greer 2018, 376–86). The geographies of Native American territoriality in North America varied enormously. They do not seem to have involved surveying techniques for political boundaries, although some Nahua peoples in present-day Mexico did quantitatively measure property boundaries (Greer 2018, 271–310, 320–6). This had the effect of further compounding the conflicting array of legal sources used to justify land claims, including Native purchases, imperial and colonial grants, and effective occupancy. Despite London's insistence that settlers derived their rights from the Crown, many settlers claimed to derive them instead from Native purchases and agreements. This later became a pivotal justification for declaring settler states' independence from England (Fitzmaurice 2014, 172). Native American responses to settler surveying varied enormously, from acceptance to using diplomatic methods to stop surveyors—Iroquois diplomats brought the famous Mason-Dixon line survey to a premature end—to killing settlers with surveying implements (Greer 2018, 297; Strang 2012, 16, 21–2).

Second, overlapping territories were "characteristic of the British empire in America" (Onuf 1987, 89), and accounts of territorial disputes between colonies typically refer to ownership of land as the major resource

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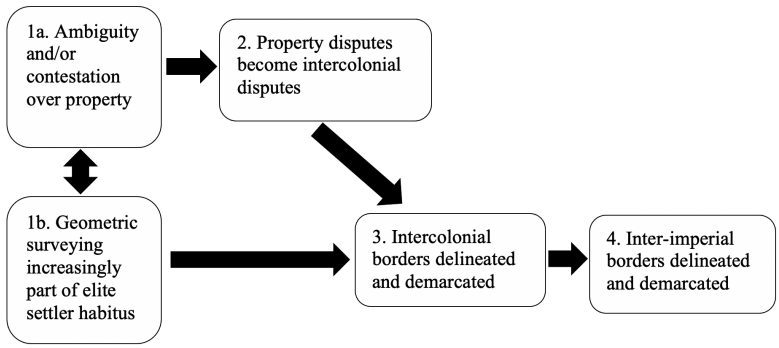
FIGURE 1. Causal Mechanism



being competed for (McConville 1999; Ousterhout 1995; Spero 2012; Strang 2012). Because the promise of landownership was a major incentive attracting settlers, colonies needed access to land in order to thrive. In addition, the corporate or proprietary structure of many of the colonies was such that the right to govern essentially meant the right to distribute land. Colonial boundary disputes often provoked civil unrest, threatening the colonial governments' control over territory. Out of the forty main colonial riots listed by one historian between 1641 and 1759, seven had to do with intercolonial boundaries (Brown 1975, 301).

Settlers rarely negotiated overall territorial boundaries in the seventeenth century with Native Americans, generally preferring to purchase individual plots of land piecemeal as property (Banner 2005, chap. 2; Vaughan 1979). The main exception to this is Virginia, which signed a 1646 treaty with the Powhatan Confederacy, outlining a mutual boundary described as a "line" (Vaughan 1979, vol. 4, 69; see also Nisancioglu 2020). More often, however, Native Americans were prohibited from coming within a certain distance of settlers (Vaughan 1979, vol. 4, 83; vol. 6, 63), or restricted to specific reservations or New England "praying towns" within colonial jurisdiction (Greer 2018, 229; Vaughan 1979, vol. 4, 92; vol. 6, 65). Treaties between settlers and Native Americans also sometimes show mutual recognition of sovereignty in more tacit ways, without defining specific boundaries, as in a 1638 treaty between Connecticut, the Mohegans, and the Narragansetts (Grant 2015, 472). The most important influence of Native American territoriality on the process in question in the seventeenth century was to help blur the distinction between private property and the jurisdiction of colonial governments. This helped make it possible for techniques previously reserved for delimiting and demarcating private property to be applied to colonial jurisdiction. Boundary treaties between colonies and Native Americans became much more important after 1763 as British officials tried to restrain settlers and convince Native Americans of their peaceful intentions (Banner 2005, 85).

Third, attempts to maintain governmental control over landownership are historically connected with intercolonial border surveying. Efforts to maintain legality and order in the property regime were a major reason why colonies pursued border agreements (Spero 2012; Strang 2012). For example, as one historian notes, failures to survey the East-West Jersey line created a class of "property dispute that became a causal factor in the eighteenth-century unrest" in New Jersey (McConville 1999, 18). Similar connections can be seen in primary accounts, such as that of Virginia's lead commissioner in its 1728 North Carolina boundary survey, writing that before the survey "People on the Frontiers enter'd for land, & took out Patents by guess, either from Virginia or North Carolina" (Berland 2013, 75). Surveying the colonial boundary would remove the uncertainty over which colony had the right to grant property in the boundary area. Settlers found on the wrong side of a colonial boundary feared having to pay again for their property title, and sometimes they had to—for example, after the 1668 Maryland-Virginia survey (Browne 1887, 44).

Causal Mechanism

I use the mechanism displayed in Figure 1 to explain the emergence of modern territoriality in North America. In step 1, ambiguous property rights (1a) and the incorporation of geometric surveying into the "habitus," or system of dispositions guiding a set of actors' practices, especially of colonial elites (1b) are mutually reinforcing.[7]

In step 2, the ambiguities of property rights intensify when they involve conflicting colonial jurisdictions, and as they require cooperation between two colonial governments, disputes sometimes become more protracted. As the eighteenth century progressed, these disputes sometimes erupted into violence, particularly on the Maryland-Pennsylvania boundary, in New Jersey, and in northern Pennsylvania, where Connecticut settlers claimed property (McConville 1999; Ousterhout 1995; Strang 2012).

[7] Practices that are deeply ingrained in a social group, derived from internalized past experience, and passed on through implicit learning, are called part of the group's "habitus" in the terminology of Pierre Bourdieu (1977, 78–83), although in this article little will hinge on a particular interpretation of habitus.

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A colonial system of modern territoriality emerges in step 3, as a result of a combination of (1b) and (2). In addressing disputes over colonial boundaries, colonial authorities used geometric surveying. They did so not in accordance with any previous institutions of boundary settlement between governments, nor did they do so as a result of any intentional coordination throughout the colonies. Rather, they did so because this was common sense among settlers in property disputes and because boundary disputes between colonies usually *were* property disputes. At a certain point, intercolonial boundaries themselves become common-sense practices, and after US independence, the creation of new states was assumed to begin with surveying state boundaries (Onuf 1987).

The emergence of intercolonial boundary surveys is not comprehensible simply as a rational response to property disputes. Surveys may not have been the most effective solution imaginable; the expectation that only surveys could provide authoritative borders, in cases where they proved difficult to execute, only exacerbated disputes over land (Spero 2012). Governments could have responded with territorial practices more in line with European polities, which tended instead to list in treaties the names of places and objects to be held by each side (Branch 2014, 128). This was often the practice of Spain in dividing up its American colonies (Viso 1884, e.g., 423–9). Only by considering the internalized dispositions of the actors involved can we explain how property disputes led to linear intercolonial boundaries.

Finally, after US independence, the settler republic worked to institute modern territoriality as it extended control over much of the continent by the early nineteenth century (step 4 in Figure 1), rather than being simply subjected to a European imperial imposition of borders. When US representatives proposed postindependence boundaries, they drew less on the existing practice of European empires of leaving boundaries vague than on what they were more familiar with: intercolonial boundary disputes. Benjamin Franklin, for example, kept the latter in mind as he weighed the risks of a potential US-Canadian border during the negotiations: "The settlers, on the frontiers of the American provinces … are for ever occasioning complaints, and furnishing matter for fresh differences between their states" (Wharton 1889, vol. 5, 541). With disputes over minute measurements of land frequently an anticipated source of conflict, the US worked to establish linear boundaries spanning the continent with Britain, Spain, and Russia between 1783 and 1824.

ALTERNATIVE EXPLANATIONS

What alternative explanations are available? In scholarly literature, the emergence of modern territoriality has mostly been subsumed within accounts of the origins of the modern state and the state system in Europe. On the one hand this means there are relatively few explicit explanations of why modern territories are very clearly specified by linear borders. Yet on the other hand, it also means that a theory of territoriality is implicit in many accounts of the modern state.

These accounts can be broadly divided into interest-based and constructivist explanations. Interest-based accounts explain patterns of state building in terms of capabilities and constraints of actors with largely given interests (Spruyt 1994; Teschke 2003). Charles Tilly's is a good example of an interest-based account for comparison as an alternative explanation, as many have argued that it is applicable outside Europe (e.g., Tin-Bor Hui 2005). Tilly himself does not detail how demarcating linear boundaries is related to state building. But he does repeatedly refer to well-defined boundaries as a crucial part of this process, suggesting that it should fit within his overall framework (Tilly 1992, 5, 88, 97, 181).

In Tilly's (1992) account, all manner of institutions stem from state interests in generating the means of violence amidst increasing military costs, particularly through revenue extraction. Assuming linear borders are an important institution of modern statehood, then, it should have some place in the mechanism of revenue generation. In the abstract, of course, fixing boundaries could just as easily decrease the amount of revenue-generating territory as increase it. One set of institutions Tilly (98) emphasizes, however, are those increasing the efficiency of tax collection, such as the surveying of property boundaries. Colonial boundary surveys, then, might have targeted improving tax collection.

Similarly, accounts stressing changes in ideas and representations tend to be useful for explaining the emergence and centralization of states, but they are less explicit in explaining the advent of modern territoriality itself.[8] The main exception to this is Jordan Branch's cartographic explanation (Branch 2014). According to Branch, map-making techniques that reemerged during the Renaissance, such as projection and proportional representation, led to representations of political authority as homogenous, bounded territories. This led first to a change in ideas whereby political actors came to take for granted these bounded images of states and authorities that could not be depicted in this way were delegitimated. Only later did the practice of territoriality change, as borders came to be demarcated in accordance with new ideas that linked political authority to linear boundaries. Whereas Branch points out that linear boundaries were first used in the Americas, this article advances the discussion by explaining the mechanism of how they first came to be used systematically.

OBSERVABLE IMPLICATIONS

Methodology

In the following, I use process tracing to investigate the basic claim of the article, elaborating four observable

[8] E.g., Ruggie (1993) registers a general shift from "heteronomous" authority to single-point perspectives (cf. Philpott 2001; Reus-Smit 1999).

implications of it as well as observable implications of the alternative explanations outlined above. I then look for these observable implications in every instance where a new intercolonial boundary was first surveyed until 1741, when all 13 colonies had at least one linear boundary. By 1741, there were 13 such surveyed boundaries, which are the instances I investigate below. A further five were surveyed by 1807, but these are of little help in explaining the *emergence* of linear boundaries. The 13 under scrutiny here, plus the five surveyed between 1741 and 1807, account for all boundaries between the 13 colonies except for two entirely riverine boundaries. Here space permits only the most important and representative evidence relating to these observations; the full set of evidence can be seen in the appendix. I discuss separately, in a later section, the observable implications of the further claim that settler surveying practices also resulted in US boundaries with European empires.

Implication 1: Intercolonial Boundaries Defined through Official Surveys

The first observable implication of the argument is that surveys, from the seventeenth century, should have been a central part of the process of defining boundaries in the 13 colonies. Indeed, by 1741, when all colonies had at least one linearly demarcated border, only Georgia, whose border with South Carolina was a river and thus linear, did not have any surveyed boundaries. By 1807 all land boundaries between the former 13 colonies were surveyed (Van Zandt 1976, 55–100).

Settler officials could have reproduced European practices of the time wherein treaties generally consisted of lists of places and rights rather than descriptions of dividing lines (Sahlins 1991, 52). Imperial Spanish orders often followed this European pattern in dividing Spain's Latin American empire (Viso 1884, e.g., 423–9). Yet the only alternative to surveying linear boundaries used in the 13 colonies, other than doing nothing, was river boundaries. Only two cases (New Jersey-Pennsylvania and Georgia-South Carolina) are entirely defined by rivers. Given the number of rivers that flow a considerable distance to the Atlantic Ocean, compared with—for example, the West Coast of the United States—and could have provided political divisions between settlers, it is noteworthy how seldom the colonial governments resorted to river boundaries.

That surveys were performed on most of these boundaries is evidence moderately in favor of the notion that the property surveying practice was what brought them about. Boundary surveys could have been a tool of maximizing revenue by clarifying tax jurisdictions, or they could have been implemented as a result of a change in political ideas. However, if we did not observe this, this would mean that the surveying practice was not particularly relevant for colonial boundary making and would likely have ruled out an explanation based on property surveying.

Implication 2: Systematic Property Surveying Precedes Intercolonial Boundary Surveys

If the linearization of political boundaries was an outcome of property surveying, property surveys should have been well in place before colonial boundary surveys got underway. This observable implication would be especially apparent if property surveys were mandated by the colonial government, as this would indicate colonial authorities' awareness of the political advantages of surveying.

The details of surveying practices varied from colony to colony, the most significant difference being between the "Virginia" system of settlement prior to survey and the "New England" system of survey prior to settlement (Kain and Baigent 1992). But in the case of each of the 13 intercolonial boundaries bilaterally surveyed by 1741, surveying practices were well established in both colonies by the time of the first attempt to survey the colonial boundary.

Virginia provides the clearest illustration of this early concern for property surveys (Hughes 1979). In Virginia, property surveys were done in creating titles for land 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" (Bernhard 1999, 6). 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 20 pounds for buying surveying instruments and manuals (Kingsbury 1906, 494). 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 (Hening 1823, 125). This predated the first boundary survey in 1668 between Virginia and Maryland.

In New England, colonial governments were slower to regulate surveying, but the creation of property boundaries was no less important to first-generation settlers. Plymouth Colony records show the first division of lands in 1623, listing the names of men, as well as a few women, and their assigned acreage (Pulsifer 1861, 4–6). A second division in 1627 named "layers-out" of the lots and required that "whatsoever the surveyors judge sufficient shall stand without contradiction, or opposition" (Pulsifer 1861, 14).[9] From the mid-1630s on, the New England governments began attempting to make these practices more systematic. Massachusetts, for example, ordered in 1634 that every town appoint five men to survey all the property belonging to it and in 1647 ordered representatives from all towns to meet and decide on the town boundaries, marking them with heaps of stones or trenches (Greer 2018, 347).

This observation is evidence moderately in favor of an explanation based on property surveying. Both property boundaries and local authority boundaries

[9] Spellings altered for clarity.

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were often being regularly surveyed before intercolonial boundary surveys began. This is a strong indication that delimitation and demarcation would likely have already seemed a readily available procedure by the time intercolonial boundary disputes became a serious issue. However, it does not in itself rule out alternative explanations. Efforts to delineate property boundaries could be seen as compatible with efforts to maximize tax revenue, nor do they indicate that ideas about political authority were not changing to fit the way polities appeared on maps.

Implication 3: Property Surveyors Selected as Boundary Surveyors

Important to the argument is that boundary surveying spilled over from property surveying to intercolonial boundary surveying, without any conscious orchestration (see Bourdieu 1977, 80). Thus a general continuity in the surveying practice, from private property to colonial territory, is central to the explanation. The skills and reputation within colonial society of property surveyors were a large part of what colonial governments looked for when they selected boundary surveyors. In fact, those involved in colonial boundary surveys often included an official surveyor general, although in New England this office emerged relatively late. By exploring empirically this repurposing of patterned activity from property to territory, we can see how in practice it was property surveying that laid the groundwork for the linear bounding of the colonies.

In most cases, it is unknown what instruments or techniques were used on any particular survey (Greer 2018, 348). The most reliable way to determine whether such a general continuity in the surveying practice existed from property to territory is to search for continuity among the names of surveyors of property and of intercolonial boundaries. If being tried and tested in laying out individual properties made them competent to serve as colonial boundary surveyors, we can be reasonably sure that a practice of property surveying contributed to the emergence of boundary surveying, and indeed linear boundaries themselves.

In all cases up through 1741—except for the first instance, where the surveyors' identities are unknown—every time a survey of an intercolonial boundary was first launched, it included at least one surveyor known to have been involved in significant property surveying work, and in several cases more than one was included. In almost all of these cases, a surveyor with an official role, either as surveyor general or deputy surveyor, was included. The number of surveyors involved in each boundary survey varied, from one surveyor taking overall responsibility for the first East Jersey-West Jersey survey to the first North Carolina-Virginia survey, which included seven commissioners, four surveyors (one of whom was also a commissioner), one chaplain, one recruiter, and over 15 other workers, possibly including slaves (Berland 2013, 461–74). The relevant expertise of those involved in boundary surveys, then, was not limited to property surveying and also included various members of colonial society. Property surveying experience, however, consistently runs throughout initial boundary surveying teams. It is especially telling that this is true even in New England, where the surveying practice was informal and colonial governments were comparatively late to restrict surveying to officially designated surveyors (Greer 2018, 347).

The observation that each boundary, with only one exception, had initial surveyors that can be traced back to property surveying, combined with the previous two observations, is a strong indication that the practice of surveying boundaries grew out of the property surveying practice. As a test of the article's argument, it is not quite a "smoking gun," as it is not in itself sufficient to conclude that property surveying directly caused intercolonial boundaries, but it has high uniqueness because the alternatives do not explain it. We would be unlikely to make this observation with such regularity across the variety of conditions in the 13 colonies if the property surveying practice did not contribute substantially to intercolonial boundary surveying.

Implication 4: Border Surveys Follow Property Disputes

Almost all the initial colonial boundary surveys were performed either partially or fully as a response to disputes over identifiable properties or groups of properties. Contestation over property rights established the context out of which colonial boundary surveys consistently tended to emerge. There were two kinds of property disputes relevant here. In the first type, multiple individuals or groups of settlers who were subject to different colonial governments claimed overlapping plots of land. This includes, for example, the first boundary in question, between Massachusetts and Plymouth (1657). Accounts written by governors of both colonies state that this boundary was run in response to a local property dispute between the Massachusetts township of Hingham and the Plymouth township of Scituate (Bradford 1912, 368).

In the second type, one colonial government protested against land grants made by a neighboring colony, threatening the validity of existing property titles. This includes the second boundary in question, between Maryland and Virginia, where Virginia attempted to enforce jurisdiction over land claimed under Maryland patents. This attempt was reversed by the boundary subsequently run in 1668, and Virginians in the disputed area were required to pay a fee validating their titles under Maryland law (Browne 1887, 44).

At least one of these types of property disputes can be specifically identified in 11 out of the 13 boundaries under scrutiny here, including the first four. This is enough to indicate that property disputes were a recurrent factor in triggering boundary surveys, including at an early stage when they were becoming increasingly habitual and commonsensical.

Where linear boundaries were adopted as a result of property disputes, this further supports the article's main argument. That ambiguous property titles existed

along almost every intercolonial border when it was first surveyed strongly indicates a connection between the two. As a test of the article's argument, then, it comes close to a smoking gun. In combination with the previous two observable implications, which looked for an association between property surveying on one hand and the settlement of intercolonial boundaries on the other, this observation provides conclusive support for the article's argument.

Alternative Explanation 1: Mutual Revenue Gains

How does the explanation based on a repurposing of the private property surveying practice fare compared with alternative explanations based on European state formation? Warfare pervaded the North American colonial experience, as it did in Europe during state formation, and colonies often raised taxes in response to warfare, particularly against Native Americans (Rabushka 2008, 183, 190n, 195, 260, 267, 357, 414, 499, 556). This seems to suggest Tilly's (1992) framework may apply, in which pressures of war led governments to create new institutions of economic extraction.

Efforts to increase effective tax collection might have contributed somehow to the establishment of boundaries. For example, the governor of both Jerseys in 1694 gave an order "to ascertain the right of some Plantations and Settlements near the [New York] line who at present avoid the paying of Taxes or duties to either Government" (Whitehead 1881, 106). Colonial officials sometimes tried to collect taxes in disputed areas, although this could be either an attempt to raise revenue or simply a means of reinforcing governmental authority (Baird 1871, 114). But various evidence shows that this cannot provide a sufficient explanation in most cases.

Out of all 13 instances of initial boundary surveys up to 1741, eight can be dismissed quickly. In four cases (Maryland-Virginia, Connecticut-Rhode Island, North Carolina-Virginia, Massachusetts-New Hampshire), one side accepted entirely the other side's territorial claim. In these cases, the losing side could not have gained tax revenue from the disputed area through the agreement. In another case (Maryland-Pennsylvania), Pennsylvania had not assessed any taxes at all for over two decades, with revenue coming entirely from customs duties and interest on loans. Similarly, when East Jersey first surveyed its boundaries with New York and West Jersey (1686 and 1687, respectively), it had also not assessed any taxes at all for several years. In another case (Delaware-Pennsylvania), the boundary was initially surveyed before Delaware was separated from Pennsylvania, meaning that the location of the boundary would not affect who owed taxes to which colony.

In a further three instances (Massachusetts-Plymouth, Connecticut-New York, Connecticut-Massachusetts), the agreed boundary did compromise between the claims made by two colonies, at a time when both were attempting to raise taxes, but it is still unlikely that any significant revenue gains would have been anticipated for reasons I expand on in the appendix.

This would leave very little evidence for the notion that tax gains generally necessitated boundary surveys. One reason why increasing tax efficiency may not have been overwhelmingly imperative is suggested by the overall low taxes during this period. In 1714, the ratio of per capita taxes in Britain to individual colonies ranged from 5.4 in Massachusetts to 89.0 in South Carolina (Rabushka 2008, 438). Central to Tilly's framework is that "all rulers faced the problem of paying for their wars without destroying the ability of their sources to pay again in the future" (Tilly 1992, 87). But if the negative effects of taxation were often insignificant, colonial governments may not have needed to spread them out as urgently as European rulers did.

Alternative Explanation 2: Maps Depicting Borders Influence Political Ideas

Were there maps in the seventeenth-century English colonies that could have transformed ideas about territoriality, leading to the practice of linear boundaries? To be productive of ideas of linearly bounded territoriality, maps should ideally show territory as bounded by clear lines, but at the very least they should show some boundary lines. They should also be frequently circulated. Officials initiating boundary surveys ideally should have been familiar with them in order for officials to act based on them. Finally, settler officials should have seen them before the first border demarcations, the earliest being 1657, 1668, and 1684. Although it would be impossible to prove that no maps fitting all those conditions existed, there is very little evidence that they did, and it is virtually certain that if they did exist, they were few and rare.

First, there are conspicuously few seventeenth-century English maps showing any boundaries at all in the American colonies (MacMillan 2011, 74–81; Schmidt 1997, 562; Verner 1950). John Smith's maps of Virginia (1612) and New England (1617; Figure 2) circulated widely, and "prevailed for most of the century, shaping most Britons' perception of their chief American colonies" (Schmidt 1997, 563–4). But these showed only close-ups of settled areas, leaving out any borders.

Second, English imperial maps in the seventeenth century were produced almost exclusively in England. The first map published in New England, the "White Hills map," is dated 1677 (Edney and Cimburek 2004). This map shows only boundaries already located on the ground by Massachusetts surveyors, leaving others out. This suggests surveys led to the depiction of borders on maps, not the other way around. Indeed maps of any kind at all were extremely rare in the colonies in the early seventeenth century, so colonists' ideas of territory are unlikely to have been influenced by maps before the first colonial boundary surveys. Only nine surviving colonial-produced maps were created before 1642, including hand-drawn maps (Braccio 2020, 161).

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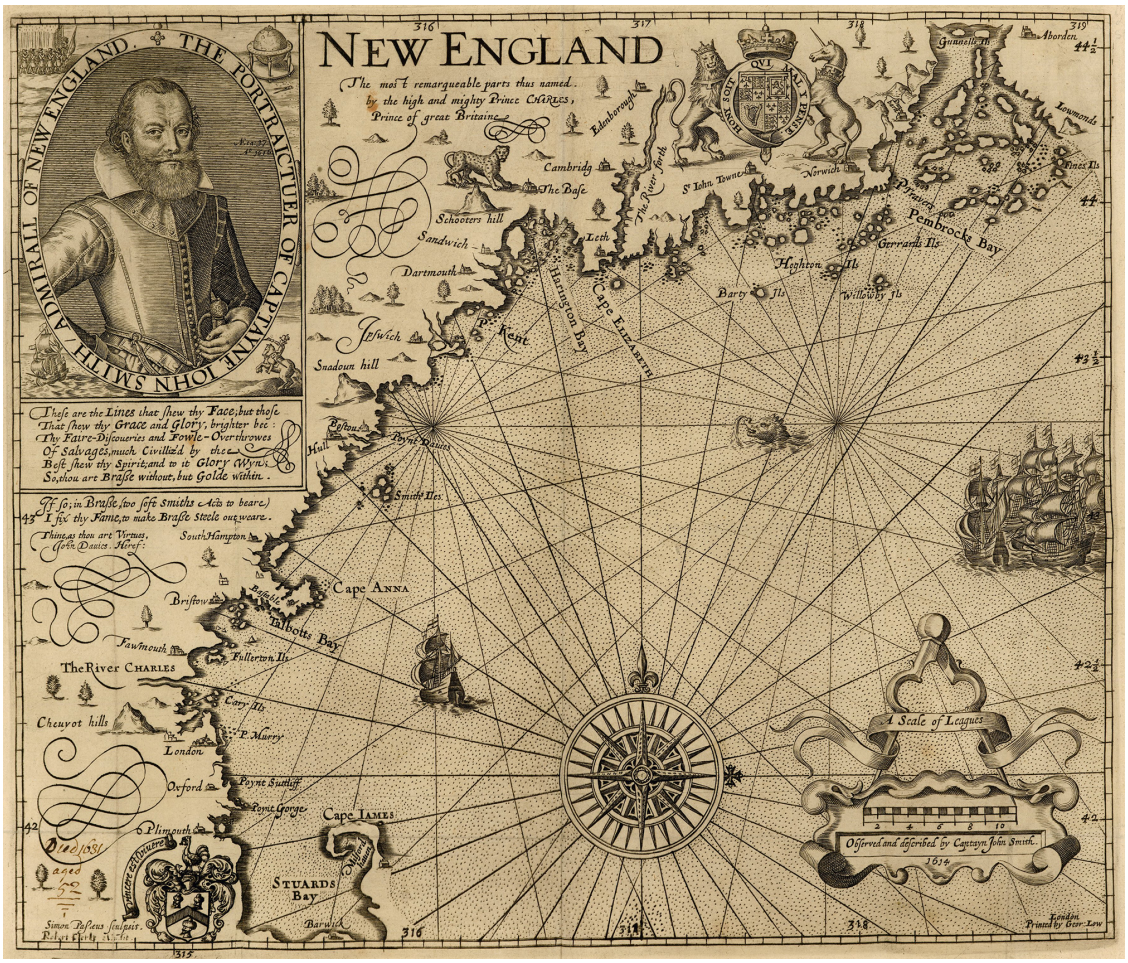
FIGURE 2. John Smith, *New England: The most remarqueable parts thus named by the high and mighty Prince Charles, prince of great Britaine*, London, 1617



Note: Courtesy of the John Carter Brown Library (https://jcb.lunaimaging.com/luna/servlet).

Still, by the seventeenth century many non-English maps depicted the world divided into distinctly bordered areas, prefiguring modern territoriality. Settlers may have seen some of these maps before leaving for North America, or they may have brought them to America. It is unclear precisely what maps colonial officials had or how their ideas of political space had been inspired by maps. One indication we have is in the hand-drawn maps some colonies sent to London to illustrate their claims. In the 1670s London officials began systematically requesting maps from the colonies, but by 1683 they appear to have received only one (Black 1970; Figure 3). Drawn in New England around 1665, it is similar to the White Hills map, only showing the northern and southern borders of Massachusetts, which had already been run unilaterally.

Evidence of property and colonial boundary surveys taking place is far more abundant than evidence of maps circulating in the seventeenth-century colonies, and there is extremely little evidence that settlers at that time had any maps potentially productive of modern territorial ideas. An "explosion in the production and use of maps" is crucial to understanding the emergence of linear boundaries in Europe from the late eighteenth century, but it did not take place in the English colonies during the seventeenth century (Branch 2014, 68). Settler-produced maps with linear boundaries that did eventually exist were more likely to be a result than a cause of boundary surveys. As one historian puts it, "Starting with the imperative to sponsor inter-colonial boundary surveys, colonial governments … gradually came to finance the creation of high-quality general provincial maps" (Johnson 2017, 15).

IMPERIAL BOUNDARIES

While surveyed territorial boundaries proliferated in the 13 colonies, the European empires surrounding them, by contrast, rarely accepted any definite territorial limits. The 1713 Peace of Utrecht is a case in point, leaving three Anglo-French frontiers, two Franco-Spanish, and one Anglo-Spanish frontier without any formal,

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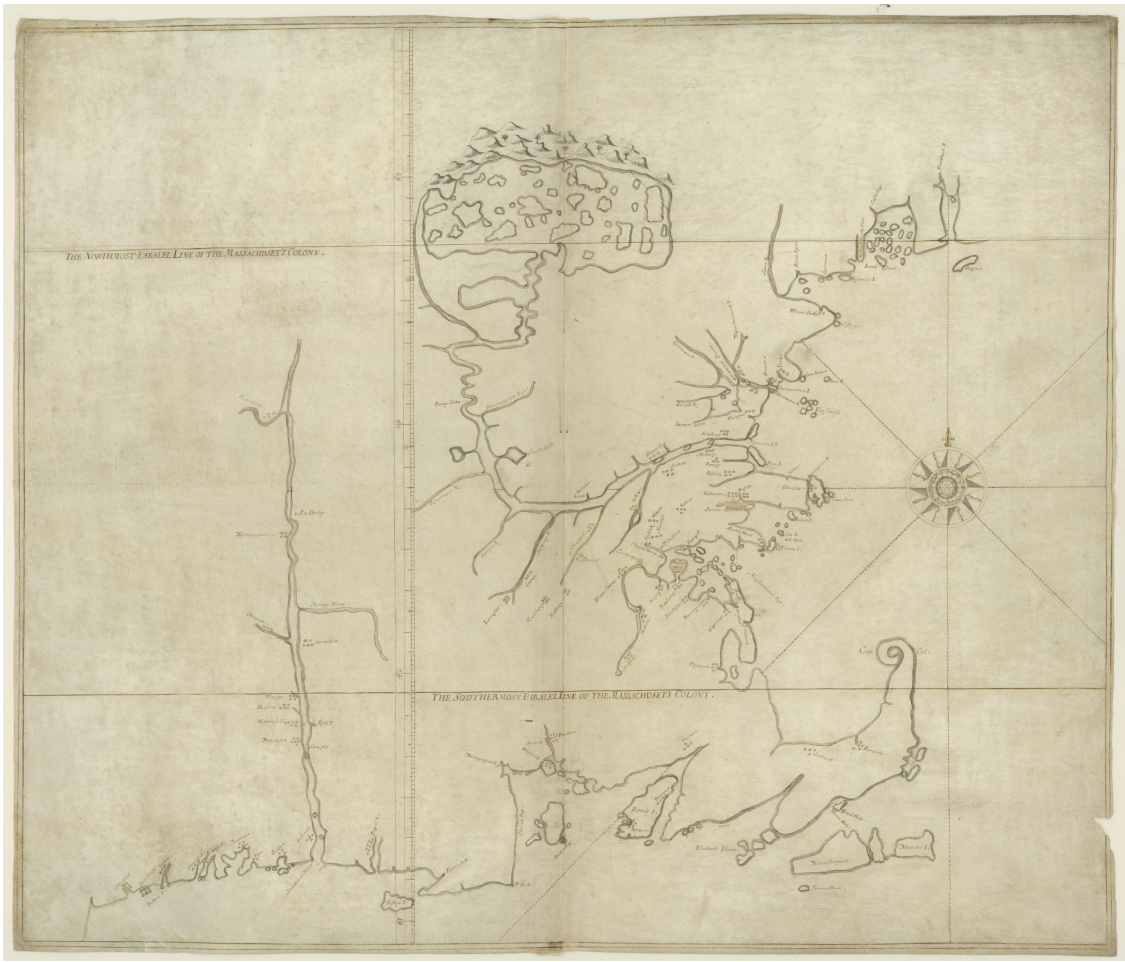
FIGURE 3. Unknown Author, *New England, showing Massachusetts' boundaries*, London, 1678



Note: Courtesy of the John Carter Brown Library (https://jcb.lunaimaging.com/luna/servlet). Copy of an original manuscript, New England, c. 1665. The title and place of origin are attributed by scholars.

let alone linear definition.[10] One of the territories concerned was defined simply as "Acadia, in its entirety, conformable to its ancient limits," of which imperial officials were later unable to find any conclusive documentary evidence (Pedley 1998, 97). US independence brought a decisive break with this regular practice because it brought settler officials, who were deeply familiar with surveying, into interimperial diplomacy. In 1779, Congress included in its first peace terms a lengthy description of a line traced thousands of miles around the territory claimed by the US, bounded by the British Empire in the north and the Spanish empire in the west and south. In 1783 this line was mostly accepted by Britain. Despite several different European attempts in the following decades to create potentially vaguely defined Native American buffer states instead, the US insisted on linear borders, and by 1825 the overland portions of it were entirely surveyed (Carroll 2001, 23–4; Wharton 1889, vol. 6, 22). This section demonstrates that rather than being imposed or diffused from Europe, modern territoriality in North America was largely a transfer of preexisting intercolonial practices to relations with European empires.

Treaty Texts

Was the shift toward linear boundaries in interimperial treaties evenly distributed across participants, or did it start with the US and become general later? If the linearization of boundaries was primarily due to European influence, we would expect to see this shift generally in interimperial treaties, not just US treaties. However, there is almost an exact correlation between linear boundaries and the participation of an independent US between 1783 and 1825. In European treaties, from the century prior to US independence to 1815, there is only one example of a defined North American boundary (Treaty of Paris, 1763), which used the

[10] New France bounded Hudson's Bay (Britain) to the northwest, Nova Scotia (Britain) to the east, the 13 colonies (Britain) and Florida (Spain) to the southeast, and New Spain (Spain) to the southwest. The 13 colonies (Britain) also bounded Florida (Spain) to the south.

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Mississippi River. On its own, at most, it represents weak evidence of a European-imported practice of modern territoriality. By contrast, US treaties with European empires used linear borders, with one exception (Louisiana Purchase, 1803), the British, Spanish, and Russian boundaries of which were delimited by 1824. Although these treaty texts do not, on their own, mean that interimperial delimitations were caused by settlers, they do strongly suggest that they were not simply imposed by European empires.

Native American Alliances: Potential Alternative to Defined Boundaries

If European empires had not adopted linear boundaries, in line with settler practices, what alternatives existed? British, French, and Spanish officials, on numerous separate occasions, attempted to avoid a direct boundary with the US by setting up Native American buffer states. For example, 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 (Carroll 2001, 24). The US consistently refused these proposals, so it is impossible to determine the final form they might have taken. It is clear, however, that none of them seriously intended to grant independence to Native Americans and that various indirect imperial influences would somehow meet each other within Native territory. This followed the longstanding European imperial practice of maintaining Native alliances on the frontier rather than establishing control extending homogenously all the way up to the boundary of another empire. These buffer state proposals show that nonlinear boundary practices continued to remain an option for European officials up until at least 1815.

Boundary Commissions: Continuity of Practice

We can look for more direct evidence that the settler surveying practice shaped interimperial boundaries by asking whether there were professional linkages between the two. Between 1783 and 1825, the US conducted three phases of bilateral boundary demarcations with Britain and Spain, prescribed in turn by the Jay-Grenville Treaty (1794), the Treaty of San Lorenzo (1795), and the Treaty of Ghent (1814). Britain and Spain could have imported European experts as head surveyors in charge of the technical aspects of these boundary surveys. But instead, they exclusively appointed colonists who had already held official colonial posts overseeing property surveys. In the seventeenth century, the practice of surveying private property had provided a basis in personnel for the demarcation of intercolonial boundaries. Now, in the late eighteenth and early nineteenth centuries, it similarly provided a basis for the demarcation of interimperial boundaries.

CONCLUSION

Modern territoriality, as a distinct component of modern rule, relies on the technical activities of geometric surveyors, who emerged at a specific historical juncture and do much of the work of demarcating boundaries. This practice of demarcating boundaries, despite being integral to the current state system, bears no logically necessary relationship with the sovereign state and, in fact, historically has been relatively distinct from it. This article has shown how the surveying practice in the 13 colonies led to a modern system of territoriality independent of and prior to that which was consolidated in Europe in the early nineteenth century. The article's contribution is to provide an explanation for the observation previously made by scholars (Branch 2014; Nisancioglu 2020) that linear boundaries emerged early in the 13 colonies. Moreover, the article reconceptualizes modern territoriality in a non-Eurocentric way by defining it as a systematic practice of delimitation and demarcation, thus clearly distinguishing it from sovereignty. To define modern territoriality in terms of the sovereign state system instead would be partially to answer the question of its origins prior to empirical inquiry.

Two main implications follow from this argument. First, it extends other efforts to show that important institutional innovation can occur in peripheral contexts —for example, in policing (Go 2020), in justifications for war (Keene 2002), or in the legal doctrine of occupation (Fitzmaurice 2014). Not only can such innovations occur in seemingly unlikely places; they can potentially have important effects on the core of a system, in what Branch (2014, 101) terms "colonial reflection." The implication here is not only that scholars should continue to take on a broader range of historical material to be investigated. This wider perspective should also prompt scholars to reconsider basic concepts of inquiry.

Second, the article's argument runs counter to widespread notions that colonial borders, particularly long, straight-line boundaries, were imposed "artificially" from a distant perspective (Alesina, Matuszeski, and Easterly 2011) and as an extension of European state-building processes (Herbst 2000, 66). Instead, it shows how, in North America, linear boundaries emerged instead from local colonial conditions, particularly the pressures to attempt to accurately survey property boundaries and, secondarily, intercolonial boundaries. Future scholarship could similarly ask whether local factors, distinct from a metropolitan-led process of state building, contributed to the emergence of modern territoriality in Asia or Africa as well, a question which so far has largely been neglected. For example, agents of the British East India Company were surveying boundaries between Indian polities and Company territories by the 1790s (Phillimore 1945). This has to be seen in the context of a struggle within the Company between officials on the one hand preferring to permanently fix tax rates and avoid surveys and those on the other hand increasingly favoring surveys in order to accurately assess taxable land value (Travers 2004). This also happens to be roughly the time at which

modern territoriality was consolidated in Europe, not after it, as we might expect (Branch 2014, 32).

At stake here is the notion that colonial borders, in general, are artificial, due to being imposed from a distance and as a replica, however deficient, of European nation-state territoriality. That starting point leads to one type of inquiry and even policy recommendations: In what part of the world are borders most "artificial" (Alesina, Matuszeski, and Easterly 2011)? How can borders be delimited and demarcated more precisely to make up for the failures of colonial rule (African Union Border Programme 2013)? Should borders be redrawn so that societies and states fit more closely together (Mutua 1995)? In other words, if colonial borders failed to conform to European ideals, can this be corrected? If, however, the emergence of linear borders in some colonial contexts was actually internal to the particular objectives and strategies of colonial officials rather than those of the metropolitan nation-state, then this suggests a different type of debate, beyond criticizing borders that failed to reproduce a nation-state ideal. Instead, it would suggest that modern territoriality is comprehensible as part of the history of colonialism itself rather than a puzzling misapplication of practices proper to metropolitan Europe. To seriously problematize the legacy of colonial borders, then, would be to problematize modern territoriality itself at a more fundamental level rather than simply to consider redrawing them around ethnic groups or demarcating them more clearly and precisely.

SUPPLEMENTARY MATERIALS

To view supplementary material for this article, please visit http://dx.doi.org/10.1017/S0003055421001295.

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CONFLICT OF INTEREST

The author declares no ethical issues or conflicts of interest in this research.

ETHICAL STANDARDS

The author affirms this research did not involve human subjects.

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