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Mapping the Sovereign State: Cartographic Technology, Political Authority, and
Systemic Change

By

Jordan Nathaniel Branch

A dissertation submitted in partial satisfaction of the

requirements for the degree of

Doctor of Philosophy

in

Political Science

in the

Graduate Division

of the

University of California, Berkeley

Committee in charge:

Professor Steven Weber, Chair

Professor Christopher Ansell

Professor Ron E. Hassner

Professor Kate O'Neill

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Abstract

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How did modern territorial states come to replace earlier forms of organization, defined by a wide variety of territorial and non-territorial forms of authority? Answering this question can help to explain both where our international political system came from and where it might be going.

In this dissertation, I argue that the use of new mapping technologies in early modern Europe was a fundamental driver of these monumental political developments. New cartographic tools altered how political actors understood political space, authority, and organization, reducing the wide variety of medieval political forms down to the unique territorial form of the sovereign state. Mapping and its use was necessary—though not sufficient—to drive the complex process leading to our world of territorial states.

Using evidence from the history of cartography, peace treaties, and political practices, I argue that early modern mapping changed the fundamental framework of political interaction. Authority structures not depicted on maps were ignored or actively renounced in favor of those that were, leading to the implementation of linear boundaries between states and centralized territorial rule within them. These fundamental characteristics of modern statehood appeared first in the representational space of maps and only subsequently in political practices on the ground. My exploration of this relationship reveals that maps and their depictions were causal, not epiphenomenal, to the transformation of politics.

The role of cartography in the formation of modern states is made evident when depictions in maps are compared against actual boundary practices and the language of peace treaties. Clear linear divisions between territorial political units, while pervading maps since the sixteenth century, did not become common in practice until late in the eighteenth century. For their part, mapmakers never intended to reshape political ideas and structures. Rather, their choice to depict the world as composed of homogenous political territories was independent of politics. It was driven by the dual incentives of a commercial market for aesthetically pleasing printed maps and the underlying geometric

structure of early-modern cartography that is provided by the globe-spanning grid of latitude and longitude. Thus, by linking developments in cartography to political ideas and outcomes, my dissertation yields an analysis of the complex relation between technological and political change that acknowledges the importance of both material and ideational factors to the constitution of political institutions such as the state and the international system. My historical case also yields implications for how we might better understand transformative political change, particularly in today's globalizing international system.

For my parents,
Eren and Watson Branch

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Chapter 1

Introduction

Then sent he [King William] his men over all England into each shire; commissioning them to find out “How many hundreds of hides were in the shire, what land the king himself had, and what stock upon the land; or, what dues he ought to have by the year from the shire.” Also he commissioned them to record in writing, “How much land his archbishops had, and his diocesan bishops, and his abbots, and his earls;” and though I may be prolix and tedious, “What, or how much, each man had, who was an occupier of land in England, either in land or in stock, and how much money it were worth.” . . . And all the recorded particulars were afterwards brought to him.

– Anglo-Saxon Chronicle, late eleventh century¹

*Give me a map; then let me see how much
Is left for me to conquer all the world,*

– *Tamburlaine the Great*, Christopher Marlowe, c.1588

These two passages illustrate contrasting ways of conceptualizing political rule: as a claim over diverse persons, resources, and locations, or as a claim to space as represented on a map. The first is a description by a contemporary Anglo-Saxon Chronicle of the creation of the *Domesday Book* by William the Conqueror in 1086, revealing how medieval rulers understood political authority in the textual form of a survey. The second, from a 1588 Christopher Marlowe play about Tamburlaine, the Turco-Mongol conqueror of Central Asia, illustrates the shift toward using maps to picture the extent of territorial authority—in the case of the fictionalized Tamburlaine, to lament all that remained unconquered at his death. This comparison points toward the complex transformation that this dissertation examines: the shift from complex political authorities of the European Middle Ages to the territorial exclusivity of the modern state system, and the way that the development of cartography drove and shaped this transformation. Maps did not just provide new tools for rulers to gather and organize information about their realms; cartography also restructured the very nature of rule, leading to modern territorial states as we know them today. The impact of mapping on political ideas, practices, and structures is the subject of this dissertation.

The fundamental question to be answered, then, is the following: What were the origins of modern states and the international system? Specifically, I examine how and why modern states took on a historically unique form: territorial jurisdictions defined exclusively by linear boundaries and homogenous within those lines. Due to the prevalence of anachronistic readings of the past in International Relations, answering these questions requires detailing the unique character of modern territorial states, establishing the historical timing of the process that constituted them, and then explaining the origins of this particular form of political organization. Studying these origins is important, both in itself—as we should understand how our current political structures

¹ *The Anglo-Saxon Chronicle* (Everyman Press, London, 1912), accessed online at <<http://omacl.org/Anglo/>> on 4/09/08.

came to be—and as an example of international systemic transformation that has implications for contemporary or future change in political structures. The political world has not always been structured as a collection of mutually exclusive territorial states, and although this organizational form currently appears robust, we should not assume that it will inevitably persist.

Beyond directly addressing the empirical question of the origins of the sovereign state system, this dissertation contributes to our understanding of transformative change in two additional ways. First, I provide a conceptualization of international structure that emphasizes the constitutive foundation provided by ideas and practices of political authority. The transformation of the international system involved more than a selection process whereby some political units survived and others did not. Instead, it incorporated fundamental changes in the form of rule, as complex amalgamations of territorial and non-territorial authorities were replaced by states defined by exclusively territorial claims defined by linear boundaries. Second, by closely interrogating the connections between mapping and political change, this study posits a recursive relationship between material and ideational change. Material and ideational factors are mutually implicated with each other: technologies are embedded in social relations, while they simultaneously structure social interactions as well. While neither of these theoretical areas is entirely unexplored, this study builds on, combines, and innovates within existing theoretical approaches to synthesize a novel way of describing, understanding, and explaining political change.

I. The Argument

New mapping technologies in early modern Europe fundamentally altered the ideational framework of political interaction, driving and shaping the creation of sovereign states defined exclusively by linear boundaries and homogenous territorial claims within those lines. Maps and their use were not epiphenomenal to political transformation, but rather were a necessary—though not sufficient—condition for the transformation of the international system.

The techniques of map creation, production, and distribution changed dramatically during the fifteenth, sixteenth, and seventeenth centuries, resulting in the wide distribution of maps throughout European society. These new representational tools led to ideational changes among political actors, culminating in a shift in how political authority was claimed, particularly during the eighteenth century: rule was re-conceptualized as exclusively territorial, with cartographic linear boundaries separating exhaustive claims to territorial rule. By the nineteenth century, rulers had put these new ideas into practice, implementing linear divisions onto the material landscape and reshaping their interaction practices to reflect a new focus on exclusively territorial rule and sovereign equality among states. Other driving forces, such as military competition, religious contention, or economic change, were also important to state formation and centralization. Yet without the ideational changes driven by mapping, those pressures toward the expansion and centralization of political organization would not have taken on the exclusively territorial character that they in fact did.

This process was not completely internal to Europe, however, as the simultaneous expansion of colonial empires was integral to the development, consolidation, and implementation of territorial exclusivity. The efforts of European colonial rulers to assert political claims in previously unknown spaces—particularly in the “New World” of the

Americas from the sixteenth century forward—offered opportunities and incentives to put cartographically defined territorial authority into practice. The implementation of authority claims based exclusively on territorial demarcation in the colonial world later reshaped intra-European practices, as in subsequent centuries those same practices were layered on top of, and eventually displaced, traditional forms of political authority among European rulers.

This explanation for the origins of modern states and the international system builds on existing studies, which have focused on a wide variety of causal factors and processes. In general, these theories either emphasize material driving forces, such as military technology, organizational competition, or economic relations, or focus on ideational change, including new religious and representational norms.² Few offer a means of connecting material incentives for political change with the ideational shifts required to make those changes conceivable to the actors involved. This failure to connect the material and ideational drivers of change results from disregarding the novelty of modern sovereign statehood's defining features: the exclusive definition of political authority by linear divisions between homogenous spatial claims. The material technologies of early modern cartography provided a new ideational framework that structured the impact of other causal processes. For example, arguments based exclusively on material factors fail to account for this particular form of territorial statehood, as they explain the centralization of rule more than its territorialization. Competitive pressures may have been a necessary component of this systemic transformation, but they are not a sufficient explanation for the territorial exclusivity, linear boundaries, and homogenous spatial claims of modern statehood. As this dissertation will demonstrate, only when we include the ideational impact of cartography can we explain why, in a period with a number of possible political structures, the particular model of the sovereign territorial state was implemented as the *only* legitimate form of rule.

II. The Plan of the Dissertation

This dissertation proceeds in six chapters and a conclusion. Chapters 1 and 2 set the theoretical and empirical foundation, chapters 3 through 6 examine the causal progression from cartographic technological change through political ideas to systemic transformation, and chapter 7 offers implications of this study for the possibility of international change today.

Chapter 1 sets the theoretical and methodological stage for the rest of the dissertation, outlining a particular approach to describing international systems and analyzing systemic change. This chapter argues that political structures are fundamentally constituted by ideas and practices of political authority, in particular by the ways in which actors define their rule, their organization, and their interactions. This chapter also summarizes my research method of using process tracing and historical narrative.

Using this theoretical approach, chapter 2 details the differences between the complex heteronomy of late medieval European political structures and the homogeneity of sovereign territorial states of the modern international system. The consolidation of a system of exclusively territorial states in the nineteenth century represented a unique

² The existing literature explaining systemic change is reviewed more extensively in chapter 1.

configuration of political authority, organization, and interaction, which has often been mistakenly assumed to be universal. This empirical account sets the stage for the following chapters' analysis of the role of mapping and its use in shaping this dramatic transformation.

Chapter 3 provides a summary of the early modern technological changes to mapping known as the "cartographic revolution." Medieval maps were rare manuscripts that depicted the world according to a variety of non-geometric principles. In the fifteenth and sixteenth centuries, cartography was transformed by a series of interrelated technological and social changes, primarily by the rediscovery of classical techniques for mapping using the coordinate grid of latitude and longitude and the explosion in map production thanks to new printing technologies. By the early seventeenth century, maps were relatively common and in wide use as tools of commerce, government, and education. This chapter summarizes these changes and the use of maps by rulers, both within Europe and in colonial expansion.

Chapters 4 and 5 detail the ideational effect of this transformation in representational technologies. This is not simply a technologically driven process, however, as technical changes interacted with social and political dynamics. Chapter 4 examines the complex relationship between maps, mapmaking, and the understanding of space held by map creators and map users. This recursive relationship is illustrated by the close connection between transformations in European views of space and the changes in map depictions discussed in chapter 3. The world came to be understood as a geometrically divisible spatial expanse, rather than a collection of potentially unique places connected by the human experience of travel between them. Colonial exploration and expansion by European powers, moreover, formed a fundamental part of this process, as it was in the effort to understand and claim the supposedly New World of the Americas that the first evidence appears of a transformed view of space.

Chapter 5 theorizes the connection of this broad ideational shift to political authority change in particular. In short, mapping both changed concepts of territoriality and, simultaneously, undermined and drove out non-territorial authorities. Colonial expansion again played a role in this process—new ideas and practices appeared first in the interactions of Europeans in the colonial world, not within Europe itself. This chapter also includes a discussion of evidence from major peace treaties, revealing the character and timing of this cartographically driven change in political authority.

Chapter 6 examines the final analytical step in the constitution of modern states and the state system: the implementation of exclusive territoriality in the material practices of political actors. It is the change in these practices that constitute new political structures, offering new or altered incentives and constraints for political agents. This discussion focuses on the territorialization of rule, as the conceptual definition of polities as exclusively territorial entities—defined by political claims to homogenous spaces within linear boundaries—was put into practice by centralizing rulers of the eighteenth and nineteenth centuries. This change in the fundamental identity structure of political actors is illustrated with a case study of France, as well as with evidence of territorialization of other political spaces, both within and outside of Europe.

Chapter 7 uses the theoretical insights from the preceding historical analysis in order to address questions about fundamental political change today. Using the generalizable implications of my historical case, I examine existing and potential future

findings on globalization and trends toward the de-territorialization of politics, the information-technology revolution and its implications for social and political organization, and digital cartographic technologies and their political effects. This yields some preliminary conclusions as well as suggested directions for further research.

Chapter 2

Systemic Change, Sovereignty, and International Relations

In his extended review of Waltz's *Theory of International Politics*, John Ruggie noted a critical shortcoming of this attempt to create a single parsimonious theory of international relations: "it provides no means by which to account for, or even to describe, the most important contextual change in international politics in this *millennium*: the shift from the medieval to the modern international system" (Ruggie 1983: 273). This statement implicitly called for the study of systemic change, both theoretical and empirical, and since then numerous authors from a variety of traditions have attacked the problem. Although these efforts have generated important insights about the early modern transformation of international politics, as well as about systemic change in general, there are still important causal drivers, processes, and outcomes that remain unexplained. This dissertation examines one understudied factor: the radical effect of the development of modern cartography on the nature of sovereign authority. This factor is an important key to understanding the medieval-to-modern transformation of international politics, and to studying the process of systemic change generally.

The overall change in international politics is a story of medieval variety and heteronomous complexity being replaced by modern uniformity and anarchy, and this process has been approached from a variety of angles. The particular element of this change that this dissertation examines is the transformation of the basis of sovereignty, a transformation that follows a similar arc in the reduction of medieval variety and complexity into modern, uniformly territorial, and mutually exclusive sovereign authority.

In order to establish the theoretical and empirical foundations necessary for explaining this transformation, this chapter will first outline an approach to describing systems and systemic change, with a particular focus on the role of sovereignty and legitimate authority in constituting international systems. The chapter will then consider existing approaches to explaining the early modern systemic transformation, demonstrating how this dissertation will build upon the extensive work that has been done in this field and, further, will fill in an important gap in the causal explanation for systemic change. The final section outlines historical process tracing as a research methodology.

1. Describing International Systems

Drawing on existing work in international relations on the concepts of international structure, systems, and sovereignty, this section presents a particular approach to describing and thereby comparing international systems across historical periods.³ Systemic characteristics are broken down into three categories: the types of actors in the

³ Although avoiding anachronistic terms such as *international* or *interstate* to describe systems that existed before either modern nations or states would be preferable, due to the overwhelming use in the IR literature of such terms, I will refer throughout to *international systems* (as do many other historically minded IR authors). It should be noted, however, that the following analysis is applicable to any system composed of interacting polities (with or without the particular characteristics of modern states or nations).

system, the principle by which they are organized, and their interaction norms and practices.

Accurately describing and thereby comparing international systems is essential in order to identify, and subsequently explain, systemic transformations. Western Europe has seen major transformations of its international system, in the transition from the medieval world to the modern era, as well as in the nineteenth- and twentieth-century expansion of the modern system of sovereign states to include post-colonial actors. Most important for contemporary politics, of course, is the possibility of an ongoing transformation of the international system due to the manifold processes of globalization. The conceptualization of international systems presented below enables the study of these transitions, first of all, by identifying that they have occurred or are occurring and, second, by distinguishing the particular contours of the change.

Many authors have outlined the essential characteristics of the modern state system, but most descriptions resemble a list of features rather than an analysis of categories or variables applicable to diverse systems across historical periods. For example, Wight (1977) describes the modern state system by considering its being composed of a multitude of sovereign states, the mutual recognition of sovereignty, and the existence of means of communication, but he does not formulate these characteristics into categories in which every international system will be describable. Without appropriate terms with which we can compare the systems of different eras, we cannot hope to explain adequately the transition from one to another, nor understand the possibilities for future changes in the current system.

Basing a description on the features of the modern system leads to a particularly ineffective approach: a search backwards for the “origins” of this single set of arrangements. This may appear to be a useful method, since it is the features of the contemporary modern state system that we are most interested in explaining. Nonetheless, it is far more useful to study the *transition* from one system to another. Historian Marc Bloch has made this argument quite forcefully, contending that too many students of history worship “the idol of origins” (1953: 29ff). He argues that the “origins” of a social institution are always ambiguous and too often perceived as “a beginning which is a complete explanation.” Studying, instead, a transition from one arrangement to another is less likely to lead to “confusing ancestry with explanation” (p.32). Furthermore, the search for origins implies institutional creation *ex nihilo* and does not recognize the effects of preexisting arrangements. Thus, instead of asking, “What is the modern system, and how did it begin?”, we should ask, “What is the modern system, what was the previous system, and how and why did the transition from one to the other occur?” One cannot explain a transition without detailed pictures of both “before” and “after,” which is possible only with a method for describing international systems across historical periods in a comparable way.⁴

⁴ Fortunately, this focus on transitions rather than origins is not completely foreign to the study of the modern state system in international relations. In fact, the typical starting point for contemporary IR discussions of the history of the state system is the work of John Ruggie, which quite explicitly focuses on a transition rather than on ephemeral origins. One almost always sees Ruggie’s work cited in introductory chapters on the historical nature of the state system; for example: Spruyt (1994: 34), Thomson (1994: 12), or Philpott (2001: 4). In spite of this helpful example, however, many analyses end up searching for origins rather than trying to explain the transformation.

The most influential effort to define systems in comparable terms is that of Waltz (1979), who presents three system-level features to consider. The first is the principle according to which the units in the system are organized: anarchy or hierarchy. For Waltz, the sovereign state system is unquestionably anarchical, defined by the lack of authoritative, formal arrangements: “In the absence of agents with system-wide authority, formal relations of super- and subordination fail to develop” (1979: 88). Waltz’s second feature of systems is the functional differentiation of the units. Since the system is organized anarchically, without any overarching authority, all political units are forced to be functionally equivalent and, hence, undifferentiated: “so long as anarchy endures, states remain like units” (p.93). The final characteristic of the system is the distribution of power among the political units, which is a system-level attribute (rather than unit-level) because it cannot be ascertained by looking at any one unit in isolation.

Waltz’s conceptualization has been criticized on many grounds, including in terms of its inability to distinguish among diverse systems. This limitation is principally due to neorealism’s assumption that anarchy has always been the defining feature of international politics.⁵ Spruyt (1998) argues that this “implicit Westphalian model” is based on the following false logic: “Conflict occurs throughout history; conflict is evidence of anarchy; anarchy is thus present throughout history” (p.344-345). Yet conflict-ridden international systems have existed with principles of organization that were not strictly anarchical. Thus, units may very well have been differentiated functionally, as well as in other ways, and it is the transformation of the principle of differentiation that Waltz’s theory is unable to explain, or even describe. Indeed, as Ruggie has famously pointed out in the passage quoted at the beginning of this chapter, realism’s neglect of the variation in types of differentiation across historical periods leaves it unable to account for the medieval-to-modern systemic change.

Aiming toward a solution to this problem, Spruyt (1998) suggests that more features must be considered. Specifically, “an analysis of the type of elements that make up the system” and “a clarification of the arrangement of the elements in the system” “will have to be accompanied by an analysis of behavioral patterns of the elements in the system” (p.349). In a slight terminological adjustment, I consider those same three features as, respectively, the *types of actors*, the *organization of the actors*, and their *ideas and practices of interaction*.⁶

⁵ For representative examples, consider the following from two key neorealist works: “the fundamental nature of international relations has not changed over the millennia. International relations continue to be a recurring struggle for wealth and power among independent actors in a state of anarchy” (Gilpin 1981: 7). “The texture of international politics remains highly constant, patterns recur, and events repeat themselves endlessly. . . . The enduring anarchic character of international politics accounts for the striking sameness in the quality of international life through the millennia” (Waltz 1979: 66).

⁶ This conception of an international system allows us to incorporate some interesting theoretical discussions that until now mostly served to complicate a field focused almost exclusively on anarchy versus hierarchy. For example, consider Wendt’s proposal of three different “logics” of anarchy, each based on beliefs held by actors about the roles and interests of others in the system (1999: ch.6). His discussion makes the concept of anarchy more complicated by implying that there are different types of anarchical organization. Instead, using this paper’s three separate descriptors we are able to see that Wendt’s three “logics” (Kantian, Hobbesian, and Lockean) are actually different systems with the same type of actor (states), the same principle of organization (anarchy), but very different sets of interaction practices.

Yet rather than merely adjusting the categories in Waltz's systemic conceptualization, I go further, arguing that *ideas* hold a key place in the structure of the system, in each of the categories of actor, organization, and interaction. Constructivist authors have already made this point explicitly, arguing that neorealism focuses exclusively on material factors at the expense of ideas. Wendt (1999: ch.3) argues that the material facts emphasized by Waltz, such as the distribution of economic and military capabilities, are only important for international politics because of the ideas that give them meaning.

System structure actually *is* the ideas that are held about it by actors, even though these ideas are only observable in behavior. "Social kinds" like the structure of an international system are, in themselves, unobservable, but can nonetheless be considered ontologically real (Wendt 1999: ch.2).⁷ The system structure is constituted by norms and ideas about what actions—or what actors—are legitimate or even conceivable. As Skinner (1978) argues, "In order to explain why such an agent acts as he does, we are bound to make some reference to this [normative] vocabulary, since it evidently figures as one of the determinants of his action" (xiii). As will be shown in subsequent sections, each of the three proposed categories of system description—actor type, organization, and interaction—has an important ideational component.

Although the following sections discuss separately each of the three systemic features (actor type, organization, and interaction norms and practices), it is important to note that they are fundamentally linked to one another, empirically and analytically. First, the three categories of system description I propose are not always easily separable in terms of observations; often we can determine the characteristics of the type or organization of actors only by observing their interactions. Conceptually as well, overlap exists between the types of actors, the system's principle of organization, and the norms of interaction that both define and are constrained by the organization and characteristics of the actors. These categories of description are tied together in a relationship of "constitutive explanation," defined by Wendt (1998: 105) as an effort "to account for the properties of things by reference to the structures in virtue of which they exist." Each feature of an international system is constituted at least partially by the others. Nonetheless, these three concepts can be studied individually in order to define fully the character of a system and the resulting effects on political outcomes.

I.A. Types of actors

Whereas Spruyt, in the passage quoted above, uses the term *elements* for the interacting parts that make up the system (for example, states in the modern system), and many authors use terms such as *units*, I instead use the term *actors*, because an international system is created and maintained through *action*, and has no existence independent of action.

This does not mean, however, that I present a strictly individualist approach. A structured group of individuals (such as a state or other form of political organization) can be treated as an actor in its own right, not simply as a collection of individuals.

⁷ Although Wendt concedes that there are several ways in which material forces such as technology or geography have independent effects on international outcomes (1999: p.110), the structure of the international system itself is still ideational, even if those ideas are in part influenced by material constraints (as well as cultural or normative constraints independent of politics).

Wendt (1999: ch.5) argues that we can consider a group to be an agent if it evinces three features: “an ‘Idea’ of corporate agency and a decision structure that both institutionalizes and authorizes collective action” (p.218).⁸ Modern states clearly fit this definition, but so do other political formations throughout history. Ferguson and Mansbach (1996) point out that labeling non-modern political forms *states* is anachronistic; they suggest the more inclusive term *polities*, defined as entities with “a distinct identity; a capacity to mobilize persons and their resources . . . ; and a degree of institutionalization and hierarchy” (p.34). This is helpful because it leaves out the specific traits (such as firm territoriality and mutual recognition) that distinguish states from other forms of polity.

Although the number of actors in the system may appear to be a material characteristic, the legitimacy and many of the defining characteristics of actors are defined entirely by ideas held by the actors themselves (Bukovansky 2002).

I.B. Organization of actors

The organization of the actors within an international system is included by most theorists as a systemic feature, although in different ways. This section will first briefly review the major approach to this concept and critiques of it, noting that although the principle of organization of actors is an ideational feature, this has rarely been explicitly recognized in the literature. It will then outline a way to describe the organization of actors in the system that focuses on the central role of ideas as structure, focusing on the prevalence and variety of “mixed” systems—i.e., those that are neither hierarchical nor anarchical.

One of Waltz’s systemic features is the formal principle by which the parts are ordered, which he defines as anarchical for the state system and hierarchical for domestic political systems. Although Waltz’s dichotomous concept implies that there is a clear distinction between anarchy and hierarchy, with no middle ground, many subsequent writings in international relations have contested this. Milner (1991) points out that anarchy in IR literature has been about a lack of legitimacy rather than an absence of order; thus there has never been a completely anarchical system, i.e., one in which there were no relations of legitimate authority between actors at all. Lake (2003) proposes a multidimensional continuous variable for the ordering principle in international politics. Thus four types of relations (security, economic, political, and “state formation”) could be classified along the range from completely hierarchical to completely anarchical, based on “who has the authority to decide what” (p.312).⁹ Watson (1992), in a study of international systems throughout history, also proposes an anarchy-hierarchy continuum,

⁸ Although I agree with Wendt’s proposition that collectivities such as states can be real agents, and not merely treated as such as an analytically useful “as-if” assumption, I disagree with his subsequent application of the characteristics and motivations of individuals to collective actors such as states (Wendt 1999: ch.5). The fact that individuals believe in the reality of collectivities does mean that those collectivities are real social entities, but it does not necessarily mean that common beliefs about state motivations, decision-making structures, and predicted behaviors will be accurate. Entities such as states may be real agents, but they also may be a very different kind of agent from individuals, with correspondingly different motivations and decision-making processes. Wendt unfortunately ignores this possibility in his efforts to apply individual-based psychological and social theories to analyze and predict state action. (See Kratochwil [2000] for a similar point.)

⁹ This is further developed in Lake 2009.

arguing that no system has ever existed at the theoretical extremes of pure anarchy or pure hierarchy, and that the organizing principle of most systems varies over time.

These “mixed” systems can also vary qualitatively in terms of the form that the combination of anarchy and hierarchy takes. For example, Deudney (1996) finds that the early United States demonstrated a type of non-anarchic, non-hierarchic system, which was a “self-conscious alternative to the Westphalian system” and involved non-balancing behaviors such as hiding and binding (p.192). Another example is suggested by the concept of “heterarchy” (Ansell 2000), which involves more than one single organizing principle and in which lower-level units “have relationships with multiple higher-level centers . . . as well as lateral links with units at the same organizational level” (p.307). This concept is reflected empirically in some of the arrangements among political actors in the Middle Ages, such as the common practice of “multiple homage,” in which one vassal would be bound to more than one lord (Bloch 1961). This creates situations in which hierarchical control is compromised, but in a situation that is far from being anarchical.

Although it has rarely been presented as such by the authors above, all of these discussions of types of organization directly concern *ideas* held by actors about their organization. Legitimate authority is fundamentally a question of norms about the duty to command or obey, and Waltz’s “formal principle” truly *exists* only in the ideas held by actors. The non-dichotomous conceptualizations proposed by Waltz’s critics are also found in the ideas held by actors about their roles and relationships vis-à-vis one another. Therefore, the organization of actors should be conceived of as an *ideational* feature, and one that is fundamentally *relational* as well.¹⁰

I.C. Interaction ideas and practices.

The third feature of an international system is the actors’ norms and practices of interaction. These institutions involve both ideas held by actors about the appropriate or even possible ways to interact in the system and the actors’ institutionalized practices of conflict and cooperation. This section discusses, first, why including norms and practices of interaction is essential to describing a system, and second, what those institutions are.

Focusing on interaction is useful not only for distinguishing among systems but also for defining the boundaries of the system itself. Indeed, as Spruyt points out, by neglecting interaction, neorealism “does not delineate how to distinguish the system from its environment” (1998: 342). Authors of the English school, on the other hand, focus explicitly on interaction to delineate a system: Bull writes that a system “is formed when two or more states have sufficient contact between them, and have sufficient impact on one another’s decisions, to cause them to behave—at least in some measure—as parts of a whole” (1977: 9). In an effort to make this definition more precise, Buzan and Little (2000: 90ff) suggest that the existence of a system requires more than mere communication; all four of the following types of interaction must be present: military, political, economic, and societal. Thus we can use the *presence* of sustained interaction to delineate the boundaries of an international system, while the *content* of interactive norms and practices allows us to differentiate among diverse systems.

¹⁰ Lake (2009) notes the importance of relational authority to international organization, although he underplays the importance of ideas to the legitimation of authority.

In opposition to Waltz's contention that interaction is a unit-level feature, and hence not appropriate for systemic theorizing, Wendt (1999: 145ff) argues that interaction, as opposed to mere state action, is part of what he terms *micro-structure*, which is structural even though it is from the perspective of the actors rather than from that of the system as a whole.¹¹ Wendt has illustrated the importance of interaction practices for differentiating among systems in his argument that "anarchy is what states make of it" (1992). Using a deductive approach to systems, Wendt argues that the practices of self-help are an institution and merely one of several that could exist in a system composed of unitary states organized anarchically (i.e., a system with fixed actor type and organization). This does not mean that institutions of interaction are easily changed through purposive action, merely that interaction practices do not *automatically* follow from the organization of the system.

Including interaction norms and practices in descriptions of international systems is also a response to the "agent-structure problem" in international relations (Wendt 1987, Dessler 1989). Interaction is the analytical element that links agents with structures: Through interaction agents constitute structure, but structure in turn constrains the possibilities for action and interaction by agents. The organization of actors is more than related to their interaction; the principle of organization *is* a set of interaction practices (Wendt 1999: 21). Including interaction practices as an element of system structure does not "solve" the agent-structure problem, but it does at least allow for a set of empirically observable behaviors and the norms governing them to serve as an analytical link between agents' actions and the ideational structures that constrain them.

Although practically all actions by polities could be considered interactive—since there is little that a polity can do in a closely linked system that does not in some way have an effect on another actor—such a collection of norms and practices would be too extensive for fruitful comparison. As a first cut, we should eliminate ideas and practices that relate solely to internal action in polities, such as control of population, service provision, and so on. Although these often have cross-boundary effects, they are not consciously oriented outward, and thus are not ideas and practices of *interaction*, strictly speaking.

Simply because the interaction ideas and practices must be relatively common or well accepted does not mean that only cooperative norms and practices should be included. After all, the ways in which political actors come into conflict are also institutionalized, with the possible exception of "first encounter" scenarios.¹² Thus, what needs to be described for any given international system is the institutionalized set of norms and practices relating to cooperation and conflict (that is, all interactions).

The most visible cooperative institution of a system is the means of communication among actors, but the actual ideas about how to communicate, and hence

¹¹ This reasoning is similar to that adopted by Waltz (1979: 98) in justifying his inclusion of the distribution of unit capabilities as an element of structure: "Although capabilities are attributes of units, the distribution of capabilities across units is . . . a system-wide concept." Similarly, interaction practices cannot be defined by looking at any one actor's behavior alone.

¹² See Wendt (1999: ch.4) for a discussion of the "non-cultural" nature of first encounters between civilizations; see also Inayatullah and Blaney (1996) for an opposing view that even first encounters are structured by culture.

the resulting practices, vary across systems.¹³ Communication in the modern states system has taken the form of diplomacy, with a highly institutionalized set of practices (Anderson 1993). Previous systems also had institutionalized means of communication among actors, although none had a set of diplomatic practices as complex as that of the modern system. Usually these practices allowed for sending and receiving information, negotiating, and making agreements. For example, although medieval diplomatic practices were very different from modern ones (as the former involved neither resident ambassadors nor permanent foreign offices), political actors during the Middle Ages did communicate with each other using well-established customs. This system of communication, however, was viewed as “a method of formal, privileged communication among the members of a hierarchically ordered society” (Mattingly 1955: 23), rather than among autonomous equals. Thus, the systemic ideas behind these practices include norms concerning *why* and *how* actors communicate with one another.

Conflict is also structured by norms and practices of interaction, although this structure is not always as apparent as in the case of cooperation. The most obvious example is in the existence of “laws of war.” Although it is a modern term, pre-modern systems also had implicit or explicit ideas about the proper conduct of war. Even in some of the most apparently anarchic and state-of-nature periods of history, combatants still observed rules and required justifications for how wars were begun, how they were fought, and how they were ended. The strictness of these rules, of course, varies from era to era, but whenever actors within an international system come into conflict, their interaction is structured at least in part by accepted norms. The force of these rules is most clearly illustrated by the difference between conflict among actors within the system and conflict where one actor is not seen as part of the system, that is, when the rules are not seen to apply. A historical example from the early modern period is the difference between the treatment accorded by Europeans to adversaries from within Europe and the unrestrained violence unleashed on Ottomans or Amerindians.

Institutionalized interaction norms and the resulting practices thus provide a means both of delineating the boundaries of an international system and of comparing systems across time and space. As with the other two features of systems, institutions of interaction are a social fact, composed of both the ideas held by actors about appropriate means of interacting and the common practices of cooperation and conflict. As noted above, systems can vary in their interaction norms and practices in spite of similar actors and organization, and this variation leads to divergent political outcomes.

* * *

In this section, I have argued that a useful description of an international system is provided by a consideration of the types of actors involved, their organization, and their interaction norms and practices. These three categories of description can be seen as both constitutively linked and analytically distinct. First, each feature is at least partially constituted by the other two: actors are defined by their organization and interaction; organization is instantiated by the interaction of actors; and interaction is performed by actors and constrained by their organization. On the other hand, the three comparable

¹³ Some might argue that economic exchange also involves cooperative practices, but many of those practices, such as negotiating economic treaties, actually involve communication as the only truly interactive practice, which is then followed by domestic action within polities.

features of an international system can be separated analytically to compare systems. In order to generate the most accurate and useful description of a system, we must know the qualitative characteristics of all three features. In other words, any given system is defined fully only when we know the types of actors, their organization, *and* their interaction practices.

A major element of defining each of these categories, and hence describing systems, is provided by the concept of sovereignty, the subject of the next section.

II. Sovereignty and Authority in International Relations

The concept of sovereignty in international relations literature offers an example of the usefulness of this three-part system description. The systemic features proposed in this paper allow us to separate distinct components of sovereignty in a non-arbitrary way. Thus, sovereignty as actor type (ideas about who is a legitimate actor [Holsti 2004: ch.4]), sovereignty as the organization of the system (anarchical versus hierarchical [Lake 2003, 2009]), and sovereignty as a subset of the system's interaction practices (mutual recognition of constitutional independence [Biersteker and Weber 1996]) can be separated analytically. In other words, sovereignty is a key constitutive element in each of the three categories of systemic description.

Although the importance of sovereignty is commonly recognized, variation in its characteristics is often ignored. Similar to the realist assumption of immutability in the anarchical organizing principle, sovereignty is often assumed to have only one form: the territorial exclusive sovereignty of the modern state system. Yet if we wish to understand how international systems may change over time, we need to conceptualize sovereignty in a way that allows for change as well. The following paragraphs discuss the concept of sovereignty in international relations, arguing that the *constitutive aspect of sovereignty is determined by the types of authority held to be legitimate by actors in the system*.

Sovereignty is a complex and contested term, with a wide variety of meanings across different approaches to studying politics. Although the term has a long history and variety of definitions in political theory, I will focus on sovereignty as it is typically conceptualized in international relations.¹⁴ This usually involves a distinction between internal sovereignty and external sovereignty (e.g., Lake 2003: 304). *Internal sovereignty* can be defined as effective control over the jurisdiction or territory claimed by a ruler or government; *external sovereignty* is the recognition of an authority by other actors in the system. Both aspects are defined by the character of the authority that the actor holds—internally vis-à-vis subject persons, jurisdictions, or territory; and externally in terms of the divisions between recognized actors.

In order to make the concept of sovereignty applicable to historical periods beyond the modern state system, my definitions omit features such as “territorial control”

¹⁴ As Thomson notes, this political philosophy discussion of sovereignty, though having a long history, is less pertinent to studying the early modern transformation of politics that produced the modern state and state system: “It focuses almost exclusively on state-society relations, ignoring the global context and external influences on these relations. In short, it presupposes clear, unproblematic boundaries between polities,” which is part of what we seek to explain (Thomson 1994: 157n21).

from internal sovereignty and “formal equality” from external sovereignty.¹⁵ To include such features would define both internal and external sovereignty too narrowly, explicitly basing them on the characteristics of the modern state system. Thus sovereignty would appear to be either present or absent, rather than subject to qualitative variation. Instead, sovereignty should be conceptualized in a way that allows for diverse forms and change across time.¹⁶

Thomson (1994: 14-15) provides a useful way of isolating the aspects of sovereignty that my work explains. She separates sovereignty into two dimensions: functional and constitutive.¹⁷ The *functional dimension* delimits the “range of activities” over which an actor claims authority. In modern state sovereignty, this is what separates the public sphere from the private, economics from politics, and so on. The *constitutive dimension* of sovereignty is defined by the principles by which claims to “ultimate or final authority” are made. Although Thomson makes the constitutive dimension static by including “political space,” “territorial segmentation,” and “geographical boundaries” within her definition, we can remove this modern territorial bias and allow territorial segmentation to be one of the many possible principles that constitute sovereignty.¹⁸

Thus, if the constitutive dimension of sovereignty is defined by the principles by which authority is claimed externally and internally, the type of authority held to be legitimate by actors in the system is the key to differentiating sovereignty across systems. The ideas about legitimate authority will inform both the criteria and the practices of mutual recognition in the system (external sovereignty) and the nature of the sphere over which authority is effectively asserted (internal sovereignty). The connection between sovereignty and legitimate authority has been discussed by many authors in international relations. Lake, for instance, argues that sovereignty is “a type of authority relationship” which must have some legitimacy (2003: 304). Sovereignty’s basis in authority not only is an internal “*attribute* of units” but also “*entails relationships*” externally between them (Lake 2003: 305, emphasis in original). As Thomson (1994) points out, this legitimacy

¹⁵ Lake (2003: 305) includes those terms, in spite of trying to open up the concept of sovereignty to variation and hierarchical relationships.

¹⁶ If one wishes to define sovereignty narrowly as “the recognition by internal and external actors that the state has the exclusive authority to intervene coercively in activities within its territory” (Thomson 1994: 219), this dissertation’s analysis could be applied to the question of why (modern state) sovereignty was created and became dominant, instead of the question of why medieval forms of sovereignty were both transformed into, and replaced by, modern state sovereignty.

I find broadening the definition of sovereignty more useful (even though it risks some confusion), as it emphasizes the *transformational* nature of these early modern processes, rather than presenting them as strictly *generative*. This follows from my argument that the modern international system was the result of a transformation of the preexisting medieval system, rather than a creation *ex nihilo*.

¹⁷ Similar distinctions are made, although with slightly different terms and some minor shifts in meaning, by Holsti (2004) on *foundational* versus *procedural* institutions of the international system, by Buzan (2004) on *primary* versus *secondary* institutions, and by many others.

¹⁸ Most other IR authors also consider only the “modern” constitution of sovereignty, even those theorists that treat sovereignty as contested and problematic. For example, Krasner (1999) breaks down sovereignty into two external and two internal types, and then asks when and how these principles have been violated. Yet if we wish to account for the transition from the medieval to the modern systems, it is not a question of particular fixed principles being violated or honored, but rather a change in what those principles were, and why the medieval variety was reduced to a modern uniformity. As Ansell (2004) notes, Krasner and many others have defined sovereignty in ways that “presume ‘territoriality’—that the state is a ‘discrete’ (and for the most part, spatially contiguous) territorial unit demarcated by boundaries” (5-6).

has often been predominantly external—that is, recognized by other rulers and actors rather than by all or most of the subject population. Nonetheless, the domestic right to rule also has a component of legitimacy, and hence authority, in any situation where control is not *entirely* based on coercive force (Lake 2009).

Thus the type of legitimate authority in the system is a key component of sovereignty, constitutively defining the actors and their relationships. Change in sovereignty is therefore driven by change in legitimate types of authority. The following section proposes a typology of legitimate authority, which will be used later to consider the change in sovereignty during the early modern period.

II.A. Typologizing Legitimate Authority

Although the following is by no means an exhaustive typology of the various ways in which legitimate authority can be conceived or acted upon, it does encompass the major differences in authority between medieval heterogeneity and modern uniformity. It will thus usefully illustrate the particular outcome that my work explains: the transformation of the principle of sovereignty in the early modern period. In the following typology, I will examine the variations in legitimate authority in the following categories: conceptual basis, exclusivity, and centralization.

II.A.1. Conceptual basis for authority: Territorial versus jurisdictional. Authority must have some conceptual basis: a defining idea of what authority means, whom and what it is held over, and how it is held. Following Sahlins (1989), I differentiate territorial authority from jurisdictional authority. The variety within each category will be discussed as well.

Territorial authority is most familiar to us today, although the modern form of territoriality is merely one of many possible forms.¹⁹ Territoriality can be defined broadly as “the attempt by an individual or group to affect, influence, or control people, phenomena, and relationships, by delimiting and asserting control over a geographic area” (Sack 1986: 19), but this attempted control can take many forms. In order to capture the important shift from medieval to modern territorial authority, I differentiate three forms of variation within territoriality: 1) verbal description versus visual representation of territory; 2) center-out versus boundaries-in territoriality; and 3) homogenous versus differentiated territory.

Verbal description as a conceptual basis for territory long predates the cartographic visual representation of territory and involves a written or oral description of territory, often based upon an itinerary of personal travel. Thus distances, and hence the size of territory, are often given in units of travel time rather than linear measurements, as without surveying technologies or an achievable coordinate system, large-scale linear distance is difficult to measure (Revel 1991). Information about places was often gathered and presented in questionnaire-based written surveys. Visual representation of territory, on the other hand, is familiar to us in the form of modern mapping, whether it be the political jigsaw-puzzle map of the world or topographical maps with information

¹⁹ This point is noted often by constructivist IR theorists, but usually without following up with much discussion of what the “other” forms of territoriality might be (e.g., Ruggie 1983, 1993; Kratochwil 1986). For the concept of human territoriality more generally, see Sack (1986).

on features of physical geography. Yet visual representation of territory can include other traditions of mapping, defined broadly; the bias of “scientism” can make it difficult to conceive of non-Western, non-modern visual representation traditions as cartographic (Turnbull 1996; Crampton 2001). Such visual representations of territory include south-sea navigational charts constructed around winds and currents, classical Chinese schematic diagrams of the various layers of perceived authority of the emperor (from the imperial palace in the center to tributary lands to uncivilized barbarians on the outside²⁰), and itinerary maps from medieval Europe and elsewhere. The last suggests that an itinerary-based conception of territory can be represented visually or described verbally.

The second type of variation within territorial conceptions of authority concerns the direction from which the territory is defined, and thus by which authority is asserted: from the center of control outwards or from the outer boundaries of control inwards. In pre-modern polities, usually “rulers defined themselves primarily in terms of centers rather than peripheries” (Holsti 2004: 73). This even applies to polities with such ostensibly linear boundaries as the Roman *limes* (including, most famously, Hadrian’s Wall) and the Great Wall of China: Rather than linear frontiers, these fortifications were conceived of as temporary stopping places on the way to world conquest, and proved useful for internal control as much as internal defense (Kratochwil 1986: 36; Whittaker 2004). Medieval “marches,” areas of loose political control set up at or beyond the edge of a ruler’s authority, similarly functioned as “buffer zones” against invaders. Much of pre-colonial Africa was also organized territorially in a center-out fashion, as “power was (quite realistically) conceived of as a series of concentric circles radiating out from the core” (Herbst 2000: 45). Territory and territorial authority conceived of as flowing inward from boundaries is clear in the modern state system, as (theoretically) fixed and impenetrable boundaries neatly delineate the complete authority of one state from the similarly complete authority of its neighbor.

Finally, the territorial basis for authority can vary in terms of how homogenous the territory is conceived to be. Depending on the conceptual lens through which an actor looks at territory, contrasts between different areas of space or diverse places can be revealed or obscured. Differentiated conceptions of territory see space as a succession of unique places, each with particular (perhaps incomparable) characteristics. Homogenous territoriality sees a undifferentiated space, which can be easily divided up on any geometric basis (Harley 2001: ch.3).

Jurisdictional authority is less familiar us, but has been an important basis for defining authority in pre-modern historical periods.²¹ This authority is defined in non-territorial terms and can take a variety of forms. Three key types from pre-modern Europe are personal bonds, issue domains, and offices. Personal bonds are evident not only in feudal lord-vassal ties, but also in the conception of a bond of personal loyalty directly between monarchs and subjects in early modern Europe. Other jurisdictional authority relations were based on particular issue areas, wherein a ruler had authority not over a territory, but instead over issues such as judicial action, economic regulation, or religious ritual. Finally, jurisdictional authority can be tied to particular offices, such as feudal titles, that have specific rights and responsibilities of a non-territorial nature.

²⁰ Mignolo 1995: 220-221.

²¹ The concept of “jurisdictional sovereignty” comes from Sahlins (1989: 28-29).

II.A.2. *Exclusive versus non-exclusive authority.* Independently of its conceptual basis, authority can vary between the complete exclusivity of a single authority holder and overlap or sharing among multiple authority holders. If it is exclusive, authority is by definition final; that is, there is only one locus of authority over the particular persons, territories, or issue jurisdictions. Non-exclusive authority, by contrast, exists when the same subject or target of authority has more than one ruler. Although the modern state system is defined by exclusive authority, non-exclusive authority can exist in many forms. In feudal Europe, for example, there was a common practice of multiple homage, that is, when one vassal would be bound to more than one lord. Thus if a vassal's two lords came into conflict, it was unclear who had authority over the vassal. Another type of non-exclusive authority is alternating authority, such as that decreed by the Treaty of Westphalia over the Prince-Bishopric of Osnabrück, in which Protestant and Catholic rulers would alternate. A further example of non-exclusive authority, in a territorial form, is the nomadic conception of territorial control: For many nomadic cultures, "ownership meant, in effect, the title to a cycle of migration" (Ruggie 1993: 149).²²

II.A.3. *Centralized versus decentralized authority.* Authority can vary between extremes of high centralization, in which one actor or institution has all of the authority over the particular jurisdiction or territory, and high decentralization, in which the higher-level actor shares authority with lower-level actors or institutions. Federal versus unitary institutional structures in modern states illustrate this difference (although the level of decentralization in modern federal states rarely approaches that of many pre-modern polities, such as the late medieval "mosaic states"²³ or feudal bonds). For example, the evolution of the U.S. federal system followed a trajectory from the relatively decentralized structure of the Continental Congress, to a more centralized polity following the adoption of the Constitution, and finally increasingly centralized during the twentieth-century expansion of power by the federal government.

Although the two features are similar, centralization is not the same as exclusivity. Authority is considered to be *non-exclusive* when two equal-level actors share or alternate authority over a particular domain, while authority is *decentralized* when a higher-level actor shares some authority with a lower-level actor, while at the same time the former can command the latter. Decentralization and non-exclusivity in authority may coexist, as in some situations in feudal Europe where the lord-vassal relationship both allowed for overlap through multiple homage (as discussed above) and gave the vassal some authority within the domain even as he owed allegiance to his lord. Without multiple homage, feudal authority would be decentralized but exclusive, as each "feudal pyramid" of a lord with vassals and sub-vassals would create a single, exclusive sphere of authority yet would allow for authority to be decentralized down to lower levels. Alternately, authority has been non-exclusive but centralized when some borders between early modern European states involved overlapping jurisdictional authorities

²² Although Ruggie (1993: 149) differentiates between non-exclusive territoriality (in which he includes feudal overlap) and non-"fixed" territoriality (such as nomadic ownership), it appears to me that on the important question of who controls what territory, both of these types should be considered non-exclusive, or overlapping.

²³ Strayer 1970: 53.

over towns along the frontier, without either side necessarily having delegated authority to a lower level.

* * *

These different categories of variation for legitimate authority are analytically distinct, but changes in them may often occur simultaneously. For example, the transition from medieval variety to modern uniformity involved both the transformation of some existing types of authority and the elimination of others. Such major changes in the structure of international politics have not gone unnoticed by scholars, of course, and the next section considers existing approaches to and explanations for systemic transformation in general, and the early-modern transition in particular.

III. Systemic Change in International Relations

Changes in the international system, such as the medieval to modern transformation that is the topic of this dissertation, have been considered by scholars from a variety of approaches, both within International Relations and outside it. This section will review the existing literature on systemic change, including the explanations offered by neorealism, the English school, constructivism, and historical sociology. I argue that the contributions of this literature can be most effectively enhanced by a focus on the role of ideas in systemic change and the interaction between long-term drivers and the actual process of change.

The neorealist approach to systemic change was noted briefly above, in particular the way in which the neorealist conceptualization of international systems precludes consideration of organizing principles other than anarchy (see note 3 above). One form of change in the international system is accepted by neorealist authors, of course: changes in the distribution of power among the actors in the system. This is, most famously, the type of systemic change considered by Waltz (1979) as determinative of international political outcomes. Gilpin (1981), on the other hand, considers the possibility of several kinds of systemic change, including change not only in the distribution of power but also in the nature of the units that form the system (which he calls “systems change”). This latter type of change clearly constitutes part of the early modern European systemic transformation, but by dismissing any possibility of non-anarchical organizing principles, an approach such as Gilpin’s ignores the equally important shift from heteronomy to anarchy.

Of course, not all IR theorists have ignored systemic change of the more constitutive and comprehensive variety. Many authors have recognized the modern state system for what it is: the contingent outcome of a particular historical process, one by no means representative of all possible arrangements of international systems. Much of this work began with the authors of the English School, in particular with Martin Wight (1977) and subsequent authors of the same tradition (e.g., Watson 1992). Although, as noted above, this approach was more descriptive of the process of systemic change than it was explanatory, it did set the stage for the more causally oriented work of recent decades.

Most contemporary studies of the early modern transformation of international politics actually take on only one of the three aspects of an international system discussed

above—the character of the actors—and generally ignore organization and interaction. This transition from the variety of medieval actors to the uniformity of modern territorial states has been studied by authors with a wide range of theoretical explanations, to be discussed in more detail below (e.g., Tilly 1992; Gorski 2003; Spruyt 1994). These studies have made an incomparable contribution to our understanding of systemic change, since the change in the character of actors in the system constitutes a key element in the overall transformation of the system (as noted by Gilpin 1981, Spruyt 1994, Hall 1999, and others).

The transformation of the second feature of the European international system, the principle of organization, has been examined in some international relations work, such as in the seminal articles by Ruggie (1983; 1993) and in subsequent efforts including Philpott (2001) and Reus-Smit (1999). Change in the norms and practices of interaction, on the other hand, has been relatively neglected, as it is often seen as merely the result of change in the other two features. Yet, as argued above, interaction can vary across systems with similar actors and organizing principles, and hence needs to be considered as a distinct dimension of change.

Most of the work on the state-formation aspect of systemic change takes a particular approach, focusing on the long-term fundamental causes behind systemic change. These long-term drivers are of key importance, and the studies cited below have provided an important starting point for the effective study of systemic change overall. Spruyt (2002) usefully notes that most explanations are based on one or more categories of driving forces, including military technological change, economic change, and political institutional change.²⁴

Beginning principally with the work of Charles Tilly (1975; 1992), early modern state formation has been seen principally as deriving from military technological change and the related increases in expenditure and military competition. In short, “war made states, and vice versa” (1992: 67). His argument was two-fold, that the technology and economics of war favored larger, centralizing states over smaller non-territorial actors and that the same pressures favored centralizing monarchs over local decentralized authorities. Related work by historians on the “military revolution” sees social and political effects stemming from an interrelated set of changes in military technology, tactics, organization, and finances that stretches from the shift from armored cavalry to infantry in the 1300s through the increases in army size, bureaucratization, and formal drilling in the early seventeenth century (McNeill 1982; Parker 1996; Rogers 1995).

Other authors have built directly on Tilly’s thesis, adding important new outcomes. For example, Ertman (1997) argues that the large degree in variation in regime outcomes across European states is just as important as their formation as territorial states, but he considers Tilly’s causal factor of increasing military pressure as an important driver of these results. Downing (1992) similarly adds that military pressure was variable across states and across time, leading to divergent regime and state-building outcomes.

Other theories have considered the effects of long-term economic changes on international politics. These include Anderson’s (1975) Marxist approach to the origins of the absolutist state and Wallerstein’s (1974) world-systems theory—which argues that the

²⁴ A recent useful summary along the same lines is provided by Vu 2010.

worldwide development of capitalist relationships of core and periphery determined the shape of the international system.²⁵ A more institutionally minded economic explanation is provided by North and Thomas (1973), who see the state as an effective means of securing property rights.

The important explanation by Spruyt (1994) combines military technological change and economic development but consciously aims to correct the linear and teleological aspects of earlier theories. He argues that the economic growth of the high Middle Ages led to the creation of not only states, but also other, competing institutional forms: city-states and city-leagues. His argument is particularly useful in that it corrects the tendency to read backward from the later domination of states into a period when the state was merely one among several viable forms of political organization.

This body of literature has undoubtedly increased our understanding of the contingent nature of the characteristics of the modern state system, as well as helped to identify some of the important long-term causal factors behind the transformation from the medieval to the modern world. The best way to build upon these contributions is to place them in the context of what is a highly complex, layered, and untidy process of systemic transformation. That is, the long-term drivers of change identified in much of the existing literature represent but one (albeit important) part of the explanation, which I argue can be broken down analytically into three parts.

First, systemic transformation begins with *long-term drivers* of change, which push for or at least enable some kind of change in the system. The extensive work on these drivers has revealed the important roles played by economic expansion and technological changes in military violence, transportation, and communication. Second, the actual character, timing, and direction of the systemic change is influenced by the features of the *process* itself. Important elements of the process of change include the ideational resources available to actors (that is, the set of ideas and practices that are perceived to be legitimate or even imaginable) and the layering of new ideas and practices synthetically onto the arrangements of the previous system. Third, a *trigger* or proximate cause is required to generate a final systemic settlement, in which the pressures from the long-term drivers and the dynamics of the process are resolved. In the systemic transformation of early modern Europe, attempts to consolidate a new set of arrangements have followed a major or “systemic” war, with the final consolidation occurring only after the defeat of Napoleon (explored in detail in chapter 2). This is reflected in the fact that the post-Napoleonic system was not a simple reactionary restoration of dynastic arrangements but, rather, was the culmination of a long-term process of change which was furthered both by Napoleon’s conquest of Europe and by his defeat.²⁶

²⁵ See also Rosenberg 1994 and Teschke 2003.

²⁶ My emphasis on conflicts as late as the Napoleonic wars as being part of the transformation of the system runs counter to the tendency in international relations literature to propose a neat sequence of types of conflict, progressing from conflicts that created the system to conflicts that merely were fought out within the system. For example, consider Ruggie’s differentiation between constitutive, configurative, and positional wars (1993: 162-163). Most major wars throughout the early modern period can be seen in retrospect to have been a combination of all three types, although actors themselves typically thought in exclusively positional terms.

Thus, although the long-term drivers are a key element in explaining systemic change, they do not tell the entire story. For example, historical research in recent decades has both expanded upon and questioned the thesis of the “military revolution” and its social effects. It is not entirely clear that the new military technologies inevitably favored larger sovereign states over smaller units such as city-states. Arnold (1995) argues that the city-state of Mantua succeeded throughout the sixteenth century at updating its fortifications and keeping up with technological developments, thereby preventing conquest by more powerful actors. He sees the cases of small units militarily driven to extinction (such as the oft-cited case of Siena) as the exception, not the rule. The sixteenth-century developments in fortifications, which were a response to the development of cannon, demonstrate that some aspects of military technology change are reversible: Whereas in 1494 the French invasion of Italy was made possible by the dominance of siege artillery over existing fortifications, by 1600 such an invasion would be nearly impossible, due to the widespread adoption of new defensive technology such as the *trace italienne* (Arnold 1995).

In other words, military technology is clearly important as a driver of change, but the intervening effects of the process have been neglected. Increasingly expensive military technologies favor actors who can pay for them, and increases in army size may lead to the dominance of those actors with enough population resources to muster such forces (i.e., sovereign states). Yet through the Thirty Years’ War (1618-48), much of the military manpower brought to bear was made up of mercenary forces, often raised by military entrepreneurs such as Albrecht von Wallenstein (Parrott 1995). Even in the middle of the eighteenth century, a third to a half of the armies of the great powers were composed of foreign nationals (Thomson 1994: 29). This kind of military competition required revenues more than population. Furthermore, many militarily “inefficient” units, such as minor Italian city-states, actually survived into the early nineteenth century, albeit often under the domination of a stronger actor. Until the French Revolution, political units almost never disappeared because of direct defeat in war, but rather because of dynastic marriages or inheritances (Osiander 2001b: 278).

Military technological change thus illustrates the way in which a long-term causal factor drives changes in the system, but without determining the nature or timing of that change. Actors *did* face new pressures from increasing military competition during this period, but the outcome of those new pressures was not entirely determined by the technological change itself.

Therefore, the important role of ideas and ideational change needs to be considered, as a way to build upon the existing literature’s conclusions about the long-term technological, economic, and social driving forces of systemic change. Not only is the structure of the international system constituted by ideas held by actors in the system (as discussed above), but ideas play an important role in driving and directing systemic change as well. A significant part of this is the role played by the available pool of ideas concerning how to legitimately structure political organization and interaction. The process that leads to the particular body of ideas available involves both the production of new ideas and the elimination or delegitimation of existing ones. The creation of new ideas can be driven by technological or non-political social developments, but ideas can also be drawn from the perceived practices of previous systems. Delegitimation of existing ideas and practices can similarly be driven by technological and social changes.

Focusing on the body of ideas as a fundamental determinant of the process of systemic change runs counter to more material-focused explanations. For example, Krasner (1993) sees the early modern repertoire of available ideas as large enough that actors could essentially pick and choose the ideas that their material interests require. Yet any particular repertoire of legitimating ideas is never unlimited, and it can both grow and shrink over time. Thus, while I agree with Krasner's contention that early modern actors had a wide variety of ideas to choose from, my argument in this dissertation is that the late medieval variety of legitimating ideas was *narrowed* over time down to the single legitimating principle of the modern state system: territorial sovereignty.²⁷ As Skinner (1978), Osiander (2001a), and others argue, we must take into consideration the ideas of contemporaries when explaining the behavior of actors, and these contemporary ideas must be understood *in their own terms*, not reading backwards from what we know to be the eventual outcome. Ruggie (1993) addressed this directly, as he considered the changes in "social epistemes" to be one of the three fundamental drivers behind the medieval-to-modern shift. His work was admittedly more of a suggested research program than a conclusive study, and thus my dissertation builds upon his proposition to consider exactly how and in what way ideas affect the course of systemic change.

Of course, Ruggie is not alone in considering ideas to be important. Some authors who take a discourse-focused approach to international relations may pursue the role of ideas too far, seeing them as the *only* driving force behind international political change. (See Milliken [1999] for a review of much of this literature.) Instead, I build upon the work of Wendt (1999: ch.3), who argues that although ideas are often at the base level founded on material facts, little can be explained in international politics without considering the role of those ideas per se. For example, although material forces can have independent effects (through, for example, material capabilities, technology, or geography), even key neorealist concepts such as state interests or power are defined at least in part by ideas (113ff). My dissertation builds upon this perspective by considering the role of a particular technological development—cartography—in both its material and ideational aspects. I argue that this technology altered ideas about actors and organization in the international system, thereby driving and shaping the transformation of the system.

Some existing studies of systemic change, in addition to Ruggie's, have similarly privileged the role of ideas and have provided some useful insights upon which my work can build. For example, Gorski (2003) considers the role of Calvinism in creating the social disciplining necessary for the formation of modern states. Reus-Smit (1999) demonstrates the ways in which different historical state systems have been based on diverse constitutional structures, which are "meta-values" about who can be a rightful actor and what such actors can and cannot do. Unfortunately, Reus-Smit's work, by concentrating on a comparison of different historical periods, leaves the explanation for the *transition* from one system to another underdeveloped. Philpott (2001) tackles systemic change directly, with a similar conscious focus on the role of ideas in driving and directing the course of that transformation. Yet because he underestimates the complexity of the mutually constitutive relationship among the types of actors, their organization, and their interaction practices, he treats the organization of the system as a

²⁷ A related argument is made about the modern state as the only acceptable form of organization for politics today by Meyer et al. (1997).

political goal promoted or prevented through conscious action by rulers.²⁸ This ignores the way in which the actors mutually constitute one another—and, thereby, the system—through their interaction and organization (Giddens 1985). In a period of systemic transformation, the identities of the units cannot be treated as ontologically prior to their form of organization.²⁹

Thus, my dissertation will build upon the important insights from the existing international relations literature that demonstrates the importance of ideas to systemic change and to political outcomes more generally. In doing so, I focus on a particular aspect of the intersection between technological change, ideas about political organization, and systemic transformation, namely the development of cartography in the early modern period. This work will build upon not only the international relations literature discussed above, but also an extensive body of research into the history of cartography, which will be considered in chapters 3 and 4.

Few scholars have attempted to draw a connection between visual representation generally, let alone cartography in particular, and international system change. As will be seen, my dissertation will expand upon and complement the limited research that has been done along such lines. For a key example, consider Ruggie's (1993) argument concerning the role of developments in the visual arts in driving systemic change.

Put simply, the mental equipment that people drew upon in imagining and symbolizing forms of political community itself underwent fundamental change. . . . Arguably, the single most important of those developments occurred in the visual arts: the invention of single-point perspective. . . . What was true in the visual arts was equally true in politics: political space came to be defined *as it appeared from a single fixed viewpoint*. The concept of sovereignty, then, was merely the doctrinal counterpart of the application of single-point perspective forms to the spatial organization of politics. (157-159)

This key insight into the effect that a change in visual representation can have on conceptions of political space, and hence on political outcomes, is what my work explores further. My argument, of course, focuses on the role of cartography as a new way of seeing space, rather than on the use of single-point perspective in painting.³⁰

Others have discussed the role of mapping in state formation, usually focusing on cartography as necessary for imagining the state as a centralized, unified, sovereign territory. For example, Biggs (1999) argues that the *qualitative* change of state formation (as opposed to the *quantitative* expansion of armies and bureaucracies) required a change in mentality due to mapping. My argument builds upon these insights but also goes further, focusing on the way in which cartography also *constrained* ideational resources available to actors, thereby helping to drive the shift from the variety of territorial,

²⁸ For examples of this confusion, see Philpott 2001: pages 30, 58, 100, 110, and 115. See Osiander (2001b) for a clear refutation of the idea that any actor in the Thirty Years' War was fighting for or against systemic change per se.

²⁹ For a convincing critique of conventional arguments concerning the purported "effect" of the Reformation on early modern state formation, see Nexon 2009.

³⁰ Ruggie's discussion of the importance of single-point perspective unfortunately downplays the related development of cartography, in spite of the possible role of Ptolemy's text in both developments (Edgerton 1976).

personal, and non-exclusive authorities of the late Middle Ages to the uniform territorial sovereignty of the modern system.³¹

IV. Research Design: Historical Narrative and Process Tracing

Due to the historical subject matter of my dissertation, my research method is a narrative form of “macro-causal analysis,” one of the categories of historical sociology delineated by Skocpol and Somers (1980). In general, my research follows what Mahoney (1999) labels “narrative analysis.” Narrative analysis considers outcomes to be “the product of unique, temporally ordered, and sequentially unfolding events that occur within cases” (Mahoney 1999: 1164). This approach involves looking closely at the historical record to specify the links between proposed causes and effects. Some benefits of this approach are, first, that it can eliminate possible explanations by demonstrating that they do not appear in a close historical narrative and, second, that it can assess “causality in situations where temporal sequencing, particular events, and path dependence must be taken into account” (Mahoney 1999: 1164). In other words, while some other forms of macro-causal analysis are essentially qualitative or small-N versions of statistical correlational analysis, the narrative approach explicitly takes account of time and history.

One commonly noted limitation of narrative analysis is that it makes generalization beyond the case in question very problematic (as close historical studies tend to accentuate the uniqueness of each case, thereby making comparison difficult). Yet generalizing to other situations of systemic change, in particular the possibility of contemporary change in the international system, is possible. In terms of studying the particular early modern transformation, however, there is only a single case, analyzed across time. There is no other modern state system that could be used for macro-historical comparison,³² thereby making Mahoney’s other two types of macro-causal analysis—nominal and ordinal—impossible to execute at this level. Nonetheless, the chapters following will briefly compare key features of early modern Europe (both cartographic and political) against other periods, pointing out the unique character of the case in question.

Furthermore, although narrative analysis relies on implicit or explicit counterfactual logic, Fearon (1991) argues that all non-experimental hypothesis testing relies on counterfactual propositions and that being self-conscious about the counterfactual basis of single-case studies can help build theory. Close narrative history also helps to separate the *conditions* for outcomes from the *causes* of them, the latter being of primary interest for theory-building (Fearon 1991: 191).

Therefore, the following chapters make use of a research design incorporating process-tracing as a means of examining the transformation of the international system in

³¹ Existing writings on cartography and international political change, and my approach’s position within them, are discussed in chapter 5.

³² Although I do agree with English School authors such as Buzan and Little (2000) that there have been numerous international systems throughout history, it appears to me that the social, technological, and political differences between systems as varied as the early modern period, the classical world, or ancient China are so great that “comparing” international systems from such different historical periods would be more like making two separate single-case studies than conducting a comparative study. See also Haydu (1998) on the difficulties of comparing across time periods.

early modern Europe. Within-case process-tracing can make it possible both to offer support to a particular theory and to eliminate other alternative theoretical explanations. This involves examining the historical record “to see whether the causal process a theory hypothesizes or implies in a case is in fact evident in the sequence and values of the intervening variables in that case” (George and Bennett 2005: 6). My research relies primarily on secondary historical sources, relying on extensive and critical comparison of numerous accounts in order to reduce the potential problem of source bias (Trachtenberg 2006: ch.3).

As Parsons (2007: ch.4) argues, ideational arguments do not necessarily rest on a less verifiable basis than arguments based on material structures, which are equally unobservable in themselves. Supporting ideational arguments requires demonstrating that competing explanations involving only material interests and structures are inadequate: “ideational claims must detail the limits of competing logics’ ability to account for the ideational elements in question” (Parsons 2007: 130). Therefore, this dissertation will throughout aim to demonstrate that without the ideational effect of mapping, modern states and international political structures would not have taken on the particularly territorial character that they unquestionably have.

The impact of map use, moreover, was a long-term change in normative structures and mentalities, not a sudden transformation of an individual actor’s point of view. These changes occurred through generational turnover and socialization, as political advisors and decision-makers were educated in an increasingly map-filled environment. Such changes in basic cognitive frameworks are slow and unintended and may have effects far beyond what actors themselves are aware of. The character of this cognitive impact has implications for how we study its political effects. Technological changes are directly observable, as are transformations of material political practices. Yet ideas about political authority and organization are not directly observable, particularly when changes are intergenerational, as individual actors might not note in journals or letters that their thinking has changed. I argue that maps have structured the basic understandings that actors had about their world without their being directly aware of either the cause or even the effect: what actors considered normal or even imaginable was structured without their conscious knowledge. The best means of documenting changes in these ideational frameworks is to study their observable implications or effects (Wendt 1987). Thus I examine changes in practices, both cartographic and political, and theorize an explanation that accounts for the changes I observe.³³ New mapping technologies put new representations and new tools into the hands of political actors; the effects of cartographic practices on rulers and decision-makers are then observable in subsequent changes in their political goals and practices. As actors altered their ideas about the appropriate or possible definition of political authority, we can observe them pursuing new interests built on those new ideas.

V. Summary

This chapter has proposed, first, that systemic transformation is best understood as a change in the actors in the system, their principles of organization, and their interaction

³³ For a similar approach, see Thomson (1994: 5).

practices. Second, I argued that these characteristics of an international system are fundamentally based in ideas about legitimate authority, which can vary in terms of conceptual basis, exclusivity, and centralization. Finally, in briefly reviewing the existing approaches to explaining systemic transformation, I suggested that this dissertation's focus on the role of ideas in constituting systems and in directing systemic change provides a useful complement to existing theories.

The next chapter will apply my proposed method of studying systemic change to the medieval-to-modern shift in international politics, in which the complex variety of actors, organization, and interaction in the late Middle Ages gave way to an anarchical system of sovereign states.

Chapter 3

The Transformation of International Politics: Medieval to Modern

Over a period of several centuries, in a contested, uneven, and layered process, the structure of international politics in Europe underwent a fundamental transformation. The complexity and variety of the late medieval system was regularized, homogenized, and simplified into the modern state system, constituted by territorially exclusive states organized anarchically. The medieval diversity of authority types—territorial and jurisdictional, shared and overlapping, and widely decentralized—was reduced to the modern uniformity of territorial, exclusive, and centralized authority. This transformation is the outcome examined by this dissertation, and the empirical details of the early-modern systemic change are the subject of this chapter.

Explicitly detailing the medieval-to-modern shift is important, particularly in the field of International Relations, due to the propensity to read backwards into history from the anarchic arrangements of today. Belying this anachronistic image, medieval political ideas and practices were fundamentally different from what we typically assume to be universal, based on modern political arrangements. Particularly in the realm of types of legitimate authority, on which sovereignty and the international system are founded, the divergence is wide between the medieval and the modern worlds.

Thus, this chapter details that transformation. First, using the theoretical approach proposed in chapter 1, the character of the international system of the late Middle Ages is described, as is the nature of medieval sovereignty and authority. Second, I discuss the modern international system of the nineteenth century—the consolidation of the complex transformations of the preceding centuries—along with the modern character of sovereignty. The contrasts between the two periods reveal the drastic nature of the early modern systemic transformation.

I. The International System of the Late Middle Ages

International politics during the late medieval period was structured by a system composed of a wide diversity of units, units organized into a mix of anarchy and hierarchy and interacting in complex ways that constituted and reflected that organization. It is important to detail the diversity and complexity of this period because many do not recognize how *different* the medieval world was from the modern. As one IR author notes: “We think far too much in terms of independent territorial statehood even when talking about past ages—caught up as we are in what R.B.J. Walker calls the modern ‘discourse of eternity’ that represents the international system based on the sovereign territorial state as timeless in its essence” (Oslander 2001a: 120). A close examination of the political structure of late medieval Europe will reveal the comprehensive nature of the transition to modern international politics.

As discussed in chapter 1, Ruggie’s critique of neorealism recognizes the distinct character of medieval politics, yet the “before” picture that Ruggie presents needs to be filled out by a more detailed discussion.³⁴ In two articles (Ruggie 1993, 1983), he

³⁴ This may very well be due to the fact that Ruggie’s discussions of the pre-modern system almost invariably were but a small part of articles, and thus were not allowed the space for detail.

presents a general picture of the medieval system, along the following lines: The system was not composed of territorial units that were mutually exclusive, but rather had overlapping and incomplete jurisdictions, such as what occurs when in a feudal system a vassal has more than one lord. Ruggie posits that “the modern system is distinguished from the medieval not by ‘sameness’ or ‘differences’ of units, but by *the principles on the basis of which the constituent units are separated* from one another” (Ruggie 1983: 274). Thus the organization of the units is not anarchic but “heteronomous,” “referring to the lattice-like network of authority relations” (Ruggie 1983: 274.n30).

Ruggie’s quick portrait of the medieval system has been the starting point for most subsequent studies, as it is, obviously, for my work. Yet his description of this system was not meant to be exhaustive, as it was merely intended to demonstrate that there was once a system very different from the modern, and different in a way not accounted for by Waltz’s systemic approach. We need to know more about the medieval system, more than just that it was heteronomous and had overlapping jurisdictions. Particularly in the realm of interaction practices, more detail is needed. Although Ruggie states the basic case very well, the lack of detail has left the door open to inaccurate interpretations of medieval politics, and hence to erroneous analyses of the transition to the modern state system. For example, even though he is familiar with Ruggie’s work, Fischer (1992) argues that the Middle Ages saw anarchical state-like behavior at the level of individual knights and castellanies. In other words, although he recognizes that the units making up the system were smaller during the medieval period, Fischer does not acknowledge the distinctions between the medieval system and the anarchical modern world in terms of organization and interaction. (I will discuss Fischer’s work more fully below.) A thorough description of the late medieval system will demonstrate the ways in which this system was different from the modern and hence will elucidate the nature of the early modern transition.

Before detailing the characteristics of the late medieval system, the historical and geographic scope of the period and area of interest must be clarified. Many common textbook definitions of the medieval period or the Middle Ages mark the beginnings at around AD 350 (the decline of Rome) and the end at around 1450 or 1500 (the beginnings of the Renaissance). Since I am interested in describing the system that came immediately before the transition of early modern times (a transformation that occurred during the sixteenth, seventeenth, and eighteenth centuries), I will focus on the late Middle Ages: c.1300-c.1450. Obviously, change in political or social institutions never really comes to a halt, making it difficult ever to make a strong claim that an arrangement exists unchanged across more than a very brief period of time. Yet there are periods that witness more rapid or drastic change, and other periods when change is slower. Models of institutional change such as “punctuated equilibrium” (Krasner 1988) or “punctuated evolution” (Campbell 2004) reflect this idea that brief episodes of change interrupt (more) static periods. I would argue that 1300-1450 is one of the latter, and can be considered analytically separate from both the period after and the period before.³⁵

³⁵ My designated time period is similar to that of many other works. For example, Black (1992) considers political thought from 1250-1450 as a unit; Spruyt (1994) sees a drastic change in political organization around the year 1300; and Ganshof’s (1970) study of medieval international relations sees a similarly distinct late period in the late thirteenth through fifteenth centuries.

In setting the spatial boundaries of the late medieval system, this study focuses on Western and Central Europe, in spite of the fact that all regions of the Old World were at least loosely linked. Although the term “Europe” is anachronistic and would not have been used by contemporaries, the geographic scope it suggests is analytically useful. Any definition of a system must emphasize the conscious *interaction* of the units, (for example, Buzan and Little’s definition discussed in chapter 1). As will be demonstrated throughout this paper, the political units and actors in what we would call Western and Central Europe clearly had effects on each other and were aware of their interaction, as indeed they were aware of their sharing a common society (a point discussed below). For now, suffice it to say that the polities and societies of Europe evinced each of Buzan and Little’s types of interaction (military, political, economic, and societal) in, respectively, war, diplomacy, trade, and the Roman Christian church.

Indeed, few would argue that the political entities of Europe did not interact in these fashions, and hence did not comprise an international system. Yet there remains the question of how to bound the system, of what geographically proximate regions *not* to include. For example, the Islamic world, trans-Saharan Africa, nomadic steppe empires, and the Chinese empire all existed during this period and had some interaction with the political units in Europe. Yet the interaction between European actors and those of other regions never included all of the four types listed above. For example, there was trade with China along the famous silk road, but there was never any direct military or political contact between the two systems. Conflict and trade existed between Christendom and the Islamic world, but the societal interaction was limited by the belief on both sides that the other’s religion was heretical. In short, interaction within Christian Europe simply dwarfed interaction across its boundaries. Finally, the fact that Western and Central Europe was indisputably where the modern state system first took shape makes it worth studying, even if—as has often been pointed out—medieval Christendom was anything but dominant in global terms.

I.A. Late medieval system: Types of actors.

In theory as well as in practice, the main characterization of the types of actors of this period is diversity. Unlike the modern state system, which—at least in its ideal-typical version—has the sovereign territorial state as its only type of political unit, the late medieval period saw numerous forms of polity. This difference means that the transition to the modern state system was drastic in two ways: First, the system went from one composed of diverse forms of political organization to one made up exclusively of one type of unit. Second, the actor type that later became dominant—the territorial state—was not present at all until the very end of the Middle Ages, and the few states that appeared then were still a far cry from the modern states of the nineteenth century. The medieval diversity is reflected both in contemporary theoretical discussions and in the involvement of many types of actors in “international” politics.

In the late Middle Ages, there was enormous diversity of, and downright confusion about, terms for political actors. The Latin word *status* was not used in the modern sense of “state” until the end of the fifteenth century (Dunbabin 1988). Of the many terms that existed, including *res publica*, *regnum*, *civitas*, *commune*, *dominium*, and others, “all could, but need not, denote that combination of a precise territorial area with a form of political organization which ‘state’ implies” (Dunbabin 1988: 480). “There was

indeed no single ‘medieval’ or ‘Renaissance’ system for the theory of politics any more than there was for political practice. There was a diversity of languages, political doctrines and preferences” (Black 1992: 41). The contemporary acceptance of this diversity is well illustrated by the way in which Aristotle’s *Politics*, translated into Latin in the late thirteenth century, was applied to contemporary events. His discussion of the ancient Greek *poleis* “was taken to refer not just to city-states but to whatever actual polities there were: kingdoms, principalities, duchies or city-states” (Black 1992: 108).

Regarding the actual political arrangements on the ground, one can see the empirical manifestation (or source) of the theoretical confusion outlined above. The diversity of actors was enormous, as the system included emerging kingdoms such as England and France, the Holy Roman Empire, the papacy, city-states in Italy and elsewhere, leagues of independent cities, and non-territorial corporate groups.

One way to see the diversity of actors in formal or official interaction is in diplomacy. For example, the congress of Arras, held in 1435, is seen in retrospect as a three-way summit between England, France, and Burgundy, the major actors in the current stage of the Hundred Years’ War. Consider, however, the representatives and delegates present. The Duke of Burgundy attended with a large number of his vassals as advisors. The French contingent included not only representatives of the crown, but also those of the nobles and the towns, with an unclear relationship to the royal embassy. The towns from all three regions (those controlled by England, France, and Burgundy, respectively) had semi-independent policies. Paris itself had three groups representing it, one each from the clergy, the city burghers, and the university. The English embassy, though more united than the French, was actually a “double embassy”—England proper and Lancastrian-controlled France had separate representatives. Thus even this apparently simple diplomatic meeting demonstrates the numerous political units, of various types, active within what we somewhat anachronistically term France (Dickinson 1955).

Some IR theorists have argued that even though these numerous political units were of varying size and power, they still had the fundamental features of modern states (if small ones) and hence behaved as such (e.g., Fischer 1992). Yet the various political units of the late Middle Ages resembled neither small-scale modern states nor even each other, in terms of their defining characteristics. The following discussion, which examines some of the types of units prevalent during the late medieval period, demonstrates just how diverse and non-modern they were.

One type of actor present at the congress of Arras, and often discussed in traditional histories of the period, is the kingdom, or *regnum*. Kingdoms are seen by many as the precursors to the early modern states of the sixteenth century, particularly the French and English kingdoms. Yet medieval *regna*, even during the last phase of the Middle Ages, were very different from the centralized territorial states of later centuries, despite the deceptive continuity of names. Kings in the Middle Ages had three duties: spiritual guidance, defense from foreign threats, and maintenance of internal peace (Bloch 1961: 408). What they clearly did *not* have was complete authority over affairs within their kingdoms. There has been extensive debate on the question of whether kings were merely “first among equals” and held power strictly by virtue of their feudal control of vassals, or whether kings were always seen as superior to other lords.³⁶ Even if kings

³⁶ See Reynolds (1997) for a review of the debate; she supports the latter view.

were superior to other lords, they were nonetheless “enmeshed” in feudal relationships (Finer 1997: 863). Moreover, kingdoms were seen as collectivities of people, rather than geographically delimited territories (Reynolds 1997: 250), and even when control was conceived of in terms of location, it was described as a series of places rather than as a delimited space (Biggs 1999: 377).

The Holy Roman Empire was another type of political unit active during the period, and one with an even more complex nature than the kingdom. It was both a German kingdom and something more—as from the tenth century onwards the ruler was crowned separately as king and as emperor. This dual title gave the emperor a claim to have authority over other rulers on the continent. Although this rarely led to obedience by those rulers, it did make their interaction with the emperor very different from their interaction with each other. (The next section discusses the empire’s effect on the organizing principle of the period.)

Cities were another political actor of the period that were neither territorial nor centralized in the modern sense. In addition to the way in which cities within kingdoms conducted semi-independent foreign policies, such as when cities from throughout France took part in the Congress of Arras, some cities managed to become truly independent and were able to form city-leagues or to become city-states. The Hanseatic league, for example, performed many of the actions that we associate with states but remained fundamentally different due to its structure as a non-hierarchical collection of non-contiguous towns. “The league waged war, raised revenue, signed treaties, and regulated economic activity”—all activities assigned to states and other independent political units (Spruyt 1994: 109). Yet this decentralized organization had no independent central bureaucracy or officials, and often had trouble enforcing contributions and conformity among its member cities. (Indeed, it is to this collective-action problem that Spruyt attributes the eventual failure of this form of organization.) Geographically, the league was clearly not organized along modern territorial lines, as it contained hundreds of member towns spread throughout Northern Europe, and had little or no effective control over the hinterland surrounding or between the towns.

The other way in which cities became independent actors during the late Middle Ages was in the form of city-states, which were present in many parts of Europe but particularly dominant in northern Italy. In this region, cities gained increasing *de facto* control over their affairs during the twelfth century, particularly after the defeat of Emperor Frederick Barbarossa’s attempt to assert imperial control militarily in 1183 (Martines 1979: 24). Yet these political units were not simply smaller versions of modern territorial states: “Hierarchy within the city-state was always contested. Sovereignty remained incomplete” (Spruyt 1994: 149).³⁷ Covini (2000) writes that the Italian system

³⁷ Although Spruyt (1994, p.149 and elsewhere) and others argue that one feature of modern states that the Italian city-states did have was territorial boundaries, I do not think this is an accurate characterization. Perhaps it is easier to confuse the control of a series of places (often mentioned as the pre-modern concept of territorial control) with control of a delimited territory in the case of such small geographic areas in close quarters (i.e., there is no need for accurate maps when you can see the entire domain from your campanile). Yet Martines writes that “citizens . . . came swiftly to see the world in terms of cities, though these were spots in a boundless expanse of hills and valleys” (1979, p.72). Thus, in some sense actors and thinkers of these city-states may simply have ignored the rural areas, where control was contested and unclear, and concerned themselves only with cities (as many modern historians have done).

of city-states actually involved many types of political and military actors: the major city-states, smaller city-focused units, and non-territorial actors such as mercenary bands.

* * *

The variety of actors in Italy is but one example of the complexity of the late medieval period. Once again, this contrasts sharply with the modern period, where units are theoretically equal (both in legitimacy and in form) and practically distinct and separable. The organization and mutual relations of these diverse units is the subject of the next section.

I.B. Late medieval system: principle of organization.

Just as in the discussion of the types of political actors above, the principle of organization in the late medieval system is fundamentally different from that of the modern state system, demonstrating once again the monumental nature of the systemic transition.

The best way to characterize organization among political units in the late medieval period is as a complex mix of hierarchy and anarchy. This combination is first apparent in the contrast between theory and behavior: Contemporary theorists often argued that there was (or should be) hierarchical organization and that units were anything but distinct and equal. Yet these arguments, though seen at the time as legitimate by many, by no means always carried the day. Second, even when hierarchy existed in practice as well as in theory, this hierarchy was often confined to a part of the international system rather than extending over the entire system. In other words, *some* units within the system may have recognized a hierarchical authority, but *all* of them never did.³⁸

Ruggie's work took the first step toward describing the non-modern organization of the Middle Ages, labeling it "heteronomous." In order to elaborate upon this idea, this section examines the following related topics: feudalism and its effects on political organization, the relationship between the empire and other units, and the (theoretical) unity of Christendom. This description will offer an alternative to the oft-repeated medieval "trinity" of feudalism, empire, and church, which characterizes the medieval political world as a decentralized feudal structure within a theoretical hierarchy. For example, this is the picture that Spruyt (1994: ch.3) paints of the Middle Ages prior to 1300.³⁹ The situation is, I argue, more complex.

³⁸ Although Lake (2009) argues that hierarchical relationships persist in today's international system, the following paragraphs demonstrate that hierarchical international authority in the late Middle Ages was significantly "thicker" and more pervasive than that observed today.

³⁹ Spruyt's argument is that this trio of organizing principles had broken down by 1300 and was replaced by new, competing forms of political organization (territorial states, city-states, and city-leagues). Although he is clearly correct in pointing out the presence of these new types of units, I think he exaggerates the death of the earlier ideas. For example, the Hundred Years War, which began in the middle of the fourteenth century, is most often portrayed as having feudal origins—even though it is ostensibly between two of Spruyt's territorial states, France and England. Thus feudalism, empire, and church continued to affect the organization of political units, and hence their actions vis-à-vis each other. For another example, consider one author who, in spite of the fact that he anachronistically sees "states" in this period, acknowledges that feudal ties do not disappear overnight: "The State of that period [fourteenth and fifteenth centuries] was certainly no longer feudal. Nevertheless vassalage and fief still occupied an important place in the State" (Guenée 1985: 19).

Feudalism, as it has usually been defined, involves an enormous number of social, economic, and political characteristics, many of which have effects on the organization of political units.⁴⁰ Feudal society was fundamentally organized around the granting of fiefs (usually land and privileges) by lords to vassals, who in return owed military service and political loyalty to the lord (Bloch 1961). This highly personal form of social organization and interaction led to a general system of political organization that can be characterized by three features: the non-territorial nature of political control, the decentralization and fragmentation of political power, and the absence of a public sphere separate from private affairs (Finer 1997: 873ff). “Between the middle of the ninth and the middle of the eleventh century the feudal relations became the key component of the system of rule . . . [making] a network of interpersonal relations into the chief carrying structure of rule” (Poggi 1978: 25). Although the strength of feudal ties was waning by 1300, these organizing principles continued to affect how units were organized, internally and externally.⁴¹

In terms of the effect of feudalism on “international” politics, one important result was the presence of feudal ties between rulers. A clear example of the problems that this caused for political actors was the relationship between the French and English kings leading up to the Hundred Years’ War (which began in 1337). The English king had feudal possessions within France, which he held as a vassal of the French king; therefore the former had always paid homage to the latter as his lord (Curry 1993: 33). Thus, “Even Henry [II of England] himself, who was never averse from twisting law and events to his own advantage, seems to have felt some slight inhibitions about correct behavior towards the king of France” (Reynolds 1997: 281). The conflictual nature of their interaction (as the two monarchs fought numerous wars against each other) was tempered or at least structured by the feudal, hierarchical relationship between them. This is but one example of a general feature of the period: The way in which major political units were organized continued to be colored by the existence of feudal ties among them, even between such “modern” entities as the kingdoms of France and England.

The relationship between the Holy Roman Emperor and other rulers in medieval Europe further illustrates the complex way in which hierarchy and anarchy were mixed, and hence another way in which this period differed from the modern. Typically, the emperor is proposed as one of the hierarchical elements of medieval society, since according to some contemporary theorists he had authority over the other secular rulers of the continent. In terms of actual political power, however, by the late Middle Ages the emperor was effectively little more than a German king, and a weak one at that. In the preceding centuries, on the other hand, several emperors had made explicit claims to authority over the other kings of Europe. In particular, Frederick Barbarossa (r.1155-

⁴⁰ There has been extensive debate around the exact definition and applicability of the concept of feudalism, and it remains contested. Cheyette (1968: 2) notes that the confusion about feudalism is due to the fact that it “is really a ‘concept-theory,’” and in defining it one also makes a causal statement about how such a society works. Reynolds (1997: 1) argues that feudalism as a concept was “foreign to the Middle Ages,” making it very difficult to discuss in terms of contemporaries’ understanding, rather than in historical hindsight. Nonetheless, as I hope will become clear in this section, political organization in the Middle Ages reflected the principles of feudalism, perhaps not completely, but enough to make them worth considering.

⁴¹ See footnote 39 above.

1190) and his grandson Frederick II (r.1220-1250) used the twelfth-century revival of Roman law to claim to be *dominus mundi*, or “lord of the world” (Muldoon 1999: ch.4). Although these claims were probably meant to be taken seriously, most historians agree that even during this earlier period other kings “considered the Emperor as being essentially a German sovereign” (Ganshof 1970: 115). In a careful study of the correspondence between English King Henry II and Frederick Barbarossa, concerning a meeting of the English ambassador with the emperor in 1157, Leyser (1975) argues that even though Henry uses language that suggests submission to the will of the emperor, in the matter at hand (the return of a religious relic to Germany), the English monarch did not comply with Frederick’s demands.

The separation between imperial ascendancy in rhetoric and independence in practice had a long history preceding Barbarossa and continued into the period of this study. As early as the fifth-century collapse of the Roman Empire and the birth of the early barbarian kingdoms, “Imperial authority survived inasmuch as certain kings, though *de facto* independent, regarded their lands as constituting part of the empire and secured imperial sanction for their rule” (King 1988: 129). A similar separation between *de jure* imperial authority and *de facto* local control continued even after Frederick II’s attempts to assert superiority were decisively rebuffed in the middle of the thirteenth century (Canning 1988a: 345). Although it may be tempting to dismiss the imperial claim as mere propaganda by German kings, the belief that the emperor *should* rule all other kings was reflected both in the “convictions of the majority of the inhabitants of the West at the beginning of the fourteenth century” (Guenée 1985: 7) and in literary and theoretical works such as Dante’s *Monarchia*. This split between *de facto* and *de jure* was only truly reconciled in the mid-fourteenth century, when Bartolus of Saxoferrato executed a “methodological shift”: He argued that “when the law and the facts collide, it is the law which must be brought into conformity with the facts” (Skinner 1978: 9).⁴² Thus *de facto* control was finally posited to be legitimate. Although Bartolus was writing particularly about the city-states of northern Italy, one can see a similar dynamic at work in the relation of the French king to the emperor in the same period (Ullmann 1949). Therefore, after the middle of the fourteenth century, imperial authority was of little practical concern to other rulers; this hierarchical element of organization was more or less defunct in Europe as a whole (as will be seen below).

There was, however, one area in which the emperor’s claim to superior authority continued to have some weight: within the boundaries of the Empire, specifically vis-à-vis the German princes. It is the recognition of the effective independence of these princes, after all, that is usually cited as the momentous change embodied in the 1648 Treaties of Westphalia, which traditionally marks the shift to the modern state system.⁴³ During the late Middle Ages, on the other hand, the smaller German principalities continued to be subject to imperial control, although of uncertain strength, and that

⁴² See Black (1992: 115-16) for a similar argument.

⁴³ See Osiander (2001b) for a convincing repudiation of this “Westphalian myth.” I argue, nevertheless, that whether or not the specific treaties of 1648 actually created or finalized the sovereignty of the German principalities vis-à-vis the emperor, this change did occur, and it was one part of the consolidation of the modern state system. (See the section below on the international system of the nineteenth century for more.) Regardless of the direct role of Westphalia, however, during the late Middle Ages, the empire unquestionably continued to function as something more than a collection of independent actors.

control was due in part at least to the emperor's use of the title *dominus mundi*. Language such as that in the aforementioned letter from English king Henry II was useful as propaganda *within* Germany, even though it was not very effective in asserting authority over kings like the French or English (Leyser 1975: 206). Thus, even in the absence of a Europe-wide emperor, the rhetoric of empire continued to support hierarchical notions of organization and thereby constrain the interaction of some late medieval political actors in a way that clearly did not continue into the modern period.

The second possible source of hierarchical unity in the late Middle Ages was the church. Although theoretically assigned universal authority, in practice the church had little actual control over rulers, especially after the investiture conflict of the eleventh and twelfth centuries (Ganshof 1970). The papacy did, however, continue to play an active role in international politics, especially as a diplomatic mediator and arbitrator. (This is discussed in detail in the section on diplomacy below.)

In terms of more general societal unity based on Christianity, the fifteenth century saw an explosion of writing referring to Christendom as one society, usually calling it the *respublica Christiana*, and only later as "Europe" (Black 1992: 87-88; Hale 1993). This feeling of solidarity among intellectuals and writers of the late Middle Ages was a natural outcome of the international character of the universities of the time, to which students and teachers would come from all over the continent, and in which classes would be conducted almost exclusively in the international language of the day, Latin (Ganshof 1970: 200).

* * *

Overall, the organization of political units during this period was complex, and can be characterized in some parts as hierarchy and in other parts as anarchy. The lingering feudal nature of political control, the continuing *de jure* authority of the Emperor (particularly in central Europe), and the unifying force of a common Christian society combined to create a complex picture. These characteristics once again illustrate the massive shift represented by the transition to the modern state system.

I.C. Late medieval system: interaction norms and practices.

The way in which political units interact is the third feature differentiating systems of diverse historical periods, a feature that has received much less attention from scholars. As in the case of the other two system characteristics, the interaction practices of the late medieval system differ from those of the modern state system and, thus, also changed drastically during the systemic transformation.

A detailed picture of the interaction practices of this period is particularly necessary because other authors have posited that these practices differ little from modern ones. For example, Fischer (1992) holds that for all the ideas about medieval unity and peace, the actual practices of political actors during the period reflected no such thing. He argues that although medieval political units were extremely small, often at the level of individual knights and castles rather than large states, they still behaved according to the neorealist logic of self-help under anarchy. Yet the mere presence of competition does not necessarily indicate anarchy of equal units, especially when some actors are seen as superior to others (Hall and Kratochwil 1993; Holzgefe 1989: 11-12). As I will demonstrate below, even though the ideals of a unified Christian society were by no means always followed, the actual behavior of political actors during the late Middle

Ages was constrained and driven by these ideals, making the resulting practices very different from what we see in the modern world. The remainder of this section discusses the practice of war and diplomacy, as they are the two most important ways in which political units interact, and they amply demonstrate the differences between medieval and modern practices.

In the late Middle Ages, the causes, justification, conduct, and termination of war generally followed well-accepted patterns. One feature of the period was the unclear separation between war and peace—war was never total, but neither was peace. For example, in what historians traditionally label as the beginning of the Hundred Years' War, "there was no plunge into hostilities, merely a stepping up and broadening of effort" in the continuing military conflict between English and French forces (Richmond 1971: 96). This lack of distinction between war and peace led to an absence of real questioning of the motivations for war: "A world geared for war was unlikely to question why it should break out. It formed part of the accustomed and natural order" (Allmand 1988: 6). Although contemporaries often discussed justifications for conflict, they rarely made a distinction between a state of war and a time of peace.

The medieval "laws of war" provide an excellent example of the complex relationships between war and peace, public and private, and unity and fragmentation. The type of law applied to the conduct of war, *jus gentium*—literally "law of peoples" but often interpreted anachronistically as "international law"—was the law seen as common to all peoples, rather than specific to any one political unit. This form of law had its origins in Roman times (Stein 1988), and was recognized as legitimate throughout the Middle Ages (Keen 1968). Furthermore, the lack of a clear separation between internal and external politics is evident: "The law of arms governed alike the conduct of soldiers toward enemies . . . the discipline of armies . . . rules concerning rights in spoil . . . and armorial disputes" (p.210). Public and private affairs were not treated separately, as even such "state-related" crimes as treason were considered as violations of the personal bond between vassal and lord, rather than an offense against the abstract entity of the state (Dessau 1968). Indeed, private warfare was not only common but was also justified normatively (Holzgrefe 1989). The fact that, as with international law today, these were rules without a central enforcement mechanism did not prevent them from constraining behavior: "The absence of any visible head to this body politic [Christian society] did not matter, since its members were bound together by their common obedience to 'mother church,' whose lord was God himself" (Keen 1968: 211). Although by the end of the late medieval period, there was a common sentiment that only certain actors could wage a just war, who was and who was not such a legitimate authority remained unclear (Black 1992: 90ff).

The goals of war and the tactics used to achieve those goals also reflected the accepted ideas about political interaction. The medieval "purpose" of war was, following classical authors such as Vegetius and Augustine, "a means of bringing about peace." Indeed, war was seen as "the chief means of attaining the restoration of an order which had been broken by other causes" (Allmand 1988: 39). The works of Aquinas and others in the thirteenth century built upon this view, producing the idea of war being "just" when used to settle disputes between rulers. The dispute-settling view of war also grew out of early feudalism's justification of violent conflict as a means to settle differences, including those of jurisdictional rights (Poggi 1978: 33). Thus war was seldom justified

as defense or aggression in territorial terms, but rather in terms of justice and jurisdictional dispute settlement. The Hundred Years' War, often seen as a combination of medieval and modern dynamics, reflects this mix in the justifications used by the French for fighting: their stated goal was alternately the punishment of a rebellious vassal or self-defense of the nation. Similarly, the commonly accepted immediate cause of the war was undeniably feudal—the problematic relationship between the king of France and his vassal, the king of England (Allmand 1988: 11)—but the underlying causes have been seen as a more complex mix of feudal and territorial disputes.

These purposes for fighting had direct effects on the tactics used during medieval warfare, once again in contrast to modern practices. The most common tactic was the *chevauchée*, a raid on enemy land and populations intended to avoid direct confrontation with enemy forces (Finer 1997: 880). Outright battle was rare, since the political geography and military technology of the day made such encounters nearly impossible without the will of *both* sides. These raids had a dual purpose, one of which is the obvious effort to “bring military pressure on the enemy’s country” (Hewitt 1971: 86), thereby destroying the enemy’s resources “by devastating the countryside, burning the defenceless villages, small townships and the suburbs of walled towns” (Fowler 1971a: 12). Yet there was more involved than simply undermining the other side’s economic base. For example, during the first half of the Hundred Years’ War *chevauchées* were carried out by English forces in an effort to show the French king’s other vassals and subjects that their current lord was not militarily effective (Allmand 1988: 55). This follows directly from medieval ideas of the responsibilities of a good lord or king—one of the most important of which is defense against external threats. The non-territorial nature of the goals and tactics of most medieval fighting is also demonstrated by the revolutionary character of English king Henry V’s forays into France in the early fifteenth century, which were a conspicuous effort to secure and colonize territory. Both contemporaries and historians have commented on the fact that this marked a significant departure from typical practices (Curry 1993: 95ff).

Medieval diplomacy, like the conduct of war, reflected the organization and diversity of actors and political units involved in “international” politics:

With political authority in Latin Christendom shared between such a large number of groups and individuals, the sending and receiving of ambassadors therefore occurred at most levels of European society. One finds in the documentary collections examples of envoys and procurators being sent between the most diverse kinds of diplomatic principals. (Holzgreffe 1989: 13)

These included communications among kings, cities, bishops, and nobles. Similarly, the range of actors represented at the Congress of Arras, discussed above, illustrates the same point.

Reflecting the theoretical unity of Christendom, diplomacy in the late Middle Ages, as Mattingly (1955: 15ff) makes clear, was intended to serve the societal goal of international peace. Thus almost every facet of diplomatic practice during this era contrasts sharply with modern practices, since the goals of the latter have been, since their beginnings in the Italian city-states in the late fifteenth century, “the preservation and aggrandizement of [a diplomat’s] state” (Mattingly 1955: 94). As discussed above, Europeans saw themselves as members of a single society, and thus embassies were not seen as representatives of sovereign states, but rather as “a method of formal, privileged

communication among the members of a hierarchically ordered society” (p.23). We see this focus on overall peace in the “first textbook of diplomatic practice written in Western Europe” authored in 1436 by Bernard du Rosier. Similar to the laws of war, diplomatic practices, including recognized immunities, were not formally codified but nonetheless were generally followed as customary practices. The ambassadorial immunities that existed, and those that did not, reflected the dominant view of a unified Christian society. For example, diplomats were not to be harmed by the receiving prince, but if they committed crimes while on embassy they could be prosecuted by that prince, rather than by the one that had sent them. Since these rulers “thought of themselves as living in a common society, under the rule of a common law,” this arrangement made perfect sense (p.41).

This society had, at least in theory, a hierarchy and hence a head: the pope. The theoretical authority of the pope positioned him well to provide mediation between conflicting political actors during the Middle Ages. Typically historians argue that popes rarely if ever achieved such a lofty goal, but I contend that the bar has been set too high, and thus the actual impact of papal mediation has been underestimated simply because the reality did not match the papacy’s aspirations. According to one historian, for example, popes claimed the right to “regulate the international political order,” but usually only managed to be arbitrators whose power was only as much as allotted by the disputing parties (Black 1992: 89). Curry (1993: 134) makes a similar point, that the pope was never more than a weak third party and was never taken seriously.

Yet for all the disappointments for advocates of papal supremacy (and there was much to be disappointed about), the presence of a papal representative as a third party often structured the interaction of conflicting actors, even if the papacy could not dictate the outcome. For example, in the early stages of the Hundred Years’ War, truces between the French and English “were almost entirely mediated by the papacy” (Fowler 1971b: 185). In addition, before major battles papal negotiators would attempt to mediate, and although this was often unsuccessful (as in the famous battle of Poitiers, 1356), the presence of a third party willing to act as an trusted go-between made negotiation at least a possibility (Allmand 1988).

The practical usefulness of the papacy as both a means of mediation and arbitration and as a symbol of the unity of Christian society is demonstrated by the negative effects of the Great Western Schism (1378-1417), in which two rival popes were elected and claimed authority over the Church. During this period, conflicts such as that between France and England became more difficult to resolve: “England and France supported opposing sides on the issue, so that the Schism . . . accentuated the existing political divisions between the two countries” (Allmand 1988: 24).

After the schism, the papacy returned to its role as mediator, most clearly demonstrated in the 1435 Congress of Arras. (Although the representative of the Council of Basel was in some sense a competing church mediator, it appears that he deferred to the papal representative.) At this important meeting between the major parties in the Hundred Years’ War, the negotiations between France and England took place entirely through papal mediators—they never met face-to-face (Dickinson 1955: 118). The format used, in which the papal representative met first with one party and subsequently with the other, may have been based on the practices of ecclesiastical courts, where witnesses were called separately to testify before the judge renders a verdict (p.120). The fact that

this process was used in the negotiations between conflicting kings demonstrates the impact that the idea of a unified Christian society had on diplomacy, even though the papal representative, in this case as in many others, did not have the authority or power to dictate a settlement.

In the late Middle Ages, treaties were still made by all sorts of political actors at many levels of society (Holzgreffe 1989: 13). Furthermore, reflecting the personal nature of lordship in feudal society, treaties were often seen as personal agreements between individuals, rather than public arrangements between states, and “agreements so often were, so to speak, cast in molds borrowed from family life” (Ganshof 1970: 45). Even when feudal ties were no longer the only foundation of rule, in the first half of the fifteenth century “the modern conception of the continuity of treaty obligations, regardless of changes in rulers or governments, was not necessarily held” (Dickinson 1955: 71). Treaties continued to be entered into and enforced as personal agreements between individual rulers.

The interaction practices of the late medieval period once more demonstrate that, in the transition to the modern state system, fundamental changes occurred in every defining feature of the system.

II. Late Medieval Types of Authority

The variety of actors, organizational principles, and interaction norms and practices during the late Middle Ages is constituted by the variety in the types of legitimate authority during the period. Many writings about the origins of modern territorial sovereignty have pushed back into the late Middle Ages (hence suggesting that there was no major change in the type of legitimate authority between the medieval and modern periods). I maintain, on the contrary, that even if territorial sovereignty is sometimes apparent the medieval period, it was not the same as the modern form, and it coexisted with other forms of authority.

In an oft-cited work, *On the Medieval Origins of the Modern State*, Joseph Strayer argues that “sovereignty existed [in practice] long before it could be described in theory (1300 AD as opposed to 1550)” (Strayer 1970: 9).⁴⁴ This *de facto* control in the absence of the *de jure* authority of political theory is another reflection of the continuing juridical legitimacy of the emperor discussed above. Indeed, it was only when authors such as Bartolus used imperial language to describe non-imperial actors that the *de jure* sovereignty of city-states and states became recognizable. This reliance on imperial language is clear in the two phrases used to justify *de facto* sovereignty: the king is emperor in his kingdom (*rex in regno suo est imperator regni sui*) and the king recognizes no superior (*rex qui superiorem non recognoscit*) (Canning 1988a: 363). Those two phrases suggest a concept of external sovereign equality, and both were present by the early fourteenth century. Furthermore, a necessary part of the modern concept of the state, the idea that it is “an abstract unitary entity perceptible only by the

⁴⁴ The impact of this book on international relations writings about the “origins” of sovereignty far outweighs its actual content, as it is in fact a very short volume based on a lecture series. Almost every major IR work that looks back to the medieval period cites this work as evidence for its position. See, for example, Gilpin (1981: 116ff), Krasner (1993: 252ff), Ruggie (1993: 150), Spruyt (1994: 79), and Thomson (1994: 21).

intellect,” came directly out of late medieval corporation theory, and had been at least loosely formulated by the middle of the fourteenth century (Canning 1988b: 473). Yet the presence of these ideas among some thinkers and rulers (particularly in northern Italian city-states and the French kingdom) does not indicate that such concepts were the *dominant* organizing principles of the international system of the day. Unfortunately, this is the conclusion that is often suggested by modern scholars.

For example, the presence of the conceptual building blocks of modern sovereignty in the late medieval period has led some authors to describe political units of the time as “territorial states.” This is a fundamental mistake, as it mischaracterizes the actual common form of boundary between political units by reading backwards from later centuries’ territorial borders. Strayer’s aforementioned, and much-cited, work is one of the primary examples. He defines the state, not in Weberian terms of a monopoly of the legitimate use of force, but rather simply as a strong form of political organization (Strayer 1970: 5ff).⁴⁵ This loose definition leads him not only to see states in historical periods with widely divergent forms of political organization (such as the Greek *poleis*, the Roman empire, or Han China) but also to read backwards anachronistically into the Middle Ages from the eventual dominance of sovereign states in the modern period.⁴⁶ He writes, “By 1300 it was evident that the dominant political form in Western Europe was going to be the sovereign state” (p.57). Yet it is difficult to justify that conclusion when, as Strayer admits, “in 1300 it was not clear who was independent and who was not, and it was difficult to draw definite boundaries in a Europe which had known only overlapping spheres of influence and fluctuating frontier zones” (p.58). Indeed, Strayer takes the fact that some institutional and emotive elements of modern statehood were present in the 1200s to argue that those are the true “origins” of the state. Yet the mere presence of these elements does not mean that the system was fundamentally organized around them.

Canning (1988a, 1988b) is another author who uses the phrases “territorial sovereignty” and “territorial states” to describe the late medieval period, and equally without grounds. The only empirical case offered of a territorial state is England. Because it is almost entirely surrounded by oceans, it is seen by modern scholars as having been “territorially bounded,” although they never examine the views of medieval contemporaries on the nature of their polity.⁴⁷

In opposition to this bias toward seeing modern territoriality as dominant wherever some aspect of it is even slightly apparent, the following paragraphs present a description of the types of legitimate authority present in the late medieval period, based on the typology introduced in chapter 1. This period saw a wide variety of authority types, including territorial authority (though based more on verbal description than visual

⁴⁵ Black (1992, p.187) uses a similar definition, and finds that “the modern state” existed by 1450, but without the monopoly on the legitimate use of force. From a political science perspective, there is little modern or statelike about such a unit.

⁴⁶ This tendency to read backward teleologically from what we know with historical hindsight to be the eventual result is also clear in Strayer’s implicitly functionalist logic of institutional change. Throughout this work, Strayer is surprised to find that rulers did not immediately create perfect institutional solutions when problems arose (e.g., p.80 on the absence of a “ministry of foreign affairs” in late medieval polities, or p.92 on rulers’ inability to bridge the gap between decision-makers and bureaucrats). This is, of course, the opposite of the insight of historical institutionalists that institutional creation is difficult and we should probably be surprised when it *does* occur.

⁴⁷ Krasner (1993) draws a similar conclusion about the English case.

representation) and jurisdictional authorities. Furthermore, these authorities were often non-exclusive and relatively decentralized.

Conceptual basis for authority: mix of territorial and jurisdictional. Although authors such as those noted above tend to overemphasize the territorial nature of control in the late Middle Ages, there was a form of territorially based authority present. After all, even the feudal practice of granting fiefs of land involved passing temporary or hereditary authority over territory to vassals. This medieval territoriality, however, was quite different from our modern form of territorial authority. First of all, territorial authority was almost exclusively based on a verbal description of territory, rather than a visual representation. These were written records of the people and the resources in the area ruled. One famous example of such an inventory is the eleventh-century *Domesday Book*, an exhaustive survey ordered by William the Conqueror of his new English domains in 1086. As a contemporary chronicler put it, “so very narrowly did William have it investigated, indeed it is shameful to relate but it seemed no shame to him to do, not one ox nor one pig was there left out and not put down in his record” (quoted in Harvey 1971: 766). In the case of France, starting in the early 1200s, written “inventories” were taken by rulers, becoming institutionalized as a regular practice in the mid-1200s. A century later, efforts toward “standardized information” yielded “voluminous archives, which probably soon became impossible to manage” (Revel 1991: 135-137). As will be discussed in detail in chapter 3, there was almost no use of maps to represent territory visually, certainly not as a means of portraying or understanding political authority.

Furthermore, territorial authority was conceptualized distinctly as radiating outward from a center, rather than as being bounded by lines and flowing inward. This conceptualization reflected the actual degree of control exercised, as large political units such as France were governed from the center out, with authority much stronger at the center than toward the periphery. The typical form of division between territorially conceived political actors demonstrates this center-out conception, as units were not separated by fixed borders but more typically by “frontier zones” (Fischer 1992). As mentioned above, marches were common during the late Middle Ages, even though there were some efforts by rulers to fix land borders more clearly (Ganshof 1970: 309). In the city-states of northern Italy, control of hinterlands by dominant cities such as Florence or Milan was very much a center-out proposition, as territorial authority was in effect conceived as radiating outward from the urban center into the countryside. “[T]he political organization of city-states remained one of a dominant city and subject towns” (Spruyt 1994: 148). Citizens of such cities “came swiftly to see the world in terms of cities, though these were spots in a boundless expanse of hills and valleys” (Martines 1979: 72).

Another aspect of medieval territorial authority that differs from the modern concept is in the degree of differentiation among diverse places in the territory. For example, in the Italian city-states, the central city was conceived of very differently from the outlying subject towns, let alone the rural space in between. Written surveys, when not purposively standardized, inherently treat diverse places as qualitatively different, rather than as strictly comparable in terms of quantitative measures.

In addition to the medieval form of territoriality, authority in this system was also based on the concept of jurisdictional divisions. This included authority based both on personal ties and on issue domains and offices. As discussed above, there was a strong personal element of authority across the three features of the medieval system: actors were often constituted by a set of personal bonds; organization was a set of personal relationships among rulers; and interaction was often on a personal ruler-to-ruler basis, such as the way in which treaties were conceptualized as personal (not state) agreements. Most political writers throughout the Middle Ages “concentrated on political organization within its time-honored unit, the people,” rather than the territory (Dunbabin 1988: 480).

The personal nature of authority was found primarily in the persistence of feudal ties. Although the granting of land fiefs gives some feudal bonds a territorial appearance, the nature of the authority of the superior was based on a personal bond, not on territory. Feudalism strengthened the personalization of authority through its main institutions: vassalage and homage. “The medieval state was essentially an association between persons, as for instance between a leader and his vassals who were pledged to obedience. In this case fidelity to the leader formed the constituent element of the state” (Mitteis 1975: 5).

In addition to the obviously personal nature of feudal authority, the authority of kings in late medieval Europe was also based on a personal bond, although not necessarily a face-to-face lord-vassal relationship. Instead, this form of authority was founded on personal loyalty from subject to king, “symbolically affirmed in the oaths of loyalty and allegiance by individuals and corporate groups” to monarchs (Sahlins 1989: 28). The entire medieval theory of kingship was based on personal bonds and contained elements drawn from the early barbarian kingdoms and even from as far back as the Hellenistic period (Procopé 1988). The early post-Roman barbarian kingdoms had a non-territorial conception of law: “they [the *gens*, or people] carried their law with them, so to speak. The prevailing principle was therefore that of the personality rather than territoriality of the law” (King 1988: 138).

Jurisdictional authority of a less personal nature was derived from particular offices or issue domains over which rulers had authority without any reference to particular territorial authority or personal bonds (Sahlins 1989: 28). A famous example of this type of jurisdictional authority, albeit from an earlier period, is the Treaty of Verdun, which in 843 AD divided up Charlemagne’s empire among three of his grandsons. Although modern historical atlases can look at the broad picture and draw territorial lines between the three kingdoms, the actual treaty was phrased in terms of jurisdictions: “numerous commissioners . . . established a list of the counties, bishoprics, abbeys, chapters, and royal domains situated within the territories to be divided, and attempted to prepare equivalent shares: equivalent in regard to revenues and equivalent in regard to the amount of lucrative offices (*honores*) and benefices that could be distributed among the aristocracy” (Ganshof 1970: 48). Thus both the ends and the means of this division were conceived of in jurisdictional, rather than territorial, terms.

The overall picture of the conceptual basis for authority in the late Middle Ages is of a variety of jurisdictional and territorial authorities. Moreover, these diverse types of authority relations coexisted not only within the system, but also often between the same political actors. For example, there was a centuries-long effort to create a single division between France and Spain in the Pyrenees, as both loose territorial boundaries (the

“natural frontier” formed by the mountains) and complex jurisdictional authorities were equally legitimate in the eyes of rulers and subjects (Sahlins 1989).

Non-exclusive authority. The late Middle Ages’ unclear jurisdictional frontiers and feudal heritage of authority over persons made possible complex situations of overlapping and shared control. One example mentioned above is the vassalage of the king of England to the king of France that contributed to the outbreak of the Hundred Years’ War. Similarly, the Holy Roman Empire in the late medieval period was a complex system involving the emperor, local princes, and the imperial electors; some of the latter, such as the King of Bohemia, even had realms outside the territorial limits of the empire (Kratochwil 1986: 34).

More generally, overlapping authority was often due to the institution of vassalage and the complicated way in which it was operationalized. For example, in an idealized version, every vassal would have one lord, and each lord, though having many vassals, would have one lord to whom he owes homage, and so on up a pyramid to the lord who owed no homage to anyone—often the king. If this were the case, even though boundaries could be personal or jurisdictional, there would be no overlap or confusion about the separation of political units (since one could simply add up the control exercised by the vassals at the very bottom of the structure). Hence the largest units could be conceived of as distinct actors in the international system.

In a number of ways, however, the actual arrangements rarely fit this image. First of all, there was the problem of multiple homage, that is, when one vassal would be bound to more than one lord. This was resolved briefly by the introduction of “*liege homage*,” which represented a higher commitment to one lord, but eventually almost all homage was of the *liege* variety (Bloch 1961: 211ff). Duby, in his study of one region of France, finds that “in eleventh-century Mâconnais there was no feudal pyramid, no ‘feudal system’,” thanks to multiple homage (1968: 144). Thus if a vassal’s two lords came into conflict, it was unclear who had authority over the vassal. Furthermore, it was commonly held in France (though not in England) that “the lord of my lord is *not* my lord,” thus making boundaries between areas of control by higher lords very unclear.

These complex arrangements created great difficulties when actors at the higher levels tried to resolve conflicts. For example, during the Hundred Years’ War the ostensible main actors (the French and English monarchies) found it very difficult to stabilize control during truces over previously contested territory. The obscure and complicated origins of the rights of lords to their fiefs often left the French and English negotiators unable to settle claims—even when the two parties agreed on who should get which castle—because the local lord refused to recognize the right of *either* side to assign control (Fowler 1971b: 192). This difficulty contrasts sharply with the modern system, in which boundaries can be moved readily to settle disputes, so long as both sides agree to it (Kratochwil 1986).

One of the effects of this complex system of non-exclusive authorities is that, as Ruggie (1983: 143) points out, the modern distinction between internal hierarchy and external anarchy is inapplicable to the medieval period, since internal and external affairs were often indistinguishable. Indeed, such a separation would have made little sense to contemporaries. For example, in the fourteenth century the French king sent almost

identically phrased letters to lords within the kingdom of France and to others without (Strayer 1970: 83).

There are other ways in which the absence of the modern separation between internal and external affairs becomes apparent. For example, in many realms during the Middle Ages “no clear distinction was made between the duties collected on the passage of goods at the frontier and those collected in the interior on the same traffic or at the market” (Ganshof 1970: 53). Furthermore, in the origins of the Hundred Years’ War, the two sides had contrasting conceptions of how their interaction should proceed, as the negotiations between the French and English kings were seen as an internal affair by the French and as external diplomacy by the English. These divergent perceptions made compromise nearly impossible (Le Patourel 1971: 35). In addition, as discussed earlier, the 1435 Congress of Arras saw a vast array of representatives from inside France who did not necessarily recognize the authority of the French monarchy to speak for them.

A further example of the overlapping nature of authority in the late Middle Ages was the distinction between two forms of authority: *potestas* and *auctoritas*.⁴⁸ The former refers to “the right and ability to command and enforce,” while the latter is a “rather vaguely defined right of control and supervision often essentially based on social prestige” (Osiander 2001a: 123). The medieval period not only saw actors whose authority was based on *potestas* and others whose position was founded on *auctoritas*, but often the *same* actor could exhibit both types in different arenas. *Potestas* existed when actors had a strong authority to command subjects and was evident in the personal domains of late medieval monarchs and in city-states. *Auctoritas*, on the other hand, was exercised by monarchs outside of their personal domains. As Osiander points out, since the larger domains of monarchs were seen as real to contemporaries, in spite of the severe limits on actual ability to command, “there was no reason why even bigger units, such as, specifically, Christendom, should not be considered equally politically meaningful” (Osiander 2001a: 122). The Holy Roman Emperor and the Pope, in spite of their clear inability to command, had some form of *auctoritas* over other actors within Europe. Thus *potestas* would overlap with *auctoritas*, both Europe-wide and in the case of particular monarchs, who had stronger authority locally but weaker authority in their wider realms.

Although *auctoritas*, being vague and more or less unenforceable, may appear in retrospect to have been irrelevant,⁴⁹ this form of authority still mattered for contemporaries. Lower-level actors could not conquer similar actors outright (in spite of their constant private warfare and feuding) or take over a superior’s political position. For all the actors of the time, their rule depended on maintaining the overall system of authority (Osiander 2001a: 124). For monarchs this held true as well: “even if they were not prepared to take orders from the emperor . . . they nevertheless readily shared in a political discourse that emphasized their common Christianity, and their obligation to the Christian cause, above all else” (Osiander 2001a: 144).

Thus authority was non-exclusive in the late medieval system, due to both the complex nature of feudal ties and the multiple forms that authority could take.

⁴⁸ This example is from Osiander (2001a).

⁴⁹ This is the argument made, most notably, by Fischer (1992) and rebutted by Hall and Kratochwil (1993), as well as by Osiander (2001a).

Decentralization of authority. Though some late medieval examples of centralized authority existed (especially on a small scale), decentralized authority dominated during this period. This tendency may have had a lot to do with the technological and logistical limits of effective control (such as communication and force projection), but nonetheless the *legitimacy* of decentralization was very strong as well, and centralization of authority was not seen as a positive goal per se.

First of all, authority relations based on feudal ties were inherently decentralized. The obligations of vassals to lords, though varied, were rarely extensive, and often even the obligations that did exist (such as military service) had explicit limits placed on them. Furthermore, rebellion by vassals against lords was common, in spite of the influence that these ties did have. Lords were also bound by the relationship, though it did involve “reciprocity in unequal obligations” (Bloch 1961: 228ff). Finer (1997: 875) sees the decentralization of authority as one of feudalism’s primary structuring principles.

The diverse medieval political actor types discussed above, though varying somewhat, were predominantly decentralized. City-leagues such as the Hansa, of course, involved very little central authority, and in particular had almost no central governmental institutions or officials (Spruyt 1994). Furthermore, there was no normative political theory that would allow actors to conceive of a distributed political organization as being simultaneously centralized in authority: “there was no theory of federation in the Middle Ages” (Black 1992: 86).

Some cities, of course, formed independent city-states rather than banding together to form leagues. As discussed above, these city-states, because of the incomplete territoriality of their authority, were not simply miniature versions of modern territorial states. Furthermore, in spite of the impression that can be given by the domination apparently exercised by the central city over the surrounding towns, the situation was more decentralized than that. Guarini (2003) argues that, contra the conventional wisdom, the main city-states of the early Renaissance (such as Florence, Milan, and others) were not very centralized and contained unclear jurisdictions in outlying towns. Many of the functions of government, even such fundamental tasks as military defense, remained under the local control in these ostensibly dominated areas. This was often the result of the “contractual” nature of inter-city conquest.

Larger kingdoms of the late middle ages such as France or England (often mislabeled retroactively as “states”) were particularly decentralized as well. Even England, often held to be an example of centralization vis-à-vis France, can be seen as a fragmented decentralized polity in the late Middle Ages (Guenée 1985: 18). In part, this was due to the aforementioned feudal nature of rule in these larger polities, but it went beyond that as well. Late medieval France has famously been labeled a “mosaic state” by Strayer, “made up of many pieces” held together only loosely by central authority (1970: 53). Furthermore, from late fourteenth century in France and England there was “a group of landed magnates of an entirely new type, with entirely new political ambitions” known as princes (Perroy 1968: 217-220). Although they were, at least in theory, unquestionably vassals of the king, in practice they did such things as take all of the king’s taxes for themselves. This *new* form of decentralized authority in the late Middle Ages contradicts the conventional picture of progressively more centralized authority.

* * *

Thus, the late medieval system had a wide variety of authority types, based on both territorial and jurisdictional notions. These authorities were non-exclusive and difficult to distinguish at higher levels in practice. Decentralization was also the norm, as many different forms of political organization actually shared this feature. As will be seen in the following section, the early modern transformation of sovereignty and its basis in ideas of legitimate authority could hardly have been more fundamental, as this variety and complexity gave way to territorial uniformity, exclusivity, and centralization. Contrary to the prominence conventionally given to the 1648 Treaties of Westphalia, I argue below that the transition to the modern state system founded on exclusively territorial sovereignty was not consolidated until the early nineteenth century, following the Congress of Vienna.

III. The Modern International System of the Nineteenth Century

The nineteenth-century international system constructed at the Congress of Vienna represents the culmination of early-modern systemic change, as this period witnessed the final consolidation of territorially sovereign states and anarchical organization. No longer did these characteristics of the modern state system coexist with remnants of the medieval system's complexity. This section first demonstrates that the century and a half following the 1648 Treaties of Westphalia represented an incomplete transition to the modern state system. Next, it discusses the divergence between the intra-European state system and the worldwide system of colonial domination, arguing that the former represents the key set of arrangements for the period. Then the nineteenth-century system will be detailed in terms of actors, organization, and interaction, followed by a description of the type of authority on which this system was based. The nineteenth-century homogenization of authority to territoriality and exclusivity underpins international politics to this day, and thus is the key outcome explained by this dissertation.

Westphalia and the eighteenth century: an incomplete transition. The beginning of the modern state system is conventionally placed at the 1648 Treaties of Westphalia, which ended the Thirty Years' War in central Europe.⁵⁰ Even those who do not directly attribute the modern state system to the treaty tend to see the eighteenth century as of one piece with the nineteenth and twentieth in terms of international structure. Others have pushed the modern state system even further back: for example, Martin Wight (1977) argued that the major characteristics of the modern international system appeared in the sixteenth century. Yet this approach tends to read too much continuity with later developments into early modern periods that, while having some features similar to later eras, were essentially different.

The first century and a half after Westphalia, though exhibiting an international system drastically transformed from that of the late Middle Ages, was by no means identical to the system of exclusively territorial and anarchically organized states of the

⁵⁰ This view is usually traced to a 1948 article by Leo Gross, and is effectively debunked by Osiander (2001b). For two extensive lists of IR works that attribute great importance to 1648, see Krasner (1993: 239) and Osiander (2001b: 260-261).

nineteenth and twentieth centuries. The “Westphalian myth” has been criticized by many authors, including Krasner (1993), who argues that sovereign practices were not created by the treaty, and even more directly by Osiander (2001b). The latter convincingly argues that the creation of a system of states in 1648 is a fallacy, “a product of the nineteenth- and twentieth-century fixation on the concept of sovereignty” (251) and based on seventeenth-century anti-Hapsburg propaganda. The following paragraphs show in some detail how the medieval-to-modern shift—from the medieval variety of actors and organizational principles, based on a complex variety of authority types, to modern uniformly territorial states in anarchy, based on exclusively territorial authority—was not complete until over a century after 1648.

The early eighteenth century had an international system composed of actors far more uniform than that of preceding centuries. The end of the Holy Roman Empire as a powerful actor, the effective end of city-leagues, and the increasing territorialization of large states all contributed to a increasingly homogenous system. Nonetheless, the actors of this period differed from the modern nation-states of the nineteenth and twentieth centuries, in terms of both internal organization and external relations. A variety of actor types persisted: For example, after the Treaties of Westphalia, the units within the Holy Roman Empire included “8 electorates, 69 ecclesiastical principalities, 96 secular principalities, and 61 free or imperial cities” (Sturdy 2002: 73). Even among purportedly uniform sovereign states, the basis for that sovereignty varied widely, including monarchies, republics, and parliamentary regimes. This variation involved more than differences in regime type, but rather included variation in terms of administrative structure and the effective centralization of authority, ranging from bureaucratic to patrimonial administrations (Ertman 1997).

Among these larger states, too much emphasis on the centralization and strength of regimes belies the significant weaknesses of “absolutism” in this period. Recent historical scholarship has revealed “the real limitations of absolute monarchy even in those countries where it was not subject to major challenges” (Bergin 2001: 2). In spite of much contemporary official rhetoric to the contrary, most central regimes remained relatively weak in terms of effective control over the entirety of their domains. Many of the political theorists of the time who supported strong central authority (such as Bodin or Hobbes) were actually arguing against the existing situation of weak central control, and their ideas did not reflect reality (Te Brake 1998: 168). The limits on centralizing rulers included “first, resistance to the demands of the government; second, the often tenuous control of the ruler over the emerging ‘bureaucracy’; and third, the constraints of prevailing attitudes towards the proper scope of monarchical authority” (Black 1999: 220). To these three could be added the continuing technical difficulties of maintaining control over, or even gathering reliable information about, outlying areas nominally under central authority (Munck 1990: 81). The resulting polities are better understood, therefore, as “composite states” agglomerated by complex and decentralized contracts, not strongly unified entities (Nexon 2009).

In addition, one of the commonly cited confirmations of increased central government power has always been an increase in military strength, but the massive increases in army size during the seventeenth century were actually often beyond the administrative capacity of states, and should not be considered evidence of “absolutist” power (Parrott 2001). As the eighteenth century progressed, however, states did manage

more and more to assert a monopoly on the legitimate use of force, particularly with the effective elimination of previously “uncontrolled military entrepreneurs” of the Thirty Years’ War such as Wallenstein (Munck 1990). Extraterritorial violence by non-state actors, however, continued through at least 1800 (Thomson 1994).

In terms of the conceptual basis for the authority of actors, though there had been some shift toward more territorial and less jurisdictional authority, this transition was by no means complete. Political boundaries between actors were not the modern linear frontiers of our state system. For example, the 1659 Treaty of the Pyrenees, which placed the boundary between Spain and France on the Pyrenees mountains, was merely the first phase in creating this modern territorial border, as it recognized the legitimacy of the *idea* of a geographic feature being the border between the two states. Moreover, other clauses of the same treaty delineated jurisdictional divisions that actually contradicted the geographic boundary. This treaty did not draw particular territorial boundaries, which were only made clear on the ground in the 1860s (Sahlins 1989).⁵¹

In terms of the organization of actors in the eighteenth century, there was a trend toward increasingly anarchical organization, particularly when compared to the complex heteronomy of the late Middle Ages. Yet this conventional picture of the period as the first era of compete anarchy and sovereignty has an important exception: the organization of actors within the Holy Roman Empire. Although no longer a unified actor within the interpolity system of Europe, the norms and institutions of the Empire continued to have important organizational and interaction effects long after 1648.

The conventional view of Westphalia as an important break is based on the fact that it gave the principalities of the Empire the right to make treaties independently of the emperor. Yet as many have argued, the nature and near-term effects of the Treaties of Westphalia are far more complex than the complete termination of imperial organization. The ability of princes to sign agreements with other states was neither complete after 1648 nor non-existent before; it “had been legally established since the Middle Ages” (Osiander 1994: 47). This right to have a foreign policy independent of the emperor, however, was not without restrictions: even after 1648 the increased autonomy of the princes “was not to be used against the emperor” (Munck 1990: 23). The principle enshrined in the 1648 treaty was not the modern idea of *sovereignty*, but rather the principle of the *autonomy* of the smaller units within the Empire (Osiander 1994: 77-78). This yielded a situation of continuing *overlap* in authority within the empire, as local autonomous actors shared some authority with imperial judicial institutions.

For at least a century after 1648, being a principality within the Empire was still very different from being an actor not in it, in terms of common practices and even functions needing to be fulfilled by a sovereign government. This is a key feature: even the neorealist perspective holds that it is an *absence* of functional differentiation in the modern state system that results from the anarchical organizing principle (Waltz 1979). The imperial diet served particular needs of actors within the empire that were not available to actors outside it, and particular judicial functions also continued post-Westphalia. The diet was made a permanent sitting body, thereby partially providing “a counter-balance to the increasing autonomy of the larger states of the empire” (Sturdy 2002: 73). Although a more skeptical view is that “the imperial assembly came to

⁵¹ Chapter 5, below, discusses the timing of this transformation in treaty language in more detail.

resemble a permanent ambassadorial conference rather than a parliament” (Munck 1990: 23), even such an organization would have important effects on the incentives and constraints presented to actors by the system—having that “permanent ambassadorial conference” available for dispute settlement within the Empire is a very different situation from having no such forum (Black 1987). This continuing “loose but in many respects beneficial confederative framework” was actually “capable of protecting the independence and security of the smaller states” (Munck 1990: 1). Furthermore, in the realm of norms, Westphalia was actually a “vindication of the ideal of empire,” since preserving that ideal was seen as more important than the religious conflicts of the Thirty Years’ War (Sturdy 2002).

The norms and practices of interaction in eighteenth century Europe have been much debated, particularly as to whether or not state leaders were driven by *realpolitik* concerns or by dynastic interests. Many historical studies have ascribed *realpolitik* motivations to actors during this period, often by finding behaviors consonant with “reason of state” motivations and then ascribing interests based on that, ignoring contemporary rhetoric and discourses about dynastic interests. This view has, however, been challenged: “It is more reasonable to assume that when monarchs said they were pursuing dynastic claims they were not all being disingenuous, accepting of course that prudential considerations could affect the extent to which these claims were pushed” (Black 1987: 8). Many of the international political outcomes of the period, such as the treaties of Westphalia or Utrecht, can be seen just as well in dynastic terms as in terms of sovereignty or *staatspolitik* (Parrott 2001; Nexon 2009). The conventional view of strictly *realpolitik* motivations is another example of reading backward from the nineteenth century into an earlier period in which those ideas existed, but only in parity with other motivations.

The nineteenth century: the culmination of the early modern systemic transformation. The early nineteenth century is the period in which the transition from medieval variety and heteronomy to modern homogeneity and anarchy can be considered complete. Unlike the 150-year period following Westphalia, after the Congress of Vienna all actors were defined in terms of exclusive territorial authority, and both system-wide and subsystem hierarchies and heteronomies (such as the Holy Roman Empire) were replaced by a great-power managed anarchical system (Osiander 2007).

This is the period upon which most traditional International Relations theory is built, even if only implicitly. Realist analysis rests on the assumptions that actors are homogeneous and organization is anarchical, the latter assumption usually being made without any evidentiary support. The historical tradition that most directly inspires realist theory is that of nineteenth-century continental historians, who read backward from their own era’s system of sovereign states into previous periods that, as discussed above, are not constituted by the same organizing principles.⁵² Thus, ironically perhaps, the

⁵² Moreover, the traditional IR approach to history—using it as evidence or as inspiration for theory—comes from some of these same authors, such as German historian Leopold von Ranke. In addition to his emphasis on the primacy of foreign policy for historical investigation, Ranke proposed that history could (and should) be told accurately, that one could write “history as it really was” (Smith 1999: 14). Although more recent historiographical approaches emphasize the role of the historian in *constructing* history, most of International Relations theory has continued to assume not only that the nineteenth-century international

nineteenth century international system does conform in many, but not all, ways to the assumptions of even the most exaggerated realist theory. Since this period represents the culmination of the sporadic, uneven, and contested transition to territorial exclusivity and anarchical organization, it serves well as an illustration of the clear transformation that European international politics underwent. Examining our contemporary international system of the early twenty-first century would not illuminate the modern state system well, as recent decades have seen extensive debate about the possibility of a “post-modern” state or international system. In other words, a *further* transformation of international politics may be occurring, which would be a change distinct from the one explained by my work. (In this dissertation’s conclusion, I will suggest possibilities for how to approach this contemporary transition.)

Once again, what makes the first half of the nineteenth century continue to be important is that, even though there were some characteristics of the this period’s system that were historically unique, the key constitutive features of sovereignty have remained constant, from 1815 at least into the second half of the twentieth century. Thus, we should examine this period as the outcome of the early modern systemic transformation, since it was the time when the modern form of exclusive territorial authority became dominant.

This emphasis on the early nineteenth century, and especially the Concert of Europe, as the culmination of centuries of systemic transformation runs contrary to what has been a conventional view of the Concert: that it was an era of restoration of absolutist rule, a brief setback on the inevitable progression toward modern nation-states. Yet, as more recent historical work has amply demonstrated (e.g., Schroeder 1994, 2000; Lyons 2006), the Congress of Vienna and the international system that was constructed there did *not* restore pre-Revolutionary political principles and practices. “[T]he spirit and essence, the fundamental principles and operation, of the international system they [the diplomats at Vienna] devised were anything but backward-looking, were instead progressive, oriented in practical, non-Utopian ways toward the future” (Schroeder 1994: 579). The Vienna system did not restore the pre-Revolutionary status-quo, but rather “preserved most of the territorial, social, and constitutional-political changes brought about in the revolutionary and Napoleonic periods, and encouraged or permitted some new ones” (Schroeder 2000: 161). Adopting many Napoleonic changes practically while condemning them rhetorically was the solution to a dilemma faced by post-1815 rulers: balancing the need to reject the Revolutionary legacy because it might undermine their dynastic legitimacy with the desire to hold on to the “unprecedented sources of power” created by Napoleon in fields including taxation, administration, and military conscription. “The fall of the French Empire therefore produced governments whose rhetoric condemned the Revolution and all its works, but who in practice maintained a pragmatic view of what should be preserved from the changes of the recent past. . . . [W]hat emerged was not a replica of the past, but something different, which incorporated many features of the French reforms” (Lyons 2006: 7). Thus this system is the culmination of the centuries of sporadic, layered change of the early modern period.

system of sovereign states had always been and always would be present, but also that history could be easily mined for “replicable” data. For a critique of this approach, see Smith (1999: ch.6).

The nineteenth century: a European or a global system? Yet the anarchical organization of nineteenth-century Europe is at odds with the worldwide relations of hierarchical domination between European metropolises and their colonial possessions. The idea of this period exhibiting a dual system, one European and one worldwide, has been suggested by authors such as Wight, who proposed a “stereoscopic” view of modern international relations (1977: ch.4). These practices of colonial domination often reflected medieval ideas about how actors are organized, with hierarchy clearly present in a way that had mostly vanished from the European continent (Strang 1996).

In spite of this clear expansion of European power worldwide, a focus on the European core and relations *within* it is most useful for the purposes of analyzing the transformation of the European international system. First, this core system is the direct outcome of the transformation of the medieval system described above. Second, although hierarchy was dominant worldwide during the colonial period, the nineteenth-century intra-European set of actor types, organizational principles, and interaction norms and practices was the set of arrangements that was later expanded to embrace the post-colonial world, from the independence of the United States and the Latin American countries to the twentieth-century end of colonial empires (Bull and Watson 1984). Finally, Schroeder points out that for the first half of the nineteenth century, European powers consciously decided to refrain from colonial competition, which thereby “shielded Europe, fenced it off from extraneous quarrels” (1994: 575). Part of my explanation for the cause and course of the European systemic transformation, however, involves the effects of colonial expansion, interaction, and reflection, but this means that interactions in the colonial world will figure in more as a cause than as a part of the outcome.

III.A. The nineteenth-century system: types of actors.

In the realm of international actors, the early nineteenth century witnessed the firm consolidation of the territorial state throughout the European system. Although actors differed greatly in terms of size and power, their constitutive characteristics were, for the first time, almost completely homogenous.

The main defining characteristic of international actors in this period is their homogenously territorial nature. This was the final consolidation of two trends progressing since the fifteenth century: the elimination of non-state actors such as the Empire or city-leagues, and the shift toward exclusive territorial sovereignty as the basis for state actors.

The end of the Holy Roman Empire as a unitary actor long pre-dates its official disbandment in 1806. First of all, the possibility of the emperor acting in the capacity of a supreme or hierarchical authority continent-wide was long over. After the mid-sixteenth century abdication of Charles V, “the ideal of a universal Christian empire had lost its meaning” (Rabb 1975: 75). Charles V represented the last major attempt to lead Europe as an emperor, and was the last German emperor to be crowned by the pope. Yet it was not for another century that it became clear that the empire was defunct not only as an authority over all of Christendom, but also as a single unified actor within the international system. This can be seen clearly in one of the commonly cited elements of the Peace of Westphalia: smaller units within the empire were now legitimately allowed to make independent foreign policy decisions and treaties. Although, as discussed above,

the Empire continued to serve judicial functions for its member polities post-1648, it no longer functioned as a cohesive unit under the authority of a single decision-maker.

Similarly, the city-leagues of the high Middle Ages, which for a significant period were a distinct type of actor in international relations, were by even the eighteenth century no longer cohesive enough to be considered actors. The Hanseatic league had its last official meeting in 1669, but even by that point the links among the member cities were more symbolic than institutional (Dollinger 1970)

The actors who did survive into the nineteenth century, on the other hand, completed a transition from being based on a mix of complex overlapping authorities to being based on homogenously territorial sovereignty. The French Revolution and the Napoleonic conquest of much of Europe removed the final remnants of medieval complexity, particularly in terms of overlapping authority structures within and on the boundaries of states. “The French Revolution had made a clean sweep of these corporate rights [of churches, estates, guilds, etc.], which it condemned as ‘privileges’, and claimed for the state alone the right to direct society in the name of the common good” (Tombs 2000: 16).

Externally as well, the ideals of the French Revolution were oriented in direct opposition to the overlapping authorities that still existed along intra-European boundaries, and within the Empire:

The French concept of an exclusive sovereign authority exercised by a single government over a clearly defined territory clashed directly with their [small German polities’] life-principle, that of *Landeshoheit* (territorial supremacy rather than sovereignty). According to this principle, a prince of the Empire enjoyed supremacy within his territories according to established right and custom, but had to share the exercise of governmental authority in varying degrees with other holders of authority (*Herrschaften*) within his domains and beyond them—the Emperor and his Imperial Court Chamber, the Imperial Diet, the Church and its bishops, the immediate princes of the Empire, even Imperial knights. (Schroeder 1994: 72)

Thus, we can see that the Revolution subjected the ideational basis for the surviving medieval complexity to sustained attack, an attack which was radically furthered by Napoleon’s conquest of much of the continent. Indeed, in 1815 with the old arrangements wiped out but the new ones based on a conquest perceived to be illegitimate, throughout Europe “Vast territories in the system were without recognized rulers . . . pending redistribution, or confirmation of the arrangements arisen from the war” (Osiander 1994: 168).

The void created by the ideological and military assault on the pre-Revolutionary medieval complexity allowed for new actors to be constituted, or old actors to be expanded. “Many local oligarchies and miniature sovereignties, especially in the old Holy Roman Empire, had been overthrown, and were replaced by new or greatly extended post-revolutionary states such as Prussia and Bavaria” (Tombs 2000: 17). The smaller or non-territorial actors that were abolished included “independent cities, bishoprics, and micro-states”—in other words, the actors eliminated represented the remaining complexity and diversity of the medieval world (Lyons 2006: 16).

Although the ideology of the French Revolution offered new rhetorical support for the removal of medieval arrangements, “Revolutionary France joined an attack

already being waged by other great powers against what remained of the legal international order in Europe and the smaller intermediary bodies dependent upon it” (Schroeder 1994: 73). This helps to explain why, as discussed above, so many changes from the Revolutionary period were allowed to stand—they aligned with the long-term efforts of *all* centralizing governments. For example, French territorial gains from the Revolutionary period were preserved, particularly the territorial enclaves within the boundaries of France, such as Papal Avignon, that the French had seized in the 1790s (Osiander 1994: 203).

Although a statement of war aims written by the British prime minister in 1805 included as a goal the restoration of the ancient rights of pre-Revolutionary rulers, it also acknowledged that this would not include many smaller territories vulnerable to French aggression (Dakin 1979: 16). Thus, at the Congress of Vienna, “Germany as a whole emerged as a confederation of thirty-four princedoms and four free towns, all enjoying independence and equal rights” (Dakin 1979: 28). Compared to the immense variety of actors within Germany before the Napoleonic conquest, this system of princedoms and free towns actually shows a high degree of homogeneity, similar to the European system as a whole: the only difference among the actors that remained was in terms of their size and relative power.

This wide divergence in relative power among actors, in spite of their shared territorial basis, relates to the important differentiation made at the time between “great powers” and other states. Although this could be interpreted as a system with two distinct types of actors, the consequential differences between great powers and other actors existed more in the realms of the organization of the actors and their interaction practices than in actor type, *per se*. (This is discussed in detail in the sections below.)

A further question regarding the constitutive basis for actors in the nineteenth century system concerns what could be called their legitimating principle: in particular, the role of popular nationalism (often seen in retrospect to be on the rise) or of dynastic principles (conventionally seen as a pre-Revolutionary holdover). The principles of nationalism have implications for international political structures, some of which became clear in the French Revolution:

the Revolution presented a challenge to the whole legal and conceptual basis of international politics. Instead of international claims and transactions being argued and fought out on the basis of treaties and legal rights, the popular will was now to be the decisive factor. This vastly increased the potential for international conflict, magnified uncertainties, and elevated quarrels over concrete interests into struggles over fundamental principles and world-views. (Schroeder 1994: 71)

Similarly, Hall (1999) sees the constitution of state actors by national identity, rather than by dynastic territories, as representing a major shift in international politics.

Yet in reality nationalism was still weak and marginal in 1815, at the construction of the Concert system. “Early nineteenth-century nationalism was a fragile ideology without a mass following. National identities were in the process of being manufactured by a small number of committed intellectuals” (Lyons 2006: 3). For example, “The idea that there had been a German ‘War of Liberation’ against the French oppression in 1813 was largely a myth elaborated retrospectively for nationalist purposes” (Lyons 2006: 21).

Thus the actors in the system were defined on a basis other than the national identity of the population, and would continue to be so until at least the middle of the century.

Constituting units based on dynastic legitimacy, on the other hand, was commonly discussed by diplomats at Vienna, though in the end it proved insufficient as an organizing principle for the system (Osiander 1994: ch.4). The most important change that nineteenth-century dynasticism represented was the fact that it was

the first attempt in the history of the states system of Europe to provide an *abstract criterion for membership of that system*—the earlier criterion of Christianity had only been a necessary, not a sufficient, condition for membership. It was in this capacity that, at Vienna, the concept did have a certain impact: the prominence given to it contributed, perhaps decisively, to the non-re-establishment of earlier non-dynastic actors (Genoa, Venice, Poland). (Osiander 1994: 223; emphasis added)

Having an abstract legitimating principle, rather than basing membership on custom or tradition, pushed the system in the direction of homogeneity, as actors could no longer claim membership solely on their practical existence, but had to apply for it based on a single principle. Homogeneity of the actors in the system was, therefore, further increased by this emphasis on at least rhetorical legitimacy based on dynasticism—thanks to Napoleon’s conquests and subsequent regime restorations and creations, all continental polities other than Switzerland and the five German free cities were monarchical, and only one with an elective monarchy—the Vatican (Osiander 1994: 213).

Nonetheless, though dynastic legitimacy played role in the Vienna settlement, it was less the *dynastic* content of the principle than its *abstract* and *systemic* character that structured the nineteenth-century international system: “After 1815, the legitimacy of states, especially new ones, rested not on patrimonial divine right, but on the treaty system and its guarantees, backed by the consent of Europe” (Schroeder 1994: 578). That is, the legitimacy of the actors as such was based on the consent and functioning of the system as a whole. Similarly, “the old rule that treaties became defunct on the death of a sovereign and had to be renewed ceased to apply; treaties now bound the state, not merely the sovereign” (Schroeder 1994: 579).

Thus, after 1815, the actors of the international system were homogeneously territorial, though of varying size and power, but all were constituted by abstract and systemic principles, rather than being justified simply by their traditional existence.

III.B. The nineteenth-century system: organization of actors.

The organization of actors in the nineteenth-century international system can be seen as anarchic, yet with an element of hierarchy in the form of the differentiation between great powers and other actors.

Within Europe, the possibility of political order being hierarchically organized under a single actor, such as the pope or the emperor, was over long before the French Revolution. Since the mid-sixteenth century, the Holy Roman Emperor had ceased to even aspire for continental hegemony, and had even lost full authority within the nominal Empire. With the 1806 formal dissolution of the Empire, the judicial functions and remaining heteronomous authority structures among German polities were also terminated.

The papacy, likewise, could no longer claim supremacy over all of Europe, thanks largely to the Reformation. Luther's theological ideas had explicit political implications, including the conclusion that the church had no jurisdiction over temporal affairs (Skinner 1978 vol.2: ch.1). Even those states that continued to be officially Catholic, such as Spain or France, had changed their relationship with the church in such a way as to not recognize any temporal superiority of the papacy, often before Luther's reformation even started (Skinner 1978 vol.2: 60). The temporal status of the papacy was reduced enough that even the pope could not pretend to universal authority: one seventeenth-century pope wrote to his nuncios: "Never forget that the Pope is not a mediator: he may not command" (Parker 2001: 202). Thus even the mediation role that the papacy had played quite clearly in the late Middle Ages had ended.

While the possibility for a legitimate hegemony under a single actor was clearly extinguished (and was only further delegitimated by Napoleon's adoption of imperial rhetoric in support of his military conquests), the system as a whole was nonetheless subject to a form of "collective hegemony" under the self-described great powers (Watson 1992: ch.21). Osiander (1994) argues that the principle of system-management by great powers was the primary "consensus principle" of the Concert system. This "great-power principle respected the principle of autonomy of the actors while modifying the concomitant principle of equality—by introducing two classes of actors" (234). Autonomy for all actors, large and small, coexisted with inequalities not only in material power but also in international leadership and prestige. Though the terminology has changed, management of the international system by the most powerful actors has remained a near constant since 1815. The hierarchical organization of the system under the great powers will be further elaborated below, in the discussion of great-power management as one of the key interaction norms of the system.

Thus the European system of the nineteenth century was organized along anarchical lines, but with the addition of the oligarchic hegemony of the great powers.

III.C. The nineteenth-century international system: interaction norms and practices.

The nineteenth-century international system had a distinct set of interaction norms and practices, built primarily around the framework of the Concert of Europe. Although some have argued that the Concert was short-lived (since some official aspects of it, such as the formal periodic congresses, were over by the 1820s), Schroeder (1994) makes a strong case for considering the whole first half of the nineteenth century as governed by the norms and practices of the Concert. He argues that the Napoleonic wars, contrary to the conventional view, radically altered the structure of international politics, leading to a distinctly new post-war system. Many of the norms and practices were consciously adopted at the Congress of Vienna in 1815, and they led to changes in both the "devices of international diplomacy" and "the spirit and goals of international politics" (vii). Another author agrees, noting that explanations of nineteenth-century international politics focusing exclusively on individual leaders, domestic politics, or the international distribution of power miss the importance of the Concert as a set of norms and practices (Elrod 1976: 160).

Schroeder (1986) goes even further, arguing that the general systemic effects of the Concert system persisted throughout the century (particularly in terms of lowering the scale of great-power conflict), even though the conservative "Holy Alliance" was

effectively defunct in 1848. After the 1848 revolutions, “when everything was over, not one war between Great Powers had broken out, not one international boundary had been altered, and not one treaty had been torn up” (Schroeder 1986: 5). Even the Crimean War of the 1850s, commonly cited to demonstrate the collapse of the Concert, involved the great powers, but it did not result in the continent-wide conflict that it could have, and probably would have in the eighteenth century. Furthermore, the war did not change the map of Europe or its treaty system in any major way (5-6). Even the later unifications of Germany and Italy, although altering European politics drastically in terms of the actors and their relative power, were quick and ended relatively easily. “Even more surprising than the limited extent and duration of these wars is the rapid integration of their results into the European system” (8); that is, the territorial changes were accepted rapidly and made the new status quo.

Therefore the Concert system can be considered as the fundamental structuring set of interaction norms and practices for most of the century. This system’s features will be seen in the following: the end of competitive balance-of-power politics, the great-power management of the system, the diplomatic congress system, the role of intervention and partition, and the continuing development of European laws of war.

The Concert of Europe: A balance of power system? In contrast to the conventional view of the Concert as a classic balance of power system, I argue that although the preceding century’s international politics were structured by balance of power considerations, the Concert system was in fact something different.

The eighteenth century is commonly cited as the “golden age” of the balance of power: “Never before or since has a single idea been so clearly the organising principle in terms of which international relations in general were seen” (Anderson 1993, 163). Yet the question has often been raised as to whether or not this “dominance” of the balance of power was anything new to the international system of the 1700s, since the phrase *balance of power* is so ambiguous. One typical view is that balance of power behavior, and balancing as a practice, long preceded its formulation into a norm aimed at preserving that balance. Yet describing the ancient Greek city-states, for example, as a balance of power system is very misleading: “while one can detect behaviour in the ancient Greek system which is analogous to balance of power behaviour, it was not self-consciously done for that purpose, nor did it reflect a theory of international relations in which balance policies could play a logical role” (Sheehan 1996: 27). The first clear statements of the balance of power as a normative good are in Italian Renaissance writings, particularly those coming out of the politics of the late city-state period (circa 1500). The praise for the balance of power in late fifteenth-century Italian city-states from author such as Guicciardini and Botero, although the image they present may be inaccurate in fact (Gilbert 1965: 106ff), served as a “powerful myth which did much to legitimise the idea of a balance of power among subsequent generations of thinkers outside Italy” (Sheehan 1996: 32). It was only in the eighteenth century that this idea became powerful enough to become part of the normative framework governing interaction.

One of the clearest signs of the dominance of the balance of power as a norm during this period was the language used in the 1713 Treaty of Utrecht, which ended the War of the Spanish Succession. This agreement was consciously aimed at preserving a

balance in Europe, since Louis XIV's efforts to secure the Spanish crown for the Bourbon dynasty set off the war. Subsequently, the balance of power as a normative good became enshrined in such documents as the British Mutiny Acts (preserving a standing army), which beginning in 1726 included the phrase "preservation of the balance of power in Europe." Praise for the balance of power was common in political writings of the period as well, including influential authors such as Christian Wolff and Emmerich de Vattel, who "saw Europe as a political system in which equilibrium is crucial to order and liberty" (Vagts and Vagts 1979: 560-562).

All of this rhetoric in support of maintaining a balance or equilibrium in Europe has been contested, however, by authors who argue that the balance that existed among powers during the eighteenth century was due not to widely accepted norms about the balance, but rather to the inability of any actor to achieve hegemony. Sofka (2001) argues that the "internal restraint" required for the existence of a truly norm-driven balance of power did not exist during the pre-Revolutionary period any more than during the Napoleonic wars, but that Napoleon merely succeeded in achieving the common goal of hegemony, where others had failed. Restraint on all sides requires a "viable and commonly accepted *status quo*," which was never present at any time during the eighteenth century. Instead, the constraint was material: "the gulf between hegemonic objectives and military and financial means was unbridgeable throughout most of the century" (Sofka 2001: 152). Similarly, Schroeder points out that, in the eighteenth century, balance of power behavior was never conceived of as restraining states from seeking dominance, but rather praised simply because there was no alternative framework for interaction (1994: 10; 49n.49). "[B]alance-of-power rules and practices were not a solution to war in the eighteenth century (if they ever have been) but a major part of the problem" (6), as balance of power practices "tend to produce imbalance, hegemony, and systemic conflict" (48). Thus, balance of power practices may very well have been common, as were norms favoring maintaining a balance, but this does not contradict the century's clear history of conflict and competition for continental dominance.

In the nineteenth-century Concert system, the balance of power is conventionally held to be a dominant norm of interaction. Sheehan (1996: ch.6) argues that the Concert is a clear example of a balance of power system, since it appears to have been consciously set up as such by the statesmen at Vienna. The balance was subject to the collective hegemony of the great powers, of course, as they were responsible for maintaining the equilibrium and even redistributing territories to make the balance more even. Yet the principle of balance of power is considered primary: "The re-establishment of a European balance of power was the declared main aim both of the wartime coalition and of the congress" (Osiander 1994: 224).

Schroeder (1992), on the other hand, argues that the Concert rested on a very different set of norms and practices from the eighteenth-century balance of power system. The concert system's "essential power relations were hegemonic, not balanced, and a hegemonic distribution of power, along with other factors, made the system work" (684). In terms of military and political power, at the Congress of Vienna the system was in no way "balanced" among five actors equally: Russia and Britain were "superpowers", France was an "authentic but vulnerable great power", Austria a "highly marginal and even more vulnerable great power", and Prussia a "power called great by courtesy only"

(688). This contradicts the common historical perception of the period as one in which power was distributed evenly.

The contention that the Concert was a balance of power system relies heavily on the frequent use of balance of power language by actors at Vienna and after. Yet no consensus existed among diplomats at time of what constituted a balance of power (Dakin 1979: 15). For example, while British foreign secretary Castlereagh justified his support for the Vienna settlement using balance of power rhetoric, prominent domestic critics employed the same language in order to condemn the same set of arrangements (Dakin 1979: 32). For diplomats at the time, the term used more commonly than balance of power was *political equilibrium*, which had more to do with peace and order than balance (Schroeder 1992: 695). Furthermore, balance of power often actually meant what we would term *hegemony*, particularly when used by the effective superpowers, Britain and Russia. Even though leaders of both states employed “balance of power” terminology, they defined the term to mean *their* hegemony, which in 1815 was the direct outcome of their respective war policies (Schroeder 1992: 689ff). Moreover, “Britain and Russia were not alone in saying ‘balance’ while meaning ‘hegemony.’ Almost everyone did”; this meaning was “normal and traditional” during the eighteenth century as well (Schroeder 1992: 690-691).

In sum, interaction in the Concert system was distinctly *not* based on the principles of the balance of power from the preceding century: “A competitive balance-of-power struggle gave way to an international system of political equilibrium based on benign shared hegemony and the mutual recognition of rights underpinned by law” (Schroeder 1994: 580). “This sense of inherent limits, acceptance of mutual rules and restraints, common responsibility to certain standards of conduct, and loyalty to something beyond the aims of one’s own state distinguished early nineteenth-century politics from what had preceded it and would follow it” (Schroeder 1994: 802). The system-based outlook and loyalty was reflected in the principal normative framework of interaction that governed the Concert system: great-power management.

Great-power management. The concept of great powers having special responsibility for the management of the Concert system was the key element in the period’s set of interaction norms and practices. This principle could be seen right away, in the organization of the Congress of Vienna: Although the Congress included “representatives of some 200 states, cities, associations, and individuals,” the main discussions were unofficial and only included the four allied great powers (Osiander 1994: 168). Even the non-great-power members of the larger group of signatories to the Treaty of Paris (eight states, including France) were excluded, and the official Congress involving all the participants never actually met.

Among the actions taken by the great powers at Vienna and after, a key one for the redrawing of the map of Europe was the creation of “intermediary bodies” throughout the continent, such as the United Netherlands or the German Confederation. Yet these were more than mere buffer states: “While these separated the great powers, making it more difficult for them to fight, they also linked them by giving them something in common to manage” (Schroeder 1986: 17). In general, the “great-power tutelage over the rest of Europe” emphasized great-power unity, particularly against unilateral action (Elrod 1976: 163). “[T]erritorial changes were subject to the sanction of the great powers.

. . . [T]his procedure was the only means of legitimizing new arrangements” (165). This reflected the aforementioned systemic basis for the legitimacy of actors, as great-power recognition was the only acceptable means of justifying a state’s existence.

Diplomacy and the congress system. The management of the Concert system by the great powers rested on an established set of diplomatic practices, in particular the *congress system*. Diplomacy had developed rapidly during the early modern period, from its roots in the Italian city-states of the late fifteenth century to a continent-wide network of resident ambassadors. By the beginning of the eighteenth century, the norms of extraterritoriality and diplomatic immunities familiar to us today were nearly universally recognized (Mattingly 1955: 241).

The 1815 settlement went further, however, as it was intended both to guarantee the continued existence of the great powers and to create “a system of diplomacy by conference” in order to achieve that goal (Schroeder 1986: 13). This was more than just the regular congresses (which, after all, only lasted until 1823): “the European Concert was also a conceptual norm among the great powers of the proper and permissible aims and methods of international politics” (Elrod 1976: 163). A multilateral system was used in place of bilateral negotiations in situations of crisis. Moreover, “when governments did need to be restrained in this era, the normal method was not balancing, confronting their power with countervailing power, but ‘grouping’—using Concert means and group pressure to enforce norms and treaties” (Schroeder 2000: 161). In other words, the primary means of restraining an offending state was “moral suasion”, appealing to its responsibility as a great power and as a member of the family of states (Elrod 1976: 168).

Intervention and partition in the Concert system. An important change from the eighteenth-century international system to the Concert was the role of intervention and partition. While the conceptual differentiation between intervention and war resulted from the separation between great powers and other states, partition was largely eliminated as a practice in the Concert system.

Intervention into the domestic affairs of other states is commonly cited as the foundation of the nineteenth-century conservative efforts to preserve monarchical governments against revolutionary uprisings. For example, Tsar Alexander I’s proposed Holy Alliance was intended to allow intervention in support of threatened regimes. Although, as is well known, this “Metternich system” essentially failed, intervention did nonetheless form an important element in the normative framework of interaction in the Concert system. (Schroeder [2000] explicitly differentiates between the failed Metternich system and the longer-lasting Concert system, arguing that these are too often seen as identical.)

The allied response to Napoleon’s return and the Hundred Days was intervention, arguing that “the requirements of international law transcended a nation’s right to choose its sovereign; France was not entitled to choose a ruler incapable of living at peace with Europe” (Schroeder 1994: 552). Similarly, in solving the question of the constitution and boundaries of Switzerland, diplomats showed “the prevailing belief at Vienna that everyone’s sovereignty had to be restricted to some degree in the interest of peace and international law” (Schroeder 1994: 572). Sovereignty was thus recognized as a principle, but one subject to violation if the situation required it.

Having one's sovereignty violated, however, soon came to separate the lesser states from great powers. Contemporaries consciously differentiated *intervention* from *war*, defining the former as an intrusion by a great power into the affairs of a lesser one. On the other hand, any violation of the sovereignty of a great power would *not* be intervention; it would be war. Furthermore, the right and duty to intervene, as well as the exemption from intervention in one's own territory, formed part of the basis for great-power status. For example, in 1818 France was admitted to the great-power club, "and she based her claim for admission on the principle that she might be called upon to maintain order in her neighbouring states" (Bullen 1979: 55). Thus, "The Duke of Wellington, the British prime minister, made this perfectly clear after the revolution of July 1830 in France. He warned the three eastern powers that they could not intervene in France, they could only go to war against her" (Bullen 1979: 54).

Much has been made of the dispute between the respective positions on the issue of intervention between the conservative eastern powers and the more liberal western ones, yet fundamental agreement existed. All five powers agreed that intervention was acceptable in the event that an existing government called for help to support it against revolution or insurrection (being too weak to hold onto power on its own). The divergence between the liberal West and the conservative East concerned the legitimacy of intervention "in the name of the alliance of the five powers" against the will of the existing government. Only Russia, Prussia, and Austria supported such intervention (Bullen 1979: 55).

The partition of a defeated state's territory to compensate the victors was a common practice of international politics in the eighteenth century. For example, although often decried as exceptional, the repeated eighteenth-century partitions of Poland were one more example of a common practice of the pre-Revolutionary period: "proposals and efforts to divide up states, including major international actors" (Schroeder 1994: 17). "Attempts to partition the territory of other major powers and to reduce them to second- or third-rank status were a normal part of 18th-century politics—constitutive and necessary features of the system rather than its accidental products. Thus, the total destruction of the European balance during the revolutionary and Napoleonic wars represents merely the climax of a process begun much earlier" (Schroeder 1986: 13).

These partitions often involved exchanging territory among major actors, a practice that continued up through the Congress of Vienna but declined rapidly thereafter as the systemic norms in favor of preserving existing states became dominant. For an example of territorial trading, consider an 1813 treaty between Prussia and Russia for a possible post-war settlement, in which "Russia agreed to restore Prussia territorially, financially and demographically to her strength before her defeat at the battle of Jena, *but not necessarily in the same territories*" (Dakin 1979:18; emphasis added). The fact that restoration to different territories was an acceptable offer reveals, first, that territory was considered a key resource and, second, that particular territories were not linked by a strong form of national identity. In 1815 at Vienna, the trend continued, as territories were shifted around to "compensate" one party or another, such as when Russia's imposition of a "nominally independent Polish state" meant that Prussia and Austria had to be compensated with other territories (Lyons 2006: 18).

The ease with which territories were exchanged or partitioned, until the establishment of the Concert system, reflected the absence of a systemic norm strongly favoring the preservation of existing actors. Post-Vienna, partition schemes disappeared rapidly, “to be replaced by norms, rules, and efforts devoted precisely to preserving the existence and guaranteeing the independence of the actors most threatened within the system” (Schroeder 1994: vii). Thus, the norm of preserving the members of the state system took the form of a shift away from partition, yet at the same time toward allowing intervention, which was intended to preserve existing actors.

Laws of war. The laws of war of the Concert system are much clearer than those of the late Middle Ages, as there had by this point been several centuries of development and codification of norms and practices concerning combat. As Parker (1994) points out, in the sixteenth, seventeenth, an eighteenth centuries, similar protections and rights were extended to more and more types of combatants. Some have seen the Revolutionary and Napoleonic wars as a major exception to this trend, arguing that the revolutionary fervor led to an explosion of unregulated brutality following the restraint of the absolutist period. Rothenberg (1994) argues, instead, that the eighteenth century was not quite as regulated as it has been purported to be, and except for a brief period of revolutionary extremism in the 1790s, the wars of this period were actually as limited as those of the preceding century. In particular, from the summer 1793 through the end of 1794, Jacobin rule in France removed all restrictions on warfare, although the most severe atrocities were committed internally, against the Vendée uprising (88). However, military officers were actually often unwilling to carry out their civilian superiors’ extreme orders, fearing reprisals against themselves. After 1794, re-professionalization occurred, as the remaining officers and the battle-tested citizen-soldiers tended toward restraint. This trend continued into the Concert system, as rules governing conflict among European states continued for the most part to be observed.

* * *

Overall, these interaction practices reflect the dominant normative framework of interaction based on the Concert of Europe, constituted at the Congress of Vienna but remaining important for structuring international politics through most of the nineteenth century. Great powers were to manage the system for the preservation of most actors and for the prevention of another bid for continental hegemony.

IV. Modern Sovereignty and Authority

The early nineteenth century saw the consolidation of the centuries-long trend toward homogenization in the type of authority on which sovereignty is based. In this period, the modern nature of sovereignty is clear: authority is solely territorial, exclusive, and centralized.

Conceptual basis for authority: entirely territorial. This period represents the culmination of the long-term shift in the conceptual basis for sovereignty away from the medieval mix of territorial and jurisdictional authorities to a homogenously territorial authority. This trend was seen increasingly in political theory during the eighteenth century, as influential authors advocated for territorial boundaries over customary

jurisdictional ones: “Vattel, following Christian Wolff, was among the first theorists of international law to identify territorial boundaries as the point at which sovereignty found expression” (Sahlins 1989: 93). (Vattel’s major work was published in 1758.)

This theoretical backing for exclusively territorial authority found expression in the Revolutionary doctrine of the state: as noted above, there was a new “French concept of an exclusive sovereign authority exercised by a single government over a clearly defined territory” (Schroeder 1994: 72). Although territoriality was part of the revolutionary agenda, and hence could have been overturned in the ostensibly reactionary Concert system, the aforementioned willingness of post-1815 governments to hold on to new revolutionary and Napoleonic sources of power doomed any possible restoration of the complex mix of jurisdictional authorities in realms such as the Holy Roman Empire. Similarly, the jurisdictional complexities represented by foreign or independent enclaves within the boundaries of states were predominantly eliminated by the Revolutionary and Napoleonic conquests, and they were not restored at Vienna.

Part of the push toward eliminating jurisdictional sovereignty, or not restoring it in the Vienna settlement, was due to the traditional and customary foundations of those authorities. Unlike at Utrecht in 1713, where “the set-up of the system was still to a substantial degree determined by custom,” the Vienna settlement came following the revolution, which had questioned all customs, leading to the need for a justifiable abstract principle of legitimation (Osiander 1994: 232). Jurisdictional authorities relied on tradition and were not justifiable in terms of the new systemic basis for legitimacy. Territorial authority, however, was perfectly amenable to system-based, great-power-sanctioned justification.

Not only did this period see the consolidation of territorial over jurisdictional authority, but territorial authority took on its familiar modern form, one based on visual (cartographic) representation, defined from the boundaries inward, and perceived as a homogenous geometric space.

By the beginning of the nineteenth century, mapping was firmly established as the primary means of depicting political authority over space, as the narrative form of territorial knowledge was superseded by improved surveying methods, which enabled more and more information to be presented in cartographic form (Thrower 1999: ch.7). In the early nineteenth century, “Commercial and government map publishing increased greatly, leading to the expansion of existing facilities and the creation of new ones” (Thrower 1999: 125). Furthermore, “The uses of globes, maps, and atlases also became important school subjects” (Thrower 1999: 125). Many large-scale state-sponsored mapping projects, although attempted or begun in the seventeenth century, were only successfully completed shortly before the Revolution. The multi-generational Cassini survey of France, for example, was initially begun under the direction of Louis XIV’s finance minister Colbert in 1670, but it took until 1739 for the triangulation of the country to be complete, 1744 for the first “outline map,” and 1789 for the complete publication of the survey (Turnbull 1996: 18). Thus, it was not possible for a monarch to “survey the details of his empire in his own bedroom” (Turnbull 1996: 16) until the very end of the *ancien régime*. Early nineteenth-century rulers inherited this cartographic depiction of their realms.

In maps of the European continent as a whole, the depiction of political boundaries had progressed rapidly during the first two centuries of atlas production

(beginning in the late 1500s) from the drawing of few boundaries to the depiction of a hierarchy of internal and external borders (Akerman 1995). Yet throughout the eighteenth century, maps remained inaccurate with regards to actual political control in regions of complex and overlapping authorities, in particular, the Italian peninsula and the Holy Roman Empire, which were labeled respectively as the unified entities of *Italia* and *Germania*. One author declares that the first map to reflect political control accurately was printed in 1821: “Italy was finally distributed into territorial states; the tiniest German statelets were distinguished, . . . Prussian and Austrian possessions were each unified by color” (Biggs 1999: 398). This marks the final consolidation of the visual representation of political authority, as politically color-coded maps for the first time represented authority existing on the ground.

In addition to its visual nature, territorial authority in the nineteenth century was also consolidated as a space defined from the boundaries inward, rather than from a center (or centers) of control outward. Borders between modern states are an implicit or often explicit agreement between two actors. In situations of center-out control, on the other hand, the boundary is merely the furthest reach of the authority without any recognition of another’s authority across the border. By the nineteenth century, “the border between two territorial states of modern European international law did not constitute an exclusion, but rather mutual recognition, above all of the fact that neighboring soil beyond the border was sovereign territory” (Schmitt 2003: 52). Since the other side of boundary was recognized as sovereign, both states’ authorities were defined by the particular location of that boundary—not by a center of control such as a capital city.

This boundaries-in form of territorial authority was progressively realized in terms of material power and control during the preceding centuries. For example, monarchs such as Louis XIV increased fortifications along the frontiers of his kingdom while tearing down fortresses in the interior (Tilly 1992: 99). Although this was in part due to his efforts to consolidate internal power vis-à-vis the nobles, it also reflects the beginnings of a conceptualization of territorial authority as extending from boundaries inward. Similarly, the elimination of territorial enclaves discussed above was part of a larger process of the “rationalization of frontiers” attempted by many governments in the eighteenth century but consolidated only with the Vienna settlement. Enclaves had represented clear contradictions to a sovereign’s undisputed authority within geographical boundaries, and thus their elimination marked a further solidification of boundaries-in territoriality.

Finally, the modern form of territorial authority consolidated in the Concert system reflects a conception of territory that perceives it as a homogenous, geometrically divisible *space*, rather than as a collection of distinct and possibly unique *places* (Harley 2001: 98-99). This is seen in the trading of territories quite common leading up to and during the Vienna negotiations, such as the above-mentioned offer of Russia to compensate Prussia for losses in the east with other territory elsewhere—territorial space is homogenized and thus one territory can be replaced by another.

Exclusive authority. This period also saw the final termination of the complex overlapping and shared authorities that had, in the late Middle Ages, existed in many parts of the continent and, even through the eighteenth century, in the Holy Roman

Empire. The Revolution's concept of sovereignty as having a single locus of authority was among the new tools of power that the ostensibly reactionary post-1815 regimes were happy to keep. As noted above, this reflected the culmination of a long-term effort by all governments, conservative or revolutionary, to end the sharing of authority over particular domains with other actors. The process was accelerated and completed in particular by the Napoleonic conquests and the resultant vacuum in authority in many realms after his defeat. This was supported by much of the preceding centuries' political theory, such as that of Bodin and Hobbes, which offered useful theoretical backing to the practical imposition of the conception of exclusive sovereignty.

Centralized authority. With the exception of the German Confederation, all post-1815 actors in the European context, great powers or otherwise, were unitary, centralized states or city-states. The German confederation was not to last past 1870 of course, but even before that, the federal aspect of it was very weak, favoring the small but state-like nature of the constituent units. This marked a significant change since, as discussed above, "absolutism" was more of an aspiration than a reality, and thus pre-Revolution centralization was fairly low even in the most ostensibly strong states. In the decades following 1789, however, states such as France became radically centralized, and these changes were among those kept by post-1815 regimes.

* * *

Overall, the early nineteenth century marks the elimination of jurisdictional authorities and the parallel consolidation of the territorial conceptual basis for authority, based on the visual representation, external bounding, and homogenization of territory. Furthermore, the complex overlapping, shared, and decentralized authorities of the late Middle Ages were entirely eliminated, replaced by exclusivity and centralization in all European states.

V. Summary

This chapter has detailed the transformation of the European international system between the late Middle Ages and the nineteenth century. Medieval politics were structured by a variety of actors, who were organized in a complex mix of heteronomous relationships, and whose interactions were based on norms founded in medieval beliefs about the unity of Christendom. The modern international system is composed of territorial states, organized as an anarchical collection of equals and interacting through the practices of coordination by the most powerful actors. All three characteristics of the European international system, as well as their foundation in the concept of legitimate authority, changed drastically between the medieval and the modern periods.

Medieval authority had a wide variety of conceptual bases, ranging from territorial to jurisdictional and personal. Complementing this diversity was the prevalence of overlapping, shared, and decentralized authority. In the shift to the modern international system, two major changes to authority occurred: First, the jurisdictional, overlapping, and decentralized forms of authority were eliminated as practical or legitimate forms of political organization. Second, territorial authority, though remaining as the sole basis for sovereignty in the modern system, underwent a significant change: medieval territorial authority, based on verbal description and a center-out concept of

control, was transformed into the modern form of territorial authority, which is founded on visual cartographic depiction and in which control is conceived of as flowing in from firm boundaries that delineate a homogenous territory.

The next chapter details an important determinant and driver of this epochal systemic change by presenting a historical narrative of the technological development and use of cartography in the fifteenth through eighteenth centuries.

Chapter 4

The “Cartographic Revolution”

*How did it come to be that whereas in 1400 few people in Europe used maps, except for the Mediterranean navigators with their portolan charts, by 1600 maps were essential to a wide variety of professions?*⁵³

At the beginning of the fifteenth century, European cartography was extremely limited, comprising a very small number of manuscripts with coastal maps for navigation, schematic land itineraries, and symbolic representations of religious time and space. Not only did few maps exist, but few if any contemporaries lamented this absence, instead using non-visual means to describe, navigate, and manipulate their world. By the end of the sixteenth century, however, the situation was entirely different. Maps had been radically transformed, both qualitatively in terms of maps’ character and uses and quantitatively in an exponential increase in map production due to greater demands and printed supply.

This chapter details the “cartographic revolution” that these changes represent, focusing on both the technology and its increasing use by European societal and political actors—in other words, both the development and expansion of *new technologies of mapping* and the increasingly widespread *adoption of maps* as tools of commerce, navigation, and government.⁵⁴ Both of these processes are important to the development of the modern system of territorial states, as the technology created the conditions of possibility of a new conception of political space, and the extensive adoption of mapping meant that the new spatial imagination could spread throughout the continent and lead to major effects in political ideas and behavior at all levels of European society. (The next chapters detail these ideational changes.)

The first section gives a brief overview of the pre-modern state of cartographic technology and use, in order to illustrate just how *non-cartographic* the ancient and medieval worlds were in comparison to ours. This is followed by a discussion of the innovations in cartography, beginning with the early-fifteenth-century rediscovery of Ptolemy’s *Geography* and its impact on mapping techniques, and progressing through the Renaissance explosion of map printing and distribution to the consolidation of a “scientific” survey-based cartography in the European Enlightenment. The next section details the ways in which maps were increasingly used by both private actors and governments during the Renaissance, demonstrating both the rapid spread of this new technology and the uneven and often layered character of its adoption. The fourth section discusses the use of maps in European colonial expansion, arguing that map use played a prominent role in this field from the start. Finally, the chapter concludes with a discussion of the question of why mapping spread so rapidly, and how it managed to become nearly hegemonic as a means of depicting space by the end of the early modern period. The

⁵³ Buisseret 1992a: 1.

⁵⁴ I am defining *technology* broadly here, as standard dictionaries do, as “the practical application of knowledge especially in a particular area” (*Merriam-Webster’s Collegiate Dictionary, Tenth Edition*, Springfield, Mass., 1993). This means that new cartographic technology includes all the new applications of knowledge to visually depicting the world.

subsequent chapters detail the links between these technological developments, their ideational consequences, and the political structure of the international system.

Before delving into the revolution in cartographic technology of the early modern period, it is important to note that this does not require any assumptions of “progress” *per se*. As Edney (1993) and others have recently argued, reading the changes in cartography as a narrative of increasing progress, accuracy, and scientific precision is anachronistic and reflects our post-Enlightenment fixation on such teleological narratives. Early modern cartography, in fact, was not constituted by a single body of knowledge or practices, but instead included a variety of “cartographic modes” which often did not overlap with each other (Edney 1993: 57). “Medieval and early modern geographical thinking was incredibly diverse and contradictory, and in no way cohered as a single body of knowledge” (Brotton 1997: 28). Therefore, we should avoid the anachronistic focus on “increasing accuracy” of maps. Nonetheless, *changes* in mapping inarguably occurred, which led to and shaped important social and political outcomes. Removing the framing narrative of “progress” does not mean that cartography did not have a role in effecting social and political change; in fact, by approaching early modern cartography from the point of view of contemporaries, we are able to understand those social and political effects in a non-teleological manner as well.

I. Ancient and Medieval European Cartography

As we inhabit a world permeated by maps and other cartographic technologies built upon the Ptolemaic techniques developed in the European Renaissance, it is important to recall that not all cultures or historical periods even knew about, let alone used extensively, this type of mapping. Within European culture, the Middle Ages was a period of relatively limited mapping, as was the ancient Mediterranean world. This section first will briefly discuss both the general absence of maps from the ancient world and the limited uses that mapping did see, and second will outline in more detail the state of cartographic technology in Europe at the end of the Middle Ages.

In addition to the assumption that maps like our modern ones have always existed, a similar danger exists of assuming that maps different from ours are not maps at all. As Harley and Woodward (1987a) note, definitions of *map* and *cartography* have far too often been based implicitly on the practices of our particular historical period. They suggest a more open definition: “Maps are graphical representations that facilitate a spatial understanding of things, concepts, conditions, processes, or events in the human world” (xvi). Thus, the following discussion of pre-modern European cartography will not be restricted to maps intended to be accurate geometrical representations of territorial space, but rather will include a broader range of graphical representations of the world. This will capture the important shift involved in early modern cartography: the creation of a particular kind of mapping and the expansion in the creation, distribution, and use of maps.

Many ancient civilizations show evidence of mapping and map use, although typically not anywhere near the level of map use in early modern Europe. Ancient cultures such as those of Mesopotamia and Egypt used some maps, including maps for the purposes of demarcating property ownership (Dilke 1987; Kain and Biagent 1992). Some of the key ideas of early modern cartography, particularly the use of celestial coordinates for terrestrial positioning, were inheritances from ancient Greece. Roman

civilization made extensive use of maps, albeit for specific purposes. Much of Roman mapping was involved in the surveying and distribution of land in newly conquered areas, in which the empire used a grid system to divide land among colonists (Edgerton 1987). Yet, outside of Roman property mapping, map use in the ancient Mediterranean was extremely limited: Greek and Roman “travelers, tourists, pilots and military commanders probably never used maps” (Jacob 1996: 195; Talbert and Unger 2008). Even the maps occasionally used, furthermore, were predominantly structured as linear itineraries of routes, not as spatial geometric maps such as we are familiar with today (Whittaker 2004: ch.4).

In the European Middle Ages, maps were used even less than in the ancient Mediterranean, and the mapping that did exist was disparate in character and use. In fact, “there was no word which exclusively meant ‘map’ in the Middle Ages” (Edson 1997: 2). Many maps from this period served purposes very different from ours, often depicting historical time as well as geographic space, and having no intention of being useful to claim property, delimit political authority, or navigate by land or sea (Woodward 1985; Edson 1987). Harvey (1987b) argues convincingly that medieval cartography should actually be studied as several distinct traditions of mapping, between which there was little if any connection. The key traditions include *mappaemundi*, portolan charts, and regional, local, and itinerary maps (each discussed in turn in the following paragraphs). These categories were so distinct that “it is arguable that scholars in the Middle Ages would not have recognized the products of these varying traditions, these groups and subgroups, as constituting a single class of object—that they would not have seen them, as we do, as maps distinct from diagrams on the one hand and from pictures on the other” (Harvey 1987b: 283).

Medieval *mappaemundi* were a genre distinct to the European Middle Ages. These large world maps, often hung on the walls of cathedrals, depicted the three continents of the Old World schematically and typically focused on illustrating biblical and classical history: “The primary purpose of these *mappaemundi* . . . was to instruct the faithful about the significant events in Christian history rather than to record their precise locations. They rarely had a graticule [grid coordinate system] or an expressed scale, and they were often schematic in character” (Woodward 1987: 286). Although they may simply appear as primitive or “inaccurate” world maps in retrospect, they served the graphical purpose for which they were intended. What they did not do—and were never intended to do—was illustrate political authority, as there are no delineations of political territories, and the places drawn and labeled on these maps were not chosen based on any considerations of political power and importance. Instead, these images mapped spiritual knowledge onto a schematic representation of the known world.

Portolan charts were navigational maps used in the Mediterranean by the late thirteenth century, if not slightly earlier. Historically, these maps were preceded by “written lists of locations and compass bearings,” which were later supplemented with visual depictions of coastlines with an overlay of rhumb lines for finding the closest compass direction between two coastal points (Cosgrove 2001: 85). Although these maps may appear geometrically sophisticated due to the rhumb lines, they actually have “no indication whatever of the use of coordinates of latitude or longitude” and contain distances in travel time, not linear measurements (Randles 1988: 1-2). These features, however, fit the practical requirements of ship-board navigation in the Mediterranean:

they gave the most direct routes between coastal points, labeled and exaggerated pertinent coastal features, and were based on the first-hand knowledge of the sailors that used them (Campbell 1987). As will be discussed in detail below, although these maps appear to us as surprisingly “accurate” visual depictions of space during a period whose other mapping traditions seem archaic and primitive, their “shipboard perspective” and the absence of either a latitude-longitude grid system referencing terrestrial position or a consistent scale indicates that these maps lacked the influential characteristics of modern Ptolemaic cartography (Cosgrove 2001).

Portolan charts depicted land only inasmuch as they delineated coastlines and labeled coastal points with a dense series of names written perpendicular to the coast. Medieval regional and local maps that were primarily intended to portray land geographically were much less common and were extremely varied in character and technical features, demonstrating that there was no single tradition even among this subset of medieval maps (Harvey 1987a). Some of the regional maps that appear similar to modern mapping are in fact land-based itinerary maps, schematically depicting routes such as pilgrimages without any intention of accurate geographic representation in terms of scale or orientation (Harvey 1987a: 466, 496). These maps were not grid-based two-dimensional projections of the surface of the earth, but rather graphical representations of a single dimension of linear travel (Padrón 2004: 54). Once again, the apparent “inaccuracy” merely reflects our expectation that medieval maps were intended to represent the world according to our standards of geographic accuracy, rather than as a means of providing the information required for activities such as land travel.⁵⁵

The medieval dearth of maps was in large part due to the ascendancy of textual description over visual depiction, a dominance which survived at least into the early Renaissance (Grafton 1992). This applied particularly to geographical information: “In the Middle Ages, the normal way of setting out and recording topographical relationships was in writing, so in place of maps we have written descriptions: itineraries, urban surveys, field terriers, and so on” (Harvey 1987a: 464). Even for delineating land ownership, the medieval period had little of the property mapping of the earlier Roman era or the modern period: “To the medieval mind, both individual and corporate, the proper way to describe properties was in written descriptions of the extent of land parcels and their topological relationships” (Kain and Biagent 1992: 3). Similarly, the itinerary maps of the period are far outnumbered by written textual itineraries. Rulers as well used textual description for their realms, even when those realms were conceived of in terms of territorial rather than personal authority. Non-visual description of territory was well-established, as “rhetoric ways included geographical explanations that were an extremely codified literary form inspired by ancient models” (Revel 1991: 147). These descriptions were based on official observation, oftentimes during the monarch’s personal travels around his realm.

⁵⁵ In fact, well into the twentieth century, personal navigation while traveling on land continued to be easiest by following written itineraries or schematic diagrams rather than by using accurately scaled maps. In the early automobile age in the United States, due to the absence of reliable sign-posting on highways, massive written itineraries were still more reliable than small-scale highway maps. Only once routes were effectively marked in the field was map-based navigation made possible, quickly followed by an explosion in the production of the familiar road maps we still use today (Akerman 2002).

Thus, though some maps existed in the European Middle Ages, they were limited in number, extraordinarily diverse, and not used for many of the purposes for which modern maps are created. The next section considers the drastic change that cartography underwent, beginning in the early fifteenth century.

Before moving forward, however, it is important to note that a number of historically distinct traditions of cartography exist outside of the Mediterranean and European world. This study focuses on Western mapping technologies because it was in this region that modern territorial statehood appeared. Furthermore, as will be discussed below in detail, there are characteristics specific to early modern European mapping that shaped the territoriality of political authority: specifically, the coordinate system and consistent scale of Ptolemaic cartography.

Traditional Chinese cartography, for instance, in spite of a mathematical basis and the occasional presence of a grid on maps for measuring distance, had no graticule, or coordinate system linked to celestial positioning. Thus, “map space was not treated analytically in China; points were located not by coordinates, but solely by distance and direction” (Yee 1994c: 124; Yee 1994d). This yields very different results in terms of the effects that mapping has on conceptions of political authority, as it is that very mathematical abstraction that drove the homogenization of authority in the European state system (discussed in the following chapter). Traditional Islamic cartography, likewise, saw very little in the way of mathematically derived geographic mapping. This is particularly surprising from our modern point of view, however, since Ptolemy’s *Geography* was well known in the Islamic world long before its fifteenth-century “rediscovery” in the West (discussed in the next section). Yet the focus among Islamic scholars on the mathematical aspects of Ptolemy, and even on his list of places located by celestial coordinates, seems to have never been linked to mapmaking itself (Karamustafa 1992a). “In spite of the various translations of and quotations from Ptolemy, there is no indication in Arab geographical texts of the first chapter of the *Geography*, in which Ptolemy describes map projections” (Tibbets 1992: 101n.51).

Clearly, the comparison of different mapping traditions and the possible effects that each has had on political authority and structures is a fruitful line of investigation. At this point I wish merely to point out that in spite of an extensive tradition of mapmaking and map use, non-European regions did not see the same territorializing dynamic because their cartographic technologies lacked the particular characteristics that drove the homogenization of space and thus the shift toward exclusively territorial political authority.

II. The “Cartographic Revolution” of the European Renaissance

Labeling any social, political, or technological change a “revolution” is inherently risky, as it can suggest both too much continuity elsewhere and too much change during the period in question.⁵⁶ Yet the fifteenth and sixteenth centuries did see a drastic transformation in how maps were created, distributed, and used. The following paragraphs discuss the radical transformation of cartography triggered by the rediscovery of Ptolemy’s *Geography*, the relation of the new mapping techniques to late medieval

⁵⁶ See Woodward (2007a) for a discussion of the question of whether the changes in cartography during this period represent a “revolution.”

cartography, and the resulting combination of rapid change and continuity in the techniques for the depiction of space during the Renaissance.

Renaissance cartography is seen to begin with the arrival and Latin translation of Ptolemy's *Geography* in Florence at the beginning of the fifteenth century. Although the editions that arrived from Byzantium had no original classical maps, they did contain Ptolemy's textual instructions for the creation of maps based on latitude and longitude, as well as a list of cities located by those coordinates. Like many other rediscovered classical texts of the time, the *Geography* spread quickly among Europe's literate elite: "Copies are known to have circulated in Italy and France in the first quarter of the 15th century. In Southern Germany, the principles of the *Geography* were known and applied to map-making from 1425 onwards" (Randles 1986: 1). Maps began to be drawn according to Ptolemaic principles, using the familiar grid of latitude and longitude.

Ptolemy's instructions for making terrestrial maps based on projection methods (for depicting the spherical earth on a flat surface) yielded new maps in the fifteenth century and became central to the continuing development of cartography in the sixteenth century. Yet, contrary to the conventional narrative of the reception of Ptolemy, for most of the first century after the Latin translation was made in 1406, much of the interest in the work was of a humanist, text-focused nature. In fact, what in retrospect seems like the most important contribution of the book—Ptolemy's instructions for map projections—was not emphasized by many fifteenth-century scholars, even those who saw the work as an unimpeachable source. Thus, for example, many mid-fifteenth-century German *mappaemundi* had references to Ptolemy, but only in textual terms: "there are no traces of Ptolemaic techniques and only hints of Ptolemaic data" on such maps (Meurer 2007: 1180).

Instead, it was in the early sixteenth century when interest expanded in the mathematical aspects of the *Geography*, particularly the map projections. At this point new translations were made to replace those of the early fifteenth century, which had made many errors in the mathematical sections (Dalché 2007). Rapidly during the sixteenth century Ptolemaic projection techniques were refined and new ones were invented, all built upon the key contribution of the *Geography*: that the world can and should be depicted visually with reference to a coordinate-based grid system, thereby establishing geometric accuracy of scale, distance, and orientation as key cartographic virtues.

Yet this Ptolemaic approach to mapping remained unused in navigational cartography though much of the sixteenth century. Portolan charts continued to be used for ship-board navigation, without reference to latitude or longitude and hence without taking into account the curvature of the earth (Astengo 2007). This was not a problem for local navigation within the Mediterranean, where the distances were short and involved very little north-south travel. For more lengthy journeys, however, the "convergence of the meridians" at the north pole (due to the earth's spherical shape) meant that rhumb-line based navigation would yield incorrect headings the further one traveled (Randles 1986). It took a new projection technique invented by Mercator (and still known by his name) in the late 1560s to resolve this conflict. This cylindrical projection, while famously distorting landmass size, included both the Ptolemaic grid *and* accurate rhumb lines for compass direction. Thus, although a Mercator-projection world map was navigationally useless because of its scale, the same principles could be used to make smaller maps that

both correctly referenced latitude and longitude and were useable for rhumb-line navigation (Brotton 1997: 168).

New projection methods for a variety of purposes were merely one way in which the techniques of map drawing changed during the early modern period. Although they quickly—and consciously—surpassed Ptolemy’s maps, these further developments built upon the fundamental principle of relying on coordinates and fixed scale for mapmaking. As will be discussed below in relation to the commissioning of maps by European governments, land surveying for large- and small-scale mapping developed into a highly technical profession, and by the eighteenth century maps could be produced that were accurate geometric depictions of land surfaces. In addition, improvements in position-finding technologies, particularly the mid-eighteenth-century development of the marine chronometer, meant that places around the globe could be located accurately in terms of latitude and longitude (Thrower 1999: 91ff). The Ptolemaic ideal of being able to describe the location of any place on the globe with reference to the coordinate system—and concomitantly to be able to depict the space of the globe on maps with reference to that grid—was achievable by European cartography in practice in the late eighteenth century.

In spite of the impact of Ptolemaic cartography and its continuing development in the early modern period, cartography in the Renaissance era should not be seen as a complete break with that of the Middle Ages. For example, although the use of maps and other graphical representations of space expanded drastically, there was a striking “persistence of textual description of the world, which were by no means replaced by their graphic equivalents” (Woodward 2007a: 7). This included textual descriptions of locations in and outside of Europe and written itineraries for travel by land and sea. Furthermore, as one author argues in the case of Renaissance France, “the use of geographical names did not necessarily imply consultation of cartographic materials” (Pelletier 2007a: 1500). Even in cases where maps were used, often “there was a deliberate complementarity between text and image, with the text making up for the lack of detail achieved on a map” (Pelletier 2007a: 1500). In addition, many of the most popular new graphical means of depiction were not what we would consider modern Ptolemaic maps, *per se*: For example, views of cities remained predominantly oblique, rather than in the form of a map or plan; charts used for travel were mostly schematic itinerary maps; and many new maps, though Ptolemaic in form, remained focused in content on religious subjects such as the Holy Land (Woodward 2007a; Pelletier 2007a).

Perhaps the most dramatic element of change in cartography during the early modern period, then, is the combination of the qualitative shift toward the use of Ptolemaic mapping as a visual depiction of space (in addition to the continuing use of textual description) with the quantitative explosion in map production, particularly in printed form. This represents a single facet of the “communications revolution” that the printing press initiated (Eisenstein 2005). The increase in map production was most dramatic in the sixteenth century: “Between 1400 and 1472, in the manuscript era, it has been estimated that there were a few thousand maps in circulation; between 1472 and 1500, about 56,000; and between 1500 and 1600, millions” (Woodward 2007a: 11). The scale of this growth is further illustrated by per-capita estimates of maps in Europe: “In 1500, there was one map for every 1400 persons; by 1600 there was one map for every 7.3 persons” (Karrow 2007: 621). Once again, the importance of this quantitative

increase in map production is key, as the important ideational and subsequent political shifts to the modern state system were driven by the widespread exposure to and use of maps, not just their presence in a narrow section of society. Although, as will be shown below, some early-modern mapping was driven by state interests, the printing of maps was for the literate public as a whole, and was driven by commercial motives from the very beginning (Mukerji 2006).

This consumer-based aspect of map printing is illustrated by the production of atlases, which essentially began with the 1570 publication of Abraham Ortelius' *Theatrum Orbis Terrarum*. This atlas was a collection of disparate pre-existing maps, but was unified by the ideal that cartography was "not simply as a tool for trade, but a means for approaching and appreciating the orderliness of the earth and patterns of human domination over it" (Mukerji 2006: 661). The immediate popularity of atlases is evinced by the rapid profusion of a variety of types of atlases: "The first modern world atlas was published in Antwerp in 1570. It was followed, not long after, by the first town atlas (1572), pocket atlas (1577), regional atlas (1579), nautical atlas (1584), and historical atlas (1595)" (Koeman et al 2007: 1318). Thus, within decades atlases ranged from extraordinarily expensive works for rulers and the richest elite to smaller, cheaper volumes for the general public, often translated into vernacular languages (Mukerji 2006). Within decades nearly all atlases portrayed the world as filled with linearly defined spaces, thus appearing similar to atlas maps today (Akerman 1995). These works would not be useful for rulers wishing to gather detailed information about their or others' realms, but instead served to put cartographic images, accurate or not, in the hands of the general public, and thus to begin the process of altering how Europeans as a whole viewed political space (the subject of the next chapter).

III. Map Use in European Society and Government

During the sixteenth and seventeenth centuries, a drastic shift in map use occurred in both government and private circles, from almost no use of maps to the penetration of cartography into most aspects of European life. Although map use is difficult to study with a great deal of accuracy, as there is very little "direct information on the subject" (Kokkonen 1998: 64), the trend toward using maps in conjunction with (if not often entirely replacing) textual descriptions is clear. Beginning in Italy in the late fifteenth century, and then spreading to Germany, France, England, and Spain in the sixteenth century, map use by many societal and governmental actors was common throughout Europe by the seventeenth century (Buisseret 2003: 69).

The general intellectual consumption of maps took place as a result of both the production of atlases discussed above, and the printing of maps in Italy and later the Netherlands. In fact, "The Italian map publishers [of 16th century] transformed the map from the arcane tools of the navigator, scholar, or administrator into a common article of trade, the geographical print, that became part of everyday life" (Woodward 1996: 2). Large wall maps—often printed by the same producers as atlases—were very popular, with the elite in particular (Koeman et al 2007: 1341ff). The fact that maps became common household goods (though still less prevalent than religious images) was important particularly in the effect on societal views of space and territorial political authority, which is explored in the next chapter. As Woodward points out, "The

burgeoning interest in purchasing topographical and geographical prints must at least indicate that by the second half of the sixteenth century the *idea* of the map had been widely disseminated” (2007b: 609, emphasis in original). Interestingly, some of the most consumption-oriented geographic publications were also the most visual: *isolarii*, books containing a series of maps of islands, often contained no textual matter, only maps. The popularity of these works, which were essentially useless for navigation or commercial and military strategy, illustrates the popularity of cartography for no motivation other than collecting and looking at maps (Tolias 2007).

The creation of maps by European rulers and governments was slower and more uneven in its spread around the continent than commercial cartography, but nonetheless an increasing trend toward governments using and later commissioning maps is clear. This development is particularly important, as it is the *actions* of rulers, though often shaped by societal norms and conceptions, that constitute the international system. Hence, the increasing use of maps by these actors is a key piece of support for the link between cartographic developments and international political structure.

As will be seen in more detail below on particular countries, map consciousness increased during the late fifteenth century among the ruling elite, and governments began to make use of maps extensively in the sixteenth century. The suddenness of this shift is suggested by the fact that “it would be very difficult to show many examples of [government map] use in 1450” (Buisseret 1992a: 2). During the sixteenth century, however, rudimentary official cartographic institutions were established, illustrating “a growing need by the state to reduce its dependence on less reliable sources for cartographic knowledge,” i.e., commercial map publishers (Kagan and Schmidt 2007: 666). The use of maps for governing was commonly suggested by political writers of the early sixteenth century, including Machiavelli, Castiglione, Guicciardini, and Elyot. Across the continent, maps were used increasingly by governments as inventories of property, although these remained supplemented by textual land registers as well (Kain and Biagent 1992).

Although those same authors that advocated map use for governing similarly discussed the benefits of using maps in military planning and execution, military cartography as a distinct genre remained limited until the eighteenth century. The maps that existed, although vast improvements in terms of accuracy over those of preceding centuries, were still not large-scale or reliable enough to meet the requirements of military strategy or tactics. Early modern European armies, just like their medieval predecessors, made their way through enemy territory by relying on verbal reports from spies or guides, and often by simply asking for directions as they traveled. Thus, although fortification drawings were often used in the planning of defensive constructions, maps were rarely used for strictly military purposes until the creation of military-commissioned maps in the eighteenth century (Buisseret 2003, ch.5; Hale 2007).

Instead, as is illustrated by the following discussion of individual regions and countries, maps were used by rulers to gather information about their realms, as well as to gain a greater awareness of the overall political situation in their world. As with the technological developments described above, however, the adoption of cartographic techniques was uneven and often involved the combination of some new tools with long-standing practices in a layered fashion. In spite of some variation in timing, however, a similar series of cartographic efforts were undertaken by most major European

governments, reflecting a growing concern with cartography and willingness to devote resources to it: first, collecting existing privately published maps; second, commissioning the creation of collections of maps based on existing sources; and, third, funding and administering trigonometric surveys to create maps from scratch. The relative homogeneity and interpenetration of elite culture throughout Europe in this period means that the adoption of cartographic tools followed a different trajectory from processes of technical or normative diffusion between states in modern international relations (where one can observe a sequence of imitation and adoption). Instead, as the brief cases below illustrate, a general pattern was followed by most early modern rulers of collecting and later commissioning maps.

Italian peninsula. Much has been made of the leading role that Renaissance Italian states and societies played in developing, using, and distributing new cartographic techniques across Europe, just as Italian artists and thinkers have been put at the forefront of other Renaissance developments. In some ways, this narrative holds true: Just as with the translation of Ptolemy and the creation of printed maps as commercial objects, map use by governments for administering a realm may have first appeared on the Italian peninsula. For example, the state-sponsored mapping of Venice's local land holdings in 1460 may be the first example of a Renaissance government commissioning a modern topographical map of its territory.

Yet Venice may in fact be an exception within Italy, as government mapping was not common in other Italian city-states until a century later: "Mapping as a normal administrative way of looking at the world dates only from the third quarter of the sixteenth century" (Marino 1992: 5). Recent work by other historians confirms this chronology, as studies of map use by governments in central Italy, Genoa, Lombardy, and the Kingdom of Naples confirm that although the technology was available in Italy during the sixteenth century, the use of maps as administrative tools only appeared sporadically and unevenly through the sixteenth and seventeenth centuries (Quaini 2007; Casti 2007; Rombai 2007; Valerio 2007).

German lands. The longstanding role of Germany as a center of learning in the late Middle Ages and Renaissance meant that the new ideas and techniques about mapping were quickly spread north of the Alps. Cities in the Holy Roman Empire became centers of cartographic study, map creation, and map printing. Yet, perhaps surprising in retrospect, the adoption of mapping as a tool of government within the Empire was highly uneven. First of all, as with many other aspects of governance in the sixteenth-century Empire, little or no initiative was taken at the central level, as "the making of printed maps was for the most part initiated not by the imperial authorities, but by the regional estates" (Meurer 2007: 1240). This absence of central imperial mapping is reflected by the fact that there was no "official" map of the entire Empire: "all general maps of Germania were products of the private initiatives of their authors" (Meurer 2007: 1245). Locally and regionally, the adoption of new cartographic methods as tools of government began to appear after 1550, yet across the numerous polities of the Empire the situation was quite diverse: while some rulers used maps extensively, others continued to rely exclusively on non-cartographic means. An example of the former was the commissioning by the duke of Bavaria of cartographer Philipp Appian to map his

realm in the 1550s, probably the first major official cartographic project in the Empire. This uneven cartographic coverage continued through at least the middle of the seventeenth century. Yet, as elsewhere in Europe, among those rulers who lacked the motivation or funds to commission their own surveys, many nonetheless made efforts to collect and sometimes use maps created by private actors (Meurer 2007).

England. The use of maps by the English governing class expanded rapidly during the reign of Henry VIII (1509-1547). Specifically, after 1530, “maps begin to appear regularly with other, more traditional types of documents, as tools in the processes of government and administration” and “by 1550 the court as a whole . . . seems to have been cartographically sophisticated” (Barber 1992: 32, 42).

The timing of this adoption of cartographic governance tools is explained by several related factors. The first was the publication and popularity of the aforementioned political treatises by Machiavelli and others advocating the use of maps. Among these popular works, Elyot’s 1531 *Boke named the Governour* was particularly influential. It argued that governments would benefit from using maps both as practical tools of administration and as propaganda devices to support claims of legitimacy (Barber 2007: 1598). Additionally, in the early sixteenth century many cartographically sophisticated humanist scholars visited the English court in person, bringing with them extensive knowledge about examples of government map use in Italy and elsewhere. The most important factor, however, may have been generational turnover, as the advisors and ministers who came to the fore in this period had been born and educated when Ptolemy’s *Geography* had already achieved its widespread translation and influence (Barber 2007: 1594-95).

This general awareness of the usefulness of maps among English ruling circles meant that, under Henry VIII, the stage was set for English official cartography. Yet it was a combination of new funds and external threats that triggered an increase in government mapping—map-consciousness by itself was not sufficient, due to the high costs of producing useful cartography. In the 1530s, as the English crown felt increasingly threatened by a possible invasion by foreign forces, authorities called for maps of the country’s defenses. Yet it was not until 1539—after the Catholic monasteries were dissolved and their resources seized by the crown—that the government had enough resources to carry out such an ambitious cartographic project. Thereby “For the first time a sizeable body of mapping was created in line with Elyot’s recommendations” (Barber 2007: 1601).

In addition to mapping for defensive military purposes, by the 1540s “maps began to play a more prominent role in domestic administration” (Barber 2007: 1603). This tendency toward using maps as a tool of governance spread from the center to the local level, as ministers increasingly requested cartographic communication of spatial information (Barber 2007: 1614). In terms of officially sponsored mapping of the realm as a whole, the first major effort was undertaken by Christopher Saxton in the 1570s. This attempt to create a unified series of maps of the entire country—based, as all such projects were until the late seventeenth century, on the collation of existing source material rather than first-hand surveys—was intended to fulfill all three of the common purposes of mapping in this era: improving national defense, aiding domestic administration, and supporting propagandistically the authority of the crown (Barber

2007: 1629-30). Only in the 1780s would the creation of a unified, survey-based collection of maps covering all of Great Britain begin, with what later became known as the Ordnance Survey (Thrower 1999: 114).

Spain. Cartographic activity by the Spanish government followed the rapidly rising and subsequently declining fortunes of the monarchy itself, with an explosion of activity in the sixteenth century that appears to have fallen off drastically one hundred years later. Holy Roman Emperor Charles V (King Charles I of Spain) “grew up with a full awareness of cartographic possibilities, and throughout his life he was in close contact with maps and mapmakers” (Buisseret 2007a: 1081-82). Although for much of his reign few accurate maps existed of peninsular Spain, Charles used maps when planning his foreign policy adventures (Hale 2007). Additionally, under Charles the institutions for managing colonial cartography were developed (discussed in the next section of this chapter). Charles’ successor, Philip II, demonstrated an even greater grasp of the usefulness of maps for administration. “Philip II’s personal near-obsession with maps can be read not so much from the mapping that he commissioned as from his own practice of accumulating maps and the frequent and perspicacious remarks on them in his correspondence and annotations on government papers” (Barber 1997: 102). Again, the emphasis for sixteenth-century rulers was on gathering existing, commercially produced maps. Philip also found maps useful as symbols of royal power and control, and commissioned public cartographic display projects with this purpose in mind (Kagan and Schmidt 2007).

Philip’s mapping projects illustrate both the increasing awareness of the usefulness of maps by a ruler and the diverse traditions that early modern mapping embraced. Of the two major peninsular mapping projects initiated during Philip II’s reign, the one displayed publicly was a series of images of cities throughout Spain—a form of visual depiction of a series of places that harked back to the medieval conception of territory. A separate mapping project, involving the surveying of the entire country and the construction of a unified-scale collection of regional maps, reflected the newer Ptolemaic approach to depicting space, but was kept secret and never published (Mundy 1996). Once again this demonstrates the continuing survival of older techniques for the depiction of space—or, more accurately, a series of places—even as the new technologies are being simultaneously used. After Philip II’s reign ended, cartographic activity by the Spanish government appears to have declined (Parker 1992), although this may have more to do with the fact that map use “had now become so commonplace that it was no longer worth mentioning” (Buisseret 2007a: 1082).

France. French government cartography took off early in the sixteenth century, as in many other countries, but declined later in the century due to the internal upheavals of the Wars of Religion. The seventeenth century, however, witnessed the continued development of official cartographic activity in France, culminating in the initiation of a decades-long official survey of the entire realm in the 1660s.

In 1495 Charles VIII commissioned maps of the Alpine passes to aid in his invasion of the Italian peninsula. Although this was in one sense revolutionary as a use of maps for strategic purposes, the maps contained extensive textual annotations discussing which passes were most usable, demonstrating the close relationship between text and

image—one in which the text often continued to be more useful. Under his successor Francis I “royal map use became more systematic” (Buisseret 1992b: 102). The Wars of Religion, however, upset much of central government activity, including cartographic efforts. For example, Catherine de’ Medici asked Nicolas de Nicolay, a royal geographer, for a “detailed description of the kingdom,” but no map of the whole kingdom was produced—the project was terminated with only maps of two provinces finished (Pelletier 2007a: 1485, 1503). Furthermore, regional mapmaking during the sixteenth century was in general not centralized or standardized: “Most of the sixteenth-century regional maps of France were made for different reasons by men of different education and background and were not intended to cover the whole kingdom” (Pelletier 2007a: 1489). The one exception to this trend, albeit a limited one, were the *ingénieurs du roi*. Although initially their mapping activities were limited to drawing plans for the new fortifications required by the contemporary revolution in artillery defense, by the end of the century they had taken on a wider variety of local and regional cartographic projects for the central government (Buisseret 2007c).

In the 1620s and 1630s, Richelieu built upon this legacy and revived government cartographic efforts, commissioning maps directly in order to better understand the territorial extent of France. Much of this official mapmaking was carried out by Nicolas Sanson, who constructed maps based on the collection of information from existing sources, rather than from first-hand surveying (Konvitz 1987: 2). The goals of this project, however, were ambitious: “Sanson endeavored to fulfill the desire of the monarchy to have a map of all of France at its disposal that would be developed into detailed maps of the provinces” (Pelletier 2007a: 1497).

The unsatisfactory character of this “armchair” cartography—as projects such as Sanson’s suffered from the varying quality of the sources as well as a lack of precision in scale and detail—led to a desire by government actors to have maps based on direct surveying, the techniques for which had been known since early in the seventeenth century but whose cost had typically been prohibitive. In the late 1660s, however, Colbert commissioned a survey-based series of maps of all of France from Jean-Dominique Cassini, giving rise to the multi-generational Cassini mapping project (Konvitz 1987; Turnbull 1996). This project was from the beginning intended to correct for the inaccuracies and inconsistencies of previous maps by conducting triangulation-based observational surveys of the entire realm as the basis for a series of maps. In 1744 the first complete set of maps was published, with France covered by 18 equivalently scaled sheet-maps. A second, larger-scale and more detailed survey was begun soon thereafter, which “originated in the army’s need for better maps” (Konvitz 1987: 21) and was not published until 1789. These related projects were both ambitious and influential, as they represented the first successful attempt by a government to map its territory using the latest surveying techniques of triangulation—mathematical techniques that had existed since the 1620s but had until Cassini proved too expensive and exacting to be successfully used on such a scale. This massive project was emulated by other European governments with the means to do so, particularly during the nineteenth century when administrative motivations combined with the interests of military general staffs in demanding survey-based maps (Thrower 1999; Hale 2007).

The Netherlands. The Dutch Republic, effectively independent from Spain by the late sixteenth century, saw an explosion of cartographic activity mixing private commercial and public governmental motives. Reflecting the decentralized nature of rule in the Low Countries during this period, however, most official mapping was commissioned by local authorities. In the 1530s and 1540s, prior to the unification of the provinces, many maps were commissioned by local ruling councils “for general objectives such as administration” (Koeman and van Egmond 2007: 1257). This localist tendency in mapping continued through the 1700s, with almost every province eventually being mapped. The only Renaissance-era mapping project of the Low Countries as a whole was ordered in 1568 by the Duke of Alba—the ruler appointed by the Spanish crown—who wished to have maps of all the Spanish possessions throughout Europe. Maps were used extensively as part of assigning ownership to reclaimed lands, as such land was scarce and valuable enough to warrant the expense of being surveyed (Kain and Biagent 1992). Nonetheless, in spite of an early and continuing leading role in the commercial production of maps and atlases, the role of governments in the Low Countries in cartography was limited relative to other European state actors. It was not until after the French invasion had set up the Batavian Republic in 1795 that an officially commissioned survey of the entire territory was ordered (Koeman and van Egmond 2007: 1277).

Other European states. In other states during the Renaissance period, cartography followed a variety of trajectories in penetrating government decision-making, particularly in terms of official commissioning of maps. The Austrian Hapsburg lands, for instance, saw little official mapping of territory until well into the eighteenth century (Vann 1992). Furthermore, map use in this region—particularly the Hapsburg lands in East-Central Europe—was socially very restricted: “The use of maps was limited to the elite political and military leaders who constituted not a public but rulers and patrons” (Török 2007: 1851).

Similarly, the Prussian government was not willing to spend the funds required for a Cassini-like survey until the military commissioned one early in the nineteenth century. In fact, Prussia was not mapped by a single domestic cartographic project until 1724, when a map of the realm was completed, not by a state-sponsored survey project, but instead by a member of the court as a personal effort both to show the extent of Prussian land and economic development, and as a symbol of royal power (Scharfe 1998).

In Scandinavia, on the other hand, government map use followed a trajectory similar to that of the other major states of the period. Although the breakup of the Kalmar Union of Denmark, Sweden, and Norway in the 1520s precipitated some use of maps for making territorial claims vis-à-vis each other, extensive government map use did not begin until the reign of Swedish king Gustavus II Adolphus (1611-1632). He brought German engineers to Sweden to draw large-scale town maps for the planning of defensive fortifications. Furthermore, he commissioned court mathematician Andreas Bureus to provide maps of Sweden for administration, taxation improvement, and defense. This survey-based mapping project, called the *Lantmäterikontoret*, was “one of the foremost cartographic institutions in Europe” (Mead 2007: 1805; Kain and Biagent 1992).

* * *

Overall, the picture that emerges of cartographic activity by European governments in their realms is of the eventual adoption of cartographic techniques, but often in an uneven fashion. Furthermore, the use of the latest mapping techniques for gaining knowledge of territory was often layered on top of the continued use of earlier, mostly text-based, methods such as written descriptions.

Another way in which government mapping represented less than a constant progression of increased coverage and accuracy was in the way in which mapping by central authorities was often resisted locally, in a variety of ways. First of all, maps were often used not just for “hegemonic” purposes of state formation, but also as a tool of direct resistance to central or distant rule, as for example in the Netherlands revolt (Kagan and Schmidt 2007: 674). Within countries such as France, moreover, the desire by central authorities for national survey-based maps required the often grudging cooperation of local authorities, who saw central mapping as a potential means of bypassing their power (Barber 1997: 87). Finally, during massive cartographic projects such as the Cassini survey discussed above, surveyors were often treated hostilely by local peasants, both out of superstition and out of a well founded fear that more information in the government’s hands could lead to heavier taxation (Konvitz 1987: 14).

Government cartographic activity—and resistance to it—was not limited to the continent of Europe, of course, as the period of the cartographic revolution coincided with the first age of European colonial exploration, expansion, and conquest. The next section discusses the use of new mapping technologies in this new setting.

IV. Map Use in Colonial Expansion

*Almost any seventeenth- or eighteenth-century map of America reveals the absolute faith Europeans of all religious persuasions had in the authority of the cartographic grid. Monarchs laid claim to lands solely on the basis of abstract latitudes and longitudes. Troops were sent to fight and die for boundaries that had no visible landmarks, only abstract mathematical existence.*⁵⁷

The European expansion of commercial activity and political power that began with the late-fifteenth-century Iberian voyages both east and west was tied closely to cartographic developments. These links, however, went well beyond simply using maps in navigation—new mapping techniques were also used by European political actors to support their claims to new territories, trade routes, or commercial privileges. The next two chapters will examine the important ideational effects on European political structures of this extensive use of maps to claim or delineate political authority in the New World; this section will instead focus on the actual use and usefulness of maps to expanding European colonial powers, first in terms of navigation and organizing navigational knowledge, and second in terms of making map-based political claims.

As discussed above, portolan charts—maps depicting bodies of water surrounded by detailed coastlines and overlaid with rhumb lines—had been used in ship-board navigation for several centuries by the time of the Iberian voyages of the late fifteenth

⁵⁷ Edgerton 1987: 46.

century. In the era of European expansion, these nautical way-finding maps continued to be an important part of navigational technology, along with simple astronomical observation and written directions. Yet this fifteenth- and sixteenth-century navigational cartography was not based on Ptolemy's system of latitude and longitude, and thus lacked the hallmarks of the modern cartographic depiction of space: consistent scale and coordinate location. Indeed, "more than a century was to elapse before Ptolemy's map-making principles were to become familiar and regularly applied for use by navigators" (Randles 1986: 7).

Nonetheless, the mapping of oceanic voyages and discoveries quickly drew the attention of the governments of Spain and Portugal, both of which created institutions for consolidating, managing, and securing cartographic knowledge: The Casa de Mina in Lisbon and the Casa de la Contratación in Seville. This represented a significant step toward government control of information: "Portugal and Spain were the first nations to attempt to construct spaces within which to accumulate and regulate all geographical knowledge" (Turnbull 1996: 7). In particular, both institutions attempted to create and keep up to date "master maps" of their respective empires. These charts were then to be used to produce accurate charts for pilots, which were to be kept secret due to political considerations, particularly competition between the two countries (Sandman 2007: 1104). Although these master charts had some success in centralizing and standardizing cartographic knowledge (Sandman 2007: 1108), they could not produce a truly useful system of cartographic tools for Iberian navigators—portolan chart technology, upon which the master maps were based, was too much founded on the combination of local knowledges without a Ptolemaic coordinate system for unifying them into a whole (Turnbull 1996: 9). As discussed above, Mercator's cylindrical projection of the 1560s was the first method devised to reconcile navigational needs with coordinate-grid-based mapping, but this was not built upon the official "master charts" or portolan mapping.

Beyond using maps for the practical needs of navigation, and then subsequently trying to secure that information from political rivals, European governments also used maps both to lay claim to and to gain information about their colonial possessions, particularly in the New World of the Americas. As Harley argued, maps were used as "the weapons of imperialism," by claiming land ahead of actual conquest, and legitimizing conquest during and after the fact. With Ptolemaic cartography and the geometric view of space implied by it, "The world could be carved up on paper" like never before (Harley 2001: 59). More specifically, we can see the use of maps and cartographic tools to claim political authority and gather information about colonial possessions in several key examples and areas: the division of the non-European world between Spain and Portugal in the 1490s, the Spanish attempts to gain geographic knowledge about their American territories in the sixteenth century, Dutch colonial cartography, the cartographic practices by the English government vis-à-vis their North American colonies, and finally the eighteenth- and nineteenth-century cartographic tools of later European imperialism. These illustrative—though not exhaustive—cases are discussed in turn below. In most of these cases we can see the layering of new cartographic practices on top of previous means of delimiting, claiming, and understanding political authority.

The Treaty of Tordesillas. At the beginning of the European expansion, cartographic ideas were used by Spain and Portugal in an attempt to divide up control of the rest of the world. In a series of Papal Bulls in 1493 and the Treaty of Tordesillas in 1494, Spain was allotted all newly discovered territories west of a line drawn in the Atlantic Ocean, and Portugal apportioned those to the East. In essence, this reflected the respective directions that explorers from each country had already been going, and thus was meant to legitimate their claims vis-à-vis each other, as well as versus other European powers.

Yet in spite of the appearance of accuracy in drawing the line of division (as it was explicitly moved from the 1493 agreement further west for the 1494 treaty), without the ability to determine longitude at sea, this exactitude was meaningless: “The negotiators set as a boundary a line no one could trace in a location that could be determined only by experts, if indeed by anyone at all” (Sandman 2007: 1108). Thus, neither side was particularly concerned about the details of the division until the voyage of Magellan twenty-five years later made the location of the line politically salient—in particular where it landed on the other side of the globe, where the rich resources of the spice islands fell near the division. Yet the question was still not resolvable cartographically, and the negotiations ended with Spain essentially selling its rights to the Moluccas to Portugal in the 1529 Treaty of Saragossa (Sandman 2007: 1115).

The importance of these treaties thus was not so much in the details of the line dividing the two empires (the exact measurement of which was unobtainable and ignored), but instead in the very idea of using a geometric division to assign political authority: “For the first time in history an abstract geometric system had been used to define a vast—global—area of control” (Sack 1986: 132). Divisions among rulers within Europe had not previously taken on this geometric form, and in fact would continue to be made on more complex bases for centuries following. Yet this linear division, though revolutionary in hindsight, was also viewed by contemporaries in terms of their existing political vocabularies and institutions: “As a secular grant it was interpreted as an extension of feudal authority over whatever existing political entities these territories might contain” (Sack 1986: 132). These early colonial grants were made with the assumption that the New World would be filled with political units like those of Europe. Thus the new linear, geometric division of political authority was layered on top of feudal, non-territorial conceptions of authority.

Spanish colonial cartography. During the sixteenth century, the Spanish crown made several attempts to gain geographical information about its colonial possessions in the New World, using diverse methods and achieving varying degrees of success. These included written questionnaires, requests for various types of maps, instructions for celestial observations, and government-commissioned survey-based mapping. The surveying project, commissioned in 1571, was never completed or perhaps even begun (Mundy 1996: 27). The celestial-observation instructions, though intended to be used by untrained local officials to determine latitude and even longitude (by observing an eclipse), mostly failed to yield even a response, and those that did respond tended to misunderstand the project and gave useless readings (Edwards 1969).

The effort that did yield some results, in terms of getting information to authorities in Spain, was a standard questionnaire distributed to the New World colonies

in the 1570s, the responses to which are known as the *relaciones geográficas*. This represented the first successful systematic effort to gather geographical information about the colonies (Cline 1964; Edwards 1969; Mundy 1996). The survey contained fifty questions about localities, their native and European populations, available resources, and geographic information. Eleven questions were specifically geographic, three of which contained explicit requests for maps, drawings, or charts.

Although the response from colonial officials was fairly extensive (with almost two hundred replies sent back to Madrid), the cartographic content was less than might be expected, for several reasons. First, although some maps were included in the responses sent back to Madrid, many replies failed to include any maps or drawings at all. In addition, many of the maps that were returned were sketched town plans, and the few regional maps were so unclear and vague that “such maps provided somewhat less accurate location patterns than textual data on directions and distances” (Edwards 1969: 27). The types of maps submitted were predominantly either of the itinerary-based tradition of the European Middle Ages, which treats direction and distance schematically (Padrón 2004: 77), or were drawn by indigenous painters using a mixture of European and native visual traditions (Mundy 1996: ch.4). Thus, these textual and pictorial replies failed to yield the data required for mapping locations in New Spain in the Ptolemaic fashion (Mundy 1996: 23). The tendency of colonial officials to spurn the visual element of mapping, or at best to turn it over to their indigenous subjects, reflects the continuing power of the medieval idea of text being superior to visual depiction, as well as a feeling of cultural superiority built upon having a written culture in contrast to image-based Mesoamerican societies.

These efforts to gather textual information about and maps of Spanish New World possessions were more than an isolated attempt at colonial governance—they influenced how the Spanish crown attempted to gain knowledge of its Iberian territory as well. The colonial questionnaires were imitated for domestic use in the 1580s: “Peninsular RG’s [*relaciones geográficas*] appear actually to derive from procedures developed earlier for the American dominions” (Cline 1964: 343-344). This dynamic of new practices being used later within Europe will be discussed in more detail in subsequent chapters.

Dutch colonial cartography. The Dutch colonial expansion in the early seventeenth century also made extensive use of maps as a means of claiming and administering territories. Unlike the Spanish case, however, the cartographic activity—like the colonial venture as a whole—was conducted by chartered private companies. The Dutch East India Company, chartered in 1602, began to create official mapmaking institutions by 1616 and in 1619 received a privilege from the Dutch States General. “The privilege stipulated that to publish any geographical information about the chartered area of the Company, the express permission of the board of directors of the company . . . was required” (Zandvliet 2007: 1433). A similar cartographic monopoly was granted to the West India Company in 1621. In 1670 official instructions from the East India Company board required map-based descriptions of colonial districts, demonstrating that “the map was viewed as an aid to clarify political, military, economic, cultural, and administrative particularities in order to make sound decisions” (Zandvliet 2007: 1445). In addition, colonial officials used maps as rhetorical devices to increase their prestige and legitimacy, as they “considered maps and topographic paintings effective vehicles to

promote their activities and to establish their historic role” (Zandvliet 2007: 1458). Once again, we see maps used to claim territorial authority in the colonial world and to promote political and economic goals therein.

English colonial cartography. During the period of major colonial expansion by the Iberian powers, England remained relatively absent in terms of claiming and colonizing New World territories. Furthermore, the British idea of “empire” of later centuries did not yet exist. When the first major proposals for colonial ventures appeared during the Elizabethan age, however, maps were used as much rhetorically as practically by promoters, both to “visualize their goals” and to convince the rich and powerful of their cause (Baldwin 2007: 1757). An example of this type of rhetorical mapmaking is given by the cartographic output of John Dee (1527-1609), who studied with major mapmakers such as Ortelius and Mercator before producing maps in England. Dee created a map of the western part of the northern hemisphere in which he claimed a massive list of lands for the English crown and depicted potential resources for extraction (Sherman 1998). Although these claims were not based on any real power or authority held by the English crown over New World territories, they did represent the tendency of colonial maps to claim territory ahead of actual possession. In general, “regional, colonial maps remained a tool of promotion rather than of governance before 1640” (Baldwin 2007: 1765)

In the seventeenth century, as the English crown assigned North American lands with colonial charters, cartographic conceptions of authority were common. Even when English claims to New World territory involved “the ‘legal cartographies’ of charters and grants” rather than maps per se (Baldwin 2007: 1765), these documents typically based their authority claims on the *ideas* of geometric, Ptolemaic cartography: lines of latitude or longitude. For example, the 1606 charter of Virginia delineated the colony as being all land on the Atlantic coast “between four and thirty Degrees of Northerly Latitude from the Equinoctial Line, and five and forty Degrees of the same Latitude.”⁵⁸ Charters for other colonies followed similar patterns (Sack 1986: 134). The cartographic basis for large territorial claims in colonial charters was eventually followed by the imposition of survey-based property mapping as a key element in delineating and assigning colonial lands to settlers (Kain and Biagent 1992: ch.8).

During the eighteenth century, maps in North America were increasingly used for the direct planning of western settlements—and hence the displacement or confinement of indigenous populations—and for the imposition of social control on “unruly” frontier settlers (Nobles 1993). In the 1780s, when Thomas Jefferson was appointed to chair a committee planning the organization of the western territories, “he proposed that the land be divided according to a Ptolemaic grid based on lines of latitude and longitude” (King 1996: 68). Although his particular plan was eventually rejected, the idea of a grid-based division of the territory was fully adopted as the lands were divided up—without an actual survey, which was deemed too costly—based on the abstract grid. Thus tracts were drawn without regard to terrain, soil quality, water flow, or any other factors that might have informed a practical, on-the-spot survey (King 1996: 68-69).

⁵⁸ <<http://www.yale.edu/lawweb/avalon/states/va01.htm>>, accessed on 2/16/08.

These uses of cartographic tools for imposing rational control on supposedly irrational lands and peoples would also be reflected in the links between Enlightenment “scientific” cartography and later imperialism in the eighteenth and nineteenth centuries.

Later imperialism and scientific cartography. If the “first imperial age” of the sixteenth and seventeenth centuries (Scammell 1989) layered new cartographic tools on top of medieval ideas and practices for purposes of exploration, legitimacy, and rule, the later European imperialism of the eighteenth and nineteenth centuries saw an even more dominant role for cartography as a tool of colonial expansion and authority. This dynamic can be illustrated by two major examples: the British survey of India and the European use of cartography in nineteenth-century Africa.

The British use of cartography on the Indian subcontinent, in particular the Great Trigonometrical Survey undertaken during the nineteenth century, lent both practical and rhetorical support to colonial rule: Mapping helped “make Britain understand its conquests, while in addition helping to legitimate the British presence” (Black 2002: 29). This legitimization was based on the ideal of an advanced European civilization being inherently superior to indigenous cultures. “For the British in India, the measurement and observation inherent to each act of surveying represented *science*. By measuring the land, by imposing European science and rationality on the Indian landscape, the British distinguished themselves from the Indians” (Edney 1997: 32). In short, the British conquerors were rational, scientific, and liberal, as opposed to the irrational, mystical, and despotic Indians. This rhetoric existed in spite of the fact that the “scientific” ideal on which British cartography rested—exact measurement through direct observation by trigonometric survey—was in fact out of reach, due to technical and logistical obstacles that were never overcome (Edney 1997: 17). Nonetheless, the effects of British mapping were long-lasting and deep: “The geographical rhetoric of British India was so effective that India had become a real entity for both British imperialists and Indian nationalists alike” (Edney 1997: 15). The political structure of the subcontinent still reflects this construction of a unified Indian geopolitical space.

During the course of the nineteenth century almost all of Africa was divided up among European colonial powers, a process in which maps were used both practically and as tools of symbolic legitimation. The practical use of maps was well established in this post-Enlightenment period, and hence in African exploration “topographers accompanied or preceded military expeditions” (Bassett 1994: 319). Beyond this, however, maps were used to promote expansion back in Europe, particularly through the contemporary practice of depicting unknown areas as blank space on maps (as opposed to earlier practices of extrapolating or outright inventing geographical information for unknown areas). “Evidence from the late nineteenth century indicates that map readers interpreted blank spaces as areas open for exploration and ultimately colonization. Rather than interpreting them as the limits of knowledge of African geography . . . imperialists presumed that the empty spaces were empty and awaiting colonists” (Bassett 1994: 334).

Filling in those “blanks” on a map came to represent a means of claiming authority over colonial space. The legitimating purpose of map-based claims to territory was so strong, in fact, that even unofficial maps depicting rival political claims could be controversial, as when in 1890 a French newspaper map with extensive French colonial claims led to diplomatic tensions with Germany (Bassett 1994: 325). The famous Berlin

Conference of 1884-85 hence represented not the first example of carving up Africa on paper, but rather the culmination of a trend apparent throughout the nineteenth century.

By the end of the century, map-based claims to territory had become official means of settling imperial rivalries: “maps produced by surveyors formed part of the documentary evidence needed to claim protectorates by the procedures agreed to at the Berlin Conference” (Bassett 1994: 321). As is well documented, of course, these often arbitrary divisions continue to structure African politics, both within countries and internationally between them (Jackson 1990; Herbst 2000).

* * *

The extensive use of maps and cartographic delineations of political authority in European colonial expansion and competition evince some of the clearest examples of political action and interaction being structured by cartographic tools. As interactions in the colonial world rapidly took on cartographic characteristics—in both the practices rulers and the imaginations of rule—this helped drive the eventual transformation of interaction, authority, and the interstate system *within* Europe as well. This process of “colonial reflection” is a key element of the discussion of the next two chapters.

V. Conclusion: The “Ratchet Effect” of Cartographic Technology.

The impact of the technological changes discussed in this chapter continues beyond the early modern period, as modern mapmaking and maps remain the predominant means of describing space, even as the technologies of measuring, producing, and distributing maps continue to develop. As Harley (2001: 165) noted, today “a mapless society” would be “unimaginable”—our society simply could not return to the non-cartographic world of the Middle Ages. The cumulatively increasing dominance of modern mapmaking—in effect, a “ratcheting up” of the level of cartographic use in European, and eventually global, society—is rarely addressed with any explanation other than an implicit assumption that more “accurate” mapmaking will naturally be increasingly popular. This assumes that our conception of cartographic accuracy—based on the combination of early modern mapmaking with the principles of the European Enlightenment—is universal. Yet if this ideal of accuracy is questioned, the dominance of modern cartography does not appear so inevitable and requires explanation (Crampton 2001).

Part of the explanation may be found in the usefulness of maps for those in power, and their resonance as a new way to pursue, and even to conceive of, political interests. As the second half of this chapter has illustrated, the extensive qualitative and quantitative changes in mapmaking and map use go beyond just technological change, and instead reflect the increasing use of cartographic tools by socially and politically powerful actors. Often those already in power, or those trying to increase their power, found maps and mapping to be useful tools—tools which not only aided in the pursuit of existing interests but also altered the nature of actors’ goals. Throughout this period, as maps were increasingly widespread, they were used for both practical and rhetorical purposes, both within Europe and throughout the European-dominated parts of the globe in the early modern period. Often, the usefulness of maps and mapping for actors in one context—such as for making political claims in the New World—supported the trend toward using maps in other contexts—as, for example, maps were eventually used for making claims within Europe.

The increasing dominance of Ptolemaic cartography in the seventeenth and particularly eighteenth centuries reflects the overall cultural shift toward standardized measurement and accuracy tied to the scientific revolution and the Enlightenment. Unlike other ways of depicting space—particularly non-Ptolemaic visual means such as itinerary maps, portolan charts, or schematic diagrams—modern cartographic maps were built around the ideas of constant scale and careful measurement of position (celestially) and distance (through surveying). This eighteenth-century “mathematical cartography,” seen in projects such as the Cassini surveys, offered a means of unifying the previously disparate cartographic traditions and practices, in a manner consistent with the overall cultural trends of the period (Edney 1993: 61). Thus, mapping was a fundamental part of this overall shift in mentalities, which in turn reinforced the dominance of “modern” mapping over other ways to depict human space.

Furthermore, once a cartographic conception of political authority or territorial possession becomes *acceptable* (even if not yet the sole form of authority in a political structure) it very quickly appears as a much more *efficient* form of determining the bounds of control or claims to authority. Instead of listing the innumerable queries that must be included in a textual survey, a ruler simply has to ask for a map to be brought or (in the major state surveys of the eighteenth century forward) for a map to be created. Although creating cartographic tools is very demanding of resources, once such tools are created they are easily used to imagine both real and potential control (Harley 2001: ch.2).

Thus, an important part of the explanation for the hegemonic status of the modern map is tied to the ideational effect of mapping, in terms of the way in which an individual’s view of social, political, and geographic space is shaped by this technology. This ideational transformation is the subject of the next chapter.

Chapter 5

Ideational Effects of Cartography I: Mapping and the View of Space

Modern systematic maps rely on a standardized form of knowledge which establishes a prescribed set of possibilities for knowing, seeing and acting. They create a knowledge space within which certain kinds of understandings and of knowing subjects, material objects and their relations in space and time are authorised and legitimated.⁵⁹

The history of cartography concerns more than just the technological developments discussed in the previous chapter; these material practices and objects are closely linked to societal norms and ideas. In particular, how people in a society view the world they inhabit can be closely related to how mapmakers depict the world, as maps and ideas can mutually influence one another. Moreover, these spatial understandings, when held by political actors, directly relate to the character of the territorial and non-territorial authorities that constitute the international system. Thus, this chapter examines the complex relationship between maps, mapmaking, and the view of space, while chapter 5 tackles the link between this relationship and ideas about political authority.

In order to establish the theoretical foundation for my approach to this relationship, the first section of this chapter outlines recent developments in cartographic history that have brought social and ideational effects to the forefront in the study of maps. Second, I summarize the constitutive and recursive relationship between maps, technology, and a society's view of the world. The third section discusses empirically the transformation of the medieval European view of space into the modern view, and the fourth highlights the importance of colonial expansion in this dynamic. Finally, this chapter concludes with a brief discussion of the hegemonic status of the modern view of space and some implications of the early modern transformation of space.

I. The History of Cartography and the "Power" of Maps

Inspiring my approach to the political effects of changes in maps and mapmaking is a growing body of historical and theoretical literature on the complex interrelations between maps, their producers, their consumers, and their social context. This developing theoretical tradition in the history of cartography offers a useful springboard for understanding the particular social and political relationships around maps that are the subject of this dissertation: the cartographic construction of modern state sovereignty.

This review of the current state of the theoretical approach to the history of mapping sets the stage for the examination of the key relationship of this chapter: the connections between maps produced and consumed in a society and the view of space held by actors within that society. Thus, this section will discuss the recent historiography of cartography, detailing the strong theoretical foundation that exists for a constructivist approach to maps and mapmaking. Important elements of this approach include the recognition that the concept of scientific accuracy in mapmaking is a modern invention

⁵⁹ Turnbull 1996: 7.

and the various ways in which maps, map production, and map use can be said to exert “power” on actors.

The past several decades have seen a move away from the traditional approach to the history of cartography, which emphasized scientific progress and increasing accuracy in modern mapmaking. This linear view dominated the field from its inception among map collectors in the nineteenth century well into the second half of the twentieth century. Since the 1970s, however, historians have shifted their focus to the authorship, power relations, and world-views in maps and map technologies.

As pointed out in chapter 3, one of the first implications of this move away from the narrative of progress was the inclusion of many artifacts as maps that previously were dismissed as non-cartographic. Another implication—key to this chapter—is that maps have come to be seen as more than just representations of reality, or “mirrors to nature,” and instead are being studied in terms of their embodiment of, and influence on, how map users view their world. This transition in approach is represented in essays and books by authors explicitly studying the societal embeddedness and impact of maps (e.g., Harley 2001, Wood 1992, Klinghoffer 2006, King 1996, Pickles 2004, Brotton 1997, Cosgrove 2001), in recent work on maps from particular cultures and historical periods (such as, for example, medieval Europe: Woodward 1985; Edson 1997), and in the ongoing multi-volume *History of Cartography* project (Harley and Woodward 1987a, 1992, 1994; Woodward and Lewis 1998; Woodward 2007d), which has explicitly “moved away from the positivist model toward the constructivist one” (Woodward 2000a: 33).

Thus, maps are no longer seen simply as “communication devices,” to be judged only in terms of their accuracy or efficiency in conveying geographic information to readers. Instead, maps are studied as “social constructions” that potentially exhibit or structure “power relations” and thus should be examined as discourses or texts (Crampton 2001). Maps thus need to be decoded in the context of their time, their intended purpose, and their users, since map objects “are never neutral or value-free or ever completely scientific” (Harley 2001: 37).

Of course, this new approach to the history of cartography has not been without critics. In particular, some of the early versions of this approach have been criticized for going overboard in the effort to move away from the empiricist approach: Sometimes “maps are privileged as agents in their own right,” when maps are merely objects, not actors (Edney 1996: 188). For example, Crampton (2001) notes that J.B. Harley, one of the pioneers of the constructivist approach to map history, was not able to finish his work, formulate a viable research agenda around it, or engage more than superficially with the social theorists that inspired him, such as Foucault and Derrida.

These critiques offer a useful check on the excessive “anti-empiricism” possibly suggested by Harley and others, and instead allow for a more nuanced approach to maps and their social effects. As maps are not themselves agents, we should instead consider the “authorship” of maps as both cultural productions and as the creations of particular individuals or institutions (Crampton 2001), and then ask what the effects of those maps and their use are. I outline a version of this approach later in this chapter, proposing a particular relationship between map technology, the maps created, and the nature of how actors view space.

One of the key points made by the constructivist approach to maps is that the very concept of accuracy—the basis for the traditional narrative of progress in mapmaking—is

a modern Western invention, of questionable applicability to other periods or cultures. The traditional view “assumes a linear historical progression and, moreover (somewhat anachronistically), assumes that accuracy of measurement and comprehensiveness were as important throughout the past as they have been in the modern period” (Harley 1987: 3). As Wood puts it, “Accuracy . . . is not a measure that stands *outside our culture* by which other cultures may be evaluated but, rather, is a concept from *within our own* culture that may be irrelevant in another” (1992: 41). In fact, modern notions of scientific accuracy were only consolidated in the European Enlightenment period, and using such standards in the study of other periods makes the mistake of applying “the modern way of thinking to a portion of the past to which it does not apply” (Delano-Smith 2000c: 286).

The misleading nature of our typical fixation on accuracy is illustrated in the notion of a clear distinction between accurate scientific maps (seen as good) and propaganda maps (seen as bad). Although some examples of propagandistic maps are obvious, *all* maps elide certain aspects of the world and construct a particular representation of space (Wood 1992). “It is the very distinction between objective cartography on the one hand and biased or propaganda maps on the other that may be the problem,” as such a dichotomy hides the inherent social context of every map (Pickles 2004: 45). The idea of inaccurate maps distorting reality “is misleading, suggesting as it does the possibility of some kind of pure, undistorted representation” (King 1996: 18).

Thus, propaganda maps should not be treated as an exception or as a different class of object from “normal” maps. Instead, we need to look at all maps in terms of what is included and excluded, whose interests are served or rejected, and what social context shapes and is shaped by the map. “To ask what a map is and what it means to map, therefore, is to ask: in what world are you mapping, with what belief systems, by which rules, and for what purposes?” (Pickles 2004: 77).

Examining the actors, interests, and belief systems involved in mapping allows us to understand better the power that maps both represent and operationalize. In particular, two distinct forms of cartographic power can be distinguished. On the one hand, maps clearly represent power relations in who produces and uses them and what the conscious goals and interests are in that production and use. On the other hand, implicit norms and unquestioned practices of mapmaking can create and reinforce ideas about how human space is structured, including its social and political aspects. As Harley (2001) pointed out, distortions of maps have been both conscious or propagandistic and also unconscious—since “the content of maps is influenced by the values of the map-producing society” (63-65). Elsewhere Harley labels these two forms of power as *external* and *internal* to the map: the former referring to the ability of patrons or powerful individuals to make maps or promote mapping for their own purposes, and the latter denoting the way in which maps—often without the conscious intent of their creators—influence how actors view their world.

Harley illustrated this difference with his discussion of the “silences” on maps, arguing that what is *not* depicted on a map may be more important than what is. Thus, he considered both “those silences which arise from deliberate policies of secrecy and censorship and . . . the more indeterminate silences rooted in often hidden procedures or rules” (Harley 2001: 84). When silences are due to accepted cartographic practices and norms, rather than conscious exclusion, neither the creators of the map nor its users are

necessarily aware of the ways in which the map elides some aspects of the world and emphasizes others (more on this below).

The conscious form of power in maps has often received more attention, as it is easily illustrated by maps that are clearly propagandistic and, furthermore, fits with the common view of scientific maps as unproblematic representations of the world. Although this manner of power operating directly through mapping is important, particularly in the use of maps in the pursuit of interests by political actors, sometimes those very interests have been constituted by the indirect, or internal, power of maps. In addition, studies of the conscious use of mapping for political gain have sometimes tended to overreach, ascribing perhaps too much agency to early modern rulers and states in cartographically creating their world. For example, Harley can be criticized for overplaying the role of maps in state centralization, such as when he argued that maps were created directly “in order to maintain the political status quo and the power of the state” (Harley 2001: 84). There is no question that maps have been—and continue to be—used in such a political fashion, but focusing too much on this conscious use of maps as a power resource shifts our attention away from the internal power of cartography to structure how actors view their world and their interests in it.

Thus, although “the most common understanding of power in cartography is that it is external to its own practice”—that is, the *use* of maps as a source of social power—the power internal to mapping constructs this very usefulness of maps as a political or social tool (Harley 1989: 85). In general terms, “maps provide the very conditions of possibility for the worlds we inhabit and the subjects we become” (Pickles 2004: 5). The internal power of maps to construct, reflect, and reify particular worldviews thus structures social and political interaction to a degree unrecognized by—and unrecognizable to—the traditional narrative of the history of cartography. Yet this dynamic operates both historically and today.

Consider, for example, what a map depicts or leaves out. The possibility of constructing an “accurate” map at a one-to-one scale has long been ridiculed by imaginative authors,⁶⁰ illustrating the fact that useable maps are *always* schematic representations of the world and include only certain features. Yet while we tend to see modern maps as accurate—though not complete—representations of the objective world, we may forget that there are always implicit decisions made about what is “mappable.” For example, in most of today’s maps, the features to be included are those defined as permanent: topography, settlements, roads, and so on. Yet the distinction between permanent and temporary is at the margins an arbitrary one, and reflects an implicit norm that values settled and built human space over other forms of human activity (Pickles 2004: 63). The relationship between what is seen as important and what is mapped goes

⁶⁰ Borges’ ironic discussion of the construction and later abandonment of the “Map of the Empire which had the size of the Empire itself and coincided with it point by point” is probably the most famous, but the possibility—and absurdity—of creating a map so accurate that it is at a scale of 1:1 is also discussed by Lewis Carroll and Umberto Eco, among others (Borges 1990; Eco 1994). In fact, of course, even a 1:1 scale map would have difficulty including the three-dimensional, overlapping, or social features of space.

both ways: As maps created in a particular way are widely used, the norm favoring the importance of those spaces or features depicted is then further reinforced.⁶¹

Another illustration of the ability of unconscious rules and norms of mapping to express and enforce a particular worldview is the “*omphalos* syndrome,” whereby most cartographic traditions have tended to construct world maps centered on their own realm or a location of religious or social importance (Harley 2001: 71). This can be seen in cartography from the many medieval European *mappaemundi* centered on Jerusalem to classical Chinese world maps centered on the Middle Kingdom. Again, the implicit importance accorded to one’s own location is operationalized in the construction of the map, which can then be read back as an objective depiction of the world, reinforcing the centrality of one’s culture.

Thus, although a map is created by us, “through its internal power or logic the map also controls us. We are prisoners in its spatial matrix” (Harley 1989: 85). The key aspect of this internal power of maps, therefore, is the structuring of the spatial imagination of map users. This is found in particular in the reciprocal relationship between a society’s mapping and its view of space, a relationship which forms the subject to the next section.

II. Maps, Cartographic Technology, and the View of Space

Space is understood in diverse ways in different cultures, and mapping provides one of the most important foundations for a particular view of space. This section elaborates on this central aspect of the internal power of maps, arguing first that space is socially constructed and, second, that mapping can be a primary factor behind this construction of a view of space. Once again, this demonstrates the effect that cartography has on ideas about space, which leads to further particular effects on political ideas and practices.

The idea of space as a construction is provided by Lefebvre (1991), who was among the first to point out that “(Social) space is a (social) product” (26). In other words, space as we understand it is not an objective, natural, or preexisting entity, but rather is constructed by cultural and material practices. Furthermore, spaces are *not* “empty ‘mediums’, in the sense of containers distinct from their contents”—space itself, not just what fills or takes place in space, is constructed (87). In addition to being subjective, our conception of space is not universal: “every society . . . produces a space, its own space” (31). Thus different cultures will have diverse understandings of space, and hence different ways of seeing the world in which they live.

The way in which space is viewed in a particular society is structured in part by the character of that society’s cartography; in fact, one of the primary aspects of the internal power of maps is the simultaneous embodiment and enforcement of a particular view of space. In short, maps both depict the world and also create a particular view of space, or “scopic regime” (Pickles 2004). Thus of particular interest to this study of change in international political ideas and practices is the fact that the change in European mapping in the early modern period led to changes in how actors viewed space.

⁶¹ Akerman (2002) examines this mutual reinforcement dynamic in the relationship between early-twentieth-century road maps in America and the perceptions people have of the importance of highways versus other features of the landscape.

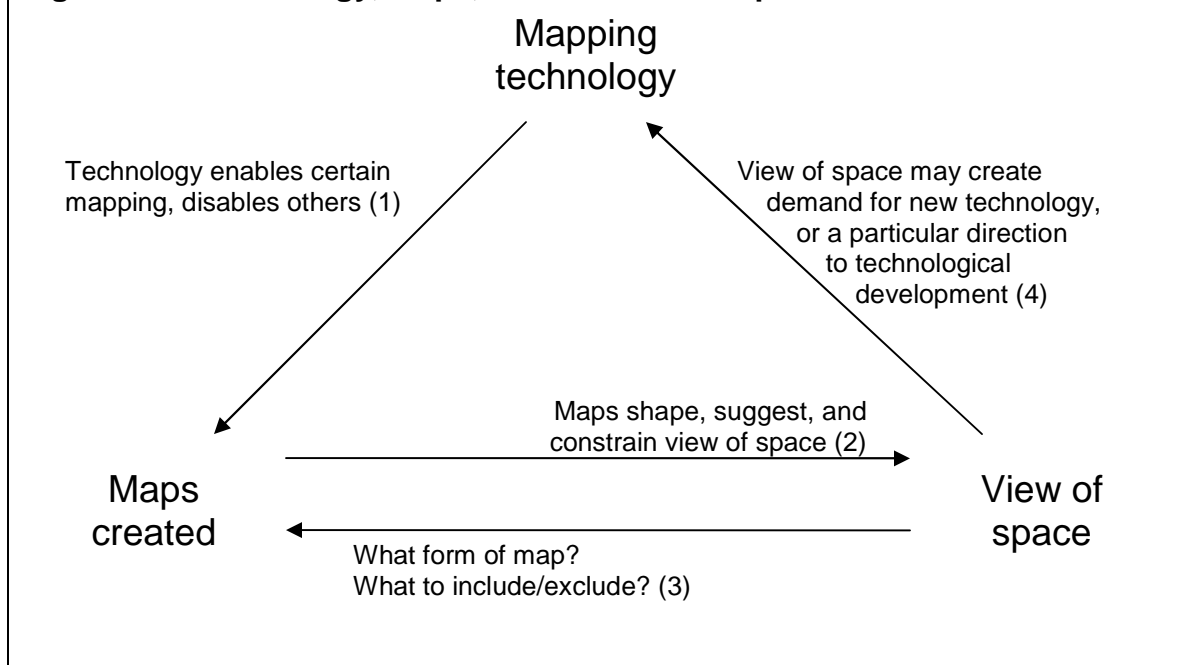
In other words, the development of modern mapping constituted not just a technological change but also a “cognitive transformation,” since maps both “*record* and *structure* human experience about space” (Harley and Woodward 1987b, emphasis added). In short, the relationship between maps and ideas about space is reciprocal.

Parallel to this relationship between maps and the view of space, one can theorize a process involving causality, if we conceptually distinguish mapmaking technology from the maps created using that technology. Thus, I argue that there are three relevant cartographic/spatial features of a given society that should be examined, in terms of their causal and constitutive connections: *mapping technology*, the *maps created*, and the *view of space*. As these three factors are closely connected—which I will discuss shortly—an exogenously driven change in one will have effects on the other two. In the case of early modern Europe, the changes in mapping technology led to a radical transformation, both qualitative and quantitative, in the maps created in that setting, which in turn had important effects on the view of space held by actors.⁶²

In its general form, this relationship is summarized in Figure 4.1. As discussed above, the relationship between the maps created and the view of space held by actors in a society is reciprocal: Decisions about the form that maps take and the content depicted (and not depicted) in maps are driven in part by the view the mapmaker holds of what constitutes human space (arrow 3 in Figure 4.1). In addition, however, the maps that are created shape actors’ views of space by emphasizing particular features of space, and maps may also define the very basis for what space is (arrow 2). For example, is the world seen as a geometric surface or as a series of loosely connected places? The way in which space is depicted in maps shapes this perception.

⁶² My treatment of this general relationship builds on concepts and ideas from many of the authors of the new approach to cartography, particularly Harley (2001), Wood (1992), King (1996), and Pickles (2004). Chapter 5 will build on this literature by applying these insights to territoriality and political authority claims.

Figure 4.1: Technology, Maps, and the View of Space



Yet this relationship also includes the third factor of *mapping technology*, which has its own connections with the maps created and view of space. Mapping technology, defined broadly, refers to all the ways in which knowledge is applied to the drawing, production, and even distribution of maps. The first includes both ideas about how to draw a map (survey or projection techniques in the modern case, but other cartographic traditions have particular methods for measuring and depicting the world) and the information that is available to be used in the drawing of a map—that is, geographic knowledge, whether accurate by our standards or not. The production technology of mapping includes techniques ranging from manually copying manuscript maps to printing technologies to modern digital map storage formats. Technologies related to map distribution include the general technologies of communication of visual material. Thus, the category of mapping technology incorporates both a wide range of technologies of printing and communication as well as techniques particular to cartography. Although this may seem broad, in the case of early modern European mapping, as discussed in the previous chapter, the “revolution” in cartography involved not just a change in the form and content of maps but also an immense increase in the number of maps in circulation—both of which are consequential in explaining the transformation of European conceptions of space.

Returning to the three-way relationship between technology, maps, and the view of space, it is clear that mapping technology has a direct effect on the maps that are created (arrow 1 in Figure 4.1). The techniques available for mapping constrain the maps that can be produced, in terms of both subject matter or content and the form that a map can or cannot take. For example, as discussed in chapter 3, until the reintroduction of Ptolemy’s instructions on the application of celestial coordinate systems (latitude and longitude) to terrestrial mapping, maps produced in Europe used a variety of approaches

to the depiction of space, all of them different from our modern map projections. Yet particular techniques not only make certain types of map possible, they may also make certain kinds of map impossible, in terms of acceptability to a map maker or user familiar with different technologies. The rapid disappearance of many medieval map formats—such as *mappaemundi*—in the face of Ptolemaic mapmaking reveals the tendency of some mapping technologies to destabilize and undermine others.

Although the link may be less obvious, there is also a connection running from the view of space to mapping technology: A particular view of space may lead to new demands for mapping technology of a kind that fits with that view of space, or at least for a further development of mapping technology along certain lines (arrow 4 in Figure 4.1). With the addition of this final link, we can see that the three factors are mutually connected, if not directly reciprocal in every direction.

The relationship between these three factors involves both static mutual reinforcement and a dynamic causal dimension. On the former, in the absence of exogenous forces driving change in one or more of the three factors, this is a picture of a static, mutually reinforcing process. For instance, absent any exogenous drivers of social or technological change, the maps that are created and the related view of space will continue to reinforce each other, at the expense of other forms of mapping or other ways of conceiving of space. Once an exogenous change is inserted, however, it can directly or indirectly drive the transformation of all three factors. In fact, there are numerous potential exogenous drivers of change for all three of the features (originating in other technological or social realms). For example, exogenous forces with a direct effect on the maps created include the resources available (to put the technology to use) and the interests of actors powerful enough to make maps—Are such interests served by producing maps? What kind of maps? Exogenous drivers of change in mapping technology include a whole range of related technological developments, the favorability of the setting for technological innovation, and contingent events of discovery or innovation. Finally, while a society's view of space is strongly influenced by the mapping tradition and its depiction of space, other factors exogenous to this process are also at work, including religious doctrines about space and other visual depiction traditions (such as perspective in the visual arts). Nonetheless, while exogenous factors set in motion change in mapping technology, maps, and the view of space, the relationships among the three features will shape the direction and nature of the subsequent transformation in each.

Although this relationship between the three factors may appear to be circular—and does contain elements of reciprocal causation, particularly between the maps created and the view of space—it can take on a *recursively* causal form. The addition of the element of time means that an argument that might otherwise be circular (all elements as both cause and effect simultaneously) instead operates recursively through time: *A* causes a change in *B* at time t_0 , and *B* has an effect on *A* at time t_1 , and so on (Hassner 2007/08). This recursive dynamic is evident in the relationship between mapping technology, the maps created, and the view of space (see arrows 1, 2, and 4 in Figure 4.1, above). For example, if an exogenous change in mapping technology transforms the maps being produced, this can set in motion a causal chain that operates through these reciprocal relationships. As people are increasingly exposed to and use these maps, they begin to conceive of the world in a way that reflects the principles behind those new maps. This,

in turn, drives demand for changes in the technologies of mapmaking to enable the creation of more maps along these lines, or maps that even more effectively capture this new or adjusted view of space. These changes in technology, finally, recursively cycle back into enabling and encouraging the creation of more maps reflecting the new view of space. As will be seen below in the case of early modern cartography and understandings of space, ideas about space and how to depict it can outrun the actual technological capabilities of mapmakers, driving demands for new techniques more fully operationalizing the new view of space.

This distinction between the three elements is primarily analytical, as in practice the social features and technologies are often intertwined, due to the socially embedded nature of technology (Sassen 2002). As Castells puts it, “technology *is* society, and society cannot be understood or represented without its technological tools” (1996: 5). Therefore, while my analytical scheme discussed above distinguishes between a purely ideational feature (the view of space) and material or technological features (the mapping technology and the maps being created), empirically all three can be considered as part of a single “sociotechnical system” (Herrera 2006). Change therefore can originate in ideas or in technologies, but the result will be an interactive and recursively transformative dynamic among material and social features (Burch 2000).

This complex relationship between actors, their ideas, and the representational technologies they use builds on structuration theory (Giddens 1984). This approach has pointed out the way in which a mutually constitutive relationship can lead to recursive transformations in both agents and structures. Actors create structures that simultaneously constrain and incentivize their action, leading over time to change, rather than stasis (Sewell 1992; Carlsnaes 1992).⁶³ Exogenous forces for change then *work through* this three-part relationship, as actors create and alter social and political structures. Particularly in the case of multi-generational transformations such as the invention and implementation of territorial exclusivity, each generation may see stasis in structural conditions while simultaneously altering later actors’ structural constraints. These relationships are illustrated by the empirical transformation of medieval to modern space, which forms the subject of the next section.

III. The Transformation of the European View of Space

Different cultures and time periods have diverse views of space. Although such ideas are never completely homogenous throughout a culture, commonalities within a tradition are apparent when one culture is compared against another. Particularly important for this dissertation’s analysis is differentiating the medieval European view of space from the modern view, which still serves as the fundamental basis for our contemporary understanding of the world. Just as with the political ideas and practices discussed in chapter 2, or the mapping technologies discussed in chapter 3, it is far too easy (and common) to read backwards from today and assume that actors in a previous period shared our fundamental assumptions, in this case about how human space is structured. Thus, in order to highlight the early modern transition in how European actors perceived of space, this section considers the following: 1) the way in which the world was understood as a series of places in the late Middle Ages; 2) the modern view of the

⁶³ On the agent-structure debate, see also Adler 2005; Dessler 1989; Doty 1997; Wendt 1987; Wight 1999.

globe as a geometric surface; 3) the way in which the causal connections between mapping technology, maps, and the view of space operated in the early modern European transition in ideas; and 4) the contrast between the modern European view and the ways in which space has been imagined in ancient and non-Western traditions.

III.A. The medieval view of space. Although the way that space is perceived in any society is complex, and the European Middle Ages are no exception, there are two key features of the medieval view of space that can be drawn out: first, the world was understood as a series of potentially unique *places* rather than a geometric *area* or expanse; and, second, space was understood in terms of time as much as distance.⁶⁴

Medieval Europeans perceived the world as a series of places, each with its own (possibly incomparable) characteristics. “For the medieval imagination, places were charged with a positive sense of thickness, stability, and indivisibility. Space, by contrast, was nothing but the empty ‘in between,’ something that only came into existence as the distance separating two places, two significant points of reference” (Padrón 2004: 58). This view of the world as a series of locations is evident both in the maps common at the time and in the literary description of space (which overshadowed the visual, as discussed in chapter 3). Itinerary maps schematized this idea of the world as a series of places, showing only the routes and the important places along those routes, with little effort to depict their “accurate” geographic relationships with one another. The blank spaces on itinerary maps did not represent areas to be filled in through discovery (as modern spatial understandings hold) but rather simply “portions of the space of representation that are not inscribed upon” (Padrón 2004: 54). Many non-itinerary maps from the Middle Ages also illustrate the place-focused view of the world, such as a 1460 map of France in a manuscript concerning French royal genealogy (reproduced and discussed in Serchuk 2006). It depicts the territory of France schematically, with the dominant features on the maps being a large number of cities and towns marked in rough relation to each other, with no features in between.

Furthermore, the literary mode of knowledge, which dominated the visual in the European Middle Ages, also highlights the medieval emphasis on places over space. Textual description easily fits with a view that understands the world as a series of places, as each location can be listed and carefully described in writing without the need to depict or understand the spaces in between (Grafton 1992; Revel 1991). The famous *Domesday book* of eleventh-century England, for example, is an exhaustive inventory of the country—but only exhaustive in terms of the medieval view of the world as a series of places. The fundamental unit is a single lord’s manor, the entry for which lists the resources, underlings, and tax assessment thereof. Thus, although the overall survey is organized geographically by county, the spaces within those counties are conceived of solely in terms of a set of distinct places, without geographical referents or any note to overall spatial extent.

In addition to the world being understood as a series of places, the medieval understanding of the concept of space was built on *time* as much as *distance*. For

⁶⁴ Although one scholar has argued that “It has yet to be shown that there even was such a thing as a ‘medieval way of describing and representing the world’” (Dalché 2007: 287), there is enough evidence of commonalities in how thinkers, political actors, and others in the Middle Ages understood their world to enable us to posit a dominant, if not completely homogenous, medieval view of space.

example, the words used for “space” often meant an extension of time: it was not until the sixteenth century that the Spanish word *espacio* came to mean “planar extension,” and that was only among a small group of elite cartographers and cosmographers (Padrón 2004: 51). This concept of space as a measure of time related to the understanding of spatiality in medieval Christianity: for example, in many works from the Middle Ages, “time is visualized as a linear space through which an individual’s life passes” (Delano-Smith 2000b: 181). Even when the world was measured spatially, the actual measurements incorporated elements of time: for example, distance in the number of days of travel or land area by the amount one man can plow in a day (Bauman 1998: 27; Kula 1986). This combination of time and physical distance to make up space is also evident in the medieval *mappaemundi* discussed in chapter 3. These world maps depicted not only a religiously inspired view of the shape of the world—with places emphasized often due to their religious importance—but also incorporated historical events of the Bible (Woodward 1985, 1987).

III.B. The modern view of space. Our modern view of space, and of our position within it, is drastically different from that of medieval Europeans.⁶⁵ In short, the modern conception sees space as a surface that is homogenous, geometrically divisible, and on which different areas or places differ only quantitatively, not qualitatively. This stands in stark contrast to the medieval view of the world as a series of unique places, related to each other by linear routes of travel rather than by geometric coordinates. Of course, even in the contemporary world this view is not completely hegemonic, as some actors may conceive of space less along these lines than others. This description—like that of the medieval view above—is an ideal-type, which represents a position on a continuum toward which the views of most actors in the modern world approach.

The geometric nature of modern space is inherently Euclidean and abstract, and reduces three-dimensional reality to a flattened two-dimensional understanding (Lefebvre 1991: 285). This geometric understanding of space involves a new conception of territory: “Territory becomes conceptually and even actually emptiable and this presents space as both a real and emptiable surface or stage on which events occur.” (Sack 1986: 87). In other words, the modern geometric understanding of space sees the world as an empty stage for human action, as space does not have any inherent moral or non-physical character (unlike the medieval view of the world as a series of *places*, each endowed with particular moral or spiritual qualities). Neo-platonic philosophy of the Renaissance incorporated this view, emphasizing “a Pythagorean-Platonic view of the mathematical and geometrical structure of the universe” (Cosgrove 1992: 75).

Along with the reduction of the human world to a geometric surface, space is considered homogenous and qualitatively equivalent: “The increased spatial precision . . . was often acquired at the expense of mentioning its local physical features and history” (Sack 1986: 138). As Lefebvre argues, according to the modern understanding, space “appears homogeneous; and . . . [makes] a *tabula rasa* . . . of differences.” (Lefebvre 1991: 285). This is more than simply a change in mentality, however, as it can also lead to changes in behavior: The homogenization inherent in the Euclidian approach to space

⁶⁵ Or from that of other traditions and cultures, which will be discussed later in this chapter.

“generates the silences of uniformity” by erasing uniqueness, making it possible that “if places look alike they can be treated alike” (Harley 2001: 98-99).

Thus, the world is understood as a potentially empty and homogenous surface on which events occur and across which relationships are abstract and geometric, rather than as a series of places, judged by their moral or cultural importance and connected by the human experience of moving from one to another.

III.C. The cartographic revolution and the transformation of space. As discussed above, there exists a general relationship linking mapping technology, the maps created, and the view of space (summarized in Figure 4.1). In the case of early modern Europe, the transition from the medieval to the modern view of space was in large part driven by new developments in cartographic technology. New mapping techniques enabled and drove the creation of new maps, which in turn shaped the view of space held by Europeans, particularly as mass printing technology and consumer demand drove the huge increase in map production and use. The relationship between the maps created in a society and the view of space is mutually reinforcing, in the absence of outside forces for change (such as major technological developments). This is clear in the case of medieval cartography and the related view of space: until the cartographic revolution that began in the fifteenth century, maps constituted—and were constituted by—a relatively static medieval view of the world.

This relationship is evident in the way in which the medieval understanding of space as a series of places was both represented and supported by the major forms of mapping: *mappaemundi*, route-based itinerary maps on land, and portolan charts at sea. Medieval world maps not only distort geography (to our eyes) but also greatly emphasize the importance of places over the spaces in between them. Locations seen as significant by the mapmakers are depicted completely out of scale by modern standards—cities are represented by huge images of walls, towers, and churches, rather than in modern maps where cities are merely point locations or at most a strictly delineated metropolitan area. Once again, these maps not only embody the medieval view of the world; they also further cement that particular way of understanding space.

As discussed earlier, itinerary maps also illustrate the emphasis on places over geometric space in their depiction of the world as a collection of specific locations with no importance accorded to the empty spaces in between. For those using these maps, moreover, these depictions would continue to support the medieval understanding of space since readers would focus on the places included and the human-defined routes between them, rather than seeking to understand their geometric location or the spatial expanse upon which they are located.

Even the most apparently “modern” medieval maps—portolan charts used in marine navigation—represent an extension of this route-focused bias of itinerary maps, in spite of their geometric appearance. These maps distorted the world in order to facilitate navigation, overemphasizing coastal formations and landmarks and including no celestial coordinate locations. Although the rhumb lines used for navigation represent an infinity of possible routes—thus turning the sea itself into more of a homogenous surface than a series of places—space is still perceived as a set of potential linear “lines of travel” between places (that is, the crowded list of coastal locations) rather than a truly geometric

surface (Padrón 2004: 62). Actors using these maps, therefore, also continued to have the medieval understanding of space reinforced.

Thus, all of these types of maps simultaneously reflected the dominant view of space and reinforced it by representing the world in a fashion consistent with the medieval view. So long as no major exogenous forces were inserted into this relationship, the tendency of the medieval view of space and the maps created by those holding that view to mutually sustain each other persisted.

With the changes in mapping technology driven by the rediscovery of Ptolemy and the invention of printing, however, a dynamic element was inserted into the reciprocal relationship between maps and the view of space. “When the first printed maps appeared in Europe in the 1470s, for example, they began a process of profound change in people’s experience of space” (King 1996: 22-23). This change, of course, operated through the production of new kinds of maps—and in much higher numbers—and the use of these maps by an increasing number of Europeans. In short, “the [modern] world was literally and figuratively structured based on readings and interpretations of maps” (Pickles 2004: 92), while at the same time the development of modern mapping was driven by both technological changes and the reciprocal relationship with the evolving modern understanding of space.

The most important part of this technological driver of change was, once again, Ptolemy’s application of the celestial coordinate system to the earth’s surface. This grid system, or graticule, represented a major shift from medieval mapping techniques, which, for all their variety, shared a common focus on particular human places and the travel routes or moral relationships among them. This focus was replaced by “the space-equalizing and area-fixing properties of the graticule” (Cosgrove 2001: 106). Cosgrove sums the process up well:

The implications of representing earth space through an infinite array of fixed points are more than merely instrumental. The graticule flattens and equalizes as it universalizes space, privileging no specific point and allowing a frictionless extension of the spatial plot. At the same time it territorializes locations by fixing their relative positions across a uniformly scaled surface. Its geometry is centric only at the poles, which, practically speaking, are the least accessible points on its surface; otherwise it extends a nonhierarchic net across the sphere. (2001: 105-106).

Thus, modern mapping’s homogenization of space has two immediate effects: first, it reduces the ability of mapping itself to privilege one location over another; and second, it makes the world a surface that can be divided geometrically.

On the first point, mapping according to Ptolemy’s graticule was a shift toward *homogeneity of scale*. The modern view of space as homogenous is made possible because, unlike medieval mapping, Ptolemaic maps have a uniform scale based on the graticule. This means that “[e]ach point on the map is, in theory at least, accorded identical importance” (Harley and Woodward 1987b: 505). In fact, the arguments extending from the sixteenth century through the present day over projections, orientation, and map centering (ranging from nineteenth-century disputes over the location of the prime meridian to the late twentieth-century debate over the Mercator and Peters projections) illustrate that the Ptolemaic mapping technique itself has the potential

both to be centered at any location on the globe and to fit with numerous social or political agendas.

For example, most Medieval *mappaemundi*, built as they were on the diagrammatic T-O maps of the three old-world continents, were inherently biased toward centering at Jerusalem, or at least at some point near the Mediterranean. This centering was dictated by the cultural and moral importance accorded to this region by European mapmakers of the Middle Ages. Ptolemaic mapping, on the other hand, can be centered anywhere, as is illustrated by the efforts of Jesuit missionary Matteo Ricci to introduce European mapping to China in the sixteenth century. After the first world maps he presented to the imperial court displeased the Chinese authorities because they were centered on Europe, he quickly produced another Ptolemaic map of the world with only one difference—the map was centered on China. The second map proved to be far more acceptable (Mignolo 1995: 219; Day 1995). Thus, modern mapping enables a view of space that considers all points to be implicitly equal, whether the location is a place of great human importance (religious site, city, etc.) or simply a geometric point on the earth's surface.

The homogenization of space and its definition as a geometric surface measured by the graticule has a direct implication on the understanding of how space can be divided: In short, geometric space can be divided geometrically. Medieval space, understood as a sequence of unique places (in an itinerary) or a collection of places (in a *mappamundi*), could be divided in non-geometric ways, as places are categorized or separated by particular symbolic or qualitative characteristics rather than simply by location on the grid. The importance of Ptolemy's graticule, on the other hand, "was its conceptualization in terms of geometrical rather than symbolic principle" (Brotton 1997: 32). In the broadest sense, this meant that the world could be divided by lines into homogenous areas, replacing the notion that places could be distinguished and categorized by their qualitative characteristics. The implications for *political* space and authority—discussed in the next chapter—were equally transformative.

Another important change enabled by the Ptolemaic grid was that the geometric division of space makes it possible for even as-of-yet unknown places to be claimed, so long as they fall within the geometric division proposed. The ability to conceive of space in this way requires "a metrical geometry to represent space independently of events," which was provided by the Ptolemaic grid (Sack 1986: 63). Even if different parties have diverse ideas about what lies in unexplored areas, they could agree on a geometric division of spaces in a way that pre-Ptolemaic technologies did not allow. Without Ptolemaic cartography, in order to claim territory one had to describe it in terms of that place's characteristics. If later proved to be inaccurate, this description could no longer support a claim to those places. With a geometric division of space, however, the accuracy of beliefs about what lay within unexplored areas was irrelevant to the possibility of claiming them (King 1996). The importance of Ptolemaic mapping techniques to this ability to understand new discoveries is revealed in the practices of the early modern navigator, who used portolan charts for coastal regions, "but if he wanted to locate these coasts in relation to the known world and make their position understandable, he had to resort to 'the manner of Ptolemy,'" that is, the grid-based view of space (Dalché 2007: 330).

Modern mapping, based on the graticule, was significant not just in that it made it possible to understand space as homogenous and geometrically divisible. Perhaps more importantly, modern mapping is *unable* to depict space as anything other than homogenous and geometric. In fact, the very nature of Ptolemaic mapping dictates this: All modern mapping is founded on the ideal of the geometrically accurate depiction of the curved surface of the earth on a flat plane. Other ideas of accuracy in depicting the world—such as the medieval practice of highlighting particular places of religious or cultural importance or the goal of portolan charts to facilitate marine navigation by overemphasizing coastal landmarks—are only seen as inferior because of our modern tendency to equate geometric accuracy with “scientific” mapmaking (Crampton 2001). This ideal of geometric accuracy has persisted through—and in some sense has driven—the changes that mapping has undergone since the sixteenth century in terms of production, detail, surveying, and so on.

This process of the new mapping techniques altering the view of space took place among more than just a narrow elite of European society. In early modern Europe, maps rapidly became a tool used by the wider European public to understand the changing world that they inhabited. “Cartographic reason seems to have been so powerful a force in the sixteenth and seventeenth centuries that it came to signify the most important forms of reason. *To map was to think.*” (Pickles 2004: 77, emphasis in original). Thus, not only did map technology, and hence the maps produced, change drastically, but so did the relative effect of maps (in any form) versus other types of artifacts. In other words, in early modern Europe maps were a particularly powerful factor in terms of their impact on understanding the world.

Part of this may have been driven by the Renaissance shift from textual to visual culture. This conventional interpretation, although perhaps overdrawn to some extent, does capture the growing power of visual media of all types during this period (Grafton 1992). Yet the shift was less a reduction in the importance of textual argument or knowledge and more the lending of greater authority to the visual: “It is not that the huge increase in graphics usurped the functions of the written word, but rather that a new idiom was added to the old” (Woodward 2007a: 12). The new strength of the visual language of maps was boosted by their practical usefulness: maps in early modern Europe were “valued for their ability to operate within a whole range of intellectual, political and economic situations, and to give shape and meaning to such situations” (Brotton 1997: 19). As maps literally gave meaning to the changing world Europeans perceived, they also altered actors’ understanding of the nature of their world.

Furthermore, the quantitative increase in map production during the Renaissance was also an important foundation of the unprecedented impact of maps on European views of space. As discussed in chapter 3, map production skyrocketed during this period, with the end result that maps were much more available, at all levels of society, than ever before. Beyond even those with extensive collections of maps, middle-class Europeans for the first time understood maps and their use, thanks to the commercial map printing houses of Italy and the Netherlands (Mukerji 2006; Woodward 1996). The “printing revolution” not only increased the quantity of maps in circulation; it also improved the ability to standardize the maps used and distributed across Europe, creating the conditions for the homogenization in how Europeans depicted—and thus understood—their world (Eisenstein 1979; McLuhan 1962).

The effect of Ptolemaic cartography on the European view of space was so strong, and so pervasive, that the ideal of the world as a measurable, geometrically divisible surface outran the actual practices or even capabilities of early modern cartography. The understanding of the world as a grid where every point has a coordinate location was instilled by the extensive use of maps based on the graticule, long before accurate measurements were actually completed. For example, accurate latitude measurements or triangulation-based land surveys required more resources (in terms of both finances and training) than most public or private mapmakers were willing to expend, leading to the creation of maps based on inaccurate or estimated measures even after the technical ability to improve them existed (Woodward 2000a; Konvitz 1987). Furthermore, cartographers lacked the capability to measure longitude at sea—with the exception of imprecise and exceptionally difficult celestial observations—until the invention of the marine chronometer in the 1760s. Thus, although cartographers were in practice unable to fix locations according to the norm of coordinate-based accuracy, the normative belief that accuracy of this type should be achieved never wavered, and served to promote the further technological developments that made such accuracy finally possible in the late eighteenth century.

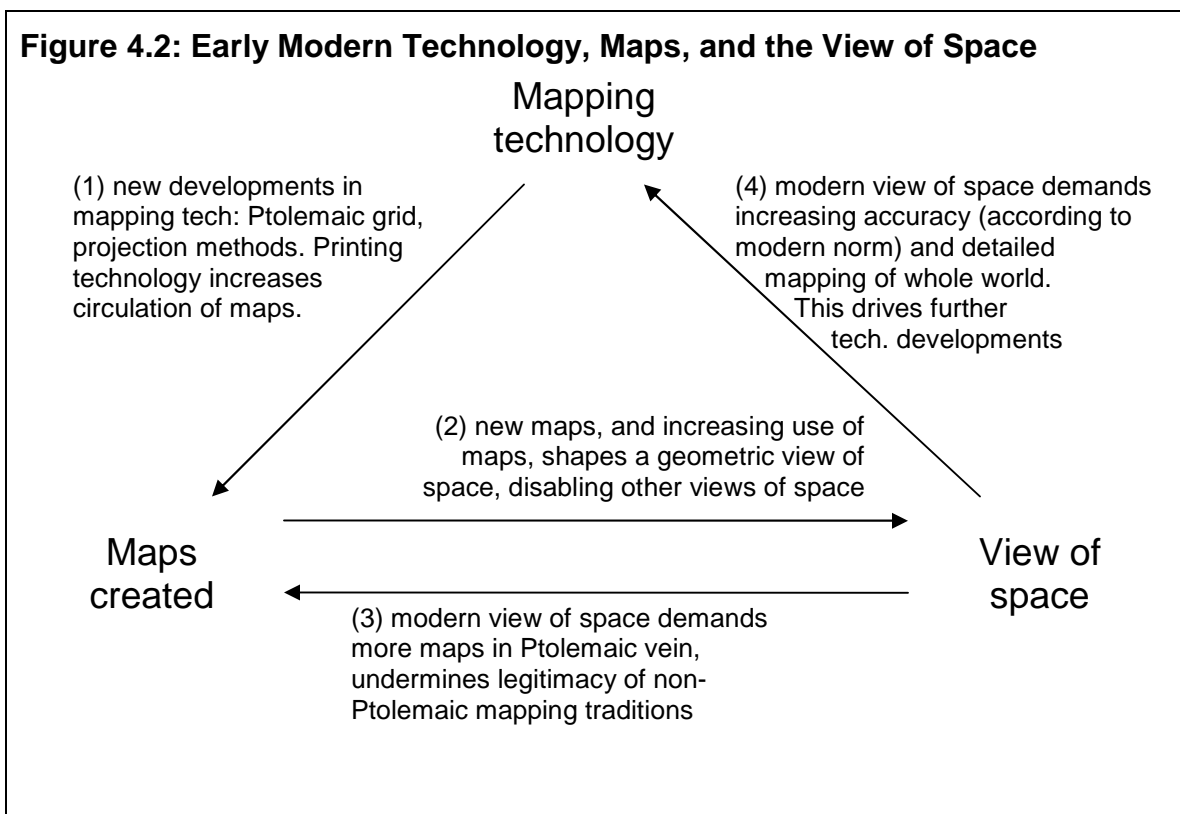


Figure 4.2 illustrates the dynamics that followed the reintroduction of Ptolemy in Western Europe. The rediscovery of Ptolemy's *Geography* in Europe in the fifteenth century led to the creation of maps based on his principles of latitude-longitude coordinates and projection techniques (technology drives what maps are created [1]). This eventually led to a view of space in which the world is seen as geometrically

calculable and divisible (maps shape the view of space [2]). This geometric view of space in turn both drove further mapping efforts with these techniques (the view of space suggests what to map, and how [3]) *and* created demands for improving the ability to create maps according to the developing standards of scientific accuracy, using mathematical surveying techniques (the view of space influences the direction of technological development [4]).

In this case, the static mutual reinforcement of medieval mapping technology, maps created, and the view of space was converted into a dynamic recursive relationship by the exogenously driven initial changes in mapping and map production technologies. Once the technologies began to change, this later transformed the maps created, which still later altered Europeans' view of space. Bringing the recursive relationship full circle is the influence that the new view of space had on the direction of technological development, driving further advancements in terms of Euclidian accuracy and worldwide cartographic coverage. This is an example of ideas outrunning technology, as the ideas about geometric accuracy in mapmaking were driven by the initial technical developments even before the actual ability to conduct accurate surveys had been achieved. These further technological developments, of course, merely allowed for the creation of even more maps that effectively captured the Ptolemaic ideal, thereby further strengthening the modern view of space, and so on. Inserting the element of time into the relationship converts a static reciprocal relationship into a recursive causal one.

Of course, in the absence of any major exogenous drivers of change in any of the three factors at work, the recursive relationship may settle into a mutually reinforcing stasis. The modern view of space, for instance, continues to be constituted by the maps produced in our society, and vice-versa, in spite of the continual transformation of the technology of map production. This is because the technological developments in cartography from the Enlightenment forward have served to reinforce, rather than undermine, the Ptolemaic ideal of geometrically accurate mapmaking. None of the improvements in surveying, printing, or even aerial imaging alter the fundamental understanding of our world as a geometric surface; instead these developments have allowed the maps created to approximate more closely that Ptolemaic ideal.⁶⁶

III.D. Non-Western Mapping Traditions and Views of Space. The early modern shift in the view of space described above is particular to European technology, maps, and society. Although this mapmaking tradition and the concomitant view of space eventually came to dominate the globe—following the European political and military expansion throughout the modern period—other cultures have had very different maps and very different views of space. Of key importance to my argument is the way in which non-Western mapping traditions, in spite of being very well developed, lacked the key ingredient that drove the shift to the modern view of space in Europe: the Ptolemaic graticule. This meant that the maps created in these societies did not lead to the geometric understanding of space, and hence the homogenization of territory, in the way that early modern European mapping did. As will be discussed in more detail below, there is a key difference between a mapping tradition that makes use of a generic grid and the

⁶⁶ Contemporary and future developments in mapping technologies and their potential social and political impact are discussed in the conclusion to this dissertation.

Ptolemaic reliance on the graticule, or grid tied to celestial coordinate location. Without attempting an exhaustive review of non-Western mapping traditions, the following paragraphs will summarize some key points concerning several well developed mapping traditions that illustrate the way in which the modern European map created a unique view of space.

The Roman empire was in some ways a civilizational ancestor to early modern Europe, and ancient Romans did have some mapping traditions. Maps were used extensively for property allotment and as ownership records, particularly in newly colonized areas (Kain and Baigent 1992). Furthermore, the basis of Roman land mapping in a grid system gives it a very modern appearance, and might make one think that this mapping tradition would yield a geometric conception of space similar to the modern. The Roman grid system, however, was very different from the Ptolemaic graticule, in that the Roman mapping tradition divided land up on the basis of square measures not linked to a celestial coordinate system or to the globe as a whole: instead it was based on “a scale of fixed distances with no reference to the size of the whole earth as determined by astronomical calculation” (Edgerton 1987: 24).

The absence of the link between terrestrial location and celestial coordinates meant that the major ideational impact of modern mapping was absent: without the fixing of all places into a predetermined grid of coordinate location, space is not homogenized to the same degree, and is not knowable or claimable in the absence of actual observation. Land is divided by linear square measures, but only after being conquered, observed, and possibly cleared. When compared against modern European colonial divisions of territory—based on the Ptolemaic graticule and its geometric conception of space—Roman divisions of land took much more account of local human and geographic features. Modern divisions and claims, such as the division of the American west by cartographers in the late 1700s, were made on generally unknown territory in a way that took little account of local conditions (King 1996: 68-69). The tendency to make such claims and divisions without any local knowledge is only enabled by the use of cartographic system based on a global coordinate grid, which gives every place—known and unknown—a fixed point location.

Outside of local land mapping and property delimitation, moreover, Roman cartographic and literary traditions yielded a “linear” conception of space: space was understood in terms of lines of travel, not spatial expanses (Talbert and Unger 2008). “Space itself was defined by itineraries, since it was through itineraries that Romans actually experienced space; that is, by lines and not by shapes” (Whittaker 2004: 76). The geometric approach of land surveyors (*agrimensores*) did not extend outside of their narrow field and did not define how Roman rulers or citizens imagined their world.

Traditional Chinese cartography illustrates some of the same key contrasts with modern European mapmaking and the resultant view of space. Even in early imperial China, maps were used extensively by governments and scholars (Yee 1994b). Yet mapmaking did not undergo cumulative “progress” in terms of accuracy, mathematical basis, or sophistication, but rather continued through the early modern period to include a variety of map types and characteristics (Yee 1994a; Sivin and Ledyard 1994). In several ways, traditional Chinese cartography and map use differed from that of modern Europe and hence did not have the same effects on the resultant view of space. First, throughout the period of traditional Chinese cartography (i.e., predating the adoption of Western

mapping techniques), map images remained reliant on textual material to be useful. Maps themselves contained “little quantitative information” and were “not meant to be used alone but . . . in conjunction with text” (Sivin and Ledyard 1994: 29; Yee 1994b).

Although some ancient Chinese maps involve a grid system, the effects of the graticule in the West are not apparent in this realm, for several reasons. First, maps with grids appear to be the exception rather than the norm, even into the period after contact with Western mapmakers (Yee 1994b). Furthermore, just as in many Roman maps, the grid present on traditional Chinese maps was not a graticule and was not linked to a system of coordinates. Unlike the Ptolemaic grid that links all points on the earth to each other and geometricizes space, on Chinese maps “the square grid seems to have been superimposed arbitrarily on a given area of interest.” Thus, “map space was not treated analytically in China; points were located not by coordinates, but solely by distance and direction” (Yee 1994c: 124). The ideational effects of a graticule-based mapping were absent: “Chinese mapmaking was resistant to the idea that space should be homogenized to aid quantification. Chinese mapmakers remained acutely aware of locality” (Yee 1994d: 228). Once again, the key shift driven by Ptolemaic mapping was absent from this mapping tradition.

The well-developed mapping tradition of the Islamic world also illustrates the way in which European mapping technologies of the early modern period uniquely combined the many elements required to transform the understanding of space. Only in early modern Europe was the mathematical coordinate system combined with the visual depiction of that system in maps and their wide distribution and use. The divergences between Islamic mapping and that of early modern Europe are particularly interesting because, as discussed in chapter 3, one of the key triggers for the transformation of European cartography was the “rediscovery” and translation of Ptolemy’s *Geography*, which had been available and widely read in Arabic for centuries.

Yet in several key ways, Islamic mapping closely resembles that of medieval Christendom. Maps were almost exclusively in manuscript form, with little or no printed cartography—in spite of the knowledge of Chinese block-printing techniques (Karamustafa 1992a). In addition, similar to medieval Europe, there was no specific word for *map*, there were few if any individuals or institutions engaged exclusively or specifically in cartography, and maps were extremely rare (Harley and Woodward 1992). Even in the Ottoman empire—potentially more linked to early modern European practices—land ownership was recorded in written cadasters rather than maps, property disputes were resolved in courts without visual aids, and the routes for the state’s official courier network were recorded in verbal itineraries only (Karamustafa 1992b). All of these practices reflect the greater authority inherent in textual knowledge compared to visual.

One key divergence between the geographic knowledge of medieval Christendom and that of the contemporaneous Islamic world was the full awareness in the latter of the geographical work of Ptolemy. This went beyond the mere presence of a few copies of the *Geography* in isolated libraries: Ptolemy’s work was widely read and very influential in terms of his list of coordinate locations of places in the ancient world. Yet “the link between Ptolemy’s mathematics and actual map production seems never to have been made” (Tibbets 1992: 95). In other words, although the mathematical basis for understanding the world as a homogenous, geometric space was present, without the

translation of this knowledge into a widely used visual form, it appears that the societal effect on how actors view space is limited. Only the cartographic revolution of early modern Europe combined the mathematical understanding of places as located on a coordinate grid covering the entire globe with the visual depiction of that understanding in maps *and* the printing-driven explosion in map production, distribution, and use.

We can see the ideational power inherent in modern European cartography by examining the effect it can have when introduced into a culture with very different cartographic technologies and spatial understandings. In the second half of the nineteenth century, western mapping was introduced wholesale to Siam (Thailand) from the top down, as a reforming series of kings used European mapping techniques and brought in European mapmakers. This process, which demonstrates some of the same dynamics as what occurred centuries earlier in Europe, illustrates the power of Ptolemaic mapping to change the view of space (Thongchai 1994).

Before the mid-nineteenth century, Siamese mapmaking contained several loosely connected traditions, varying from cosmological treatments of the Buddhist universe to itinerary-based depictions of terrestrial space. These visual depictions of the world reflected—and supported—various conceptions of space, all of which lacked the homogenizing character of the Ptolemaic grid. King Rama IV (r. 1851-1868) was personally involved both in importing Western astronomy and cartography and in making astronomical observations and measurements himself. His efforts were resisted by other Siamese elites, but eventually led to the creation of geographic educational and governmental institutions. The power of modern mapping lies in the ability of its users to undermine and destabilize other forms of geographic knowledge: once the Ptolemaic grid has been imposed on the world, other understandings of space are made untenable:

A modern map . . . dismisses the imaginary and sacred approaches to the profane world. It constitutes the new way of perceiving space and provides new methods of imagining space which prevent the ‘unreal’ imagination and allow only legitimate space to survive after the decoding process. . . . Modern geography had the potential to drive itself to usurp those properties of the indigenous knowledge, asserting itself as a new channel of message transmission. . . . In short, modern geography took advantage of the overlapping domains to make the indigenous language unstable, or ambiguous, and then proposed itself as a new way of signifying those terms (Thongchai 1994: 55, 61).

Thus the previously dominant views of the world as a sacredly ordered space were replaced by the modern notion of space as a homogenous global expanse which can be divided up geometrically. The case of Siam illustrates the clear direction of the relationship between the mapping technology, the maps created, and the view of space: Western mapping technology was introduced from the top, leading to the creation of new maps based on these techniques and only much later the widespread adoption of a geometric understanding of space. The fact that the modern view of space *followed* the introduction and use of these maps is demonstrated by the decades of resistance to modern mapping by elites—had the view of space preceded the technology, Rama IV would have had no trouble introducing the new mapping technologies and institutions.

Yet the Siamese case was not just an accelerated version of the process that occurred in Europe centuries earlier. Modern mapping was introduced wholesale into Siam, and although it was resisted by local elites, it was also backed not just by the

reigning monarch but also by the outside pressures of European colonial powers. The British and French not only made extensive use of maps in their dealings in the region, but also came in with a fully developed modern view of space, which structured their interaction with Siamese leaders, even when the latter had a different understanding of the world. Thus the tendency of modern cartography to shift the view of space toward the abstract, geometric, and homogenous was accelerated and reinforced by other political pressures.

In the early modern European case, on the other hand, although the technological driver of the transformation of spatial understanding was present (in the form of Ptolemaic mapping), there were initially no political powers exhibiting and enforcing this view. Instead, the process was internal to European society, with one important exception: while Ptolemaic mapping immediately made possible a new way of understanding the world, it was the European colonial expansion to the new world of the Americas that created demand for this geometric view of space. This process is the subject of the next section.

IV. The Colonial Reflection of Geometric Space

As discussed in chapter 3, the early modern expansion of European powers involved the extensive use of mapping for navigation, commercial promotion, and territorial division. Some of these uses, moreover, were exhibited first in the colonial sphere, before such practices appeared for dealing with spaces within Europe. As this section will argue in more detail, it was the very need to divide, claim, and assign the unknown spaces of the New World that drove the first use of the newly available abstract mathematical and geometric methods for understanding space. The perceived empty spaces of the Americas—and “discoveries” in other non-European parts of the world—could *only* be comprehended, negotiated over, and competed for using an abstract conception of space built on mathematical cartography. Yet this abstraction of space in the colonial realm had effects back in Europe, as the cartographic practices—and spatial understandings—first used outside of Europe were eventually applied within Europe as well.

Thus, although the introduction of new mapping technologies in Europe made a new geometric understanding of space possible, the technology on its own merely enabled this view of space. The near-simultaneous (and similarly contingent) events surrounding the discovery of the New World and the European expansion therein demanded the use of these technologies and the application of an understanding of space as geometrically divisible and homogenous. Of course, as the case of Siam discussed above illustrates, a society may shift toward a geometric view of space without this attempt to deal with the unknown. Yet in early modern Europe, this expansionary demand for geometric thinking worked in conjunction with the new mapping technologies to enforce and later reinforce this view. In short, without the new technologies of Ptolemaic mapping, the geometric division of space was not possible; without the colonial expansion into the unknown, the geometric view of space would not have been demanded.

This section will discuss, first, the process whereby expansion into the heretofore unknown Americas demanded the linear division and abstraction of space and, second,

the way in which the new geometric understanding of space reflected back to intra-European ideas and practices.

IV.A. The demand for abstract space. Historians of cartography have exposed the ways in which colonial expansion was at least in part enabled by contemporary developments in modern mapping. Harley, for instance, points out that maps were used as “the weapons of imperialism” by claiming land ahead of actual conquest and by legitimizing conquest during and after the fact (2001: 57). Yet the interaction between colonial expansion and mapping was more complex than this, as the expansion of European awareness and conquest actually created a *demand* for the use of the modern tools of spatial abstraction represented by Ptolemaic mapping. Thus, just as maps were useful tools for achieving imperial goals, so too was imperial expansion a driver of the expanded use of mapping and of the imposition of the concomitant view of space as a geometric, divisible surface. We can see this in the way in which the previously unknown spaces of the New World required an abstract conception of space in order to be comprehended, explored, and claimed.

The “discovery” and increasing exploration of America in the 1490s and early 1500s was not easily incorporated into European geographic and cosmological thinking. In particular, there was confusion among European political powers and intellectuals as to whether what had been encountered were known parts of Asia (as Columbus believed), a previously unknown area attached to Asia, or an entirely unknown land unconnected to the known world of the ancients formed by Europe, Africa, and Asia. It was not until fifteen years after Columbus’ first voyage that the first clear and widely influential statements of the “New World” character of the discoveries were made (O’Gorman 1961). Among these statements were world maps depicting America as a distinct continent separated by oceans from both Asia and Europe.

Ptolemaic mapping, in fact, offered a particularly useful means of integrating these and other discoveries with the existing knowledge and belief structure of Europeans, which was primarily built on classical and medieval authorities: “the graticule offered the flexibility of assimilating and integrating ancient authority [of Ptolemy] with empirical discovery” (Cosgrove 2001: 107). Thus the discovery of lands completely unknown to the ancients—whose texts were still seen as authoritative in most fields of knowledge—could be incorporated into the grid system described by Ptolemy in spite of his complete ignorance of these places. Not only was this incorporation possible with the Ptolemaic graticule, but it would have been impossible without it: medieval traditions of mapping did not portray the unknown as abstract “empty” spaces to be filled in as discoveries were made.

Take, for example, the evolution of medieval *mappaemundi* during the fifteenth century. A famous world map by Fra Mauro from 1457 actually offers a much more realistic depiction of Europe than *mappaemundi* of preceding centuries. In addition, it is able to incorporate the possibility that the Atlantic and Indian Oceans meet at the southern tip of Africa. Yet with its continuing use of Jerusalem as the approximate center of the map, and the absence of any graticule indicating that this image only includes half of the spherical earth, there is literally no space available for the insertion of the discovery of the New World. For this tradition of world map, the map structure itself precludes the addition of new continents (Cosgrove 1992). Grid-based world maps, on

the other hand, illustrate the usefulness of the new mapping techniques, as the Ptolemaic graticule made it possible to insert *whatever* landmass the mapmaker believed to exist in a particular location defined by coordinates. The 360 degrees of longitude enabled a Ptolemaic map to encompass the whole globe, known and unknown, in one image.

The perception of the Americas as a completely New World, previously unknown to contemporary Europeans or to classical authors, fostered an understanding of the continent as a space empty of the kinds of specific places, with moral or human characteristics, that defined the *Orbis Terrarum*, or the world known to Europeans. “The emerging new world did not appear as a new enemy, but as *free space*, as an area open to European occupation and expansion” (Schmitt 2003: 87). This perception of emptiness demanded a new way of conceiving of space, provided by the cartographic tools of Ptolemaic mapping. Divisions of space in strictly linear terms appeared, first in the series of papal bulls and the Treaty of Tordesillas dividing the non-European world between Spain and Portugal, and subsequently in further explicitly cartographic claims such as charters to English North American colonies (Schmitt 2003; Sack 1986). Practices such as these not only represented a geometric conception of space but also reinforced the view that the world is linearly dividable. (Chapter 5 further explores this dynamic with regards to political authority.)

IV.B. Geometric space reflects back onto Europe. Yet the homogenization and geometricization of space in the New World represents more than an example of European colonial powers imposing their understandings on conquered peoples and spaces. After all, within Europe during this period space was still predominantly perceived in the medieval fashion, as a collection of unique places related by human experiences. It was only *after* the geometric view of space had been imposed and solidified in the New World that this same conception came to be applied to the European continent, homogenizing space therein. The following paragraphs explore this idea of colonial reflection more fully, examining the introduction of practices and ideas into European understandings of their own continental space that first were used or conceptualized in the colonial world.

The idea of colonial practices and conceptions reflecting back into Europe after their invention and use overseas is not entirely new.⁶⁷ For example, Hannah Arendt (1966) sees the origins of twentieth-century totalitarianism in the racism and expansionism inherent in nineteenth-century imperialism. In short, colonial practices eventually made their appearance within Europe in a “boomerang effect,” to the shock of a society of states accustomed to more “civilized” forms of conflict among themselves.

More directly related to the case of the early modern transformation of space, O’Gorman contends that the Columbian encounter and the subsequent “invention” of America as a New World by Europeans not only shaped their understanding of the heretofore unknown parts of the world, but also reconstructed their conception of the world as a whole and the place of Europe within it (O’Gorman 1961). Schmitt echoes this point, arguing explicitly that the encounter with America “initiated an internal European

⁶⁷ This concept is partially inspired by, but distinct from, Taussig’s notion of a “colonial mirror which reflects back onto the colonists the barbarity of their own social relations, but as imputed to the savage or evil figures they wish to colonize” (Taussig 1984: 495).

struggle for this new world that, in turn, led to a new spatial order of the earth with new divisions” (Schmitt 2003: 87). Similarly, Anghie (2004) notes that colonial practices were fundamental to the creation of modern international law among sovereign states.

Another important example of the colonial origins of European ideas and practices is the modern concept of nationalism: Anderson’s famous argument about the construction of nations as “imagined communities” rests on a similar logic. He argues that modern nationalism appeared first in America, not in Europe: “Out of the American welter came these imagined realities: nation-states, republican institutions, common citizenships, popular sovereignty, national flags and anthems, etc., . . . In effect, by the second decade of the nineteenth century, if not earlier, a ‘model’ of ‘the’ independent national state was available for pirating” (Anderson 1991: 81).

In the case of European conceptions of space, it was in the expansion to the New World that Ptolemaic, geometric, homogenous space was first applied, but this set of intertwined technologies, ideas, and practices would later reflect back onto intra-European space as well. The internal logic of this grid-based view of space, in fact, dictates that it *must* eventually also be applied to European space: the graticule, as a whole-globe covering grid, decrees that if it is applied to the understanding of *any part* of the world, it must be applied to *all* of the world as well. After describing the New World in terms of latitudes, longitudes, and the geometric spaces within, it directly follows to incorporate the Old World into the same grid. Since European space had long been understood in a different fashion—as a collection of unique places—the application of geometric space to Europe did not occur immediately, but rather progressed in a piecemeal fashion over the subsequent several centuries.

This reflection of the geometric view of space back onto Europe can also be seen in the adoption of the cartographic practices that enable and enforce such an understanding, first in the Americas and subsequently in Europe. For example, the first governmental institutions created to generate, collect, and keep secret cartographic information were the respective Spanish and Portuguese bodies for managing their empires (as discussed in chapter 3). Furthermore, the Spanish *relaciones geográficas* were first used to request information about the colonies, and subsequently applied to information-gathering within peninsular Spain (Cline 1964). In practices as well as in ideas, therefore, the colonial application of Ptolemaic space preceded—and suggested—the conceptualization of European space as geometric as well.

V. Conclusion: The Hegemony of Geometric Space

This geometric view of space has gone on to dominate how all modern societies understand their world. The hegemonic power of this particular view of space—which, as discussed above, merely represents one among many possibilities—is accounted for by two categories of explanations. First, there are reasons for this dominance based on features intrinsic to the modern geometric view of space; these suggest some generalizable dynamics of how one view of space can push aside others. Second are reasons behind the dominance of the modern view of space that were contingent and resulted from particular features of the social context into which this view was introduced—in other words, contextual reasons independent of the character of the modern view of space.

V.A. Hegemonic characteristics of the modern view of space. Reasons behind the dominance of the geometric view of space based on characteristics inherent to this view are particularly important, not only for explaining the historical trajectory of how modern societies came to understand their world, but also because they offer possibly generalizable causal arguments about why a particular view wins out. This, in turn, also offers us some suggestions about the possibility of the modern view of space being undermined today by contemporary technological and social developments. In short, the modern view of space has had a comparative advantage versus other understandings of the world, based on its conception of space as homogenous.

One characteristic of Ptolemaic mapping—and of the modern view of space that accompanies it—that favors its adoption is the way in which it has a “movable center,” rather than one dictated by the mapping technique (Mignolo 1995: ch.5). Thus, although modern cartography and geometric space were Western inventions, they can be adopted and made to “work,” so to speak, for any actor anywhere. A typical world map of any of a number of projections can be centered at any point along the equator, or even at the poles with different projections. By equalizing all points on the grid, the modern view of space can paradoxically fit with any society’s understanding of its centrality in the world.

The example of sixteenth-century Jesuit missionary Matteo Ricci in China, discussed above, illustrates the mobility of the center of the map: His second world map, centered on China, was equally Ptolemaic and grid-based (and hence equally functioned to homogenize and geometricize space for those who used it) as the first map, centered on Europe, but the second was acceptable to Chinese elites in a way that the first was not. Consider, on the other hand, if Ricci had tried to introduce a medieval *mappamundi* to the Chinese imperial court: there would be no way to re-center the map on China within the structure of such a map, which was based on principles of the moral and religious importance of places to Europeans.

Similarly, the nineteenth-century disputes over where to locate the prime meridian (i.e., zero degrees longitude) involved a contest among leading European states over whose territory the line should intersect. Although a standard was eventually settled on at Greenwich, England, this only occurred because international shipping was already using it; the mapping technology and the geometric world could accommodate any prime meridian (Cosgrove 2001).

Beyond celestial coordinate location, the primary means for creating maps in the early modern period—triangulation-based surveying—could also begin at any zero point and expand outward, again making it possible for any point on the earth’s surface to be the origin and ostensible center of the map. These characteristics made modern mapping and its concomitant view of space potentially acceptable to any and all actors, no matter their geographic position, since this technology and discourse simultaneously equalizes all locations and allows each society to perceive itself at the center. Thus modern mapping has its hegemonic power not in that it immediately places one group or set of interests above another; instead Ptolemaic cartography has the “ability to involve varied interest groups in a single discourse” and thus “provides a uniform framework in which disputes can be conducted” (Kivelson 1999: 84). Even as different actors argue in favor of a particular center or meridian, they have all implicitly agreed to the fundamental structure of graticule-based cartography, and hence adopted the geometric view of space.

Not only is the modern view of space able to be adapted to any and all geographic centers, it is also inherently *global* and homogenizing. In this sense, once such a view is applied to any part of the world, it logically follows that it should be applied to all parts of the world. This was discussed above in terms of the application of geometric space to the New World first, later followed by a similar change in the understanding of European space as well. This can also be seen in non-Western cases, such as the elite-driven adoption of Western cartography and space in Siam in the nineteenth century (Thongchai 1994). As modern maps were adopted and local space understood in terms of geometric relationships rather than moral and religious importance, the perception of the rest of the world was simultaneously altered to reflect the grid-based view of the globe.

In sum, due both to the capability of the modern view of space to be centered anywhere and to its logical extension to the entire globe, this particular way of conceiving of space had several distinct advantages over other, more particularistic and culturally centered modes of understanding the world. Thus, the implication for our contemporary world is that it would be very difficult for this view of space to be dislodged, now that it has been globally dominant for several centuries. Although this possibility will be explored further in the Conclusion to this dissertation, two points should be emphasized here: First, due to the a-centered nature of this cartography and understanding, any decline in the political, military, or cultural dominance of the West need not necessarily lead to a decline in this geometric understanding of space, even though it was a Western invention and, in part, a Western imposition. Any other new global center is equally capable of situating itself within the Ptolemaic grid. Second, so long as the dominant view of any part of the world is built on this geometric, homogenous understanding of space, the rest of the world will also be understood in the same way, due to the whole-earth nature of the graticule.

V.B. Contextual circumstances favoring the modern view of space. In addition to these explanations for the dominance (and persistence) of the modern geometric view of space based on the specific character of that view, there are also a number of reasons for the dominance of geometric space that are found in contingent features and events of the historical context of early modern Europe. First of all, in the most general sense, the changes involved in the shift to modern cartography and the modern view of space formed part of the social, technological, and political changes that together constitute the transition to modernity. For example, the early developments in Ptolemaic cartography were driven by, and dovetailed with, the Renaissance combination of new learning and classical authorities. Later, cartographic developments and the geometricization of space mirrored general trends of the scientific revolution and the Enlightenment—seen, for example, in the obsession with complex geometric fortification designs (Lynn 2003: 119) and in the culture of quantification and measurement (Frängsmyr, Heilbron, and Rider 1990; Headrick 2000).

Furthermore, the increasingly geometric view of space was driven by its close links to those in power, particularly certain European rulers who, both using maps and influenced by them, increasingly conceived of space abstractly and authority in territorial terms. The colonial expansion of European powers also coincided historically with the cartographic revolution, a concurrence that, as discussed above, created much greater demand for the geometric and abstract understanding of the world and the use of modern

mapping to depict it as such. Finally, European powers, with the modern view of space, were militarily and politically dominant over much of the globe until the early twentieth century, for reasons having little to do directly with cartography. Thus, in some cases the Western abstract view of space was directly imposed through administrative and cultural imperialism. Moreover, non-Western actors often adopted the geometric view of space and its cartographic tools even without being directly forced to do so. For example, the king of Siam forced modern mapping and the related view of space on his country in the face of elite resistance. Although not imposed by direct European rule, this modernization project would almost certainly not have been undertaken had Siam not been literally encircled with expansionist European colonial powers using modern mapping technology and operating according to the modern view of space.

While these historically particular factors and conditions may not be easily generalized to apply to the possibility for contemporary change in views of space, they do suggest some of the types of contingent events and factors we should look for today (something that is examined in detail in the Conclusion). Several of them do point out, however, the importance of the links between political power and authority and the transformation of the view of space. These connections form the subject of the next chapter.

Chapter 6

Ideational Effects of Cartography II: Mapping, Territory, and Sovereignty

The territory no longer precedes the map, nor survives it. Henceforth, it is the map that precedes the territory—precession of simulacra—it is the map that engenders the territory and if we were to revive the fable today, it would be the territory whose shreds are slowly rotting across the map. It is the real, and not the map, whose vestiges subsist here and there, in the deserts which are no longer those of the Empire, but our own. The desert of the real itself.⁶⁸

Jean Baudrillard describes the post-modern condition of simulation as a world in which the map precedes the territory, rather than vice versa. Yet this ostensibly reversed order of map before territory is not unique to the contemporary world. Instead, this sequence is also apparent the cartographic foundation of early modern territorial ideas and claims, particularly in the New World (Harley 1991). This chapter explores this relationship, linking mapping and the view of space to ideas about political authority, and thus to the development of modern states and the state system. Baudrillard's notion of map preceding territory applies just as well to early modern European cartography and political authority as it does to the postmodern world of digitalization and replication.

This chapter first considers the overall relationship between maps, space, and political authority, covering both my theoretical approach as well as the existing literature that has made some form of argument linking maps to sovereignty. The following sections then examine each piece of this dynamic in detail: maps, space, and the transformation of territoriality; map use and the elimination of non-territorial authority; and the combination of the two processes to yield the consolidation of territorial exclusivity. Finally, the conclusion looks at implications for our general understanding of the link between material factors, ideas, and political authority.

I. Theorizing Mapping, Space, and Political Authority

The transformation of the European view of space examined in chapter 4 was merely the first step, analytically, in the process driving and shaping the shift in political authority detailed in chapter 2. As that chapter noted, this shift from medieval heteronomy to modern anarchy and sovereignty involved two simultaneous processes: the transformation of territorial authority and the elimination of non-territorial authorities. The creation, distribution, and use of maps in this period was involved in both of these dynamics, directly and indirectly.

First, the character of territorial authority was restructured by the transformation of the view of space—the transformation detailed in chapter 4. As Europeans' understanding of space shifted from seeing the world as a series of unique places to conceiving of the globe as a homogenous geometric surface, this had direct implications for how *political* space—and hence territorial political authority—was understood. This

⁶⁸ Jean Baudrillard, "Simulacra and Simulations," from *Jean Baudrillard, Selected Writings*, ed. Mark Poster (Stanford; Stanford University Press, 1988), p.166. The passage is primarily referring to Borges' parody of the absurd scientism of creating a map at the scale of one to one (Borges 1990).

involved a shift from medieval territorial authority over a series of locations, such as towns along a route of travel, to modern territorial authority over a uniform, linearly bounded space.

Second, the elimination of non-territorial authorities resulted directly from the character of modern maps and particularly the quantitative increase in map use in early modern Europe. As chapter 2 discussed, political interactions and structures during the medieval period involved both territoriality *and* forms of legitimate authority completely divorced from territory, including personal feudal bonds and jurisdictional rights and duties. With maps increasingly used by actors at all levels of European society, these forms of political authority not amenable to cartographic depiction were undermined, resulting in the exclusively territorial authority of modern states and the state system. The combination of these two processes—transformation of territoriality and elimination of other authorities—yielded our world of exclusively sovereign states.

Yet the relationship between the maps in circulation in early modern Europe and major actors' understanding of sovereignty is not unidirectional: The beliefs, norms, and conceptualizations about authority among actors with resources to produce or commission maps also is involved in driving which maps are produced and what their characteristics are.

Figure 5.1: Maps, Space, and Sovereignty

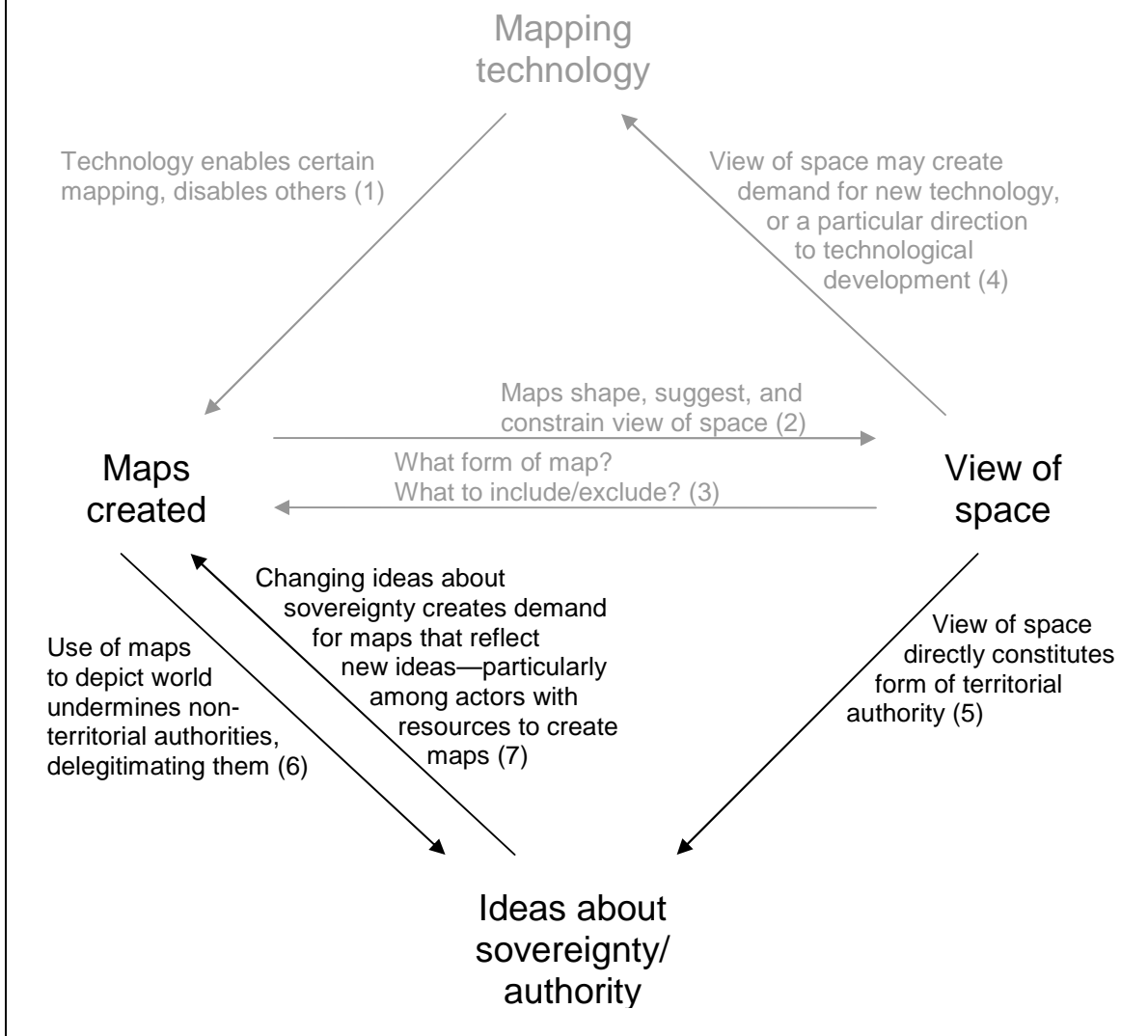


Figure 5.1 illustrates these relationships by building on the analytical scheme from chapter 4. The ideas held by actors about political authority form the outcome at the bottom of the diagram, and thus the diagram includes the ways in which this factor relates to the view of space held by those actors and the maps created in the society. The view of space directly constitutes the form that territorial authority takes in a society (arrow 5), the quantity of maps created and used determines if non-territorial notions of authority will be undermined and eliminated (6), and the changing ideas about what constitutes legitimate sovereign authority will drive the creation of more maps that reflect that view (7). Each of these three processes will be discussed in detail below, both in terms of general causality and in the specific case of early modern Europe.

This approach to the relationship between mapping, space, and political authority builds upon, but moves beyond, a number of existing efforts to relate mapping and the development of modern states and the state system. First, as is clear from the discussion in chapter 4, a general framework is provided by social theorists of space and historians

of cartography. Lefebvre (1991), for example, notes the link between transformations of space and the creation of states, but without delving into the links to cartography or the complexity of the transformation of political authority that yielded modern states. Similarly, the approach provided by the work of cartographic historians such as Harley (2001) and Wood (1992) offers a useful springboard for understanding the connections between map creation, map use, and political authority. Yet all these theorists tend to subscribe too much agency and cohesion to early modern states in a historical period during which the territoriality and centralization of states was still nowhere near complete (this reflects similar tendencies among most international relations authors). The process we are examining not only involved action by rulers as agents but also *constituted* states with their modern characteristics at the same time.

As far as work within political science, there are a few authors who have approached this question of the development of modern states and the state system with mapping in mind. What all of these approaches tend to lack, however, is a consideration of *both* of the dynamics addressed by this chapter: the transformation of territorial authority *and* the elimination of non-territorial authorities. I argue that only the combination of these two simultaneous processes yielded our world of exclusively territorial states. Other theorists tend to focus exclusively on the creation of modern territoriality without directly interrogating the process whereby non-territorial authorities—which had been legitimate for centuries—were undermined and eliminated as a foundation for political structures and communities.

Ruggie (1993), while not discussing mapping per se, does ascribe a large role to another change in European techniques of visual depiction: the development of single-point perspective. He links this to the rejection of the heteronomy of the medieval period in favor of a single locus of authority: “The concept of sovereignty, then, was merely the doctrinal counterpart of the application of single-point perspective forms to the spatial organization of politics” (159). Once again, this offers a potentially useful way to understand the transformation of territoriality (which Ruggie acknowledges to have many possible forms) but has limited traction on the question of why non-territorial authorities disappeared as well.

A few authors have directly addressed the possible role of maps in the development of modern states. Biggs (1999), for example, points out the role of maps in driving the *qualitative* aspect of state formation (the change in the character of the units of politics) that works in tandem with the *quantitative* change so often attributed to military pressures and the direct actions of rulers (i.e., increasing revenue collection and bureaucratic centralization). Again, however, difference between the dual processes of transformation and elimination of authorities is elided. Neocleous (2003) and Steinberg (2005) also make arguments linking cartography to state-building, but again do not focus on the disappearance of non-territorial authorities. Strandsbjerg (2008) makes a sophisticated argument connecting cartography and early-modern state formation, emphasizing the transformation of territoriality as an *unintended* consequence of map-making by non-state cartographers; only later did rulers take an active role in this process. Nonetheless, by not distinguishing between this process of transformation of territoriality and the equally important—or perhaps more important—process of delegitimation of other medieval forms of authority, his argument remains incomplete.

In order to build a more comprehensive understanding of these processes, the next two sections present my theorization of, first, the transformation of medieval territoriality into modern exclusive territorial authority and, second, the elimination of non-territorial authorities.

II. Spatial Change and Territorial Authority

Concepts of space and ideas of territorial authority are inextricably linked, making it inevitable that changes in understandings of space will lead to a transformation of ideas of territorial authority. Territoriality, after all, inherently concerns control over space.

In fact, these two sets of ideas are so closely linked that it can be difficult to distinguish them completely. Territorial authority is the *political* manifestation of the concept of space. This relationship is more constitutive than causal, as a particular understanding of space makes a related conception of territorial political authority possible and, in a sense, inevitable. Although this may sound tautological, it follows from a constitutive understanding of the relationship. Conceptually, this close constitutive relationship fits with my analytical effort to distinguish between different conceptual bases for authority in order to describe more effectively the early modern transformation of political structures in Europe (in chapters 1 and 2). Separating territorial from non-territorial authorities allows one to compare how the different types change, appear, or disappear over time; in the early modern case, this distinction enables us to highlight the simultaneous elimination of non-territorial authorities and transformation of territoriality. By analytically separating the process involving the elimination of non-territorial authorities (which is discussed in the second half of this chapter), we are able to look exclusively at the transformation of territoriality, a transformation constituted by the changing understanding of space.

This constitutive relationship between space and territorial authority holds true across cultures and historical periods, just as it describes the transformation of early modern European ideas. As discussed in chapter 4, the development of Ptolemaic cartography and its widespread adoption altered how Europeans viewed space, transforming the medieval notion of the world as a set of unique places, related by human experiences and ideas about them, into the modern notion of space as a geometric, homogenous expanse. This shift had specific consequences for the *political* territoriality constituted by the view of space. In fact, geographic space during this period was increasingly understood in relation to political phenomena: “a new humanist geography swept intellectual circles in the 16th and 17th centuries, and started to replace a physical geography that treated the natural world as an independent entity. Physical descriptions did not lose their value, but places were more frequently defined by political claims to them and the work done . . . to create a built environment or place of power” (Mukerji 2006: 654). General ideas of space were tightly linked to political spatial authorities.

The links between mapping, space, and the change in territorial authority will be demonstrated in the following sections: first, the particular characteristics of early modern mapping and their effects on political ideas; second, the evidence of these links in peace treaties from the period; and third, the influence of extra-European interactions on conceptions of political authority.

II.A. Early Modern Territorial Authority. The characteristics of this transformation of political authority are described in the following sections, reflecting the close constitutive links between the transformation of space discussed in chapter 4 and the changes to ideas of territorial authority. Although territorial authority is constituted by a closely bundled set of overlapping ideas, three analytically distinct aspects of its transformation can be distinguished: 1) the shift from differentiated territorial authority to homogenous territoriality; 2) the transition from territorial authority being verbally described to it being visually depicted; and 3) the shift from a center-out notion of authority to one in which authority flows from the boundaries inward. Each of these is examined in turn below, illustrating the ways in which new mapping techniques, their use, and the transformed view of space constituted a transformation of territorial political authority.

From differentiated to homogenous territorial authority. Conceptually, the homogenous nature of modern space constitutes political authority as homogenous and geometrically divisible. This replaced the medieval notion of space (general and political) as a series of places, each with its own characteristics. In medieval Europe, political authority was claimed over towns, castles, villages, or other specific places without regard for where they were located within geometrically defined space.

On the other hand, modern territorial authority—its character constituted by the modern notion of space—sees the world as a homogenous expanse that can be carved up geometrically. Specific places no longer have to be listed in order to be claimed politically, so long as they fall within the geometrically delineated space. (This shift will be seen below in the discussion of the language of authority of peace treaties.)

The nature of modern mapping is inherently tied to this transformation, as it was the geometric nature of Ptolemaic techniques that enabled and enforced a geometric view of space. One aspect of early modern mapping that is particularly closely tied into the constitution of modern territorial political authority is the use of color on maps. A map with uniformly colored-in, geometrically defined spaces will obliterate the uniqueness of places in favor of the homogeneity of bounded spaces.

The relationship between the use of color on maps and conceptions of space runs in both directions. On the one hand, a cartographer with a view of space as geometrically homogenous may operationalize that understanding in maps by filling in delimited areas with uniform colors. While this use of color can be used to distinguish any type of geographical unit (i.e., continents, cultural areas, etc.), beginning in the early modern period—and extending to today—political units very commonly defined the areas to be colored in. Often the accuracy of the choice of units is questionable, but the relationship to an understanding of territorial political authority as homogenous is clear nonetheless. (See the section below on boundaries for a discussion of the character of bounded political units in early modern maps.)

The relationship between map color and the homogeneity of space goes the other direction as well, however, as map readers who consistently make use of maps with color-filled areas will be influenced by this depiction, reinforcing a view of space as homogenous. Consider the different impacts of a map with boundaries but with no coloring versus a map with linear boundaries colored in. In the former, space is divided linearly, but within the lines space can still be seen as a collection of places. In early

modern maps, for example, towns were carefully engraved and labeled. With a colored map, on the other hand, the visual emphasis is immediately put on the different homogenous geometric *spaces*, diminishing the importance of specific *places*.

Maps could not be printed effectively in color until the nineteenth century, and thus color on maps was added by hand after printing. Yet the coloring of printed maps was relatively standardized, particularly for bound atlases. Maps were often printed with explicit instructions on where and how color should be added (Akerman 1995), and even the wealthy purchasers of maps got involved: “In the seventeenth century coloring maps also became an accepted genteel pastime, as indicated by the numerous treatises intended for the instruction of amateurs” (Ehrensward 1987: 134). Although maps were sometimes colored privately or by someone other than the publisher, in the case of atlases and other collections of maps bound as books, color was added after printing but often before binding, thus putting it squarely under the control of the publisher (Koeman 1970).

This control over the use of color in maps—whether actual in atlases sold in color or intended in the case of including explicit instructions for coloring—helped promote a consistent approach to coloring. In fact, the most common way in which color was used was to illustrate or suggest explicitly *political* differences. This followed from the aforementioned trend during the sixteenth century onward of understanding geography in more human and political terms. The focus on political relations combined with the new techniques of Ptolemaic mapping to produce more and more maps with homogeneously colored spaces on them. As early as the first printed atlases (late 1500s), color was an integral part of the commercial appeal of maps (Ehrensward 1987)

After 1700 these practices were consolidated. “In the eighteenth century plates were engraved with instructions that directed illuminators to apply specific colour washes to various parts of a map to indicate the territories of different sovereigns or states” (Akerman 1995: 144). Even the instructions for general map users recommended painting different countries or provinces with different colors to “better distinguish them.” For example, a 1726 instruction manual by Johan Hübner on creating and coloring maps argued that “Color should serve only the informative purpose of emphasizing the administrative, religious, ethnic, and other divisions of a country” (Ehrensward 1987: 138). This instruction exemplifies the notion that divisions of the human world—political, religious, or otherwise—can be best illustrated by homogenous coloring of bounded spaces.

The impact of coloring on users’ view of space would have been much less, had color not become such an integral part of early modern cartography. Considering the added difficulty and cost of coloring printed maps, why would mapmakers produce so many colored maps? The answer lies in the importance of aesthetic beauty to the appeal of cartography in early modern Europe, particularly in the appeal to rich commercial and governmental elites. Even as early as the late sixteenth century, Ortelius’ “use of color was also influenced by the growing public demand for beautiful maps” (Ehrensward 1987: 137). In the mid-seventeenth century, the *Atlas Maior* of Joan Blaeu offers a key example of the emphasis on cartographic beauty. All of the maps in this multi-volume work are fully colored, for good reason: “The display-loving European aristocracy . . . showed a marked preference of the large six-volume atlases of Blaeu and Janssonius over the smaller, but scientifically superior French atlases. . . . It was rather the superb typography, the beauty of the six hundred hand-colored maps, and notably the unrivaled

size that made the atlas desirable” (Koeman 1970: 32, 41). In the eighteenth century, the accuracy-focused cartography of Enlightenment projects such as the Cassini survey of France was overshadowed commercially by the continuing emphasis on maps as beautiful consumer objects, a large part of the appeal of which was in the coloring. Robert de Vaugondy, a major French commercial map publisher of the 1700s, focused his efforts on the beauty of his maps rather than on their scientific accuracy: For example, his printing house made expensive changes to the calligraphy of place names but did not bother to make corrections based on the latest geographic discoveries (Pedley 1984: 56).

Thus, the reciprocal relationship between map coloring and the conception of territorial political authority as homogenous and geometric is more complex than merely a story of mapmakers dictating how map users (and thus much of the European elite) would come to understand space. Mapmakers were motivated to include elements of beauty in maps for no other reason than that was what the purchasing public demanded—and recall that the first several centuries of modern mapping saw private cartography predominant. Government-employed cartographers also produced maps for the private market (Vigneras 1962), and major state-sponsored mapping projects such as that of the Cassini family in France were also sustained by private patronage (Petto 2007). The beautification of maps demanded by buyers was most easily accomplished in the era of printing by hand-coloring maps.

Furthermore, mapmakers did not necessarily—and probably in fact did not—consciously aim to promote the understanding of political space as geometric and homogenous. Instead, it is inherent in the nature of Ptolemaic cartography, upon which these mapmakers had staked their intellectual and commercial fortunes, that space is treated geometrically: the coordinate system of latitude and longitude, applied to all points on the earth’s surface, favors this conception. Thus mapmakers—competing with each other for the attention of wealthy patrons and relying on their own subconscious tendency toward geometric space—habitually used color to depict political divisions and hence unintentionally enforced a homogenous conception of territorial authority.

Thus maps were produced with homogeneously colored territories, not because the political world was actually structured along those lines in the sixteenth or seventeenth centuries (as illustrated in chapter 2), but rather because map buyers demanded maps that could serve as objects of beauty. The most effective way for mapmakers to fulfill this demand was to use color to fill in space, a means that also fit with their Ptolemaic cartographic techniques. The effect on conceptions of territorial political authority—homogenizing the medieval collection of places into a geometric expanse—was, in a sense, an accidental by-product of the market for maps in the early modern period. Once the modern conception of territoriality is hegemonic, however, maps with states colored in homogeneously appear to be the only natural way to depict the world—as evinced by most maps today.

From verbally described to geometrically depicted territorial authority. As Europeans’ way of understanding space shifted from a verbal description of a list of places to a visual depiction of the world based on maps, so too did territorial political authority become increasingly visually depicted. This transformation occurred in spite of the persistent belief in the superiority of the written word and textual description generally (Grafton 1992).

In the medieval era, the understanding of space (politically and in general) as a differentiated collection of places was easily accommodated by written description. Furthermore, the use of written descriptions, quite literally listing a series of places, reinforces the idea that space and territorial authority are most effectively understood and communicated in this manner. The modern view of space as geometric, on the other hand, is fundamentally based on mapping, and in particular on the grid-based mapping of Ptolemaic techniques.

The importance of mapping and visual depiction is made particularly clear by the way in which written descriptions of political authority came to be accompanied by visual depictions. While written descriptions of territory and territorial authority persisted well into the early modern period, these were often published in conjunction with maps. In Mercator's Atlas (first published in the 1580s), for instance, "On the front side of most maps a more or less detailed text belonging to the map, is printed. This text is pretty much without exception of a historico-political nature and mainly contains the political and ecclesiastical divisions of the territory represented" (Keuning 1947: 40). Similarly, seventeenth-century French mapmaker Nicolas Sanson printed a table describing the various divisions of the territory alongside his maps, a practice that was continued by eighteenth-century map printers such as Vaugondy (Pedley 1992: 29).

Furthermore, in the early modern period the written description of territory began to shift toward the geometric understanding of space, particularly regarding the New World. For example, consider "the 'legal cartographies' of charters and grants" (Baldwin 2007: 1765): these written descriptions of the extent of territorial political authority granted to the colonists may not have incorporated maps per se, but they depended fundamentally on the map-based understanding of space created by the use of Ptolemaic cartography. That is, describing possessions in terms of lines of latitude or longitude only made sense once Ptolemy's instructions had been internalized. Otherwise, describing a linear division verbally does not guarantee to both sides that all parties have the same understanding of what is claimed by each side. Similarly, the inclusion of linear boundary descriptions in peace treaties (by the beginning of the nineteenth century), though still privileging text over image, leaves treaty parties unable to comprehend, let alone implement, the new boundaries without using maps for reference (discussed in more detail below).

Modern cartography and the geometric view of space created by the use of these maps thus constituted a change in the prevalent notions of political authority, as visual media were increasingly used to depict authority or required to understand descriptions of authority. (More evidence of this shift toward visual depiction is outlined below, in the discussion of political boundaries on maps.)

From center-focused to boundary-focused political authority. One of the most drastic transformations of space—political and otherwise—involved in this overall shift was a revolution in the direction in which spatial authority was defined. The medieval notion of political authority as radiating outward from a center of strong control (a conception shared by many pre-modern cultures) was replaced by an emphasis on boundaries between political spaces. The result is our modern perception of spatial authority defined exclusively by linear boundaries, and homogenous within those lines. The following paragraphs discuss this key shift, first focusing on the logical link between

the new mapping techniques and the increasing importance of boundaries, second examining some pre-modern examples of center-out political authority to highlight the unique nature of modern authority, and third discussing in detail the evolution of the depiction of boundaries, illustrating that boundaries were drawn on maps long before they existed on the ground.

Logically, if space comes to be understood as a geometric expanse upon which areas are only distinguished by linear divisions among them, political authority over space will follow suit. The homogeneity of space in the modern conception drives this shift, as once places are understood as qualitatively equivalent points on a geometric grid, the idea of a single place as a center of political authority loses its legitimacy. Homogenized geometric space, and hence the modern form of territorial political authority, is defined solely by lines that form boundaries between different areas.

While this argument makes sense logically—based on the close constitutive relationship between the concept of space and ideas of spatial political authority—the role of Ptolemaic mapping in driving this shift is further supported by the relative timing of the changes. As will be discussed in detail below, the process proceeded in several distinct—and historically sequential—steps: first, maps depicted political authority as a collection of linearly bounded spaces; second, political ideas shifted toward an acceptance of linear territorial authority as preferable to authority over a collection of places; and, finally, political practices (and hence international structures) reflecting these changed ideas were put in place on the ground, literally.

The way in which boundaries are drawn on maps in early modern Europe (as well as today) illustrates this logic clearly. Political units are not just bounded by a line, but are also colored in homogeneously (as discussed in the previous section). Furthermore, this coloring scheme is often not *completely* uniform throughout the territory: the colors filling the different territorial units are made stronger at the boundary, thereby highlighting the boundary-focused nature of this depiction. Territory is both homogenized within the boundaries and the identity of the political unit—defined in opposition to its neighbors' identities—is emphasized and made strongest *at the boundary itself*.

This particular method of emphasizing boundaries though coloring was anything but an exception during the early modern period, and was in fact recommended in coloring instructions. One seventeenth-century manual recommended that “The boundaries of provinces and the seacoast are to be emphasized by graded area washes, darkest along the line symbol” (Ehrensward 1987: 135). In sixteenth- and seventeenth-century atlases, these “Pastel-coloured lines . . . were apparently drawn under the supervision of the cartographer or publisher” (Akerman 1995: 141). And, in spite of other coloring schemes being available, this boundary-emphasizing method remains popular with major mapmaking institutions today.

One way to see the particularly boundary-focused nature of early modern mapping—and the parallel boundaries-in notion of authority—is to compare this with other cartographic traditions and ideas of authority. As the few examples below will show, non-Ptolemaic forms of mapping or spatial depiction do not lead to the same fixation on boundaries that we see develop in early modern Europe.

First, many non-western traditions of mapping and territoriality are consistently center-focused. In pre-colonial West Africa, for example, the Asante envisioned their

kingdom as a circle forty travel days in diameter, centered on the capital (Klinghoffer 2006). During the period of European exploration, numerous maps were drawn by African rulers and shown to Europeans as a means of depicting their authority. These maps showed circles of non-abutting territories, each centered on a particular seat of power and representing a progressive decline in authority as one travels outwards (Bassett 1998). This type of mapping, not shaped by the Ptolemaic emphasis on grid and coordinates, does not drive the same transformation of political authority to a boundary-focused notion.

Within pre-modern Western cartography, in addition, there are several mapping traditions that support center-focused notions of political authority. For example, in early-Renaissance Italian city-states, rulers and citizens saw the city as a central focus to the countryside it ruled, to the degree that rural areas were practically ignored (Martines 1979). The predominant mode of visual depiction of these city-states—bird’s-eye views—both reflected and lent support to this notion. Bird’s-eye views of cities are explicitly center-out, particularly when compared against a town plan. A plan shows the street layout on a geometrically equivalent scale (in theory at least), while a bird’s-eye view emphasizes the centrality of the city by also showing, in extremely minimized form (due to perspective), the surrounding countryside. (A purposefully exaggerated version of the same effect is offered by the famous 1976 *New Yorker* magazine cover, “View of the World from 9th Avenue.”) Bird’s-eye depictions of space and political authority remained popular in Italian city-states well into the sixteenth century, often in a mix with more Ptolemaic-inspired map types (Schulz 1987). Once again, here is a non-Ptolemaic method for visually depicting space and territoriality that lacks the modern map’s impetus toward a boundary-focused notion of authority.

The portolan chart tradition of maritime navigational cartography also serves as an interesting foil to the Ptolemaic map. The difference between political depiction on these charts and that on early modern Ptolemaic maps and atlases is particularly important, since portolan charts are often seen as a precursor to modern mapping, both in their reasonably accurate coastal outlines and in their depiction of political authority claims.⁶⁹ Yet the differences are in fact very great. Chartmakers often placed flags, bearing the coat of arms or other symbol of a particular ruler, on towns or inside the territory of a state. Yet although a flag may claim or represent political authority, it does so in a single-point-outward fashion. The definition of territoriality represented by placing flags over towns radiates a claim outward from a center—and without *also* drawing boundary lines or homogenously coloring in an area of space, flags do not reflect, and will not promote, a bounded, homogenous conception of political authority.

Furthermore, flags were often more decorative than useful for navigators seeking to know exactly what ruler was in charge of a particular port they were sailing into. Particularly egregious—from an early modern European’s point of view—was the fact that even into the fifteenth and sixteenth centuries, charts were rarely updated for Ottoman conquests of formerly Christian-controlled ports. With Christian sailors

⁶⁹ Brotton (1997), for example, writes that portolan charts used “symbolics of territorial possession (graphically articulated in the flags which define territorial sovereignty across its surface)” (p. 55). Yet, as is discussed immediately below, the use of flags to depict territorial authority does not define that authority “across its surface” in the modern fashion, but rather as a center-focused point of strong authority radiating—and weakening—outward.

concerned about the potential hostility of an Ottoman port, this conquest would have been useful to depict (Astengo 2007). In short, “flags have often been interpreted as a straightforward account of shifting political reality. Yet they made a very limited response to the turmoil of the centuries concerned” (Campbell 1987: 401).

The lack of attention to accurately depicting political authorities follows from the primary intended purpose for portolan charts: ship-board navigation. Thus, features of land areas were almost never included, and in fact—and in contrast to modern mapping techniques—land areas were left blank or used as an empty canvas for more important information. For example, in a 1606 portolan chart of Europe by Willem Blaeu, the eastern portion of the Mediterranean is cut off by the shape of the map print, and is thus instead depicted *within* the confines of the North African continent. As the mapmaker wrote, “Since there was no place for representing the Mediterranean in its entirety, we decided, for the convenience of mariners, to add the rest and place it inside the coasts of Barbary” (quoted in Schilder 1976: 11). Thus, this form of mapping, very common among European navigators from the Middle Ages well into the early modern period, also fails to promote the boundary-focused understanding of space, as only the Ptolemaic techniques did.

Within the Ptolemaic mapping tradition that began in the mid-to-late fifteenth century, on the other hand, boundaries came to be depicted as lines relatively quickly, particularly from the mid-1500s on. Once again, however, the chronology of *mapping* boundaries as linear versus *implementing* boundaries as linear in practice demonstrates that cartography did not simply follow existing practices, but instead anticipated and, I argue, drove changes in political practices. The following paragraphs detail this process: first, mapmakers began to depict boundaries as linear in the sixteenth century, though often in wildly inaccurate ways; this, in turn, altered map users’ ideas about political territoriality; which led, finally, to the implementation of linear boundaries in practice in the late-eighteenth and nineteenth centuries. Thus, political practices eventually created political structures and institutions that reflected the maps that preceded them.

The trend during the sixteenth and seventeenth centuries of drawing linear boundaries on maps has been documented by Akerman (1995): “Whereas only 45 per cent of the maps in Ortelius’s *Theatrum* (1570) had boundaries, 62 per cent of those in a Hondius edition of Gerard Mercator’s *Atlas* of 1616 were marked with boundaries; 79 percent of those in the Blaeus’ *Theatre du monde, ou nouvel atlas* (1644); and 98 percent of those in Nocalas Sanson’s *Les Cartes générales de toutes les provinces de France* (1658-[59]). Thereafter large format world atlases typically had 90 percent or more of their maps showing boundaries” (Akerman 1995: 141). My own search through Joan Blaeu’s 1665 printing of his *Atlas Maior* found that *every map* therein depicted color-coded linear boundaries—and this in one of the most voluminous, coveted, and expensive printed atlases of the seventeenth century.⁷⁰ During the later 1600s “graded boundary marks” were also increasingly used to distinguish between larger and smaller political divisions (Akerman 1995: 141). This demonstrates the clear trend toward drawing political boundaries as linear divisions of a geometrically defined map surface, slowly replacing the former reliance on written descriptions of political structures.

⁷⁰ This was based on a search through a published reprinting of the 1665 edition: Joan Blaeu, *The Atlas Maior of 1665*, Benedikt Taschen and Peter van der Krogt, eds., Hong Kong: Taschen, 2006.

The same pattern is also apparent in labeling on maps. While in 1570 Ortelius labeled only large cultural areas and “a jumble of localities apparently arbitrarily selected as available space allowed,” the 1757-58 French *Atlas Universel* displayed a careful hierarchy of labeling for larger versus smaller units (Akerman 1995: 144). The wide consumption of these atlases at many levels of European society reveals their potential impact on conceptions of authority.

While this might be interpreted as a case where maps were simply reflecting the progressively linear and territorial boundaries between centralizing early modern states (as anachronistic readings of early modern political history would assume), the fact is that the linear boundaries—and even some of the units—depicted on these increasingly detailed and systematized maps simply did not reflect the actual political arrangements on the ground. Instead, maps depicted linearly bounded, exclusively territorial states *before* such states existed, and thus instead provided part of the ideational architecture for the eventual consolidation of modern statehood. This “inaccuracy” took several major forms: the elision of regions of complex authority structures in favor of uniform territorial depiction, the visual linearization of boundaries that were anything but clear-cut in reality, and the unclear distinction between internal and external boundaries.

For example, consider the depiction of “Italia” and “Germania” on early modern maps of Europe. Prior to their respective political unifications in the nineteenth century, both of these areas were understood at most as distinct cultural regions, defined as such by the humanist focus on classical divisions of the Roman world (Akerman 1984). But on early modern maps of Europe these two heterogeneous regions were depicted as equivalent to increasingly territorial political entities such as France, Spain, or England. A similar pattern is apparent in map labeling, with the equivalent type style and size used to label Italy or Germany as France or England.

In addition, the anachronistic reading of early modern maps as accurately representative of the political organization of Europe extends beyond these obvious examples, and also pertains to the depiction of polities such as France or Spain. As chapter 2 argues, far too often the presence of a political entity called “France” in the medieval or early modern period leads modern observers to assume that this polity is identical—in basic character if not in exact borders or extent—to the modern territorial and centralized state of the post-Revolutionary period. Thus maps from the early modern period depicting France as a bounded, homogenous territorial entity are read as a representation of political reality, when the truth is otherwise. The boundaries of France, and other polities of early modern Europe, were not linear on the ground, and involved extensive overlaps, enclaves, and non-territorial complexities across broad frontier zones, through at least the late eighteenth century (Sahlins 1990).

Finally, in spite of the increasing visual differentiation of different types of boundaries in maps (particularly during the seventeenth and eighteenth centuries), the distinction remained unclear between an external “international” boundary and an internal “administrative” or “provincial” boundary. This makes it very difficult to argue that the boundaries drawn so carefully on these maps accurately depicted political arrangements on the ground. For example, in the *Germania* volume of Blaeu’s 1665 *Atlas Maior*, all of the maps contain carefully engraved linear boundaries, which were subsequently hand-colored before the atlas was sold. Yet the nature of the units distinguished by these boundaries is unclear. For example, the units depicted on the map

of the entire region of “Germania” do not match those on the maps of smaller areas (such as the “Circle of Westphalia”), even though the visual symbolism of color-coded, linearly divided units is the same (reprinted in Taschen and van der Krogt 2006: vol.3, part 1, 58-61).

The anachronism of the boundaries drawn on early modern maps raises the question of why mapmakers would depict bounded territorial units that did not exist at the time—and which they, unlike us, had no idea would become real centuries later. Recall that this was a period in which territorial political authority was not dominant, even as an *idea* of political organization. One answer, presented by Biggs (1999), is that “such inconsistencies show that map-makers did not intend to depict contemporary political units” (393). This is certainly one possibility, not easily dismissed considering the awkwardly anachronistic, inconsistent nature of many of the boundaries drawn on these maps (Akerman 1984). Yet I would argue that there is evidence that mapmakers were very interested in depicting political arrangements, and that it was the *medium* of commercially printed Ptolemaic mapping and the related worldview of mapmakers which drove this depiction of the world as a collection of homogenous, linearly bounded territories. For example, some mapmakers stated their intention to help readers understand the political world they lived in. The text of the Mercator-Hondius-Janssonius atlas of 1639-42 explicitly states that in addition to depicting historical information, maps have “a more recommendable purpose, which is to know about the political State” (quoted in Pelletier 1998: 45). Additionally, the general shape given to the unit labeled “Germania” on sixteenth-century maps reveals that cartographers most likely were attempting to approximate the boundaries of the Holy Roman Empire—a political, though amorphous, entity—rather than simply the area of German language or cultural influence (“A Corpus of Maps” 1993).

Another piece of evidence that points toward a firm belief in the need to depict political authority on maps is the treatment by early modern mapmakers of non-European parts of the world. While the New World of the Americas was often depicted as artificially empty—and even its coastal outline unclear for several centuries after Columbus—the interior of Africa was often filled in with invented political units. For example, on the African continent in a 1606-07 world map by Willem Blaeu, “Inland, towns, provinces and rivers are located with little precision, often from hearsay, filling up the empty space on the map” (Schilder 1979:39). Nicolas Sanson’s 1655 map of Africa likewise fills in the interior with imagined features, and in particular draws clean linear boundaries between, and places labels within, imaginary political territories that fill the continent (each labeled as a different *regnum*, or kingdom). These are clearly invented by the mapmaker: “The regional system on Sanson’s African maps seems partly political, but their dubious association with actual polities suggests that Sanson’s obsession with hierarchy seems here more an expression of his working method than of political structure” (Akerman 1995: 141). Sanson, after all, consistently inserted rigorous geographical tables into the margins of his maps, defining spaces by their hierarchical relationships. This tradition continued into the early eighteenth century, as leading French cartographer “Guillame Delisle’s *Carte d’Afrique* (Amsterdam, c.1722) misleadingly divides the whole of Africa into kingdoms with clear frontiers” (Black 2002: 31).

In contrast to the nineteenth-century practice of intentionally leaving unexplored regions blank (Bassett 1994), this early-modern approach of filling in unknown spaces

with political delineations illustrates that mapmakers were ready to draw linear boundaries even when they knew that such lines—and the homogenous territorial units defined by them—were anything but “accurate.” Furthermore, the labeling of imaginary territorial regions in Africa as *regna* clearly indicates their supposed political character, rather than just being meant as geographic or cultural areas.

For an understanding of *why* mapmakers would knowingly depict inaccurate political divisions, both outside of Europe and within it, several factors played a role, related to the character and context of early-modern Ptolemaic mapping. First, finding an accurate way to depict the pre-modern form of territorial authority (over a series of places, potentially overlapping and shared), particularly on a map covering a large area such as the entire continent of Europe, was a very challenging task. With the prevalent techniques of printing maps (first using woodblocks and later copper-plate engraving), drawing a linear boundary is actually quite easy, and then requires a minimum of expensive labeling to depict territorial authority. Coloring in those delineated spaces is the next logical step, and once again provides an easy way to visually differentiate areas for map users. Furthermore, the emphasis on printed maps as objects of beauty—and hence objects worthy of purchase by status-obsessed elites—encourages the application of as much color as possible by mapmakers, in an effort to make their product stand out. (Recall that during this period commercial mapmaking was predominant over state-sponsored efforts.)

Second, although the techniques and market pressures of cartographic production favored the use of linear boundaries and color-coded political units, so too did the ideational structure constructed by Ptolemaic maps. This factor was particularly strong in the case of the cartographers who spent their lives—and earned their livelihoods—creating maps based on the Ptolemaic grid. While attitudes among Europeans in general, and even among the educated ruling elite, may not have shifted completely toward the understanding of space and territoriality as geometric and homogenous, mapmakers would be among the first to internalize such a view, and thus operationalize it in their production of maps. This was not necessarily done consciously by mapmakers, as they almost certainly did not set out on purpose to “change the minds” of their customers. Yet, as Harley (2001: ch.4) makes clear, more important than the obvious power of those patronizing mapmaking is the internal power of a map to represent the mapmaker’s worldview and advocate it with map readers.

Until at least the late eighteenth century, the exact details of the linear territorial divisions remained inconsistent in maps just as they remained unclear or unimplemented on the ground. Nonetheless, the key constitutive *definition* of political authority as linear, geometric, and homogenous was consolidated whether or not the exact *placement* of those boundaries was clear or not. For example, Akerman (1984) argues that, after 1648:

The French standardized the appearance of boundaries and regional names, but this does not mean that they applied them in a modern fashion. . . . Faced with many meaningful schemes for dividing Europe, seventeenth-century French mapmakers gave none primacy. All had equal value in their intelligence of the world. Nothing could prove more strongly that the mental process of dividing Europe had yet to settle on the principle of territorial sovereignty (90-91).

Note, however, that this author misses the key transformation that has already occurred, which in fact *does* represent the consolidation of “the principle of territorial sovereignty”:

all of the different “regional schemes” for dividing Europe politically on a map involved drawing lines to divide homogenous spaces. That is, any and all of them represent the endpoint of the transformation of ideas about territorial authority, predating the implementation of territorial boundaries in practice.

Finally, early modern mapping—and in some sense, all mapping—has difficulty in clearly and easily illustrating for readers that the information contained therein may be uncertain, unreliable, or even completely divorced from actual arrangements. Particularly if mapmakers wish to hide the uncertainty of what they are depicting visually, maps can appear far more accurate than they are. Printing, with its emphasis on consistency and mass distribution, provides further support for the aura of authoritativeness surrounding maps (Woodward 1980: 96). As Pickles (2004) points out about the progressively more “scientific” maps of the early modern period, “it was the very craftsmanship and persuasive quality of maps that meant that map users have often overlooked the actual practices of map design and map-making. Unlike the author of a written text, the cartographer cannot express the limits of his technique in the map itself” (p.35).⁷¹ Thus, in a map depicting territorially bounded states, there is no easy way for a mapmaker to illustrate, or for a map reader to distinguish, between linear boundaries that may have some relation to actual political practices and those that have been essentially invented by the cartographer. In fact, the use of color made this issue even easier to resolve for map printers: “For the identification of political units, coloring had the advantage of being conveniently imprecise” (Delano-Smith 2007: 555). Yet for a map reader, colored boundaries can *appear* to be very precise, whether the cartographer intended them as such or not.

These trends in the depiction of boundaries, their character, and the wide readership of such maps combined to create the conditions necessary to drive a change in the ideas held by European rulers about political authority. The timing, once again, indicates that maps and the cartographic depiction of linear boundaries were not epiphenomenal to this process. Mapped boundaries were firmly entrenched in the visual language of maps centuries before ideas about political authority, let alone practices, followed suit. The change in prevalent ideas about authority will be seen in the examination of the language of peace treaties (following this section, below).

As the final stage in the shift toward a boundaries-in form of territoriality, linear boundaries were implemented in practice during the late eighteenth and particularly in the nineteenth century, following the Congress of Vienna. (The process of implementation is examined in detail in chapter 6.) Thus, in the nineteenth century, maps finally “accurately” reflect political reality—but only because cartography itself shaped that political reality by changing actors’ ideas about the legitimate form of territorial authority. Indeed, when one compares a seventeenth-century map such as one from Blaeu’s 1640 *Atlas Maior* with a nineteenth-century map, the maps to us look very similar in character, if not in the placement of linear boundaries. Yet the lines on the latter map represent actual political divisions on the ground—demarcated and

⁷¹ The difficulty of dispelling this illusion of certainty is not isolated to early modern cartography. Even efforts today, using sophisticated technologies such as GIS maps, find that, although it is possible to display map information in a way that both allows the data to be easily read *and* makes the relative uncertainty of the data clear, successfully achieving this requires complex display strategies, well-educated map users, and some active instruction in reading techniques (Blenkinsop et al. 2000).

administered by the territorial states—while those on the former map do not. This is not a case of mapmaking simply getting more “accurate” through more careful surveying, mapping, or printing techniques. Instead, the political practices of states followed the linearization of boundaries on maps when rulers effected linear divisions in practice, at which point maps finally *do* represent political reality with some accuracy. This is another case of ideas, driven by mapping, moving in advance of practices, in this case political administration techniques.

In the nineteenth century, this sense of the geometric territoriality of political authority was so strong that it was projected backward into history, in the form of historical maps and atlases depicting linear boundaries where none had existed (a tradition in historical atlas production that continues today). In the nineteenth century historical atlases began their focus on “the successive changes in the distribution of states, with their attendant alterations of frontier,” which includes notions, such as states and linear boundaries, that were inapplicable in the periods depicted (Black 1997a: 27). Similar to the effect of nineteenth-century historiography’s anachronistic projection of contemporary states into medieval Europe—and the resulting assumption among international relations scholars that territorial states have always existed—our notion that political space has always been understood as linearly divided originates in these historical atlases from the 1800s.

This centuries-long progression from the initial depiction of linear boundaries to their final implementation in the practices of European states has two implications for the typical understanding of boundary creation. The standard way of conceptualizing boundary creation involves three (or sometimes four) steps: 1) *allocation* or *identification* of the linear boundary by both parties; 2) the exact *delimitation* of the boundary in a treaty or other agreement; 3) *demarcation* of the boundary on the ground, usually with physical boundary markers of some kind; and 4) *administration* of the boundary over time by both parties (Prescott 1987: 13; Giddens 1985: 120). Yet the discussion above suggests that, in the early modern case, an important step preceded these: the *constitution of the idea of linear boundaries* and the legitimation of that notion by mapping. Only after the idea of linear boundaries separating homogenous political territories was constituted and supported by mapping could the allocation, delimitation, and demarcation of boundaries begin.

* * *

Once again, we can also see the power of Ptolemaic mapping to change views of space and resultant notions of political authority in the impact of Western mapping in other cultures, particularly during the late colonial period. For example, nineteenth-century Siam simultaneously saw the introduction of Western geography into education and statecraft and the imposition of Western notions of boundaries by the colonial powers surrounding the still-independent polity. Following the Western idea of homogenous political space, words used for political authorities were reduced from a multiplicity of terms, referring to anything from a single village all the way up to a country, to a single term used as an equivalent of the English word “nation.” Similarly, boundaries had not been the focus of pre-modern ideas of political authority in the region, as power was conceived of radiating outward from a center of control and dissipating in a loosely defined frontier zone. This clashed with the increasing incursions by Western powers: “The British attempt to demarcate the boundary [between Siam and Burma] induced

confrontations between different concepts of political space. This confrontation, however, went unrecognized by both sides because they used words that seemed to denote the same thing” (Thongchai 1994: 79). Eventually the Western notions were adopted by Siamese elites, who used the new ideas both to negotiate more effectively with the British and French and to assert a new centralized control over border regions. In a matter of decades, territorial authority was transformed from a sense of loose control over differentiated places, defined from the center outward, to an understanding of authority—based on modern mapping—as homogenous, visual, and delineated by clearly defined boundaries.⁷²

II.B. The Transformation of Territorial Authority in European Peace Treaties.

The process transforming European ideas about territorial authority, driven by the character of Ptolemaic cartography, involved more than just an amorphous shift at the level of societal norms or *mentalité*. The complete revolution in how territorial authority was conceptualized is also evident in the concrete form that such political ideas take, particularly in the texts of agreements between international actors. Treaties also offer evidence of the role of cartographic developments and ideas in the transformation of authority.

Peace treaties provide an excellent means of gauging the ideas held by leading political actors in the early modern period. While treaties are, of course, simply written documents and are—and always have been—treated as agreements that can be broken, they nonetheless reveal some of the dominant political conceptions of the time. Whether or not a ruler plans on abiding by an agreement, negotiating and signing that agreement exposes the fundamental ideas held by actors about what it is they are negotiating over (Krasner 2001: 34). In particular, the way in which political authority is exchanged, transferred, claimed, or captured reveals the fundamental norms about authority, even if both sides do not agree on the specifics of who gets what. Questions central to this investigation include: Is the exchange made in terms of territory, or something else? If territory is discussed, how is it passed from one ruler to another? What is the role of maps or cartographic language in the implementation of territoriality?

The study of the evolution of the French-Spanish border in the Pyrenees by Sahlins (1989) offers an illustration of the complex way in which ideas in treaties interact with political events and structures. On the one hand, although the 1659 treaty includes the agreement that the boundary should follow the “natural frontier” of the mountains, several centuries passed before the boundary was actually delineated and demarcated on the ground. This might appear to indicate that the treaty was just words on paper, and thus was disregarded by the relevant actors in their pursuit of political interests. In fact, however, the language in the 1659 treaty actually influenced how actors pursued their goals—of territorial expansion, military defense, and internal administrative reform—in the region, making the treaty *anticipate* later political structures that made the linear boundary real (Sahlins 1989: 62-63). Therefore, although treaties are just words on paper

⁷² This process of adopting Western ideas of linear political boundaries was not limited to Siam, of course. For example, under British imperialism, boundaries within India underwent a complete redefinition: “In a major conceptual reversal, boundaries were no longer vague axes of dispute (frontiers) between core areas of Indian polities but were configured as the means whereby those core areas were now defined” (Edney 1997: 333). This reflects the shift from center-out to boundaries-in territoriality driven by modern mapping.

that rulers may very well intend to disregard, they still structure the behavior of political actors over time.

Thus the transformation in early modern European ideas of political authority—from a differentiated series of places, textually described and understood from the center out, to a homogenous space, visually depicted and defined from the boundaries in—is illustrated in the changing language of negotiation and agreement in treaties. This transformation is demonstrated by examining the following negotiations and treaties: Arras, 1435; Cateau-Cambrésis, 1559; Westphalia, 1648; the Pyrenees, 1659; Utrecht, 1713; Vienna and Paris, 1814-15; and Versailles, 1919. Each treaty or negotiation reveals the prevalent contemporary ideas about territorial authority, and thus the collection as a whole demonstrates the early modern transformation of territoriality, driven by the increasing use of Ptolemaic mapping.

The Congress of Arras, 1435. The negotiations between the English King, the French King, and the Duke of Burgundy—which yielded no settlement between England and France but did result in an agreement between Burgundy and France, shifting Burgundy’s allegiance from England to France—illustrate the medieval notion of territorial authority over a verbally listed series of places. The unsuccessful negotiations between England and France involved demands for control over towns, listed as a series of places and not defined as a homogenous territory (Dickinson 1955: 148). In the agreement between Burgundy and France, “express mention is made of the cession of Mâcon, Auxerre, Péronne, Montdidier, Roye, and Bar” as a series of towns, not as delineated spatial areas (Dickinson 1955: 166). In short, the negotiations and treaty clearly demonstrate the medieval notion of spatial authority, and its complete dissociation from mapping and homogenous territoriality.

Peace of Cateau-Cambrésis, 1559. In 1558-1559, France, Spain, and England met to negotiate an end to the Italian Wars that had begun at the end of the preceding century. In the several treaties that resulted from these meetings, territorial trades and cessions are once again made in the form of lists of towns. For example, article 11 of the French-Spanish treaty states: “The King of Spain shall restore to the King of France S. Quentin, Le Catelet and Ham, with their dependencies” (Russell 1986: 243). Once again, this demonstrates the persistence of the pre-modern, un-mapped view of territorial political authority into the sixteenth century, even in the agreements at the highest levels among the most powerful—and culturally central—polities of Europe.

The Treaties of Westphalia, 1648. Contrary to the conventional narrative in international relations theory about the innovative and transformative nature of 1648, in the treaties signed at Münster and Osnabrück territorial authority remained understood exclusively in the medieval fashion, as a series of differentiated places.

For example, in section LXXVI of the Treaty of Münster, after listing a series of Alsatian towns to be under the control of the French crown, the following text appears: Item, All the Vassals, Subjects, People, Towns, Boroughs, Castles, Houses, Fortresses, Woods, Coppices, Gold or Silver Mines, Minerals, Rivers, Brooks, Pastures; and in a word, all the Rights, Regales and Appurtenances, without any reserve, shall belong to the most Christian King, and shall be for ever

incorporated with the Kingdom of *France*, with all manner of Jurisdiction and Sovereignty, without any contradiction from the Emperor, the Empire, House of *Austria*, or any other: so that no Emperor, or any Prince of the House of *Austria*, shall, or ever ought to usurp, nor so much as pretend any Right and Power over the said Countrys, as well on this, as the other side the *Rhine* (Israel 1967: 31-32). While this yields the end result of giving control over basically the entirety of the territory concerned to the French crown—and hence sounds similar to the modern notion of exclusive and complete sovereignty over territory—in fact it demonstrates the persistent strength of the medieval notion of territorial authority. Every single aspect of the towns concerned—sub-jurisdictions, economic resources, etc.—has to be explicitly named; it is not yet sufficient simply to delineate a certain spatial area and thus claim authority over it, and hence over all that goes on within it (a practice that will be seen below, in later treaties). This example is representative of the other territorial exchanges in the treaties.

What is notable in 1648 is the continuing *absence* of cartographic or geographic language. There is no discussion of delineating territorial claims or exchanges by the use of linear divisions, mapped features, or “natural frontier” divisions. The complexity of the quoted passage above demonstrates that it is not yet acceptable simply to describe the *geographic* limits of a territorial claim and leave it at that—all of the detailed particulars of the territory must be named for authority to be exchanged.

Treaty of the Pyrenees, 1659. In the 1650s the rulers of Spain and France began negotiations to resolve the outstanding issues surrounding their boundary in the Pyrenees mountains, as well as authority over parts of the Low Countries. The portion of the treaty dealing with the Low Countries reflects clearly the medieval notion of authority over places rather than over space. For example, one representative passage reads:

It hath been concluded and agreed, concerning the Low Countrys, that the Lord most Christian King shall remain seiz'd, and shall effectually enjoy the Places, Towns, Countrys and Castles, Dominions, Lands and Lordships following.
First, Within the County of *Artois*, the Town and City of *Arras*, and the Government and Bayliwick thereof; *Hesdin*, and the Baliwick thereof . . . [etc.] (Israel 1967: 66).

Once again, the understanding of territorial authority as being held over a collection of places is clear, as is the continuing need to list verbally the *aspects* of authority that are being asserted.

Yet this treaty also saw the introduction of a geographically derived division of Spain and France along the “natural frontier” of the Pyrenees mountains. This principle is introduced in the following passage: “the *Pyrenean* Mountain, which antiently had divided the Gauls from *Spain*, should also make henceforth the division of both the said Kingdoms” (Israel 1967: 70). This statement is of course ambiguous, particularly given the vague geographic knowledge of the time, so it preceded the following: “And that the said Division might be concluded, Commissioners shall be presently appointed on both sides, who shall together, bona fide, declare which are the *Pyrenean* Mountains, which according to the tenor of this Article, ought hereafter to divide both Kingdoms, and shall mark the limits they ought to have” (Israel 1967: 71).

In spite of this geography-focused language, in order to effect the division on the ground the older notions of authority over a series of places had to be invoked, in practice as well as in official language. First, the above text was followed by discussion of border counties and who possesses what: “the Lord Most Christian King shall remain in possession, and shall effectually enjoy the whole County and Viquery of *Roussillon*, and the County and Viquery of *Conflans*, the Countrys, Towns, Places, Castles, Boroughs, Villages and Places which make up the said Counties and Viqueries” (Israel 1967: 71). Furthermore, without direct recourse to mutually agreed-upon maps (something which appears in later centuries), using the mountains to divide the countries was extremely vague: “The two ministers could agree to the phrase [concerning the mountains as boundary] because the thought very differently about the topography of the Pyrenees” (Sahlins 1989: 43). Hence the need to resort to older practices of naming towns and associated places for actually achieving a division of the mountain region.

Nonetheless, the introduction of even the idea and language of a geographic—and potentially linear—boundary in this treaty and the subsequent negotiations does mark a shift away from the purely textual, place-focused territoriality of earlier treaties, even if it is a limited one.

Treaty of Utrecht, 1713. In the negotiations ending the War of the Spanish Succession, most of the discussion—and treaty text—was dedicated to assuring the permanent separation of the crowns of France and Spain (since the war was essentially fought to prevent Louis XIV’s attempt at such a union). Nonetheless, there were some territorial cessions made. Similar to earlier treaties, these were made in the form of a listing of a place to be handed over, as well as its attendant rights and properties. For example, Spain’s cession of Gibraltar to Britain takes the following form:

The Catholic King does hereby, for himself, his Heirs and Successors, yield to the Crown of Great Britain, the full and entire Propriety of the Town and Castle of Gibraltar, together with the Port, Fortifications, and Forts thereunto belonging; and he gives up the said Propriety, to be held and enjoyed absolutely, with all manner of Right for ever, without any Exception or Impediment whatsoever (Israel 1967: 223).

Similar language is used with regards to the transfer of the Kingdom of Sicily to Savoy (Israel 1967: 227). As with the Treaty of Westphalia, what is particularly noticeable is the *absence* of cartographic language or the commissioning of surveyors or maps. As the Pyrenees treaty demonstrates, the idea of using a geographic feature as a political division existed, but it was by no means yet dominant.

Later Eighteenth Century. While the Treaty of Utrecht continues to demonstrate the presence of medieval notions of territorial authority—as places are exchanged in a listing, without any cartographic delineation—the century following would evince the transformation of this aspect of international interaction. In French foreign policy, for example, “The preparation of maps as part of treaty making had been exceptional before 1715; it became routine by 1789” (Konvitz 1987: 33).

International agreements demonstrate the growing trend as well. While the 1748 Treaty of Aix La Chapelle lists restores the status quo from before the War of Austrian Succession by listing places to be handed back (e.g., Article VI; Israel 1967: 274), the

treaties involved in the partition of Poland among Austria, Prussia, and Russia in the 1770s through 1790s began to include cartographic delineation of territory, of the kind seen extensively at Vienna (below). In fact, the third partition (in 1795) includes *both* types of territorial language: the listing of “lands, cities, districts and other domains” to be claimed and the division of land using linear demarcations (Articles I and II; Israel 1967: 422).

The Congress of Vienna and the Treaties of Paris, 1814-1815. The series of negotiations and treaties ending the Napoleonic wars culminated the transformation of the way in which European rulers operationalized territorial political authority. In sharp contrast with a century prior, territory is divided linearly, with those lines of division described in careful geographic and cartographic terms. Authority is now defined entirely by its boundaries, and places *within* those boundaries are implicitly claimed; no longer do all towns, rights, and jurisdictions have to be explicitly listed. The restructuring of territorial political authority by Ptolemaic mapping is complete.

In the treaty signed at the Congress of Vienna, for example, the re-division of the Duchy of Warsaw among Austria, Prussia, and Russia is effected in an entirely linear fashion:

That part of the Duchy of Warsaw which His Majesty the King of Prussia shall possess in full sovereignty and property, for himself, his heirs, and successors, under the title of the Grand Duchy of Posen, shall be comprised within the following line:—Proceeding from the frontier of East Prussia to the village of Neuhoﬀ, . . . from thence shall be drawn a line . . . (Article II; Israel 1967: 520)

Two features of this text stand out. First is the clear linear nature of the division. This is understood so geometrically that later in the description of the line of division, part of the boundary is drawn by “a semi-circular territory measured by the distance” from one town to another (521). Second, the Prussian King is assigned this territory “in full sovereignty” based *solely* on the delineation of its boundaries—no other description (listing of places, etc.) is necessary.

Furthermore, even when places are listed in the old style, this listing is no longer sufficient, and the exact territorial delimitation must also be included. For example, Article VI of the Vienna treaty declares, “The Town of Cracow, with its Territory, is declared to be for ever a Free, Independent, and strictly Neutral City, under the Protection of Austria, Russia, and Prussia” (Israel 1967: 522). A century earlier, this simple declaration would have been sufficient—the place has been named, and all the related rights and jurisdictions would be included. In 1815, however, territorial authority is no longer defined from the center outward, and thus the exact boundaries of this neutral entity must be delineated. Thus, Article VII states, “The territory of the Free Town of Cracow shall have for its frontier upon the left bank of the Vistula a line . . .” and then proceeds to describe carefully the placement of that line (Israel 1967: 522). Spatial authority can only be claimed geometrically, defined by boundaries, not as a listing of places.

Moreover, these descriptions of boundary lines, although textual in nature, are really not comprehensible without maps, either for reference or to inscribe the linear divisions onto them. Previous forms of territorial cessions (as lists of places with attendant rights, domains, etc.) did not require maps to make sense, and in fact maps

might have made many of those divisions appear illogical in terms of defense or territorial continuity (Hale 1971: 52). In 1814-15, however, with these lines drawn, there was no longer a need to mention all the relevant places. Linear delineation was both necessary and sufficient for authority claims.

At this point, territorial authority is understood so geometrically and visually that not only are maps necessary to understand the divisions, they are also directly mandated by the treaties. For example, the first Peace of Paris (1814) declares the following concerning the boundaries of France:

there shall be named, by each of the States bordering on France, Commissioners who shall proceed, conjointly with French Commissioners, to the delineation of the respective Boundaries. As soon as the Commissioners shall have performed their task, *maps shall be drawn*, signed by the respective Commissioners, and *posts shall be placed* to point out the reciprocal boundaries (Section III; Israel 1967: 505; emphasis added).

This passage reveals both the explicit demand for the mapping of the boundaries and the instruction to implement that boundary in practice, by placing boundary markers on the ground. Beyond even drawing a line on existing maps, some articles from these treaties demand an actual survey, in order to create detailed maps that do not yet exist. For example, Section I of the second treaty of Paris declares:

The thalweg [deepest channel] of the Rhine shall form the boundary between France and the States of Germany, but the property of the islands shall remain in perpetuity, as it shall be fixed by a new survey of the course of that river, and continue unchanged whatever variations that course may undergo in the lapse of time. Commissioners shall be named on both sides, by the high contracting parties, within the space of three months, to proceed upon the said survey (Israel 1967: 579).

Thus maps are not only referenced but actively *created* in the treaty-making process.

The negotiations and treaties from 1814-15 reveal the impact of centuries of map use on European rulers' notions of territorial political authority. No longer defined by a listing of places, spatial authority is only understood as a delineated geometric expanse, depicted visually in maps.

Treaty of Versailles, 1919. A century later, the treaty settlement after World War I demonstrates the ways in which the cartographically inspired geometric territoriality seen in 1814-15 had been fully consolidated as the *only* means of understanding spatial political authority.

First, the language of the treaty, when discussing the drawing of new divisions within Europe, consistently uses the phrase "a line to be fixed on the ground." This moves one step beyond the early-nineteenth-century terminology, by adding the demarcation aspect of boundary making directly into the treaty. For example, the delineation of the territory of the free city of Danzig (in Article 100) comprises a long textual description involving both geographic boundaries using rivers and purely cartographic lines requiring demarcation:

Germany renounces in favour of the Principal Allied and Associated Powers all rights and title over the territory comprised within the following limits: from the Baltic Sea southwards to the point where the principal channels of navigation of

the Nogat and the Vistula (Weichsel) meet: the boundary of East Prussia as described in Article 28 of Part II (Boundaries of Germany) of the present Treaty; thence the principal channel of navigation of the Vistula downstream to a point about 6-1/2 kilometres north of the bridge of Dirschau; thence north-west to point 5-1/2 kilometres south-east of the church of Guttland: a line to be fixed on the ground, thence in a general westerly direction to the salient made by the boundary of the *Kreis* of Berent 8-1/2 kilometres north-east of Schoneck: a line to be fixed on the ground passing between Muhlbanz on the south and Rambeltsch on the north; [and so on] (Israel 1967: 1338).

Thus the linear bounding of territorial authority is explicitly linked to the demarcation of that line with actual markers, quite literally, *on the ground*.

Second, the Ptolemaic basis of this understanding of authority—and thus the practices implementing it—is even more consolidated in 1919 than it was in 1815. Many linear divisions are described not only in terms of their relation to landmarks or cities (as the passage above does) but also with purely geometric directional headings and even points described by coordinates of latitude and longitude. For example, the delimitation East Prussia—the German enclave territory inside Poland—in Article 28 includes the following text:

The boundaries of East Prussia . . . will be determined as follows: from a point on the coast of the Baltic Sea about 1 1/2 kilometres north of Probbornau church in a direction of about 159° East from true North: a line to be fixed on the ground for about 2 kilometres; thence in a straight line to the light at the bend of the Elbing Channel in approximately latitude 54° 19 1/2' North, longitude 19° 26' East of Greenwich; thence to the easternmost mouth of the Nogat River at a bearing of approximately 209° East from true North [and so on] (Israel 1967: 1291).

This delimitation involves the use of coordinate locations, linear divisions drawn by compass direction, and geographically-determined boundaries such as rivers.

Finally, while in 1814-15 maps were commissioned to help delimit the boundaries described in the treaties, in 1919 maps are not only commissioned but in fact are *included* in the treaty as attachments. For instance, the delimitation of the boundaries of East Prussia in article 28 precedes the following in article 29:

The boundaries as described above are drawn in red on a one-in-a-million map which is annexed to the present Treaty. . . . In the case of any discrepancies between the text of the Treaty and this map or any other map which may be annexed, the text will be final (Israel 1967: 1292).

As with property lawsuits in most Western countries today (Monmonier 1995: ch.4), the text takes precedence in the case of disputes. This does not, however, mean that territorial authority is understood the pre-modern, verbally-described fashion. Unlike in medieval Europe, the authoritative text is not comprehensible without cartography—if a map is not immediately required, it is at least fundamental that any reader of this text understand the basic notions of Ptolemaic cartography. Without that mental equipment, drawing boundary lines based on celestial coordinate location would be impossible.

* * *

The overall direction of the early-modern shift in treaty language concerning territorial authority is clear: from a careful listing of places with their attendant rights, privileges, and resources to an equally careful delineation of geometrically defined

expanses. While this may be a familiar story, the timing of the transformation contradicts the traditional IR narrative of “Westphalian” statehood. Through even the early eighteenth century, territorial exchanges were made in the old manner, without maps or cartographic language.

This timing, moreover, indicates that the increasing use of maps by rulers and in society at large during the sixteenth and seventeenth centuries is anything but epiphenomenal to changes at the level of understandings of space and territorial authority. If map use by governments had merely followed an increased attention to linear boundaries and an understanding of territorial authority as homogenous and geometric, the order would have been reversed: map use should then have *followed* these changes in ideas. Instead, the fact that map use *preceded* the transformation of territorial authority suggests the plausibility of the causal influence of maps on the ideas held by actors about political territoriality—the relationship detailed in the first part of this chapter.

While chapter 6 will discuss the implementation of the transformed ideas about territorial authority in the practices of European political actors, the following section considers the role of extra-European interactions in driving the shift in ideas. After all, although the linear division of territory was not effected within Europe until at least the late eighteenth century, interactions in the New World were, from the beginning of European expansion, structured in a much more geometric fashion.

II.C. Colonial Reflection of Geometric Territoriality. The transformation of territorial authority among European political actors—which by the nineteenth century had consolidated as a geometric understanding of space—is evident far earlier in the colonial expansion of European powers into the New World of the Americas. Just as chapter 4 illustrated the way in which the new geometric view of space appeared first in European understandings of the New World and only later was applied to Europe itself, so too did the transformation of territorial *political authority* follow a trajectory of colonial reflection. Just as the discovery of a “New World” demanded a new concept of space—supplied and structured by Ptolemaic cartography—so too did the attempt to make claims to political authority in the Americas demand a new form of territoriality, structured around linear divisions and homogenous expanses of space.

The political aspect of the new understanding of space appeared immediately upon the return of Columbus to Spain. Although the nature of the lands encountered were unclear (and would remain so for at least a decade), the Spanish monarchs wished to secure their claims no matter what the geographic facts turned out to be. As O’Gorman (1961) writes:

The Crown’s reaction is governed by one primary interest: to ensure possession and juridical rights on whatever it was that Columbus had found. . . . With equal haste, the Crown started negotiations to obtain a legal title from the Holy See. Here, also, the question of what the lands might be was not uppermost: the urgent thing was to insure juridical lordship over them (p.81).

Thus the geographic uncertainty of the discoveries, as a new continent or as part of the known world, had to be circumvented, as the monarchs wished to assert their political claim no matter what the geographic situation turned out to be. Columbus’ traditional means of asserting authority on the spot—in his words, “by proclamation made and with

the royal standard unfurled” (quoted in Greenblatt 1991: 52)—was an insufficient basis for claiming a poorly understood territory. The most effective means for making a claim over the unknown was, instead, the techniques of Ptolemaic cartography, in ideas if not in actual map technology. As chapter 4 argued with regard to *understanding* previously unknown lands, so too did *making political claims* require the tools and ideas of the Ptolemaic graticule.

In particular, the Ptolemaic grid built on celestial coordinates supplied the means required for the linear division of the world, a means demanded by European rulers’ desire to make political claims over the unknown. This resulted in the new practice of “global linear thinking” among European political actors (Schmitt 2003: 87-88). The result was, first, the Papal Bulls of 1493 and, second, the 1494 Treaty of Tordesillas, which was a direct agreement between Spain and Portugal without the involvement of the Pope.⁷³ These were merely the first among many linear political divisions effected in the extra-European world at a time when divisions within Europe remained expressly non-linear. As Schmitt points out, Tordesillas represents one type of these linear divisions, known as *rayas*. These were “internal divisions between two land-appropriating Christian princes within the framework of one and the same spatial order” (Schmitt 2003: 92). Linear divisions also took the form of “amity lines,” drawn to divide the part of the world where peace treaties or truces between European powers held from other areas were fighting, raiding, or privateering could continue. For example, in 1634 Richelieu forbade French attacks on Spanish or Portuguese vessels above the Tropic of Cancer while explicitly allowing them beyond that line (Schmitt 2003: 93).

In the evolution of these linear divisions cartography was not only implicated in the form of basic Ptolemaic ideas (such as the linear division of the world) but also in cases in which cartographers were directly involved in political negotiations. For example, in the 1520s Spain and Portugal began negotiations to resolve where the Tordesillas line fell on the opposite side of the globe (the “anti-meridian”), and thus to determine where the already-agreed-upon division of global control between Portugal and Spain was located (Brotton 1997: ch.4). In the 1524 negotiations, “Each country was to be represented by nine official delegates, consisting of three lawyers, three cosmographers, and three pilots” (Vigneras 1962: 77). The pilots represent the practical knowledge of maritime navigation, while the cosmographers were present as savants of the (still relatively new) Ptolemaic understanding of the world. The resolution of the issue with the Treaty of Saragossa in 1529 was a strictly political decision, since the possibility of a technical cartographic solution was made impossible by the lack of accurate longitude readings (required for the determination of the location of a meridian). Yet the solution reached by Spain and Portugal—while unable to rely on any real cartographic basis—nonetheless demonstrates the power of the cartographically based idea of territoriality: The agreement was made under the illusion that a cartographic line had actually been drawn as a basis for the division, as this was the only workable means of settling claims over the unknown.

As claims to new territories mounted, particularly in North America, many involved a mixture of the new linear divisions of authority (such as colonial charters with

⁷³ As O’Gorman points out, the two monarchies left the Papacy out of the discussion because “the Holy See would not grant sovereignty over the Ocean either to Spain or to Portugal” (1961: 156-157).

delineations on lines of latitude) and older feudal notions of control (see chapter 3). Yet the form that the latter took illustrates just how convincing the geometric understanding of political authority was in the New World: “Although the early grants contained several feudal characteristics, the type of land tenure they most often stipulated was modeled after . . . the least feudally encumbered system of land tenure” of England (Sack 1986: 137). The territorial homogenization of North American political space culminated in the creation of the United States as an independent entity: “The American system of government established between 1776 and 1789 may have been the first to conceive of its sub-units, the states, as generic territories—all alike in their form and place in government” (Sack 1986: 149). Once again, although these colonies were European creations, this geometric territoriality was implemented in the New World at a time when political space within Europe was still organized in a mix of old and new forms.

A brief revisit of some of the peace treaties discussed in the previous section also illustrates the precedence of the New World over Europe in terms of the imposition of geometric territorial authority informed and made possible by Ptolemaic mapping. Compare, for example, contemporaneous events such as the European treaties of the sixteenth and seventeenth centuries discussed above and the Spanish-Portuguese agreements of the 1490s or the North American colonial charters of the early 1600s (discussed in chapter 3). The negotiations and documents concerning the New World deal in linear divisions, often tied directly to cartographic notions such as lines of latitude or longitude, while the intra-European agreements continue to rely on an understanding of political territory as a series of places, defined by centers rather than boundaries.

The 1713 Treaty of Utrecht offers a particularly illustrative example of this divergence between colonial and intra-European ideas about territorial political authority. As noted above, the territorial transfers within Europe are effected as a listing of places, without linear boundaries or cartographic descriptions. The territorial adjustments to New World possessions, however, take the form of geographic descriptions of spaces. For example, the treaty between Britain and France contains the following, concerning North America:

The said most Christian King shall restore to the Kingdom and Queen of *Great Britain*, to be possessed in full Right for ever, the Bay and Straits of *Hudson*, together with all Lands, Seas, Sea-Coasts, Rivers, and Places situate in the said Bay and Straits, and which belong thereunto, no Tracts of Land or of Sea being excepted, which are at present possessed by the Subjects of *France*. . . . But it is agreed on both sides, to determine within a Year, by Commissarys to be forthwith named by each Party, the Limits which are to be fixed between the said Bay of *Hudson* and the Places appertaining to the *French*; which Limits both the *British* and *French* Subjects shall be wholly forbid to pass over, or thereby to go to each other by Sea or by Land. The same Commissarys shall also have Orders to describe and settle, in like manner, the Boundaries between the other *British* and *French* Colonys in those parts (Article X; Israel 1967: 207-208).

It was only after another century that this type of geographically determined linear bounding of political spaces is applied within Europe.

Thus, once again, the relative timing of when the new cartographically inspired ideas about political authority appeared suggests a process in which political ideas—and hence political structures—within Europe are constructed by the earlier use of maps and

their concomitant mental tools in the New World. In addition, with the whole-earth character of the Ptolemaic grid, as one part of the globe is described, fought over, and politically divided based on the new cartographic understanding of political territoriality, so too eventually must the rest of the world be understood in the same way.

In sum, the process transforming territorial authority among European political actors followed both the technical and ideational developments of Ptolemaic cartography and their implementation in the previously unknown spaces of the New World. Although the attempt to claim and control the unknown spaces of the New World demanded the new understanding of political authority, within Europe the extensive knowledge of territory and the longstanding traditional authorities held over it created no such demand. Instead, it was the shift in the ideas Europeans had about space in general, and the reinforcement offered by the use and usefulness of maps and map-based political authority in the New World, that eventually drove a change in intra-European ideas and practices. This transformation of political space from a list of particular places, defined as centers of control, to a homogenous expanse, defined by linear boundaries, represents a fundamental shift in international political structures.

Yet this transformation of territoriality tells only half the story: What about the parallel *non-territorial* authorities of the European Middle Ages? The shift in territoriality did not automatically eliminate these previously strong ideas, though the two processes are related by their links to mapping and the view of space. The next section examines the role of early-modern cartography in undermining, delegitimizing, and eventually eliminating the non-territorial forms of authority among Europeans.

III. Maps and the Elimination of Non-Territorial Authorities.

While politics in the European late Middle Ages involved the coexistence of territorial and non-territorial political authorities, the modern international system is structured by the exclusive use of territoriality to define political actors and units (detailed in chapter 2). Thus, although the transformation of territoriality discussed above is a key shift of the early modern period, perhaps even more fundamental to the character of our international system is the process whereby non-territorial authorities were eliminated. As noted above, this aspect of the early modern shift has seen less attention from theorists interested in the impact of cartography on politics. The longstanding and stable overlap of multiple types of authority in the medieval period demonstrates that such coexistence is not inherently contradictory, and thus the absence of non-territorial authorities in the modern era is not an inevitable outcome and requires explanation.

In short, this section argues that the massive increase in the production and use of Ptolemaic maps in Europe delegitimized, and thereby eventually eliminated, the non-territorial authorities present at the beginning of the early modern period. As people came to understand the world increasingly in terms of these maps, ideas about political authority that were not depicted in them—or could not be depicted in them—lost their normative basis and were thereby eliminated as acceptable foundations for political authority. This effect was anything but intentional, as the private commercial producers of maps in the early period of European cartography had no direct interest in reshaping political authority, but merely provided the ideational impetus and later the normative tools for rulers and subjects to re-imagine their political relationships in an exclusively territorial fashion.

In order to examine this process in more detail, this section first considers the inability—or unwillingness—of early modern cartographers to depict non-territorial authorities and this tendency's effect on political ideas. Second, evidence of the impact of cartography on non-territorial authorities is examined in the context of map use by governments, in particular in the texts of peace treaties. The importance of European expansion to the New World is considered next, once again demonstrating the process by which new ideas and practices—in this case political structures based exclusively on territoriality—appear first outside Europe but were later transplanted back to the continent. Finally, this the last part examines the recursive nature of this relationship, since the impact of mapping on ideas about political authority eventually reflects back to shape cartographic production.

III.A. Mapping political authorities. During the early modern period, as mapping became a popular means of depicting and understanding the world, the ways in which political authority were portrayed on maps increasingly shaped actors' political ideas, and hence their political practices. Early modern mapping only depicted territorial authority, and only depicted it in the linearly bounded, homogenously colored fashion discussed above, instilling in map users a sense that this was the only legitimate way of understanding the political world. This dynamic is both parallel to and distinct from the transformation of territoriality: While the latter was primarily a process whereby the very ability to imagine the political world as composed of territorially exclusive units was enabled by Ptolemaic maps and their character, the elimination of non-territorial authorities involved the *undermining* of existing ideas by that same mapping technology and its widespread use.

While this argument specifically concerns the inability to depict non-territorial authorities on Ptolemaic maps, mapping in general is fundamentally ill-suited for depicting—and hence understanding—non-territorial authorities. After all, such forms of authority are by definition *non-spatial*, and maps, no matter how broadly defined, inherently involve spatial depiction. Thus, for example, consider the possibility of depicting a feudal system of rule—based on personal bonds—on a Ptolemaic map, or on any map for that matter. How would this network of relations be depicted spatially? The lords and vassals could be placed on a map and then connected by lines representing their authority relations, creating in a sense a network diagram overlay for a territorial map. Yet what would be the particular use of such a depiction? In this system of rule, the persons involved are often mobile, and thus the spatial dimension is far less important or fixed than their relationships and resources (such as obligations in terms of military service or protection). Furthermore, *why* would one want to map this system of authority relations? It is far easier simply to describe the relationships in words—which is, of course, exactly what feudal contemporaries did.

Thus, on the one hand, it would have been quite difficult for early-modern cartographers to map non-territorial authorities: “Mapping was not well suited to the problems of depicting multiple sovereignty. It was usually beyond the ingenuity of even the most skilful cartographer to indicate on one map areas of mixed jurisdictions” (Black 1997b: 125). Yet one could argue that there are at least conceivable ways of doing this, perhaps involving various color schemes, different types of engraved lines, or even non-linear depictions such as networks of relations; difficult, but not impossible, in other

words. Whether it was possible or not, however, *contemporary cartographers quite simply did not depict non-territorial authorities on their maps*. In short, the legitimate and existing non-territorial forms of authority were perhaps not mappable, but definitely not actually mapped. In either case, the absence of non-territorial authorities from maps shaped how European political actors conceived of the political world, making the authority relations that were not depicted on the increasingly popular mapping medium less legitimate and eventually less tenable.

Early-modern mapmakers did not consciously aim toward the elimination of certain types of authority or the promotion of a particular form of territoriality. Yet they did actively address the problem of dealing with the complexity of early modern authority structures. The character of their mapping techniques—based on Ptolemy’s graticule—shaped their response to this complexity, driving mapmakers toward the geometric simplification of complex overlapping authorities and the depiction of all political structures as territorial.

One interesting illustration of the imperative—and tendency—toward simplification and territorialization of complex political authorities in early modern Europe is offered by the example of Claude de Chastillon (Buisseret 1984a, 1984b). Sent in 1608 by the French king to survey one of France’s complex frontiers, Chastillon reports back to the crown with both a written description and maps. While his particular maps have been lost, Buisseret (1984a) has compared a contemporaneous map of the same exact frontier region against Chastillon’s written description, positing that the map is likely based on Chastillon’s surveying and written report. Thus, it offers an opportunity to see how cartographers at the time dealt with the complexity of political authority in frontier regions at the beginning of the seventeenth century.

A lengthy quotation from Buisseret is warranted, as the comparison between the complex written description and the requirements for simplification in the map are manifold:

The *château* of Passavant, he [Chastillon] says, belongs to Lorraine, though the town and wood are French. Baffled by the problem of distinguishing between these areas, our cartographer has drawn a little enclave, with a *château* in the south of it. At Martinville, three-quarters of a league from Passavant, all the hearths owe tax to the king of France; this village, according to Chastillon, was partially French and partially *lorrain*. On our map it is shown as lying in Lorraine. Selles, though west of the Saône, belonged to Franche-Comté according to Chastillon, and is so shown on the map. Vauvillers was a more difficult case, in dispute between France, Lorraine and Franche-Comté; the map shows it as lying some distance inside Franche-Comté (Buisseret 1984a: 78).

Regarding each particular aspect of complexity described above, the written description of Chastillon is fully capable of capturing it, while the subsequent map is forced to simplify in order to make a readable, easily produced visual document.

Moreover, the criteria used by Chastillon in his effort to delineate the frontier were the following:

Feudal Allegiance: to whom did the inhabitants of a given territory owe allegiance? This, of course, was established by taking sworn statements. . . .

Fiscal Dependence: To whom had taxes been paid, and from what *greniers* had

salt been bought? . . . Judicial Dependence: Where were law-cases judged?
(Buisseret 1984b: 104).

All of these criteria represent fundamentally non-territorial forms of authority: personal feudal ties and jurisdictionally defined authorities. Yet the map that was drawn to depict visually the same information converts these non-territorial links to an image of territorial authority, and a linearly bounded one at that. The tendency of Ptolemaic cartography toward simplification and territorialization of political relations is operationalized in conversions such as these, performed whenever a map was produced to reflect complex authority structures.⁷⁴

This simplification of complex authority structures is also evident in the increasing depiction of linear boundaries and homogenously colored-in spaces on maps from the late sixteenth century forward (as detailed in the previous section). Thus, not only do maps that have linear boundaries tend to simplify the complexity of early-modern authorities, but the increasing proportion of maps containing such boundary lines undermined the legitimacy of the authority structures *not* depicted in them; i.e., non-territorial authority types. For example, in the maps of Germana from Blaeu's *Atlas Maior* of 1665 discussed above, the careful delineation and color-coding of exclusive territories elides the continuing presence of imperial judicial structures and of complex overlapping authorities.

The effect of color on maps is perhaps even more suppressive of non-territorial complexities than are linear boundaries on their own. The imposition of the homogenizing effect of color significantly enhances the tendency of a Ptolemaic map to push aside non-territorial forms of authority. A map with linear boundaries but without color depicts territorial authority—and of the modern, linearly bounded variety—but it does not necessarily undermine other conceptions. Even with lines drawn, the cities depicted on a map could be emphasized by a map user, who could have in mind a list of jurisdictions or a network of personal authority relations such as that in a textual description of a frontier zone (like the written report from Chastillon, above). Indeed, early modern maps were often accompanied by written descriptions or tables of some kind.

Consider, on the other hand, a map with the same kind of boundary lines, but with the spaces defined by those boundaries filled in homogenously with color. This map not only promotes modern territorial authority more strongly than the uncolored version, it also makes it increasingly difficult for a map reader to bring other ideas about political authority to bear; the visual strength of the filled-in bounded spaces is too strong. This effect obtains in spite of the way in which visual displays such as maps, when compared

⁷⁴ While this may sound like an example of the “primitive” or “unscientific” nature of early-modern cartography, this difficulty in depicting authorities or relations other than exclusive territoriality persists today. For example, Rekacewicz (2000) finds it nearly impossible to map effectively African political theorist Achille Mbembe's conception of the continent that replaces traditional boundaries with “an unobstructed view, identifying regions or territories not in terms of their location but rather in terms of shifts in global politics and global economics that have had an impact on these regions” (703). Moreover, “The complexity of Mbembe's schema did not therefore allow for comprehensive visual representation. For example, the relations or forms of exchange between different regions, crucial aspects of the analysis, could not appear on the map without making the map overburdened and thus illegible” (704). Once again, complex relations and structures easily described textually must be simplified in order to appear on a Ptolemaic map.

against a textual description, “encourage a diversity of individual viewer styles and rates of editing, personalizing, reasoning, and understanding” (Tufte 1990: 31). The character of a visual display such as a color-filled Ptolemaic map drives readers toward a particular interpretation—one that emphasizes the linearly bounded territorial form of authority over other political structures. Moreover, the tendency of maps in the seventeenth and eighteenth centuries to depict linear boundaries, even though frontiers remained complex, overlapping, and in many cases not territorially defined, demonstrates that mapping was not simply following the “facts on the ground” and instead drove the eventual shift to exclusively territorial authority.

In addition, the quantitative increase in map production during the early modern period changed maps from being merely one among several possible means of describing political authority (and hence of understanding that authority by readers) to being the *primary* means of understanding the world, and thus the nature of political structures on it.

Finally, the modern form of mapping, and the related understanding of territoriality, inherently conflicts with the coexistence of multiple forms of authority—territorial and non-territorial—in one collection of political ideas. By contrast, medieval maps depicting the world as unbounded territories filled with a collection of symbolically represented towns, and the related form of political territoriality held over a series of places, present no conflict with non-territorial notions of authority founded on jurisdictions or personal relationships. Although medieval maps can be considered to “claim territory” (Serchuk 2006: 134), they do so by showing a collection of places, rather than by delineating a spatial expanse. Territorial claims over places can coexist with claims over persons or jurisdictions, while claims to a delineated space are inherently contradictory to other forms of authority.

Thus, the character of Ptolemaic mapping, and in particular the consolidation of a visual language of linearly bounded and color-coded political spaces, undermined the legitimacy of non-territorial authorities, at the same time that it transformed territorial authority.

III.B. Peace treaties and the elimination of non-territorial authorities. Just as the transformation of territorial authority, driven by the increasing use of Ptolemaic maps, is apparent in the changing language used to describe territories traded in peace treaties, so too is the elimination of non-territorial authorities. From the fifteenth century forward, peace treaties show a progressive reduction in the presence of non-territorial forms of authority, until by the early nineteenth century only territorial authority remains. This progression is paralleled by the increasing implication of maps and cartographic ideas in international agreements.

The Congress of Arras, 1435. The negotiations among the three major parties involved in this meeting—the king of France, the English king, and the duke of Burgundy—involved more than the exchanges of towns discussed above. With non-territorial forms of authority still very strong, the question of homage was also raised. In particular, the French king demanded homage from the English monarch (Dickinson 1955: 150, 167). Personal feudal relations, thus, continued to be important to the negotiating parties.

Peace of Cateau-Cambrésis, 1559. This sixteenth-century agreement also illustrates the continuing relevance of non-territorial authorities, as, for example, Section 13 mandates an equal division of revenues from a newly created diocese. This represents the importance of overlapping jurisdictional divisions that do not line up with territorial boundaries, even as territory is traded as a series of places at the same time.

Treaties of Westphalia, 1648. Once again, an examination of the texts of these treaties for evidence of rulers' ideas about political authority undermines the traditional narrative of Westphalia "creating" modern international politics. Along with the complex collection of place-focused examples of territorial authority detailed earlier, these treaties contain numerous references to "rights" and "privileges" associated with those places. These refer to jurisdictional notions of authority, which continue to be asserted in the mid-seventeenth century. In addition, there are many passages that discuss feudal concepts such as fiefs or vassalage. For example, referring to several German princes, "these Vassals shall be bound to take an Oath of Fidelity to the Lord *Charles Lewis* [the Elector Palatine], and to his Successors, as their direct Lords, and to demand of him the renewing of their Fiefs" (article XXVII; Israel 1967: 16).

Furthermore, when territorial authority was ceded or granted in these treaties, it was not yet enough simply to name or describe the territory concerned; any given place had a group of attendant but potentially separable rights, jurisdictions, and resources that, if to be included, had to be explicitly named. For example, in the list of possessions to be returned to Austria comes the following passage:

Item, The County of *Hawenstein*, the *Black Forest*, the *Upper* and *Lower Brisgaw*, and the Towns situate therein, appertaining of Antient Right to the House of *Austria*, viz. *Neuburg, Friburg, Edingen, Renzingen, Waldkirch, Willingen, Bruenlingen*, with all their Territorys; as also, the Monasterys, Abbys, Prelacys, Deaconrys, Knight-Fees, Commanderships, with all their Bayliwicks, Baronys, Castles, Fortresses, Countys, Barons, Nobles, Vassals, Men, Subjects, Rivers, Brooks, Forests, Woods, and all the Regales, Rights, Jurisdictions, Fiefs and Patronages, and all other things belonging to the Sovereign Right of Territory, and to the Patrimony of the House of *Austria*, in all that Country (article LXXXVIII; Israel 1967: 35).

Although the authority is mentioned as a list of places "with all their Territorys", this must be followed by a careful listing of all the personal and jurisdictional authorities associated—otherwise these might be considered to have *not* been granted. In later centuries, no such inclusion is necessary, as the cartographically shaped understanding of territoriality has pushed aside these other forms of political authority.

Treaty of the Pyrenees, 1659. The novel introduction of the idea of dividing France and Spain by using the natural frontier of the Pyrenees marked a distinct shift toward territorial exclusivity, and hence away from the parallel use of non-territorial authorities. For example, Article XLIII of the treaty explicitly removes the feudal obligations of Spanish subjects on the French side of the boundary, and vice versa:

The said Lord the Catholick King [of Spain] doth declare, will and intend, that the said Men, Vassals, Subjects [on the French side of the Pyrenees] . . . be and

remain quitted and absol'v from henceforth and for ever, of the Faith, Homages, Service and Oath of Fidelity, all and every of them may have made unto him, and to his Predecessors the Catholick Kings; and withal, of all Obedience, Subjection and Vassalage, which therefore they might owe unto him: Willing that the said Faith, Homage and Oath of Fidelity, remain void and of none effect, as if they had never been done or taken (Israel 1967: 74).

Yet the implementation of this agreement reflected the persistence of non-territorial notions of authority. In fact, after 1659, "The commissioners used the word 'delimitation' and claimed to seek the 'line of division,' but they resorted to ideas of 'jurisdiction' and 'dependency' when dividing up the villages" (Sahlins 1989: 6-7). The non-territorial authorities remained practical and legitimate solutions to the difficulty of dividing control in this frontier region.

The Congress of Vienna and the Treaties of Paris, 1814-1815. In the conclusion to the Napoleonic Wars, the treaties involved not only implemented the consolidation of linearly bounded territorial authority (as discussed above) but also removed the remaining non-territorial authority structures from European international politics. The absence of the latter forms of authority eliminates the need to mention all the rights, jurisdictions, or resources associated with any particular place, replacing such a list with a careful delineation of boundaries, down to the exact placement of border markers. Now, whatever falls within the boundaries described falls within the purview of the actor granted that authority. The linear boundary circumscribes the territorial authority completely, while the homogeneity within those lines blots out other forms of authority.

Furthermore, any remaining non-territorial authorities, such as feudal rights or privileges, were actively removed or waived by the signing parties. For example, on the Swiss cantons the Vienna treaty states that "feudal rights and tithes cannot be re-established" (Israel 1967: 554). Concerning the boundary of Saxony with Prussia, the Vienna treaty contains the following exemplary passage:

His Majesty the King of Prussia and His Majesty the King of Saxony . . . renounce, each on his own part, and reciprocally in favor of one another, all feudal rights or pretensions which they might exercise or might have exercised beyond the frontiers fixed by the present Treaty (Israel 1967: 527).

The process is clear: The linear boundaries so carefully drawn in the text—and to be inscribed on maps—are actively used to eliminate non-territorial authorities.

Treaty of Versailles, 1919. The negotiations and treaty following the First World War demonstrate the results of Vienna a century earlier and the active implementation of those ideas in the decades following. In 1919 there are no more non-territorial authorities to eliminate, let alone argue over, and the treaty hence deals exclusively with the careful delineation of homogenous territorial authority (as described earlier).

* * *

The progression from the complex mix of (premodern) territorial authority and non-territorial authorities in the fifteenth and sixteenth centuries to the exclusive territoriality of the early nineteenth century is closely tied to the production and use of maps by rulers and government institutions. Maps were, of course, increasingly used

directly in treaty-making, progressing from tools for negotiations all the way to documents attached to a treaty.

The pre-modern form of territorial authority can easily fit with the simultaneous existence of non-territorial authorities—*all of them can be listed together in one treaty*, as was done in major treaties through even Westphalia. With modern form of linear, geometric, homogenous territorial authority, however, there is no way to accommodate simultaneously territorial and non-territorial authority types. Modern territorial authority is by definition exclusive and thus does not allow for the overlap of territorial and personal or jurisdictional authorities. Thus, in order to make these international agreements work, non-territorial authorities had to be ignored and even directly renounced.

A similar, though compressed, process can be discerned in the case of colonial-era Siam, whose mapping was in some sense pursued in a “defensive” manner, in response to French and British incursions into the region. Yet the political actors who lost the most out of this process were the non-territorial (and non-mapped) entities in the zonal frontiers of pre-modern Siam: “the triumph of modern geography . . . eliminated the possibility, let alone opportunity, of those tiny chiefdoms being allowed to exist as they had done for centuries” (Thongchai 1994: 129). The mapping of political authority drives a simultaneous homogenization of political space and the elimination of non-spatial understandings and political entities.

III.C. Colonial reflection of exclusive territoriality. The importance of the colonial expansion to the New World of the Americas also appears in the process whereby non-territorial authorities were eliminated. European exploration and particularly efforts to claim what was encountered not only *demand*ed mapping (as discussed above); it also *legitimated* mapping as a useful tool for understanding the world as a whole, thereby undermining the non-territorial forms of authority that were not amenable to being mapped.

First, colonial expansion inspired the first European efforts to divide political space linearly, and the first use of maps as tools to do so. As discussed above, maps were the primary means to understand and claim the unknown spaces of the New World. In a recursively causal process, this use further supported the very idea of using maps and cartographic ideas as a means of asserting political authority—a tendency which over time delegitimizes authorities that are not mapped.

The supposedly empty character of the New World was key to this process—empty as it was of existing political authorities recognized by Europeans. The expansion to the Americas created a break with previous practices of political expansion:

Old World conquest before the Age of Exploration involved subduing and establishing suzerainty over older and resident agricultural populations. It did not involve displacing them entirely, even when these populations were thought by their conquerors to be inferior (Sack 1986: 87-88).

In the Old World, where recognized authority structures existed, an invader could conquer a people by claiming the same authority that the previous ruler had held. In the New World, the absence of recognized authority structures left Europeans with only one means of claiming authority, vis-à-vis other European powers: cartographically defined territoriality.

Interactions among European rulers in the New World reflected the new cartographic understanding of space and political authority. Thus, both the geometric nature of modern territoriality *and* the elimination of non-territorial authorities appeared first in the colonial world, and was only reflected back to Europe later. Once again, this reflection follows from the global nature of Ptolemaic cartography: with one part of the world described, understood, and carved up based on exclusive territoriality, the rest of the world must logically follow suit.

III.D. The reciprocal relationship between sovereignty and mapping. As discussed above with regard to Figure 5.1, there is a reciprocal aspect to the relationship between ideas held by actors about political authority and the character of maps produced. While the maps produced in a society—by depicting territorial authorities and not depicting other forms—shape which authorities are held to be legitimate, those changes in ideas will subsequently re-shape the incentives of cartographic production, driving the creation of even more maps that reflect exclusively territorial authority.

Some authors doubt that the former relationship—in which maps shape societal ideas or political outcomes—holds at all. Kagan and Schmidt, for example, argue that “it would be hard to assign a causal role to cartography; maps reflected court practices and administrators’ agendas more than they actually shaped them” (2007: 669). Yet this critique ignores the possibility that the causal relationship does not have to run strictly in one direction or the other. Of course the maps produced were often a reflection of the interests or demands of politically, economically, or culturally powerful persons. Yet the relationship goes the other way as well: maps can constitute or make conceivable some of those very interests that later drive cartographic production.

Furthermore, much of the effect of mapping that this chapter discusses—the gradual transformation of territoriality and the elimination of non-territorial authorities—occurred during a period when most mapping was produced privately, not by official state institutions or even state patronage. The wide distribution of the visual language of mapping, with its homogenous, linearly bounded territories, depended not on government mapping (often held in strict secrecy during this period) but rather on the production of a wide variety of printed cartographic material, from small map prints to elaborate folio-size atlases. Thus the argument that maps were produced depicting territorial authority because rulers wished to promote that idea is undercut by the chronology, and character, of early modern mapping.

Several modern examples further illustrate the strength of this type of reciprocal relationship. Hassner (2006/2007), for example, argues that the production of maps of disputed conflict areas is “both a product and a facilitating mechanism” of the process whereby these conflicts become entrenched. Maps with boundaries are drawn because the conflict is becoming more fixed and intractable, while simultaneously the drawing of those boundaries and their publication in maps increases the difficulty in resolving the conflict.

Additional evidence of the way in which maps are anything but epiphenomenal is apparent in the way in which many modern state actors deal with mapping. If maps are nothing but the *reflection* of power relations, then those in power should feel unthreatened by maps and their contents. The opposite, of course, is the case. For example, the post-colonial Indian state has issued statements criminalizing “incorrect”

drawings of boundaries on maps; one government publication reads: “The publication of maps of India depicting incorrect boundaries of the country indirectly questions the frontiers and challenges the territorial integrity of the nation. . . . This is a criminal offence which is punishable with imprisonment” (Krishna 1996: 204). Even though the Indian government is quite capable of producing maps according to its own conceptions of the boundaries of the state (as it does), it nonetheless finds other depictions a direct threat.

Chapter 6 demonstrates more explicitly how transformed ideas about sovereignty simultaneously shaped the political practices and structures of international relations and influenced the maps that were created and used. Particularly during the late-seventeenth and eighteenth centuries, mapmaking tasks were increasingly taken on by rulers and governments, and by the nineteenth century most major countries had huge cartographic institutions (such as the British Ordnance Survey, mapping by the Prussian General Staff, and the United States Geological Survey). Yet this was subsequent—not prior—to the reshaping of political authority by mapping discussed in this chapter.

* * *

In short, the impact of Ptolemaic cartography on ideas about political authority extended beyond a transformation of territoriality into the elimination of longstanding non-territorial forms of political organization. This reduction of the repertoire of acceptable bases for politics has been so thorough that territoriality has invaded almost all elements of modern political discourse.

The character of modern nationalism, for example, reflects this fixation on territoriality. Although nations are defined as collections of *persons*, linked by some imagined set of shared characteristics or experiences, nations are nonetheless understood and operationalized territorially, most often in the form of a cartographic image of a *national territory*. The links drawn by authors such as Anderson (1991), Krishna (1996), and Thongchai (1994) between modern cartography and the development of nationalism all reinforce this point: territorial conceptions are central to our most fundamental political ideas. Thanks to the hegemony of Ptolemaic cartography as the exclusive means of depicting space and political authority, other forms of political organization or community, divorced from territoriality, have become untenable.

IV. Territorial exclusivity consolidated.

The two parallel processes detailed above—the transformation of territoriality and the elimination of non-territorial forms of authority—occurred simultaneously and interconnectedly during the early modern period. They combined to produce our modern international system of exclusively territorial, linearly bounded states. In any political system, changes in the character of one form of authority (when multiple forms coexist) may have consequences for the other types present in the same system or held by the same actors. After all, the distinction between territorial and non-territorial is only hard and fast conceptually, while in practice a single actor can hold multiple forms of authority, often without distinguishing among them. Thus changes in one form of authority will often be linked to changes in others.

In the case of the revolution in authority structures that forms the subject of this study, the two processes examined separately above together constitute part of the complex of related processes involved in the larger transition to modernity. Thus the

particular character of the modern view of space and political territoriality inevitably reshaped non-territorial authority as well: Once actors begin to conceive of politics in terms of modern territoriality, there is no space left (literally or figuratively) for other forms of authority. After all, exclusivity is a fundamental part of the definition of modern territoriality. The post-Napoleonic reconstruction of Europe demonstrates the connection well: territoriality was explicitly defined in a geometric, homogenous fashion, while at the same time—in the same treaty documents—non-territorial rights and authorities were explicitly renounced and eliminated.

Thus, the culmination in the shift in ideas in the early nineteenth century shows the complete transformation of sovereignty detailed in chapter 2: from mixed to solely territorial, from overlapping to exclusive, and from fragmented to centralized. This chapter has directly illustrated role of mapping and the view of space in both the transformation of territoriality and the elimination of the non-spatial authorities. The shift from overlapping authorities to exclusive authority is bound up in the shift to modern territoriality as well, as overlapping medieval authorities were based on personal and jurisdictional notions that were de-legitimated by the use of mapping. Linear boundaries and homogenous territory leaves no place for overlap. For example, the early-nineteenth-century drive toward exclusivity extended to places heretofore easily left shared, such as bridges over rivers between political jurisdictions. The Second Treaty of Paris (1815) states that on the Rhine, “One half of the bridge between Strasburg and Kehl shall belong to France, and the other half to the Grand Duchy of Baden” (Article I; Israel 1967: 579). Nothing can be left undivided.

The move from fragmented authority to centralized authority, likewise, is conceptually separate from the shifting basis of authority in territory or personal relations. Yet in practice, once again, this centralization is also related to the map-driven transformation of territoriality. The pre-modern coexistence of multiple overlapping forms of authority allowed decentralization to persist—and supported it normatively—while the map-based homogenization of authority melds the entire territory into a single, centralized unit. For example, the 1815 Vienna treaty explicitly transfers the possessions of the German nobility to the Prussian monarch (Article XLIII; Israel 1967: 541). Part of this process was the use of maps as a direct tool of centralization by rulers, particularly from the seventeenth century forward with the commissioning of state-sponsored surveying projects. This aspect is discussed in chapter 6, since it relates directly to the implementation of the new ideas about authority in the practices of states.

This fundamental transformation in ideas about political organization is not just about actors using a new (ideational and technological) tool to pursue their goals, such as territorial security or aggrandizement. Instead this process created those very goals—made them imaginable and appealing—and simultaneously made other types of political goals unimaginable or illegitimate. Sovereignty, after all, is both the norm that structures the rational pursuit of interests by actors (i.e., territorial expansion, self-preservation as an independent entity) and the norm that constitutes actors as territorial entities in the first place (Parsons 2007: 30). This process, moreover, involved positive feedback, or recursive causation: As actors came to think of authority in exclusively territorial terms, they also found that pursuing goals based on those conceptions could be very useful politically, both within their polities and internationally. For example, consider the “mutual recognition game” of territorial states, which leaves out non-state types of units

(Spruyt 1994). Actors are constituted by these ideas, which then may be used by those actors rationally. This later use of the ideas and technology of maps in terms of rational pursuit of goals does not contradict my argument that those same ideas were fundamental in constructing the identity of actors and the ostensible rationality of their goals in the first place. (This process of mutual constitution of political actors and cartographic practices is further examined in chapter 6).

V. Conclusion: Cartography's Ideational Effect

This chapter has argued that the effect of early modern cartography on political authority was two-fold: the transformation of the general understanding of space constituted a shift in ideas about territorial authority and the increasing production and use of Ptolemaic grid-based maps undermined and eliminated the non-territorial authority structures. This represents an example of the potential for material (in this case technological) developments to alter actors' ideas about political organization or interaction, leading to changes in structure and behavior.

The development of modern cartography was particularly suited to have such an effect, for several reasons. First, Ptolemaic cartography immediately fit with other cultural trends, such as the Renaissance fixation on both classical authority and the human role in the world. The simultaneous and equally contingent encounter with the New World of the Americas also served as a powerful driver of innovation in the application of cartography and cartographic ideas to political questions. Furthermore, modern cartography, as a technology of visual depiction, benefits from the ability of visual media to operationalize producers' implicit assumptions about the world and champion those ideas with readers. The depiction of the world as a collection of linearly bounded, color-coded political entities in the early modern period clearly illustrates this, as maps both reflected and reinforced the Ptolemaic division of space.

Chapters 4 and 5 together have made the case that early modern mapping, directly and indirectly, constituted and drove the shift in ideas about political authority from medieval complexity to modern territorial exclusivity. Ideas, however, must be implemented in behaviors in order to constitute an international system—after all, the structure of the system is only observable in the way in which political ideas are made real through action and interaction. The next chapter examines this process, as political actors, following their new ideas about authority, actively changed their practices to implement their ideas in the structures of interaction that constitute the international system, yielding by the nineteenth century the framework for interstate politics that persists today.

Chapter 7

The Implementation of Territorial Exclusivity

We tend to think of territoriality as a state of mind, a way of feeling about a portion of land, but the territoriality that developed in seventeenth-century France was, first of all, a form of material practice, a way of acting on the land that helped to make it seem like France. Land was politically mobilized as territory in the period, using engineering skills to reshape it and in the process alter its meaning. Land was measured and fitted within the languages of maps so it could be carried on pieces of paper and made a public image; it was marked and bounded with military fortresses so its breadth would be visible and its relation to state power tangible; and it was suffused with humanly engineered waterways and roadways that gave it internal orderliness and tied it to an economic rationality that was also associated with the state.⁷⁵

Political authority, unless implemented in material practices, is merely a collection of ideas in people's heads. In order to shape the structure of the international system, and hence affect behaviors and outcomes of international politics, these ideas must also shape the actual practices of action and interaction of the actors in the system. While the previous two chapters summarized the shift to exclusively (and exclusive) territorial political authority and demonstrated the key role of mapping and its use in driving this change, this chapter will examine the final step in the constitution of modern states and the state system: *the implementation of exclusive territoriality in material practices*. As Mukerji argues in the epigraph above, this implementation was an integral part of the constitution of territoriality in early modern Europe.

In order to break down this process analytically, I will examine the way in which the use of maps and the consolidation of territorial exclusivity is linked to the material implementation of changes in the character and identity of political actors, their organization, and their interaction practices. This causal connection actually takes two paths, discussed theoretically in the first section: 1) the ways in which increased map use and the new ideas about territoriality directly shaped and transformed key practices that constitute the system; and 2) the manner in which map-based political authority restructured the identities of actors, leading to new and altered interests and goals, which subsequently led to changes in practices. The latter process is more fundamentally constitutive of systemic change and hence forms the bulk of this chapter. This offers the opportunity to connect the macro-level theory of broad ideational changes to micro-level evidence concerning actor identities, interests, and material practices, and then back to the macro-level of system structure as a set of constraints and resources to those actors.

On the constitution of new and changed actors in the system, I focus on the process of territorialization of rule, involving the gradual and uneven linearization of political frontiers and the practical elimination of non-territorial authority structures. In order to delineate this process clearly, this section contains a close case study of France as an exemplar of the character of this process, illustrating not only the overall trend toward territorialization but also its slow, complex, and contested nature. A discussion of

⁷⁵ Mukerji 1997: 9.

the shift in the organization of the system—from heterarchical complexity to modern anarchy—follows, focusing on the material and practical evidence of such a shift. The next section examines the ways in which map-based authority and map use restructured international negotiations and altered major actors' behaviors in key issues of international politics. These interconnected shifts in actor identities and behavioral patterns in turn reinforced the consolidation of ideas of territorial exclusivity to the point where twentieth-century post-colonial states have been entirely constituted by this ideal—a process examined in the fifth part of this chapter. Finally, the conclusion suggests some generalizable implications for systemic change, in terms of the implementation of ideas in material practices.

I. Connecting Authority and Structure through Actions and Identities

As chapter 1 argued, the international system is inherently unobservable in itself; its characteristics are instead revealed by actors' ideas, identities, and practices. Thus the implementation of the changing ideas about political authority in material practices is the key final step in systemic transformation.

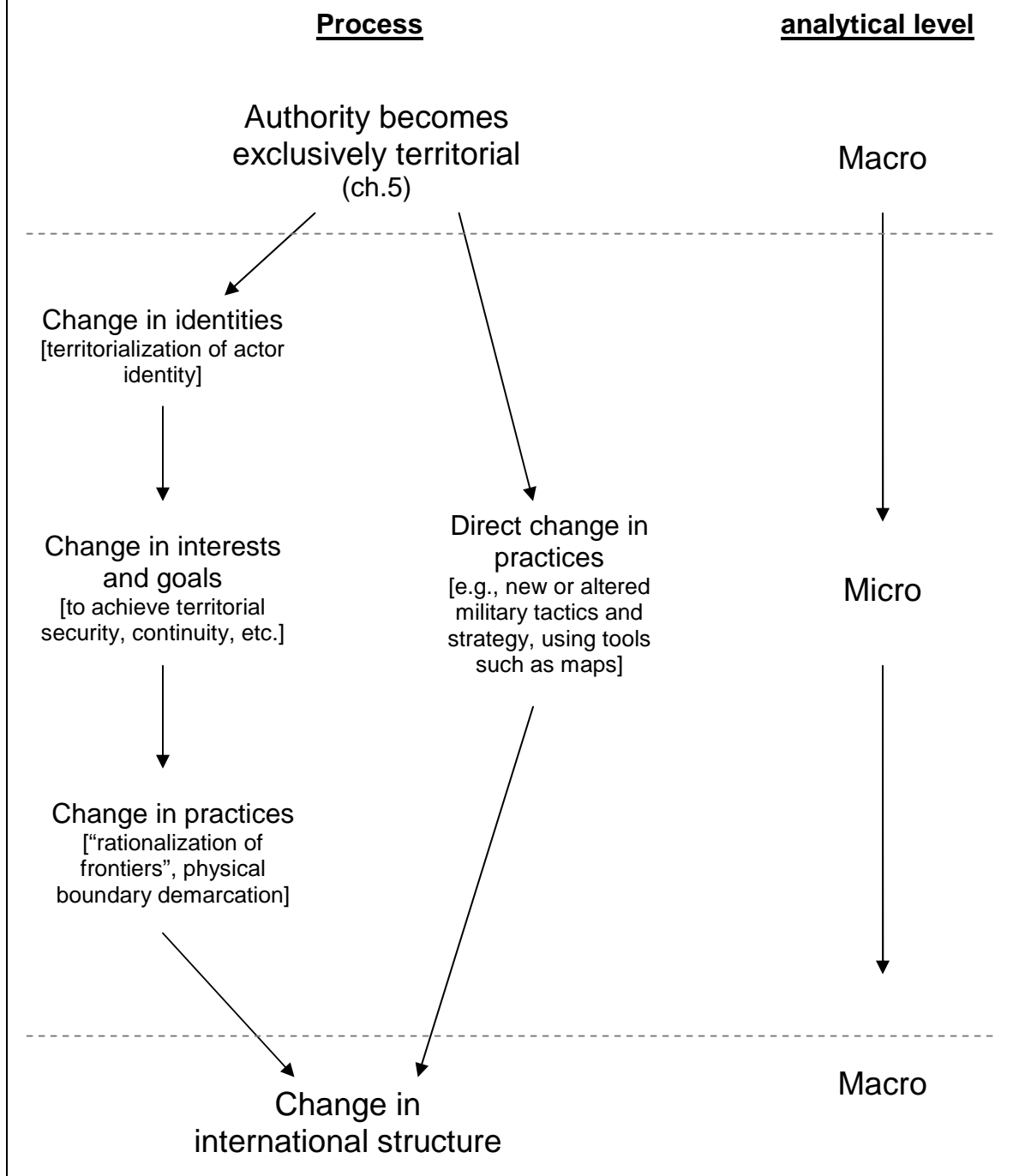
Therefore, the changes in ideas about political authority that resulted in the complete territorialization of sovereignty by the early nineteenth century tell only the first half of the story. During the period in which these ideas became dominant—and into the period after—actors implemented them in their behaviors, resulting in the transformation of the structure of the international system discussed in chapter 2. The connection between ideas and structure, both of which operate analytically at a macro-theoretical level, runs through the micro-level of the identities, actions, and interactions of individual decision-makers and rulers. This process is depicted analytically in Figure 6.1 (below).

First, the changes in political ideas can take an indirect route to altering practices—and hence structures—in the international system. This path, though somewhat circuitous, is more important for consolidating the changes in international structure. In this case, the new ideas structure new identities of political actors. Specifically, the increasingly *territorial* nature of state identity yields a new set of interests and goals, based around the notions of territorial exclusivity, continuity, and security. In order to achieve these new goals, actors invent or adopt new or altered practices, such as the demarcation of linear boundaries on the ground and the active administration of territory circumscribed by such lines. This form of change in practices is constitutive of fundamental systemic transformation because it is based on changes in actor identities rather than merely on the (possibly temporary) usefulness of certain practices.

Second, territorial exclusivity as the sole form of political authority can affect structure by directly shaping the practices of political actors. For example, military strategy and tactics were reshaped by the increasing use of maps and other tools of territorial rule, independently of the shift in identities and interests.

Both of these types of changed or new practices constitute changes in the international system, leading to in the overall shift to our modern system composed exclusively of territorial states, organized anarchically, and interacting with today's familiar set of diplomatic, military, and boundary practices.

Figure 6.1: Sovereignty and International Systemic Practices



Thus the process moves from the macro level of broad shifts in societal ideas (about space in general and about political authority in particular) to the micro level of interests, goals, practices, and actions of individual decision-makers and rulers. The end result, however, returns to the macro, system-wide level, as the new practices of interaction yield a transformation of the structure of the system. This follows the analytical approach of important case-study methods such as process tracing: “the

attempt to trace empirically the temporal and possibly causal sequences of events within a case that intervene between independent variables and observed outcomes” (Bennett and George 2001: 144). In this case, both the fundamental causal factor (technologically driven ideational change) and the outcome of interest (systemic change) are broad shifts in European society and politics. Yet the intervening “sequence of events” involves changes in identities, interests, and practices leading to new and altered behaviors by political actors, which is amenable to detailed examination.

This analytical trajectory—from macro to micro and back to macro—allows for a more effective understanding of systemic change in early modern Europe. This transformation of international politics, after all, involves more than just a shift in ideas or a shift in material practices, but an interconnected set of transformations in both.

II. The Territorialization of Actor Identity

While chapter 5 outlined the territorialization of ideas about political authority, this section will follow upon that by detailing the process whereby material political practices were made exclusively territorial; in other words, the *territorialization of rule*. In particular, the shift in ideas about what constituted legitimate political authority led to changes in the identity of political actors, both their identities as self-described and the identity required to be recognized by others as a legitimate actor.

This shift toward exclusive territoriality in actor identity applies equally well whether one conceptualizes international actors from the standpoint of “states as actors” or in terms of individual decision-makers. States (or the political units of the time) were increasingly territorially defined, both by their own internal structures of rule and by the recognition and intervention (or lack thereof) by other actors in the system. Similarly, at the individual level, rulers of these political units came to regard *what* they ruled increasingly in terms of exclusive territoriality while simultaneously shifting *how* they ruled toward management of persons and resources through the administration of linearly bounded territory. Externally as well, rulers increasingly recognized as legitimate only those other actors who defined and administered their realms territorially. Thus, while this section predominantly takes the approach of examining the identities, interests, and actions of decision-makers, the process is the same for an analysis of states as actors: identity is constituted by the form of sovereignty, the change in which leads to the modern system *through the intervening micro-level process* of identity constitution, interest and goal creation, and interaction practices.⁷⁶

As has been recognized by many theorists of systemic change (such as Tilly or Spruyt), this process involved the drastic reduction of the number of political units in Europe through the early modern period. Yet my focus on the transformation of authority and the subsequent implementation of these ideas in practices enables a more complete understanding of this period’s transformative nature. In spite of the deceptive continuity in naming and the anachronistic reading back from the modern period by some “national” historiographies, not a single political actor survived unchanged from the fifteenth through the nineteenth centuries. For example, a political entity known as “France”

⁷⁶ In other words, my analysis sidesteps the debates concerning the usefulness or accuracy of conceiving of states as “person-like” actors. For one example, see the forum on this topic in the April 2004 issue of the *Review of International Studies* (vol. 30, issue 2).

existed in 1450 just as in 1850, but the character of this realm was so altered as to make it virtually unrecognizable: fifteenth-century France was constituted by a mix of personal relations of rule and a place-focused non-bounded form of territoriality, while after the Revolution modern France was linearly bounded and homogenously territorial.

While France represents the trajectory of rulers successfully implementing new forms of legitimate authority, other actors disappeared because they were unable or unwilling to restructure in a manner that would be seen as legitimate in the increasingly territorially obsessed political landscape. In spite of the indisputable rise in military pressure and resource mobilization requirements throughout this period, very few political actors were actually eliminated due solely to military weakness or conquest, as many disappeared instead in dynastic consolidations (Wight 1977: 159). Thus the ideational shift, which left some actors unable to legitimize their rule effectively, contributed to the disappearance or decline of political entities such as the Holy Roman Empire or city-leagues.

In order to detail this process of transformation in the material implementation of actor identity, this section, first, outlines a theory of territorialization, second, examines France in detail as a useful case study of this process, and third, considers evidence from other cases illustrating similar trends.

II.A. The theory of territorialization. Since territoriality involves material practices of control as much as the ideas that inform those practices, the implementation of territorial practices is a fundamental part of the constitution of actors in the modern state system. While the fourth section of this chapter examines the broader category of international interaction practices, this section looks closely at those that are fundamental to the constitution of actor identity: in particular, the linearization of boundaries and the internal homogenization of territory.

Some international relations theorists have examined the process of territorialization of the modern state system, but typically without acknowledging its complex and drawn-out nature. For example, Ruggie (1983, 1993) and Kratochwil (1986) have noted the transformation in the character of rule represented by modern territoriality but have left its practical implementation unexplained. Kahler (2006, 2008) points out the gradual transformation of zonal frontiers into linear boundaries, and notes the importance of cartographic practices in that process, but leaves out the importance of the *exclusive* nature of modern territoriality and the elimination of non-territorial authority structures.⁷⁷ Similarly, the standard approach to boundaries in political geography (such as that represented by Prescott [1987]) typically sees an evolutionary transformation of zones into lines through the processes of allocation, delimitation, and demarcation—both historically and in the case of newly identified boundaries. As chapter 5 and the following sections illustrate, this process was historically much more complex and contested than such analyses indicate.

⁷⁷ There are, of course, numerous other discussions of modern territoriality (its character and its origins) in international relations scholarship and in other fields. Yet most of those fall further afield from my focus on changes in ideas leading to changes in structure-constituting practices. For example, Geomans (2006) proposes a formal model that purports to explain the choice of territory as the “most efficient” means of organizing a political community for self-help and defense. This type of analysis leaves the actual historical record entirely absent.

The key element in the territorialization of political actors, therefore, is the way in which the transformed ideas about political authority were implemented in political practices and thus imposed on and manifested in the material world. This change in material practices implemented both of the ideational changes from chapter 5: the transformation of territorial authority and the elimination of non-territorial authority. As Mukerji (1997) points out in the epigraph at the beginning of this chapter, the “construction” of the French state from the seventeenth century forward was both institutional and material, involving not just the creation of new centralized institutions but also the imposition of material features upon the landscape: “These efforts both *legitimated* and *defined* state power first by locating it as a relation to land. The interdependence of technoscience and the state . . . was essential to *the very construction* of state power in seventeenth-century France” (257).⁷⁸

As will be seen in detail below, the process of constructing the new materially implemented political structures followed a general, if uneven and contested, trajectory. Zonal and overlapping frontiers were “rationalized,” or made linear, territorializing the state actors involved in international politics. This involved processes of fortification, internal homogenization and infrastructural development, and boundary demarcation. Cartography was an integral part of this process, although some mappings preceded the implementation of territoriality by several centuries—existing customary authority structures within Europe were not immediately pushed aside by map-based ideas (as detailed in chapter 5). In fact, “traditional ideas proved to be very persistent and mapping often served simply to clarify the existence of incompatible notions and disputed territories” (Black 2002: 34). Once the ideational foundations of those traditional authorities were undermined, however, non-territorial authorities could be—and were—eliminated actively by centralizing powers. One dynamic that recurs in the cases below, in fact, is the active or implicit collusion of ostensibly hostile central rulers with each other to eliminate marginal, non-territorial, or alternative authorities, using the new legitimizing tools offered by territorial exclusivity (illustrated below on the Spanish-French boundary in the Pyrenees or in the border regions of Siam).

Before proceeding, it is useful to address a practice often held to represent modern territorial rule in a much earlier period than I have argued. The system of extraterritorial jurisdiction for embassies developed in the sixteenth and seventeenth centuries has been posited to represent the birth of modern statehood (e.g., Ruggie 1993: 165; Mattingly 1955: 236-244). Yet throughout this dissertation, I have argued that the shift in ideas and material practices constituting the transformation to the modern state system was not consolidated until the early nineteenth century. As the next few paragraphs make clear, the type of extraterritoriality that was put into place was actually a *reflection* of the place-focused form of territoriality common at the time, rather than a driver of change in territoriality toward the modern spatial conception of authority.

Mattingly, in his history of early modern diplomatic practices, argues that it was the “embassy chapel question”—that is, the issue of different Christian rites being practiced at the same court—that demanded the solution offered by the “fiction” of

⁷⁸ In this same work Mukerji proposes a useful critique of the institution-focused literature of the “Bringing the State Back in” approach, arguing that the material construction of the state in space is perhaps more important than bureaucratic growth or fiscal rationalization (1997: 314).

extraterritorial jurisdictions. Only if heretical religious practices took place on theoretically foreign soil could post-Reformation rulers accommodate ambassadors within the regime of religious intolerance they imposed on their realms (Mattingly 1955: 236-244).

Yet the contemporary discussions and practices of extraterritoriality demonstrate that, rather than creating modern territorial authority, the form of extraterritoriality in use in the sixteenth and seventeenth centuries instead *reflected* the contemporary form of territorial authority: that is, focused on places rather than spaces and defined by centers rather than boundaries. For example, the treatment of an embassy as extraterritorial took a very different form in the early modern period compared with today. Unlike today's clear delineation of the property of an embassy by a geometric line dividing the sovereignty of the host state from that of the embassy's state (often manifested in a walled and gated compound), the immunity of early-modern embassies was not delineated cleanly. Instead, early modern extraterritoriality offered a gradually diminishing sense of immunity as one moved away from the place defined by the residence. For example, some embassy-filled areas of cities exhibited a "notorious *franchise du quartier* which made each embassy *and its adjacent area* a privileged sanctuary for debtors, smugglers, and all sorts of notorious criminals" (Mattingly 1955: 242, emphasis added). In a capital city today, on the other hand, there is no immunity provided except within the strictly delineated confines of the embassy property.⁷⁹

A similar response can be made to another author's contention that modern extraterritoriality originated even earlier than Mattingly proposes: Goffman (2007) sees the origins of embassy extraterritoriality not in the internal practices of Renaissance Italian city-states, but rather in these cities' interactions with the Ottoman Empire and their trade delegations in Istanbul. Yet this form of immunity was a reflection of a non-spatial form of authority; in fact, the Ottoman practices can be better described as *extra-jurisdictionality* than as extraterritoriality.⁸⁰

Similar trends can be discerned with regards to the immunity constructed around a city where war-time negotiations would take place. Thus, in the discussions preceding the Peace of Nijmegen in the 1670s, for example, the city was proposed as a neutral site. Yet in terms of operationalizing that neutrality in practice, geometric or linearly geographic notions of how to define the region around Nijmegen as a neutral *space* were never adopted or widely respected, as actors instead merely treat the city itself as a neutral *place* (Roelofsen 1980).

Thus, the form of extraterritoriality that developed was fundamentally derived from the existing form of territoriality, structured by the general ideas about authority of the time. Extraterritoriality is variable, just as territoriality is, and is not a cause of change but a sign of it—a particular material implementation of territoriality in the practices of

⁷⁹ Embassies today, of course, tend to cluster in extremely affluent areas of capital cities such as Washington, D.C.; it is hard to imagine these neighborhoods becoming safe havens for criminals due solely to the presence of foreign embassies.

⁸⁰ For example, envoys acquired "a form of communal governance that displayed the form, if not the principle, of extra-territoriality. . . . This stipulation, by which each group of expatriate people enjoyed the right to be judged according to its own codes, aimed to shield aliens from the supposedly cruel and certainly bewildering system of Ottoman-Islamic justice" (Goffman 2007: 72). Note the emphasis on judicial jurisdictions rather than territorial limits.

rulers and states. Extraterritoriality, in short, is an *inversion* of territoriality, which nonetheless builds directly on the same conceptualization of what territory is.

II.B. The territorialization of France. In order to illustrate the complex nature of the implementation of territoriality in European political practices, this section closely examines the case of France, which offers a useful illustration for several reasons. First, its process of territorialization was representative of the overall trend across Europe, although in some ways it may have been slightly ahead chronologically. Second, the early modern history of France is particularly well-documented, and although much of this work makes the anachronistic assumptions of continuity common to national histories, it does provide enough evidence for a careful study. Finally, the fact that the French case is so thoroughly studied makes it all the more useful to reveal the ways in which some conventional narratives of French state formation are exaggerated, especially with regards to the timing of the implementation of modern territoriality. In other words, based on the traditional interpretation of France as a particularly early manifestation of territorial statehood, the case of French territorialization offers something of a “most difficult” case for illustrating my argument that exclusively territorial rule was only adopted gradually.

In short, in spite of well-known French efforts toward the so-called “rationalization” of frontiers in the seventeenth century, these policies were shaped by the persistently strong non-modern idea of territorial authority and driven by purely practical needs of military defense (and offense) rather than the implementation of new or changed norms. It was not until well into the eighteenth century and later that the idea of rationalization took on its modern form of eliminating overlaps and enclaves and demarcating linear boundaries. Thus, this section examines the following: the late sixteenth-century background to territorialization; frontiers under Richelieu and Louis XIII; the “rationalization” efforts of Louis XIV and his advisors, particularly the military engineer Vauban; the eighteenth-century trend toward linearization of boundaries; the drastic Revolutionary and post-Revolutionary shift toward both internal and external homogenization; and finally the active demarcation and administration of linear boundaries along all of France’s borders in the nineteenth century.

The French state and territoriality before Louis XIII. As discussed in earlier chapters of this dissertation, at the end of the sixteenth century, France remained a political entity defined as much by jurisdictional sovereignties as by territory (Sahlins 1989). Furthermore, the form of territoriality that was in place involved authority over unique places rather than delineated spaces. Recall, for example, Chastillon’s effort to define part of the eastern boundary of France in 1608, discussed in chapter 5 (Buisseret 1984a, 1984b). Although this process illustrates the tendency toward map-driven simplification of territorial complexity in the *representation* of political authority, it did not result in the *implementation* of linear territoriality on the ground. To the contrary, the textual description of the complex and overlapping boundary—and not the simplified visual form that the boundary took in the map—was retained in official records. Thus, Buisseret’s contention that this mapping serves as “an example of the way in which the theories of the political philosophers, concerning the nature of sovereignty and territorial control, came to be translated into reality on the ground” (Buisseret 1984a: 78) overstates

the case. The drawing of the map, simplifying the boundary into a line between two homogenous spaces, was merely the *first* step toward implementation, not the last. This early-seventeenth-century mapping project involved no change in actual practices of internal administration or interaction with neighboring polities; that change would only come later.

Richelieu and Louis XIII: initial steps toward “rationalization”? During the first half of the seventeenth century some of the first steps toward rationalization of French frontiers were taken, at least in terms of the goals of rulers. As will also be seen in the discussion of Vauban, below, this predominantly took the form of a strategy of fortifying the frontiers of the kingdom and removing fortifications from the interior. For example, a 1629 memo from Cardinal Richelieu to Louis XIII after the capture of La Rochelle (a key internal stronghold of the Huguenots) contained the following: “All fortresses not on the frontier must be razed; we should keep only those at river crossings or which serve as a bridle to mutinous great towns. Those which are on the frontier must be properly fortified” (quoted in Bonney 1988: 9). Similarly, the *Political Testament* of Richelieu (contemporary though of not entirely certain authorship) argues that “[i]t is necessary to be deprived of common sense to be ignorant of how important it is to great states to have their frontiers well fortified” (Hill 1961: 120). Although these recommendations have sometimes been read as efforts to make the boundaries of France linear, in fact they never go into any detail on the character of the borders. Both simply recommend that the frontiers—however defined—should be strongly defended. Compared with the century following, when this idea took on a much more detailed form, this push toward frontier defense is less than the rationalization of territorial boundaries.

Louis XIV, Vauban, and frontier defense. The long reign of Louis XIV (1643-1715) witnessed a continuation of the trend toward frontier defense but, similar to the preceding period, did not involve the full linearization of French boundaries. This is a particularly important point, as many analyses hold that Vauban’s fortification schemes (discussed in detail below) represent the implementation of modern boundaries.

In general, Louis XIV’s expansionary foreign policy involved the growth of French territory without the implementation of linear boundaries. For example, as the discussion of the 1659 Treaty of the Pyrenees from chapter 5 pointed out, although this agreement constituted the idea of a linear boundary on the mountain chain, it did not lead to the actual implementation of such a boundary on the ground (Sahlins 1989).

Louis XIV’s policy toward the frontier with the Netherlands and the German territories also lacked any conscious effort to implement linearly defined territoriality. In many cases, Louis XIV actually promoted zonal, enclave boundaries in order to help his expansionist goals on these borders (Black 1997b: 123). Thus, many of his annexations were in the form of fiefs or jurisdictions rather than linear spaces (Febvre 1973: 214).

In the 1680s, Louis set up the “chambers of reunion,” bodies created to find legal justifications for annexing territories and jurisdictions from neighboring principalities. The excuse for these exercises was the ambiguous language in treaties, which was often left “intentionally imprecise” in order to facilitate the signing of a peace without having to resolve all outstanding issues (Lynn 1999: 161). For example, the treaties of Westphalia had left the degree and nature of French control over a number of Alsatian

towns unclear—imprecision that was used by Louis later to impose his own interpretation of the terms through military force (Livet 1976). The “reunions” of the 1680s made use of the idea of any given town having “dependencies” (a concept discussed in the section on treaty texts in chapter 5) in order to annex new territories using often-dubious historical claims (Black 1999: 45). Yet the ways in which frontier territories were annexed continued to reflect non-geometric ideas of territorial authority, as traditionally defined jurisdictions were passed unchanged from one ruler to another (Miquelon 2001: 672-673). Once again, this did not involve the imposition of linear boundaries on the ground, even if it appears on the large scale to have removed some enclaves and overlaps.

The career of Sébastien Le Prestre, Seigneur de Vauban, France’s chief military engineer in the late seventeenth century, also serves to illustrate the complexity of the actual process of frontier rationalization. Vauban was involved in a number of facets of French military strategy, planning, and fortification construction, but most pertinent to our discussion is his proposal that France’s frontiers be converted into a *pré carré*, a somewhat obscure term for a “dueling ground” that nonetheless “connotes a regularly shaped arena of well-defined perimeters” (Hebbert and Rothrock 1990: 41). In a 1673 letter to Louvois, the king’s secretary of state for war, Vauban wrote that “the King ought to give a little thought to squaring off the boundaries of his lands. This confusion of friendly and hostile fortresses is almost unsatisfactory. . . . whether it is accomplished by treaty or by a successful campaign, you must continue to preach the need to tidy up the boundaries” (Hebbert and Rothrock 1990: 41). Vauban intended to make this “squaring off” an explicit goal of French military strategy, perhaps the most important military goal in his mind (Lynn 1999: 75).⁸¹

The particular form that Vauban’s idea of squaring the kingdom took was a proposal for a double line of fortifications along France’s frontiers, particularly those that were less easily defended due to geography. This would be combined with continuing efforts to eliminate all fortresses internal to France and those fortifications well beyond the French frontiers (Hebbert and Rothrock 1990: 142-143). As Vauban wrote, “I am of the opinion that we should build no other fortifications outside these two lines; on the contrary, I think that in the course of time it would be best to destroy all the fortifications that do not form part of these lines, or are situated deep inside the kingdom, for they serve only to encourage rebellion by those bold enough to seize them” (Symcox 1974: 167).

Thus, the conventional approach to Vauban sees him as driving a process of active and conscious rationalization of France’s frontiers, making them both more linearly defined and more strongly fortified. This would appear to represent a significant step toward the material implementation of linearly bounded territorial authority. For example, Mukerji writes, “The systematic building and destruction of fortresses by Vauban and his cohort in pursuit of this ideal of a seamless French territory began to make the French state not just a political regime but a material entity built into the landscape” (1997: 55).

⁸¹ The primacy of this goal to Vauban is made clear when he was apparently “baffled” when peace negotiations were sometimes completed without making gains toward the rationalized frontiers—as the king’s foreign policy involved interests beyond this (Hebbert and Rothrock 1990: 57).

Yet the actual fortification strategy executed by Vauban, as well as the ideas driving it, reveal that his efforts had less to do with implementing new ideas of exclusive territoriality and were instead driven by purely practical military needs. To modern observers who have internalized the “rationality” of linearly bounded territory, the very idea of “rationalizing” frontiers implies linearity. To a practical military planner of the seventeenth century like Vauban, however, rationalization simply implied making the kingdom more defensible and lowering the expense of securing territorial gains.

Vauban’s writings advocating the double line of fortifications make no reference to notions of territory or sovereignty in itself; he is instead entirely focused on the practical defensibility of the kingdom (and especially the important places within it) through the use of fortified points. For example, Vauban briefly proposed fortifying Paris itself, due to its cultural, economic, and political importance to the kingdom (Hebbert and Rothrock 1990: 188). For Vauban, the problem with such a construction was not that it contradicted a notion of internal territorial homogeneity (by focusing on the center rather than the boundaries), but rather that it was impractical. Thus both his ends (protection of Paris and other major cities) and means (forts and fortified towns) were *place-focused* rather than imagined in terms of linearly defined spatial expanses. As a further sign of his practical-mindedness, one of the most important benefits of his proposed frontier fortification, for Vauban, would be the way in which such a clear line of defense would save resources, both monetary and in manpower.

In addition, the double line of fortifications was designed not only for defense, but also to make offensive military action more effective and less costly. Vauban wrote that it is necessary “that the fortified places should be large enough to contain not only the munitions required for their own defense but also the supplies needed if we invade enemy territory” (Symcox 1974: 167). Thus, a defensible frontier “closes the way into our country for an enemy while making it easier for us to attack him” (Hebbert and Rothrock 1990: 57). Similarly, his proposals to absorb foreign enclaves were really aimed at making more effective the zonal military frontier that had long existed (Sahlins 1989). Thus, Vauban’s suggestions represent not the material implementation of a new abstract notion of territorial exclusivity but rather the culmination of a practical strategy in pursuit of traditional territorial goals (conquest of further jurisdictions and defense of French towns).

The destruction of the fortresses internal to France also is more complex, and similarly represents something other than the direct implementation of territorial exclusivity and centralized homogeneity. As illustrated in the passages above on Richelieu, the elimination of potential bastions of internal resistance was a longstanding goal of centralizing rulers, and the process was mostly completed before Vauban’s tenure: “the last major clearance of fortresses came in the aftermath of the rebellion of 1632, when more than 100 chateaux and urban citadels were demolished in Languedoc.” Furthermore, this policy “clearly accorded with the wishes of the provincial authorities who frequently requested and paid for the cost of demolition. . . . In 1614 the cahier [report] of the third estate included a demand for the razing of every stronghold except those on the frontiers” (Parker 1983: 103). Thus internal de-fortification was favored not just by the centralizing monarchy but also by local actors whose interests were not served by the particular regional powers who traditionally held such fortifications.

Thus, Vauban's proposals and fortification projects, while appearing to involve the imposition of a linearly defined political territoriality, were in fact simply the practical pursuit of traditional territorial and military goals. Louis XIV's reign did, however, witness some aspects of territorialization of rule, particularly in the approach of his long-time minister of finance Jean-Baptiste Colbert. He made centralization and homogenization of authorities a key element of his internal-reform efforts, including requests for maps from regional authorities (Pelletier 1998) and his initiation of the Cassini survey project (Konvitz 1987). Both of these, however, were preliminary stages and did not involve the actual implementation of territorial exclusivity or homogeneity in practice. Instead, these mapping efforts were only the first step toward linearization—the *depiction* of rule as exclusively territorial and linearly bounded—and were the cause, not the effect, of the later implementation of linear rule.

The eighteenth-century linearization of boundaries. In the period between the Treaty of Utrecht in 1713 and the French Revolution, and in particular in the second half of the eighteenth century, the “rationalization” of the frontiers of France took on a new form, shaped by the depiction of rule as linear and homogenous in maps. Only in this period were efforts made to implement linear boundaries and exclusive territoriality on the ground. This also marked a shift away from Louis XIV's expansive foreign policy of the preceding century, as French rulers instead focused on maintaining the status quo in terms of stabilizing the advances Louis had made (Black 1997b: 125-126). Linear borders, as depicted by mapping, offered a means to accomplish this goal. For example, Swiss philosopher Emerich de Vattel wrote in the 1750s that “[i]t is necessary to mark clearly and with precision the boundaries of territories” (quoted in Sahlins 1989: 93; also discussed in Prescott 1987). Similarly, an anonymous French memoir from 1780 criticized sixteenth- and seventeenth-century French treaties for not actively fixing linear territorial boundaries, illustrating the assumption that this particular practice should always have been the goal of French policy (Sahlins 1989: 94). With suggestions of this sort common at the time, the implementation of linear boundaries appeared natural and inevitable; the previous century, by contrast, saw important actors such as Vauban propose a restructuring of the frontiers without involving the notion of territorial exclusivity.

The primary institutional form that this new goal and practice of linearization took was the treaty-making activities of the French foreign ministry, “which in the second part of the eighteenth century developed a coherent policy of ‘establishing and fixing the limits of the kingdom’” (Sahlins 1989: 93). Thus the 1770s and 1780s saw a number of treaties signed with France's neighbors, both to clarify control over remaining zonal frontiers—by making boundaries linear—and to eliminate enclaves. An interesting feature of these treaties was the way in which even the tiniest principality on France's border was formally treated as an equal party to the agreement, no matter the actual difference in material strength (Sahlins 1989: 96). These treaties “based on stabilization and equity, rather than aggrandizement and force,” included more than a dozen agreements with a variety of neighbors (Black 1999: 125).

These linear boundaries were explicitly operationalized in terms of territorial exclusivity, as compensations were proposed for property-owners with possessions on both sides of the new boundaries (Sahlins 1989:95). This would leave no property cutting

across a newly demarcated linear boundary, thereby further implementing linear territoriality on actual property relations on the ground. Furthermore, the implementation of some linear boundaries, such as that in the Pyrenees between France and Spain, was an integral part of the central government's efforts at *internal* control, specifically in response to concerns about smuggling (Sahlins 1989: 89-91). In this sense the process was a collusion between centralizing governments (Spanish and French) rather than an imposition by one side on the other.

The French Revolution and internal territorial homogenization. The Revolutionary period saw the further imposition of modern territorial authority in France, in particular in the internal reorganization of political administration. The old regime was plagued with internal tariffs, divisions, and administrative confusion: "In France, at least 1,500 internal river tolls were estimated to exist in 1789, for all Colbert's attempts at elimination" (Evans 1992: 482-483). Ideas had been proposed before the Revolution for more "rational" internal divisions of France, based on geographic and even geometric notions. For example, in 1780 the geographer Robert de Hesseln "proposed that France be divided into nine regions each in the shape of a square; each region would in turn be divided into nine subunits, each of which would be further subdivided into nine small squares" (Konvitz 1990: 4). Although such a radically geometric plan was not adopted, such suggestions were influential in the 1790 design that emphasized equal area (defined in terms of travel time) though not rectilinear shape (Konvitz 1990: 5). It was only with the Revolution's focus on "abolishing privilege as the basis of private and administrative law" that the French government could implement this more homogenous form of territoriality internally (Sahlins 1989: 168). Under Napoleon, an internal land survey was ordered in 1804 in order to rationalize taxation, which was derailed by warfare but resumed in the 1820s. Externally, with Napoleon's "vast experiment with colonialism within Europe" (Schroeder 1994: 391), the elimination of internal heterogeneity in forms of rule was extended across much of the continent.

Nineteenth-century boundary demarcation. In the period following the Congress of Vienna, boundaries throughout Europe were demarcated on the ground, often for the first time. The complex boundary situation in the Pyrenees mountains, examined by Sahlins (1989), illustrates the change that this period's demarcation efforts represented. In this region, unlike along most of France's other frontiers, the treaties of 1814-15 did not delimit the boundaries. Instead, commissions were established in the 1850s to delimit and demarcate a linear boundary. As with many previous boundary demarcation efforts, the commissioners ran up against the common problem of "the 'signification' of the descriptions—the relation between the text and the terrain" (Sahlins 1989: 252). The commissioners resolved the complexities by drawing linear boundaries, including many uses of straight lines that cut across existing properties, and attempted to base the new boundaries on recent, rather than ancient, historical claims. Their main goal, however, was "eradicating local struggles" rather than determining the most historically or geographically well-founded claims (Sahlins 1989: 247). These boundaries were marked with an established number and placement of boundary stones, thereby imposing the abstract linearity of post-Revolutionary French boundaries on one of the country's last remaining complex jurisdictional frontiers.

France, in short, underwent the traditionally ascribed transition from zonal frontiers to linear boundaries, but it did so in a far more contested and uneven process than is usually seen. Rationalization of the frontiers changed in meaning between Vauban's fortification plans of the late 1600s and the clear push toward linearization in the late 1700s. By the time of the Revolution and the Napoleonic expansion, therefore, the French state had developed a territorial ideal that could be imitated by or imposed on other parts of Europe.

II.C. Territorialization of rule throughout Europe. The conclusions derived from the case of French implementation of territoriality are equally applicable to other actors within Europe, even if France sometimes took the lead chronologically. After all, the type of linear boundary imposed upon the landscape in the later eighteenth century is inherently a bilateral agreement, and hence must involve more than one actor in its implementation. Furthermore, the general timing of the process—with the actual practical implementation of linear territorial exclusivity coming later than is conventionally thought—also applies to other regions.

For example, just as Vauban's seventeenth-century notion of "squaring off" the kingdom has been read anachronistically as a true linearization of territory, so too does the concept of creating "barriers" between states give a false sense of linearity to modern observers. This barrier notion was invoked by the Dutch Republic in relation to France in the 1670s, as well as between other states in the seventeenth century. Yet instead of involving a clean linear division of authority and material control, often the implementation of such a barrier required the placement of one state's troops in fortresses ostensibly within the territory of another state. For example, in discussions for the creation of a military barrier between Denmark and Sweden in the 1680s, "Danish garrisons were to be placed in the Swedish fortified places *beyond* the frontier envisaged" (Hatton 1980: 10). Thus, in other parts of Europe as in France, such ostensibly linear seventeenth-century notions were actually founded entirely on military practicalities and did not represent a direct implementation or manifestation of the ideas of territorial exclusivity.

In the realm of territorial concessions and exchanges, practices throughout Europe involved little in the way of geometric or even geographic linearity until the late eighteenth century. Most shifts in international frontiers actually left local jurisdictional boundaries unchanged—a given jurisdiction would simply be transferred from one ruler to another, reflecting the continuing importance of unitary places as the conceptual foundation of territorial authority. "States could shift their boundaries through war, inheritance, or exchange; but on such occasions . . . local boundaries and lesser jurisdictions usually remained intact: given manors or counties were swallowed entire by their new ruler" (Evans 1992: 484).

With the increasing trend toward linearization in the eighteenth century, however, the ideas of territorial exclusivity were applied directly to boundary delimitation and demarcation, often using mapping as a tool of this implementation. Thus, the progression from ideas to implementation operated throughout the continent: "A fruitful cooperation between political theory and geographic practice ensued. Legists emphasized the territorial integrity of the state and the overlapping and ambiguous sovereignties of

traditional frontier regions became intolerable. . . . Cartographers contributed to this process by perfecting symbolic indications to manifest this development in political theory. Ill-defined frontier regions were superseded by fixed border lines on maps” (Solon 1984: 95). Yet mapping was not only a driver of this linearization but also an important tool of its implementation: “Maps also performed a leading role in the numerous treaties that tried to geographically simplify the boundaries between sovereign states, whereby states exchanged villages, deleted enclaves, and attempted to improve communication networks” (Pelletier 1998: 56). Thus, during the late eighteenth century, treaty-making began to involve cartography directly in the implementation of territorial exclusivity. (The role of cartography and cartographic thinking in treaty negotiation is discussed later in this chapter.)

A major international event of the late eighteenth century that illustrates the implementation of territorial exclusivity is the series of partitions of Poland by Austria, Prussia, and Russia.⁸² The basic facts are well known: in a series of trilateral agreements (in 1772, 1793, and 1795), the three partitioning powers divided up the territories of Poland among themselves, leaving a progressively smaller rump Polish state until, in 1795, Poland was eliminated entirely from the map of Europe. Yet a few less-commonly cited features of this process are relevant to this discussion of the implementation of territorial exclusivity.

First there is the difference between the 1772 partition and those that came two decades later. Although even the first partition invoked ideas of territorial exclusivity, those elements coexisted with traditional ideas about how to claim authority over jurisdictions. For example, the claims in 1772 were justified (at some effort) by extensive searches in official archives for rights and titles to the lands being taken from Poland. “In justification of the dismemberment, the preambles [in 1772] cited not only the anarchy which had caused Poland’s neighbors so much grief, but also the three powers’ ‘ancient and legitimate rights’” (Lukowski 1999: 81). The second partition, on the other hand, was effected much more quickly and without the attempt to justify it in terms of traditional jurisdictional rights. The divisions in the 1790s were also more geographic and cartographic, and less carefully described in textual descriptions in the treaties. Finally, while individual properties that fell across the boundaries in 1772 were allowed to remain unchanged, in the final partition of 1795 landowners were forced to choose a state of residence and divide their property so that no holding would cross the new linear international boundaries.

In spite of the differences, however, all three of the partitions were fundamentally territorial, and relied on cartography both in their inspiration and execution. The cartographic inspiration for the partitions can be seen, first, in the Russian military surveys of the 1760s, which aimed to “draw up accurate summaries of landownership, property relations, agricultural and forestry resources, revenues, population and topography” of the Polish-Russian frontier (Lukowski 1999: 43). Similarly, Austria’s push into Polish territory after 1769 was inspired by a bureaucrat’s survey which “concluded that Polish settlers had surreptitiously shifted the frontier during the fifteenth and sixteenth centuries,” thereby making Austrian claims to frontier regions legitimate in

⁸² Except where noted, the description and analysis in this section relies on Lukowski (1999).

traditional terms (Lukowski 1999: 57). Thus even the claims to supposedly traditional and ancient titles were often inspired by newly implemented mapping programs.

The *exclusively* territorial nature of the partitions is reflected in the demand by the powers that Poland agree to the cessions in territorial terms. After the first partition, “Poland formally renounced all claims to all the territories it had ceded, as well as any other territories to which it might have any claims. . . . On paper at least, all claims and feudal connexions were neatly severed” (Lukowski 1999: 91). This renunciation of feudal—and hence non-territorial—forms of authority is a hallmark of the implementation of exclusive territoriality within Europe, as the latter form of authority would otherwise have had to compete and perhaps overlap with other forms. Similarly, the partitions involved the delimitation and eventual demarcation of *new* boundaries, rather than the transfer of jurisdictions that had characterized earlier centuries’ territorial exchanges. The partitions “deliberately established new borders instead of following the lines of existing provinces” (Evans 1992 : 492).

The demarcation of new territorial boundaries following the partition treaties offered the primary means of implementing linear territoriality in practice, and further illustrates the usefulness of this form of authority to the partitioning powers. By leaving the textual delimitations of the boundaries somewhat vague, but at the same time establishing commissions to demarcate them, the treaty makers left the path open to push for additional territorial gains afterwards. The process of demarcation, though carefully dictated in the treaties,⁸³ still allowed the powers to exert pressures and use bribes to sway the commissioners to their view of exactly where particular geographic boundaries fell. Traditional jurisdictional exchanges, on the other hand, were not so amenable to immediate revision in their implementation.

The partitions of Poland, therefore, offer an example of the imposition of linear territoriality by major European political actors, although unlike the case of France’s treaties in the late 1700s this was done without the willing involvement of all parties. In fact, these partitions represent an example of colonial reflection: the imposition within Europe of practices previously limited to the colonial possessions of European states. The linear division by European actors of territory inhabited by people not consulted in the process began with Tordesillas and continued through the nineteenth century in Africa. In fact, the parallel was not entirely lost on the participants: After his officials found geographic information within Poland extremely difficult to come by, Austrian emperor Joseph II wrote, “I don’t believe that even among the Iroquois and the Hottentots such ridiculous things occur” (Evans 1992: 492). The imposition of colonial practices in Poland required the demotion of the Polish people to the status of indigenous subjects of European colonial rule.

The way in which the partitions involved a sudden imposition of territorial exclusivity in an area that had previously been defined jurisdictionally points to another interesting aspect of these events. Poland’s elimination as an independent polity was shaped, though not completely driven, by the inability of its rulers to adopt the new ideas and material techniques of territorial political authority. Obviously Poland was

⁸³ One passage on the new Austrian-Prussian border discussed “The number of frontier markers to be erected (138 on each side), their exact distance from and location relative to each other, with specific triangulation instructions” (Lukowski 1999: 181).

considerably weaker than its neighbors in terms of military, fiscal, and centralized administrative power. Yet even if this might have made it likely that Poland would disappear as an entity, the *manner* in which it disappeared had to do with its inability to keep up with important institutional developments of early modern territoriality and international relations. For example, well into the eighteenth century, Poland never adopted what had become the common diplomatic institution of the time: permanent resident embassies and an institutionalized and unified foreign policy. The country instead had multiple diverse diplomacies conducted by leading nobles and families. Thus Poland had administration based on exclusive territoriality imposed on it, rather than adopting such a system internally or even as part of a bilateral agreement (as many of France's neighbors did in the late 1700s).

A political entity that followed, in a sense, the opposite trajectory from that of eighteenth-century Poland was the newly constituted United States. Just as the British North American colonies were delineated in very cartographic ways from the beginning, this newly independent state was an early example of the implementation of territorial exclusivity. This began at the very creation of the U.S.: at the end of the war for independence, "much of the negotiators' time was taken up in marking out on the map . . . the line that would henceforth separate Canada from the United States" (Buisseret 2003: 181). The territoriality of the newly created United States, however, moved beyond being merely delineated on maps: In the 1780s plans for the subdivision of land in the Midwest took on a particularly geometric character. Thomas Jefferson proposed dividing the land according to a Ptolemaic grid of latitude and longitude, as well as imposing a strictly decimal system (with the standard unit of area being one "Jeffersonian acre"), reflecting the Enlightenment fixation on the rational geometric division of space. Although the plan actually implemented was different (and relied on more traditional measures), the idea of a grid-based division still formed the fundamental basis for the system of townships and property ownership in the American Midwest (King 1996: 68-69; Hielbron 1990). This purely territorial polity—internally and externally—would provide an example for later postcolonial states (examined later in this chapter).

An example of the territorialization of rule in a different setting is presented by the case of Siam in the late 1800s. As earlier chapters have detailed, in the second half of the nineteenth century, a strong push for modernization from the very top of the political system led to the adoption of Western cartography and notions of spatial political authority. In terms of the actual territorialization of rule, this case again illustrates some of the same dynamics as those seen within Europe, but in an accelerated fashion and with the addition of substantial pressure for change from the outside, in the form of surrounding colonial powers. The shift from zonal, overlapping frontiers to linearly defined exclusive territorial boundaries is particularly clear.

As the Siamese government was confronted with increasing pressure to negotiate over its boundaries with the British and French, it became clear that the traditional notion of loose control over tributary polities at the frontier could not be reconciled with the demands of the colonial powers for a clear division of control. The eventual result was the wholesale adoption of Western practices of territorial rule by the Siamese government. For this indigenous elite in Bangkok, these practices offered a new tool of power, "a new mechanisms of overlordship in terms of force, administration, and boundary demarcation and mapping" to use against marginal areas and tributary states

(Thongchai 1994: 101). This led to a new permanent military presence on boundaries, instead of allowing authority to fade toward frontiers.

The importance of these changes in ideas and practices is in the clear impact they had on the actual behavior of Siamese rulers. The traditional notions of political authority, focusing on the center rather than the periphery, meant that marginal areas could be shared or even given up entirely without a perception of a significant loss. By the late nineteenth century, however, “Many incidents [of conflict with neighbors] . . . took place in areas which would have been ignored had the premodern geographical ideas prevailed” (Thongchai 1994: 111). The imposition of central control at the newly implemented linear boundary, along with the new importance placed on such peripheral areas, meant that the actors who lost out the most were marginal polities which had formerly paid tribute to, but been largely independent of, rulers in Bangkok. Just as in the case of Poland, these actors had always been materially weak, but the new definition of rule and its active implementation by powerful actors changed their situation from one of subservience to outright extermination.

* * *

The identity of an actor such as a state (or a ruler who sees himself as representative of and represented by a state) is constituted by the ideas of authority that ruler and ruled hold. This section has demonstrated how, in the eighteenth and nineteenth centuries, new ideas were made real on the ground, in the implementation of territorial exclusivity in political practices and the material world. Thus, one change in the interests and goals of political actors is the shift toward seeing the linearization of territorial rule as “rational,” and hence the process of implementation as “rationalization.” The idea of clean linear boundaries as a worthwhile state goal, though perhaps obvious to us, was only seen as practical and desirable once the ideas constituting state identity as exclusively territorial (and territorially exclusive) had been consolidated. Thus, the relative timing of the respective changes, in 1) mapping technology and use, 2) ideas about political authority, and 3) material practices, indicates that the map-based understanding of political authority as exclusively territorial, with linear boundaries and internal homogeneity, was not epiphenomenal but rather *drove* and *shaped* the transformation of political rule on the ground.

The importance of this shift in identities, interests, and behavioral outcomes is further underlined if we consider the link between boundaries and armed conflict in the context of today versus the context of pre-modern territoriality. As Febvre states regarding linear boundaries today, “Twenty armed men crossing a frontier. Diplomatic circles get excited. It can be, sometimes it is, a *casus belli*.” Polities structured by zonal frontiers, which existed in Europe even through the early eighteenth century, would allow such minor incursions without controversy (Febvre 1973: 214). After all, what exactly constituted an incursion or crossing a boundary was very different in the seventeenth-century military context of fortification in depth, territorial enclaves, and zonal divisions.

III. Implementing Sovereign Equality in the Organization of the System.

While the change in actors represented by the territorialization of rule is directly observable in actions taken by states to linearize their boundaries on the ground, the principle of organization of the international system is less easily observed. Nevertheless, some actions and interactions do suggest what the ideal of organization is. As chapter 5

argued, the dominance of map-based forms of territorial authority made hierarchical and heterarchical international relationships less tenable. Territorial exclusivity as a basis for political organization does not necessarily require anarchical relations among formally equal states, but it does provide a strong normative fit with anarchical international organization, in a way that non-territorial and overlapping authority claims do not. This section briefly looks at the observable way in which the anarchical organization of formally equal sovereign states was implemented in practice.

One useful illustration of the implementation of sovereign equality in the European international system was the gradual shift in diplomatic interactions away from a focus on issues of comparative prestige and hierarchy (founded on ancient rights and titles) and toward the formal manifestation of interaction among equal parties. Throughout the sixteenth and seventeenth centuries, actors remained obsessed with issues of prestige and reputation, both in the goals of diplomacy and its means. Even though it was rarely clear exactly where each ruler fit in terms of diplomatic precedence, the issue was constantly fought over (Anderson 1993, 1998). Only in the later eighteenth century did the notion that all negotiating parties should be given symbolically equal treatment take hold.

This is also apparent in the shift in French treaty-making practices in the second half of the eighteenth century (discussed above). Those treaties signed in the 1770s and 1780s in order to implement linear boundaries represented the new principle of formal equality among actors (Sahlins 1989: 96). In these treaties, “Although the right of the strongest had played a major role in the fixing of frontiers, an entirely different principle had also appeared, that of strict equality between the parties, whatever their respective power, both in the course of the negotiations and in the final agreement” (Black 1999: 125). Modern linear boundaries, as explicit agreements between two or more states, are inherently settlements between equals, unlike zonal frontiers which are often imposed by one side without the consultation of the other—or even acknowledging that the other party exists. In the post-Napoleonic settlements, finally, the constitution of all actors as formally equal was made explicit. For example, the First Peace of Paris (1814) states that “Italy, beyond the limits of the Countries which are to revert to Austria, shall be composed of Sovereign States” (Israel 1967: 506).

The case of Siam once again illustrates this transformation in a more accelerated version of the same process. Before the implementation of a general program of modernization in the nineteenth century, international relations in the region were hierarchical or heterarchical, with stronger political powers such as the Siamese monarchy demanding tribute from smaller polities. In fact, in many cases the small polities on the frontiers of more powerful actors would pay tribute to more than one suzerain at the same time. “These tiny tributaries were regarded as the frontier of several kingdoms simultaneously. In other words, the realms of the supreme overlords—Siam, Burma, and Vietnam—were overlapping.” (Thongchai 1994: 96).

This is a stark contrast with European practices, even in the colonial world, since “a colony is regarded as an integral part of the sovereignty of an imperial country” (Thongchai 1994: 88). Thus, when British and French colonial rule pushed up against the frontiers of Siam, their notions of clearly delineated control and international organization among sovereign equals clashed with the traditional local ideas of hierarchy

and overlap. Just as with the linearization of boundaries discussed above, the rulers in Bangkok were made well aware of this contradiction. By the end of the nineteenth century they worked in implicit collusion with colonial powers to implement the notion that sovereign political entities are equal (in the anarchically organized international system), and hence marginal, non-territorial political units should be eliminated entirely. This was effected through the border demarcation and militarization process discussed in the previous section.

IV. Interaction Practices of Territorial Exclusivity

In the collection of interaction practices of the modern international system, the influence of cartography, map use, and exclusive territorial authority is clear. Some of the most fundamental practices of modern international relations have been shaped by the cartographically inspired modern form of territorial sovereignty. This section examines that process, building on the evidence in chapters 3 through 5 about the *increasing use* of maps by international actors, and the *ideational effects* of that use, to illustrate the ways in which interaction practices, structured by changes in actor identity and organization, constituted key features of the modern state system. While this does not address the question of changes in actor identity as directly as the first section of this chapter did, the process whereby the accepted interaction practices of international politics are transformed is equally consequential for state behavior, and hence outcomes of interest to scholars of international relations. The following sections examine, in turn: territoriality and treaty negotiation practices; the effects of territorial homogenization on practices; cartographic territoriality and military strategy; and maps, territory, and conflict in the colonial world.

IV.A. Maps, Territorial Sovereignty, and the Practices of Treaty Negotiation.

The implementation of exclusive territoriality in the practices of treaty-making involved more than the increasing reference to maps and the modern geometric form of territorial authority in treaty texts (illustrated in chapter 5). Maps were also increasingly used in the actual negotiating practices, thereby shaping the immediate and long-range goals of the actors involved. This argument that map use and exclusive territoriality were key elements in the transformation of the practices of the international system relies on a counterfactual: If maps had not been increasingly used, and if notions of legitimate political authority had not shifted toward exclusive territoriality, the goals pursued and tactics used by negotiators would have been very different. Even in situations where maps were not immediately used in the negotiations, as notions of political authority were increasingly shaped by map use in general, the goals and practices of negotiation were also thereby altered.

Throughout the early modern period, the overall trend was toward increasing use and commissioning of maps by diplomats, both in formulating foreign policy and in actual negotiations. Once again, however, the major effect of this use in terms of systemic transformation came not with the initial use of maps in the sixteenth century but with the full consolidation of map-based political territoriality in the eighteenth century and thereafter.

This diplomatic “demand” for mapping involved a two-way process: Not only did map-makers shape diplomats’ perceptions of their world by depicting it as filled with

linear boundaries and homogenous spaces, but diplomatic map users also demanded maps with political content, thereby reinforcing the trend among cartographers toward depicting the world as a political surface (Black 1997b: 127-128). In terms of maps being used in actual treaty negotiations and settlements, even at the beginning of the eighteenth century the use of maps to delineate territorial divisions was still quite rare. By the time of the French revolution, however, “the preparation of maps as part of treaty making . . . became routine” (Konvitz 1987: 33). In France, for example, the Ministry of Foreign Affairs established a mapping office only in 1775 (Konvitz 1987: 35). (This shift from little direct map use to extensive cartographic involvement in treaty negotiation and implementation will be seen in the paragraphs below examining particular negotiations.)

Yet the process was not as simple as a continuous increase in the usefulness of maps to diplomats. In fact, as maps became an essential tool of diplomacy in the second half of the 1700s, the inaccuracy of some maps made implementing territorial settlements sometimes more difficult, rather than less. For example, in the first partition of Poland, an erroneous map led to problems: “On Giovanni Zannoni’s map of Poland, published in January 1772 and used to mark out the Partition, the eastern boundary of the Austrian share was to run along the river Podgórze. But the map was wrong: there was no such river” (Lukowski 1999: 89). The tendency of maps to increase potential conflicts as well as to resolve them will be illustrated later in this section as well, with regards to colonial interactions among European powers. First, however, the paragraphs immediately below detail the ways in which maps and map-based political authority claims were directly involved in particular examples of international negotiation, demonstrating first the continuingly non-cartographic nature of negotiations through the seventeenth century, and then the rapid adoption of cartographic tools and ideas in the late eighteenth century. This shift in negotiating practices constituted an important part of the transformation of the international system, as the interaction of state actors is structured by their negotiating practices.

In negotiations in the European late Middle Ages, maps were almost never used, whether it be in formulating goals, negotiating particulars, or implementing an agreement after signing. While proving the absence of something like the use of maps is perhaps impossible, it is illustrative that in an entire book-length study of the 1435 Congress of Arras, there is not a single mention of the use of maps by diplomats, mediators, or rulers (Dickinson 1955). We also know, from historical studies of cartography, that maps were exceedingly rare in this pre-print era, and the form that maps took would be relatively useless for detailed negotiations (as chapter 3 illustrated in its discussion of medieval maps).

Over a century later, the negotiations leading up to the 1559 Peace of Cateau-Cambrésis (which took place at Cercamp and Le Cateau) occurred well into the early-modern acceleration in the production and use of maps. In spite of sporadic references to maps in the negotiations, however, the forms of authority—both territorial and non-territorial—continued to reflect medieval notions of political control over people and places. For example, in the negotiations over how to divide a church diocese between France and Spain, instead of adopting a linear division, “an even split of the total revenues was accepted” (Russell 1986: 202). In another example of the continuing relevance of medieval ideas of territoriality, negotiations over control of parts of Piedmont included a proposal by the Duke of Savoy to receive several towns; “The towns

were, however, not to include all the territory surrounding them” (Russell 1986: 159). Conflict between English and French diplomats over the control of Calais similarly illustrate the continually place-focused form of authority that negotiations revolved around. Possible solutions proposed included efforts to separate out Calais from surrounding lands.

Finally, one example of the actual use of maps in this sixteenth-century negotiation illustrates the way in which, in spite of occasional use, maps and map-based claims were by no means consolidated as the norm in international practices. In the negotiations over Piedmont, the French “brought out their map and measured out what their King wanted, looking at the map again and again, while Alva and Granvelle [Spanish negotiators] pretended not to follow” (Russell 1986: 159). The fact that the cartographic evidence presented by one side can be dismissed by the other—through confusion real or feigned—illustrates the difference between mid-sixteenth-century practices and those of the late 1700s onward: in the later period, maps would be the center of negotiations for all parties.

In the meetings in Münster and Osnabrück leading up to the Peace of Westphalia in 1648, the preparations for and practices of negotiation reveal the same pattern as the actual text of the treaty (discussed in chapter 5): non-territorial and place-focused territorial authority dominated, as none of the discussions were made with the language or tools of modern geometric territoriality. This is particularly revealing about the slow pace of the implementation of modern territoriality, since many rulers had been using maps for a century or more and had furthermore used abstract linear territoriality to make political claims in the New World since the 1490s. At Westphalia, although there is some limited evidence of confusion over claims possibly caused by the ongoing transition in ideas about authority, the older notions of territoriality continued to be dominant and little implementation of new ideas was effected.

One close study of the French negotiations over Alsace reveals this pattern clearly (Croxtton 1999). Although the overall goal for French leaders was to gain control over all of Alsace, the manner in which negotiating strategy was formed and negotiations undertaken reveal that “all of Alsace” was not defined geometrically or even geographically, but juridically. Maps appear not to have been used by the French, either in the negotiations or preparations for them, and all discussions were very textual, focusing on the description of the various jurisdictions that make up the province. In fact, the complexity of the juridical composition of Alsace was so great that even most contemporary actors involved had limited and contradictory notions of what was even being negotiated over (Croxtton 1999: 98, 238ff). Had the actors involved attempted to implement territorial exclusivity, this discussion and confusion would have been unnecessary: the geographic limits of the territory could have been negotiated over without regard to the juridical complexities.

Even the negotiations leading up to the 1659 Treaty of the Pyrenees demonstrate little in the way of political practices being directly structured by mapping and map-shaped political authority. For example, the chief French minister Mazarin “appears to have first consulted a map only after three weeks of discussions” (Sahlins 1989: 39). Cartographic tools appear to be relatively absent in the negotiations in spite of the shift toward a geographically defined boundary on the “natural frontier” provided by the mountain chain (discussed in chapter 5). Considering the absence of map use in

negotiation, it is then hardly surprising that in the effort to *implement* the natural frontier notion in practice, the traditional notions of jurisdictions and place-focused territoriality prevailed (Sahlins 1989).

The negotiations surrounding the Peace of Utrecht (1713) involved a number of issues, territorial and non-territorial, both within Europe and in the New World. In the territorial discussions maps were extensively used as a form of supporting evidence for claims and as a means of agreeing to a particular division of territory. The negotiations over frontiers within Europe “witnessed a mixture of strategic considerations and traditional bases for territorial claims” (Black 1999: 65). These strategic arguments were backed up by the use of cartographic evidence. For example, in response to the proposal that France give up some of its frontier territory in the Alps, the French diplomat Colbert de Torcy wrote the following to his British counterpart Bollingbroke in 1712: “Take the trouble, Sir, to examine only the map of the country, and judge if His Majesty could, with any sort of security to his provinces, grant such pretensions?” (Osiander 1994: 145). Whether such an argument was convincing is a separate question, but the invocation of cartographic evidence indicates one way in which maps and map-consciousness can restructure such a key interaction practice of the international system.

In the negotiations between France and Britain regarding New World colonies, on the other hand, the effect of map use is very clear. Maps were used, in fact, as mutually acceptable tools of territorial negotiation:

In December 1712 the French plenipotentiaries sent the king a British map with a British proposal for a boundary between Canada and British territory to the north of it, . . . A boundary between Canada and Acadia was also marked. . . .

Accordingly, the king returned the British map to Utrecht with a slightly variant northern boundary. Noting that French and British maps often differed, he also sent a *mémoire* from Pontchartrain outlining the pros and cons of having the boundary pass through specific points. (Miquelon 2001: 666)

Although the map was accompanied on its return by a textual description of some points of contention, the negotiations were nonetheless fundamentally structured by the use of a map. Unlike in some previous instances, this is not the case of one side plying the other with cartographic evidence, but rather an example of both parties using a single cartographic tool to come to an agreement. This also involved the agreement to establish boundary commissions after the treaty to survey the territory involved and implement the linear division on the ground—a practice that would be common *within* Europe as well by 1815. Thus, territoriality is constructed as exclusive and linearly divided, since that is by far the most effective way to visualize authority on a map.

Conflict over territorial control in the New World could only take such a territorial and cartographic form, however, because of the perceived empty and geographic nature of this territory: “As understood at Utrecht, the empire was also abstract—a simulacrum constructed from dispatches, maps, and theory. Having none of the obduracy of a real world, it was especially amenable to colonialist ‘remapping’ that seemed rational and realistic” (Miquelon 2001: 654). The abstract understanding of these territories made them easily divisible on maps from far away, but the implementation of these divisions proved to be very problematic. Although it is not clear exactly what map was used in the negotiation, all of the probable candidates were commercially produced British maps, filled with the geographic inaccuracies inherent to early-modern “armchair”

cartography of distant places (Miquelon 2001). Thus, when it came to implementing the boundaries on the ground, those map divisions so easily agreed to from afar became very controversial in practice, and in fact yielded no agreement until further warfare pushed the French out of the region altogether in 1763. (The post-treaty conflict will be discussed further below.)

At Paris and Vienna a century later, the practices for implementing territorial exclusivity on the ground were consolidated. As discussed in chapter 5, the texts of treaties not only carefully delineated the new (and old) boundaries of European states; they also contained explicit instructions for setting up commissions to survey, demarcate, and administer those boundaries. All of these processes explicitly involved using and even creating maps.

From the nineteenth century forward, the usefulness of maps in international negotiations has been unquestioned. In the post-World War I conference leading up to the Treaty of Versailles, for example, maps and exclusive territoriality were again used extensively, but this time aimed toward achieving the new goal of establishing political units concomitant with the principle of national self-determination. The U.S. “House Inquiry” operated on the Wilsonian idea that the rational gathering of facts could solve the political problems of Europe; in pursuit of this end the commission brought a huge collection of maps and other material to Paris (Heffernan 2002). Although the idealistic goal of the commission may have been novel, the means of achieving self-determination were structured by the hegemonic notion of cartographically defined, territorially exclusive political authority.

This overview of the role of maps and cartographic notions of political authority in negotiation practices, while brief and incomplete, offers a useful illustration of the trend in the implementation of exclusive territoriality in interstate practices. Treaty-making practices remained focused on jurisdictional notions of political authority well into the seventeenth century at least, and did not involve the active implementation of linear territorial divisions within Europe until the middle of the eighteenth century. From then forward, however, the self-reinforcing logic of exclusive territoriality dictated that, once implemented, this operationalization of authority is very difficult to dislodge. Changes in norms about the goals of international society, instead of undermining territorial exclusivity, merely offered new aims to be pursued using the techniques, tools, and ideas of map-based political authority. The adaptability of exclusive territoriality is illustrated by its clear association with both conservative balance and stability in 1815 and national self-determination in 1919.

IV.B. Homogenization of territory and its effects on behavioral outcomes. The linearization of boundaries is merely one side of the coin represented by the implementation of territorial exclusivity; in addition to this outward-facing aspect, territory is internally homogenized as well. This change in political territoriality is more than an ideational shift, however, as it leads to changes in the behavior of political actors in the system. This section examines two of those: the (in)divisibility of territory and the fixity of borders.

Homogenization and indivisibility. The question of whether, and how, territory can be divided to resolve political conflicts was fundamentally restructured by the change

in ideas constituting territorial authority. In short, the shift from a place-focused territoriality to one that imagines space as a geometric expanse has made territory theoretically divisible. Thus, the indivisibility of certain territories in today's world is constituted by additional factors, exogenous to the fundamental modern conception of space.

With the medieval notion of territoriality, the world was defined as a collection of unique places, each of which was inherently indivisible. Thus, contests over cities or other point locations could not be resolved by a territorial division, and instead were either settled with one side in control of the entire place or with a division based on non-territorial jurisdictions. *Collections* of places, of course, could be divided; this was often effected by listing the places that would be controlled by each party (as seen in the pre-1700 treaties discussed in chapter 5). For example, the negotiations about and settlement regarding Calais in the 1550s (discussed above) did not involve any proposals to divide the city itself. Additionally, the discussion did not include an attempt to draw a linear division somewhere within the territory associated with the city. Instead, the only acceptable way to divide this territory (a means that was, though imaginable, not adopted in the end) was for one side to get Calais and a number places attached to its jurisdiction, while the other side would receive another nearby town with its attachments (Russell 1986). In other words, the only way to divide territory when it was conceptualized in this center-focused manner was to define an additional center, thus making it possible to divide the region associated with Calais as a collection of places.

With the modern form of territorial authority—defined geometrically by linear divisions and homogenous within those boundaries—space is inherently divisible in and of itself. Although many of today's territorial conflicts revolve around issues of indivisibility, this is due to factors other than the basic conceptualization of territory. For example, territories maybe socially constructed as indivisible during the initial stages of negotiation over conflicts, as bargaining positions are tied to a given territorial configuration (Goddard 2006). Territorial indivisibility—and hence increased intractability of conflict—may also be due to religious attachment: “indivisibility arises from the integrity, boundaries and nonfungibility of sacred places” (Hassner 2003: 4). In addition, in many cases today the notion of a given space as “national territory” fills the same role as sacred space, making the division of that territory normatively unacceptable.

Thus, although territory can be indivisible in worlds defined by either the place-focused form of territoriality or the geometric notion of space, in the latter situation (that is, today's cartographic form of territoriality) territory is only indivisible if an additional factor makes it so. Consequently, the potential for resolving conflicts by dividing territory is at least present, even if it is often undermined by other factors.

Border fixity: national territory and juridical statehood. In spite of the theoretical potential for territorial divisibility, in the modern world territories are actually rarely exchanged and boundaries are hardly ever moved (as has commonly been noted; e.g., Holsti 2004). As Jackson notes, “We are living at a time when existing state territorial jurisdictions are vested with exceptional value” (1999: 447). This investment in current boundaries—no matter how contingent, illogical, or recent their creation—relates to two parallel phenomena: the solidification of the notion of a “national territory” in strong states and the construction of a purely juridical sovereignty in weak states.

The consolidation and implementation of exclusive territoriality in Europe in the late eighteenth and early nineteenth centuries was the first step toward the fixation on boundaries. During the course of the nineteenth century the addition of new ideas of nationalism created the notion of a distinctly national territory, founded on myths of long historical legacies and cultural unity. It is only with the combination of territorial exclusivity and nationalist ideology that such an outcome was possible—territory became highly invested with normative importance and thus sacred and indivisible.

The creation of post-colonial states with obviously artificial—though still highly static—boundaries is the other side of this process, as rulers in weak states have used the norms of territorial exclusivity and border fixity to solidify their hold over a population with only a weak sense of national community. This process is examined in detail in the section below on decolonization and exclusive territoriality.

IV.C. Mapping, territorial exclusivity, and military strategy. The impact of mapping and territoriality on military strategy and tactics involves both the direct effect of map use on military planning—which, however, came later than might at first be imagined—and the more indirect effect of map use in reshaping the goals of military strategy. As noted in chapter 3, the application of maps to detailed military planning was not useful until maps were created with a local enough scale and accurate enough detail to be effective tools. By the 1700s, this was at least a goal of most major states' militaries, in both gathering and commissioning maps for military use. Yet even in this period, mapping by itself was never seen as sufficient for planning a campaign: in 1753 Prussian king Frederick II wrote to his generals to gather both maps of the country and first-hand information. He wrote, "In order therefore to procure intelligence so highly important, we must ascend the heights, taking the map with us and also some of the elders of the neighboring villages, such as huntsmen and shepherds" (Symcox 1974: 196). Even in the eighteenth century, maps were not seen as containing all the information required.

Nonetheless, even though maps may not have been used directly or exclusively in military planning, cartography and the related understanding of territory as exclusive did shape military strategy in other ways. This effect occurred regardless of the inaccuracies or practical uselessness of popular cartographies such as printed atlases: By using maps to understand the world as a whole, new territorial goals and the means to pursue them were imaginable. After all, as Lynn (2003) points out, the approach to warfare taken in different cultures often reflects fundamental beliefs of that culture, rather than practical expediency. For example, the extraordinarily complex geometric forms taken by fortifications during the eighteenth century went beyond the requirements of defensive tactics, and instead reflected the culture of rational linear reason of the Enlightenment (Lynn 2003: ch.4).

Thus, in terms of the broader impact of cartography, the generalized use of maps suggested new possibilities for expansion (Biggs 1999). For example, in France, cartographically inspired and defined "natural frontiers" were often proposed in the seventeenth century, and "the idea of natural frontiers helped determine short and long-term policy decisions" (Sahlins 1990: 1433). The way in which territory—defined as exclusive and homogenous—became the focus of military strategy is not an inevitable or permanent feature of international politics. Likewise, mapping has not always been

necessary to make military strategy or tactics; only with the consolidation of map-founded territorial exclusivity does this appear to be the case.⁸⁴

IV.D. Mapping, territorial exclusivity, and conflict in the colonial world. As with most aspects of cartographic technology and use, the ability for maps themselves to be the cause of conflict among European powers appeared first in the colonial world. This was due to the nature of European political authority claims on that continent: lands were claimed by territorial exclusivity—operationalized in maps—from the beginning of the colonial period. This section examines that phenomenon, first in eighteenth-century North America and second in European imperialism in Africa in the nineteenth century. This will illustrate an important way in which the use of maps, and the implementation of territorial exclusivity as the only form of political authority, significantly affected the behavior of political actors.

After the ambiguity of the Utrecht settlement between Britain and France (discussed above), subsequent decades saw continuing controversy over where exactly the divisions between the two powers' North American colonies fell. Significantly, this conflict often took the form of arguments directly concerning maps, the divisions depicted in them, and where those divisions fell on the ground. This can be differentiated from most contemporary territorial conflicts within Europe, in which map-based claims were clearly subservient to textual descriptions of jurisdictions.

This cartographic controversy began immediately following the agreements at Utrecht. In this period, the French saw mapping as “a means of declaring territorial legitimacy in the face of English encroachments” (Petto 2007: 100). In the first decade after the agreement, several maps were produced by French mapmaker Guillaume Delisle to solidify political claims. In fact, such mapmaking had a directly propagandistic purpose: “Delisle, as the official cartographer of the court . . . was to make accurate maps, and these printed maps were to be political tools to give precedence to French claims” (Petto 2007: 106). These maps were not ignored by the other side, however, as British authorities often took exception with the way in which boundaries were depicted in French maps. For example, in response to the boundaries depicted on a Delisle world map of 1714, one British official wrote the following directly to the mapmaker: “Mr Raudot begs you to remove from your plate the *dots that you have put in to mark the limits of Louisiana, California, New Mexico, etc. The court does not agree to the limits assigned by geographers, yet foreign nations use our maps against us when we discuss important questions with them*” (quoted in Petto 2007: 104; italics original). This request illustrates the power of mapmaking within the context of colonial political claims: Even though this official does not want to use this map—or perhaps any map—to resolve territorial conflicts, he fears that *other actors will do so*, hence making the map and its creator important shapers of the conditions within which he must operate. In other words,

⁸⁴ For example, this modern bias toward seeing mapping as inherently necessary to military or political planning is common in writings about map use. See, for example, this passage from Henrikson (1999): “In order to have a political plan, statesmen must have a geographical conception, which requires the cartographic image of a map. . . . No military campaign, development project, or even, at a more abstract level, diplomatic strategy or information program can be intellectually sustained or practically executed unless it is plotted spatially” (95).

constraints on behavior are imposed on political actors by the cartography surrounding them, whether they want it or not.

Another map by Delisle, this one of the French territory of Louisiana, led to a similar controversy and “generated a boundary dispute that lasted for at least fifteen years,” even producing a direct appeal by the governor of New York “decrying the impertinence of the French” (Petto 2007: 105). Instead of only complaining, however, the British responded with maps of their own, including several by cartographer Herman Moll. The political bias of Moll’s cartography is made clear by the differential treatment given to areas involving British claims: “Moll’s map specifically overcorrected Delisle’s map with regard to French and Spanish claims to the Carolinas, yet left the Spanish-French boundary in the Southwest (where British interests were not directly involved) intact” (Reinhartz 1997: 41). Maps, in short, were being used by both sides to try to secure or extend their opposing territorial claims.

The controversy arising from Utrecht over the delineation of French and British control in Arcadia/Nova Scotia continued for decades as well, leading to the establishment of a boundary commission in 1750. In these discussions, both sides evince similar attitudes with regard to the political use of cartography: “the mutually acknowledged distrust of maps, the use and discussion of maps despite their unreliability, and the continued rhetoric of possession in maps and their accompanying *mémoires*” (Petto 2007: 108). Once again, maps are, in a sense, forced upon the political actors in spite of their preference for not relying on them. The English, for example, wrote that “maps are from the Nature of them a very slight Evidence, Geographers often lay them down upon incorrect Surveys, copying the Mistakes of one another; and if the Surveys be correct, the Maps taken from them, tho’ they may show true Position of a Country . . . can never determine the Limits of a Territory” (Petto 2007: 108). And yet maps were continually used by negotiators in the New World.

Another example of the political implications of maps being imposed upon political actors is provided by the events surrounding the 1753 publication of a map of North America by the Vaugondy family of mapmakers in France (Pedley 1992). This map appeared to make newly extensive claims for the French, and was published while the French-English boundary commission was in the midst of its discussions. Furthermore, although the map was a commercial project and was not official sponsored or commissioned, its publication was dedicated to a prominent French foreign minister (in keeping with the common practice of seeking patronage through dedicating publications to socially or politically powerful actors). This led British officials to accuse the French of making new claims in an official map.

All of this furor over the depiction of boundaries on maps of the New World—even unofficial ones—occurred during a period in which maps of Europe depicted wildly inaccurate boundaries without raising any controversy. As claims in the Americas were made solely on the basis of cartographically depicted territorial exclusivity, however, a map of this continent could be threatening politically in a way that maps of Europe were not. In the Old World, traditional notions of territory and jurisdiction continued to form much of the basis of political organization, making maps less of a threat.

The controversy inherent in making map-based political claims without accurate or at least mutually agreed-upon cartographic information continued throughout the period of European colonialism. In the nineteenth-century scramble for colonies in

Africa, for example, in spite of the advances in cartographic sophistication in the intervening century, the tendency of map-based claims to yield conflict rather than agreement continued. One British official summed up the problem well in the 1890s: “We have been engaged in drawing lines upon maps where no white man’s foot as ever trod; we have been giving away mountains and rivers and lakes to each other, only hindered by the small impediment that we never knew exactly where the mountains and rivers and lakes were” (Prescott 1987: 50). This occurred in spite of the fact that, by the late nineteenth century, mapmakers often accompanied colonial military expeditions and produced maps as “part of the documentary evidence needed to claim protectorates by the procedures agreed to at the Berlin Conference” (Bassett 1994: 321). The controversies continued to involve both official and unofficial mapmaking. An example of the former is provided by the diplomatic conflict that resulted from the discovery that British and German maps of a longitudinal boundary in Southern Africa put the boundary at different positions on the ground (Seligman 1995). The potential for unofficial maps to cause conflict is illustrated by the response of German officials to a French newspaper map in 1890 that depicted extensive French claims within Africa—the belief in the legitimacy of map-based political claims was so strong that even an unofficial map could be threatening to opposing colonial powers (Bassett 1994: 325).

Colonial interaction and conflict, therefore, was fundamentally structured by the use of maps to make political claims and the resulting adoption of a strictly geometric conception of political authority.

* * *

The institutionalized interaction practices of international political actors—which constitute an important if often neglected form of systemic constraint—were thus transformed by the use of maps and the implementation of territorial exclusivity. These examples illustrate the way in which the implementation of the new form of territorial authority provided both constraints on and incentives to the actors in the system, thus constituting a significant systemic change.

V. Decolonization and the Modern Sovereignty Regime.

The ideal of territorial exclusivity as the basis for political organization not only drove the many processes of implementation and interaction discussed above; this ideal was also in turn strengthened by that very implementation. By the middle of the twentieth century, newly created postcolonial states thus were born into an international system wherein the ideal of territorial exclusivity was exceptionally strong, making it possible for these ostensibly weak political entities to be constituted and in some cases fully supported by this ideal. This section examines this process, looking at the following: first, the process of recursive causation involved in the interplay between structural ideas and practices; second, the connection between this dynamic and the existing literature on “quasi-states” or “juridical statehood”; and third, the illustration of this process in major periods of postcolonial state creation.

The recursive nature of this causal dynamic becomes clear if we examine the long-term relationship between ideas and practices in the international system. First, the ideas constituting international actors and interaction shifted during the early modern period, mostly in the period 1600-1800, thanks in large part to the new ideational resources and constraints presented by modern mapping (seen in chapters 4 and 5). Next,

the actual behaviors of international actors and their material implementation were transformed by the strengthening legitimacy of the ideas of territorial exclusivity, and the decline in legitimacy in other ideas of political authority and organization (taking place in the late 1700s and 1800s; discussed earlier in this chapter). Third, this structural change at the level of behavioral outcomes *further strengthens* the ideational foundation of territorial exclusivity, as more and more actors are both surrounded by others pursuing goals according to this ideal as well as following it themselves. This step, which involves the effect of behaviors back onto ideas, took place predominantly in the late 1800s and into the twentieth century. Thus, by the time of decolonization following World War II, behavioral outcomes were further channeled in the direction of territorial exclusivity by the complete dominance of this ideal in the beliefs of all powerful international actors.

Therefore, the process moves from ideas (development of territorial exclusivity), to behaviors (implementation of that idea), back to ideas (implementation further strengthens the norm), and back again to practices (new postcolonial states are constituted *exclusively* by this norm). As Murphy (1996) argues, the more that states pursue goals based on the “sovereign territorial ideal,” the more that such an ideal is actually strengthened. This particularly applies to the nineteenth century, when territorial adjustments were almost exclusively justified in the language of territorial exclusivity. The multiply recursive nature of this process adds an additional layer to traditional notions about the causal power of ideas over behaviors: For instance, Krasner’s (1993) argument that ideas become instantiated in institutions and thereby have causal effects holds here (conceptualizing international practices as institutions), but with the further, recursive, step that the behaviors created by those institutionalized ideas will then add further legitimacy and strength to the same ideas, leading to additional institutionalization and eventually behavioral outcomes.

The dissolution of European colonial empires yielded a large collection of states that were particularly weak in traditional terms of Weberian statehood, as they have often been unable to secure an internal monopoly of force. Describing postcolonial states, particularly in sub-Saharan Africa, as “juridical” rather than “empirical” states (Jackson and Rosberg 1982), or as “quasi-states” (Jackson 1990), not only illustrates the divergence of these political entities from the supposed norm of strong statehood but also reveals the particular aspect of modern statehood that *does* maintain them as independent entities: the hegemonic ideal of externally recognized, territorially exclusive, linearly bounded statehood. These political units could only become viable *after* the implementation of territorial exclusivity within Europe had made this ideal the hegemonic norm of international society.

This role of territorial exclusivity as the foundation of weak post-colonial states can be seen in the actions of rulers and governments, both those in the new states and in the strong states that had constituted this ideal as part of the system to begin with. Territorial exclusivity formed both the language of postcolonial statehood and an effective tool of government. This process has operated in most examples and periods of decolonization: the early nineteenth-century independence of Spain’s Latin American colonies, the post-1945 decolonization of major European empires in Africa and Asia; and in the 1989-91 breakup of the Soviet empire, and the Soviet Union itself, along similar lines. As the rulers of newly independent (or soon to be independent) states, key decision-makers took advantage of the strong ideational legitimacy of territorial

exclusivity to create new political units using the often arbitrary boundaries of colonial powers, sometimes including what had been internal administrative divisions.

The independence of Spanish Latin America in the early nineteenth century was an early example of this script. The four colonial Viceroyalties were reconstituted as a collection of independent states, as the hopes for Central or South American unity were overwhelmed by parochial political interests in the decades following the break from Spain. Yet even if the boundaries of the states did not match the Spanish colonial divisions exactly, these new political entities did adopt the exclusively territorial regime of New World colonial rule, just as the United States had decades earlier. The new Creole-dominated regimes had no reason to attempt to return to a pre-colonial form of rule, nor did they wish to invent something new, as their authority was founded entirely on the Spanish colonial structures.

This process of adopting colonial territorial practices and even boundaries was far more direct in the case of many twentieth-century independence movements, particularly in sub-Saharan Africa. As Spruyt (2000) points out, the ideal of “sovereign territoriality” served as an important resource for anti-colonial movements and post-colonial rulers, justifying their new polities’ inclusion in the international regime of sovereign equality while at the same time ignoring potential sub-state demands for self-determination. Rulers thus made a pair of conscious choices: first, to adopt the European national state as a model and, second, to maintain the colonial administrative boundaries as new state borders. In the period of post-1945 decolonization, no powerful ideational alternative to the sovereign state existed, and pre-colonial forms of rule had been rendered either illegitimate or ineffective by the time of independence. This deliberate adoption of artificial boundaries is directly reflected in the behavior of post-colonial rulers, such as the mutual agreement to ignore the often weak degree of actual control over hinterlands and thus to recognize a single authority within each state, no matter how fictional actual control might be. International agreements among newly independent states also exhibit this focus on static boundaries and the recognition of territorial exclusivity, even in the absence of effective control: A declaration from the 1964 meeting of the Organization of African Unity on “boundary disputes among African states” affirms that “all Member States pledge themselves to respect the borders existing on their achievement of national independence” (OAU 1964: 16[I]). This wholesale adoption of colonial boundaries occurred in spite of the difficulties such borders posed to the effective imposition of control (Herbst 2000: ch.4).

The collapse of the Soviet empire in Eastern Europe and the dissolution of the Soviet Union itself in 1989-91 offers yet another example of imposed and often artificial boundaries and territoriality being adopted by newly independent states (Spruyt 2005: ch.7). The “informal empire” over Eastern European states (Wendt and Friedheim 1995), though obviously diverging in many ways from European colonial rule in Africa, did exhibit the arbitrary (re)drawing of borders post-World War II; borders that on the whole have been accepted as legitimate by the postcommunist successor regimes. Similarly, the internal Soviet empire represented by Moscow’s rule over the Union republics was succeeded by independent states adopting internal boundaries drawn decades earlier. After Gorbachev’s reforms created political openings in the 1980s, the Union republics’ institutions “gave a distinctly national and spatial content to the process of bargaining over power and privilege” within the USSR (Bunce 1999: 85). Thus, when the Union was

dissolved at the end of 1991, these formerly internal boundaries were the easiest means for rulers of newly independent states to define their polities and assert control. Just as in the 1960s in sub-Saharan Africa, territorial exclusivity and linear boundaries offered in the twentieth century the only effective and legitimate means of constituting a political entity.

These collected examples illustrate the power of the hegemonic ideal of territorial exclusivity: Across regions and decades (or even centuries), with extraordinarily diverse legacies of colonial or communist rule, post-independence political rulers have been universally confronted with the imperative to adopt the political form of the sovereign, territorially exclusive state. This level of institutional isomorphism cannot be explained by rational interests alone (Meyer et al. 1997).

VI. Conclusion: Collusive Oligarchy and the Imposition of Territoriality

The implementation of territorial exclusivity in the material practices of international politics continues today, as statehood and international relations are continuously *reconstituted* by the actions of states. Thus, for example, states today continue to delimit, demarcate, and administer linear boundaries, as these lines form the material foundation for a state's identity as a bounded territorial unit. While the next, concluding, chapter will consider the contemporary implications of this process in more detail, here I will highlight one question related to the implementation of territorial exclusivity: Was this process driven by the power of ideas or by the power of actors?

On the one hand, the importance of ideas to this systemic transformation is clear, even though those ideas had no material effect until they were instantiated in political practices. The shift toward exclusive territoriality occurred first in ideas of political theorists and some centralizing rulers, before being consolidated in practice in the late eighteenth and early nineteenth centuries. Furthermore, this ideational change was essentially *system-wide*, and not simply a change in one or a few of the units or actors involved in European politics. Similar to the character of some norm-driven changes in contemporary international politics (e.g., Finnemore 1996; Finnemore and Sikkink 1998), this ideational change took place across the international system, not just in a few units. Unlike the processes described in most analyses of our contemporary world, however, this historical development did not rely on the "teaching" of norms by specific organizations or the purposive actions of "norm entrepreneurs." Instead, the cartographic transformation of political authority involved a broad societal shift toward the extensive use of maps and a resulting set of changes in ideas held by actors throughout European society.

Moreover, the very nature of the ideas constituted by cartographic territoriality supported their dispersal throughout the system. Modern linear boundaries, for example, are inherently bilateral (or multilateral) and involve an explicit agreement by both sides as to the character, location, and administration of the political division. Thus interactive practices such as these will inherently involve more than one actor, thus encouraging their dispersal throughout the international system. (The same argument could be applied to the modern practice of *exchanging* resident ambassadors.)

Yet the process was also, in part at least, explicitly driven by actors, particularly in terms of the material implementation of ideas considered in this chapter. This was not the hegemonic imposition by a single power, however, but instead involved the

effectively oligarchic behavior of a collection of powerful political actors (formalized in the nineteenth century in the notion of “great powers” having special privileges and duties). The rulers of these territorializing states imposed linear territorial authority, first in the New World and later within Europe. The post-Napoleonic reconstruction of European politics along exclusively territorial lines represented the consolidation of this trend, and the end of the possibility of organizing politics along other lines. Thus, in the post-colonial era, the entire structure of international organizations such as the United Nations is founded on the territorialized rule of nineteenth-century Europe: boundaries are sacred, and the sovereign territorial independence of even the most materially weak state is protected. In this institutional framework, the powerful as well as the weak are constrained by the hegemonic norm of territorial exclusivity.

It is in this world of firmly cartographic territorial authority that we find ourselves in today, at least for the present. The implications of this dissertation for the possibility of contemporary or future change in the foundations of political organization and interaction are considered in the next, and final, chapter.

Chapter 8

Conclusion: Implications for Contemporary Change

*It all moves so quickly now
These days it all changes
Nothing stable, Nothing static
Nothing to stand on or cling to
No maps for these territories
Though they are of our own creation
No myths for these countries of the mind*
-William Gibson, *Memory Palace*

This conclusion shifts the focus from the historical foundations of the modern state system to the contemporary possibilities for the transformation of that system. As suggested by the epigraph above, from the science fiction author who coined the term “cyberspace,” in this new world of digitized social, political, and economic interactions, there may literally be “no maps for these territories.” Such a possibility raises interesting questions in light of this dissertation’s analysis of the interplay between maps, territoriality, and political structures: Are there really no maps for the new spaces and authorities of the digital age? Although territory has been understood and described without maps in other historical periods, is territory conceivable without maps today? If so, how? Finally, while passages such as this one suggest a world in a state of fundamental and perhaps incomprehensible flux, are we really in such an era of epochal change? If not, are there signs that we are approaching one?

This chapter uses the theoretical insights from this dissertation’s historical analysis in order to address these questions about today—or at least to reframe some of them. Thus, the next section briefly reviews the main findings of the preceding chapters, highlighting generalizable implications for studies of systemic change. The rest of this chapter uses this lens to examine possible sources and dynamics of contemporary transformative change, focusing on the following: globalization and the de-territorialization of politics; the information-technology revolution and its implications for social and political change; and digital cartographic technologies and their political impact. Re-examining these subjects using my focus on ideas and practices of political authority both suggests tentative conclusions and reframes some existing questions. In spite of potential threats, the territorial exclusivity of the modern state system appears to remain firmly entrenched, for the time being at least. Yet sources of potential future transformation also exist, suggesting directions for further research on these rapidly developing technologies and their social implications. Thus, this chapter concludes with a discussion of directions for research that build on my dissertation’s theoretical and empirical findings.

1. Generalizable Implications for Systemic Change

This dissertation has argued that mapping had a significant effect on the development of the modern state system. New cartographic technologies and their increasing use in early-modern Europe fundamentally changed how actors thought about political space, political authority, and political organization, eventually driving the

creation of modern states and international relations, constituted by exclusive territorial sovereignty, linear boundaries, and formal equality.

Maps and their use were not epiphenomenal to social and political changes, but instead drove many of the key transformations that constituted the modern political world as a collection of territorially exclusive, linearly bounded states. The steps that this transition went through can be seen historically, with progressively greater use of maps to depict political authority *preceding* the implementation of linearly bounded territories, or even the acceptance of such linear structures as a goal among rulers and decision-makers. The fifteenth century saw the rediscovery of Ptolemy's *Geography* and the gradual adoption of techniques using the coordinate grid to map the world. The sixteenth century witnessed the rapid adoption of printed maps and atlases—depicting the world as a homogenous surface with linear divisions. Yet it was not until the early eighteenth century that ideas of how politics should be organized began to take on our familiar modern form of territorial exclusivity, and it was only at the end of the eighteenth century and in the post-1815 period that linearity and exclusivity were fully implemented in the material practices of European rulers on the ground.

The character of this process is complex, as it involves a set of recursive relationships between mapping technology, the maps created, views of space, and ideas about political authority. Nonetheless, there are generalizable implications that can be drawn out of this study, which can help us understand the relationships among technological, social, and systemic changes more generally. These are explored in the paragraphs below, which focus on the following: the complex, layered, and recursive nature of the transformation; the importance of delegitimation and elimination of authority types to the process; the way in which the particular character of the technology in question has implications for its impact; the importance of contingent events and phenomena to systemic change driven by technological developments; and the peripheral sources of institutional innovation seen in the process of colonial reflection.

Complex, layered, recursive. The first implication of this study for understanding systemic change in general is probably the most obvious: the way in which international structure is transformed is complex, with multiple steps involved and multiple simultaneous directions and layers of change.

Particularly if we are looking at the effect of a technological development and its use on political structures, there are a number of intervening causal steps between the technological innovation and the political-systemic outcome. Not recognizing the complex and possibly contingent steps between technological innovation and political outcomes risks telling a technologically determinist theory, drastically oversimplifying the complexities of the process. First, the change in technology has to be adopted by actors powerful or influential enough to shape general societal and political views. Then, this use of a technology must drive a change in ideas; in this case, the society-wide adoption of Ptolemaic mapping eventually altered how actors understood their world in general, and political authority in particular. Finally, this change in ideas about political authority has to be implemented in the material practices of political actors and subjects, in this case with the demarcation of linear boundaries and the sole recognition of territorial entities as legitimate. Thus, the key insight of this dissertation—that maps as a

technological development drove changes in international structural outcomes—is generalizable, but only with the caveat that each intervening step needs to be specified.

As this study has shown with regard to the early-modern case, it can take centuries for the total impact of such a technological development to become clear. While one might theorize that technological changes and their diffusion are more rapid in today's world, and hence the impact of contemporary technologies might be significantly faster, the importance of generational turnover in major ideational shifts cannot be ignored (Deibert 1997). In the early-modern case, it took several generations first for Ptolemaic mapping to be accepted as the best (and eventually only) means of depicting the world, and then further generations for the impact of this depiction on ideas of political authority to overcome the inherent inertia that existing institutions tend to have. These forms of ideational and institutional inertia should not be underestimated.

The process linking technological developments in mapping to ideas and practices of political authority was also *recursive*, as demonstrated in chapters 4 and 5. Once mapping technology changed, this altered the maps in circulation and eventually the view that actors held of space in general and of political authority in particular. This, in turn, created new demands for mapping, both in terms of the kind of maps being produced (increasingly politically oriented) and the cartographic technologies pursued (aiming toward increasing accuracy of surveying and coordinate-location measurement). This continuing development of the accuracy-focused scientific nature of mapping, in turn, further consolidated the notion of political space as geometrically measurable, divisible, and claimable, using these tools. The mutually constitutive static relationship between technologies of spatial depiction and understandings of space thus became recursively causal after the exogenous introduction of new mapping techniques. Thus, technologies and ideas will often exist in a relationship of mutual constitution, which can turn into a recursively causal dynamic if an external driver changes one side of the relationship.

Furthermore, old ideas and practices are rarely replaced by new ones in a clean break with the past; instead the new are often layered on top of the old (e.g., Thelen 2003). Even in the imposition of European political rule on the supposedly empty New World, new ideas and practices of territorial exclusivity were initially combined with some elements drawn from feudal forms of rule. Within Europe, mapping and map-based territorial authority were only slowly built on top of the traditional notions of jurisdictionally defined authority, with the layered coexistence of the two common. For example, the French-Spanish boundary in the Pyrenees saw two centuries of mixed and contradictory jurisdictional and linear divisions following the 1659 treaty. Thus, changes to political ideas—and the practices structured by those ideas—should not be expected to occur immediately and absolutely, but will instead involve the gradual layering of new practices on top of old, resulting sometimes in a synthesis of the two but other times in one's elimination.

A final point about the complexity of the process linking technological change to ideational and structural change concerns the importance of unintended consequences. In short, major political-systemic changes can occur without any actual constituency favoring them. While all major social and political changes probably involve some outcomes unintended by the actors involved, the complexity of this centuries-long process was such that major changes occurred in the structure of international politics without any single actor intending them. Mapmakers who drew linearly bounded,

homogenous political units (where in reality divisions remained unclear) had no intention of changing political structures, but instead were primarily interested in selling maps in a commercial market favoring aesthetically pleasing artifacts. Political rulers who later implemented linear boundaries were not consciously innovating, but rather acting on their sense that linear boundaries were simply more “rational” than the long-standing enclaves and overlaps along their borders. These rulers, in other words, were constrained by the ideational structure that had been built around them, through the societal shift toward modern mapping and the territorially exclusive view of political authority.

Elimination of existing forms of authority. Another key implication of this dissertation’s historical analysis is the importance of the elimination of ideas, practices, and institutions. While often it is the constitution of new notions of territoriality that has captured the majority of our attention when examining the creation of the modern state system, the disappearance of personal and jurisdictional forms of authority was equally constitutive of the shift to modernity. While the two processes are related—and, I have argued, were both shaped in large part by the development and use of Ptolemaic mapping—they are nonetheless distinct. It was only with the final elimination of non-territorial forms of authority that the modern system of sovereign states was consolidated in the early nineteenth century.

Thus, in order to understand systemic change more generally, we should look at factors that undermine, delegitimize, and eliminate existing forms of authority or notions of political community, rather than focusing exclusively on potential *new* forms of organization. The inertia of existing institutional arrangements, in fact, may make the elimination dynamic *more* important—only when current ideas and practices are made untenable is it possible for a new structure to be fully implemented.

The character of the technology matters. While many technological developments may have the potential to undermine existing authority structures, or support the legitimacy of new ones, not every innovation is likely to have such major political or social implications. As noted above, one crucial step in the connection linking technological change to political structural transformation is the adoption of a technology by key actors.

Early modern cartography, for several reasons, was appealing to many influential and powerful actors. For one, Ptolemaic cartography meshed well with other societal and intellectual developments of the time, first with the Renaissance tendency to combine ancient authority with new discoveries and later with the Enlightenment fixation on scientism, mathematical notions of accuracy, and progress. In addition, the global nature of the Ptolemaic grid meant that the application of the geometric understand of space to one part of the world promoted its application to all parts of the globe. Also, its lack of an explicit center (as any point on the equator can just as logically be the center of a world map) made it possible for all actors to place their parts of the world at the middle of the geometric grid, thereby encouraging the adoption of these techniques beyond Europe.

Although early modern cartographic technology was widely adopted—and hence widely influential on notions of political space and authority—not every technology is likely to become so dominant. The character of new techniques, such as their adaptability to diverse settings, can help predict whether such a broad influence is likely. The

difficulty in generalizing this point, however, is that any features of a technology that favored its adoption and influence may be very specific. It may not be possible to generate a list of categorical features of a technology that would make it influential on political ideas and structures without falling into tautological reasoning. Instead, it is better to look at the specific technology in question and its context, and consider the ways in which the two might be complementary.

Importance of contingent events and factors. Although this dissertation has argued throughout that the invention, dissemination, and use of Ptolemaic cartography was *necessary* to the constitution of modern territorial states and international relations, by no means was this technological development or its immediate ideational effects *sufficient*. Many other concurrent processes and driving forces were involved in the constitution of modern territorial exclusivity, some of which have been examined in the preceding chapters. For example, the extensive influence of Ptolemaic mapping was only possible because of the near-simultaneous printing revolution, represented by both the invention of the printing press and the rapid growth of a market for printed material, both written and visual. In addition, the contingent but contemporary events following the European encounter with the New World played a large role in shaping the effect of cartography on political authority, as the demand for a new and useful means for making political claims proved influential in the eventual dominance of territorial exclusivity.

The influence of Ptolemy in the medieval Islamic world offers a useful illustration of this contingency. The geographic works of Ptolemy were well known in Islamic libraries during the Middle Ages, but the cartographic techniques therein were never adopted, maps were not printed in mass quantities, and the ideational effects of cartographic depictions never occurred. This does not indicate any sort of European exceptionalism or superiority, but instead demonstrates the key role played by the myriad contingent or only vaguely related events and phenomena in the development and implementation of modern statehood in Europe.

Colonial reflection and peripheral sources of change. As has been seen in several of the preceding chapters, many of the ideas and practices constituting the modern international system appeared first not in Europe, but in the actions and interactions of European actors in the New World of the Americas. Practices such as the linear division of territory and cartographic claims to political authority were used in America several centuries before they were implemented within Europe. Not only was this newly encountered continent peripheral to European conceptions of the world, but it was the rulers of the two Iberian kingdoms, somewhat marginal themselves to late-medieval European political interactions, who first implemented these innovations beginning in the 1490s.

This colonial reflection of linearly defined territoriality serves as an example of a larger category: the importance of peripheral sources for institutional changes at the center. The tendency toward institutional inertia is always strongest in the places where those institutions have been in existence the longest, and where they serve to support the existing power structures the most: that is, typically, at the center. Peripheries, on the other hand, offer opportunities for innovation in ideas and practices, or even create demand for such innovation. New ideas and practices do not always remain isolated to

the peripheries, however, and may eventually come to constrain even the most powerful actors at the center as well.

* * *

In the next section examining possible contemporary systemic change, these patterns provide a new angle on questions relating to globalization, technological change, and political transformation. In other words, how are current transformative processes being shaped by recursive dynamics, elimination of existing authorities, contingent events, and peripheral innovations?

II. Contemporary Technological Change and International Politics

The potential for technological changes to restructure the international political system is not limited to early-modern Europe, but remains a constant throughout history.⁸⁵ Today's system is no exception, as the twentieth century's explosive advancement in transportation and communication technologies may lead to changes in international political structures. This issue—the possibility of contemporary or future change in international structures—has predominantly been approached in IR and related fields through the lens of globalization. Yet this literature, while extensive, has not yielded anything resembling a cohesive set of questions, let alone answers, regarding the possibility of contemporary systemic change.

The approach taken by this dissertation offers a useful approach to this problem. Instead of making broad predictions of state death or persistence, we can ask narrowly focused questions about the constitutive basis of political organization in ideas about legitimate authority: Is the fundamentally territorial basis of political authority and organization being undermined? If so, is it being replaced by a different form of territoriality, by non-territorial forms of organization, or by some combination of both? Finally, are the new ideas being implemented in the practices of political actors?

The following sections suggest how these questions can be applied to current debates about the political effects of contemporary economic, social, and technological change. First, I briefly position my approach vis-à-vis discussions of globalization, de-territorialization, and re-territorialization. Then I quickly outline the extensive literature on the general social and political effects of the information technology revolution, particularly the possible shift toward more network-oriented forms of organization. The subsequent two sections then go into more detail on two contemporary technological fields that are particularly relevant to my historical study's focus on the representational technology of cartography: first, cyberspace as a new form of (non)spatial interaction and, second, digital mapping technology and its possible impact on political ideas, practices, and structures.

II.A. Globalization, territoriality, and political authority. The discussion of globalization and its impacts on international politics is too extensive to be fully discussed here, but a brief summary of the extent of the debate is useful to distinguish the approach suggested by this dissertation. The range of views on globalization includes, on the one hand, statements of the impending (or foregone) retreat, decline, or death of the

⁸⁵ Indeed, some argue that technological changes have been involved in *all* major socio-political changes historically. For a non-technologically-determinist argument along these lines, see Deibert (1997).

state as we know it. Extreme views such as that of Ohmae (1995) are tempered by more nuanced analyses of the undermining of state power, authority, and autonomy, such as that of Strange (1996). On the other side, many authors have argued that states are in fact quite resilient, and remain key actors structuring international politics. Mann (1997), for example, notes that for all the contemporary problems faced by territorial states, most of the solutions to today's international issues involve the action of states themselves, directly or indirectly, thus keeping these actors central to international politics for the near future. Many middle-of-the-road analyses also exist, such as the influential work of Held et al. (1999) that sees states as surviving but territoriality potentially shifting as well.

Instead of entering directly into this debate and staking a particular position on the state-death vs. state-persistence spectrum, this dissertation suggests that we can usefully interrogate possible changes by posing questions regarding ideas and practices of political authority and the factors that shape them. Thus, instead of framing our questions exclusively in terms of states and their characteristics, we can consider the possible changes to the authoritative structure of politics.

Contrasting my approach with Krasner's influential analysis of sovereignty as "organized hypocrisy" (1999, 2001) offers one means of highlighting the usefulness of my focus on the character of political authority. In short, Krasner argues that "Breaches of the sovereign state model have been an enduring characteristic of the international environment . . . because logics of consequences driven by power and interest trump logics of appropriateness dictated by norms and principles" (2001: 17). In other words, the ideational structure holds little sway over actual behaviors and outcomes, and thus sovereignty is both meaningless today and has always been meaningless. There are several reasons why this approach is less than satisfactory as a means of considering contemporary (or historical) threats to sovereign statehood as the fundamental norm of international politics.

Krasner's logic is based on a "model" of sovereign statehood defined by him, of which he then finds numerous "violations." Yet this logic rests on an implicit counterfactual: Krasner is essentially arguing that sovereignty is a meaningless norm that does little to shape political practices or outcomes unless his model of sovereignty is *never* violated in any way. But what would this counterfactual situation, where sovereignty is never violated, look like? No state would ever threaten, bargain with, or impose anything upon another state, because if one state were to do something internally that reflected the will of another state, this would count as a "violation" of sovereign statehood in Krasner's model.⁸⁶

Instead, a more useful approach to considering the impact of ideas of sovereignty or authority takes into account the constitutive effect of these ideas on system structure and actor behavior. The repertoire of justifiable actions is never unlimited but is constrained by ideational resources, and even the "rational" goals of political action are constructed by ideas constituting the identity of actors (as, for example, territorial "rationalization" only made sense to political actors *after* linearly defined territoriality became the most legitimate means of asserting political authority). Thus even Krasner's rational "logic of consequences" is shaped by ideas. Therefore, it is more useful to

⁸⁶ A related critique is made by Deibert (1997: ch.8).

interrogate the conceptual basis for sovereignty, thereby avoiding the tendency to conceptualize sovereignty or the “sovereign state model” statically. Today’s economic, social, and technological changes may lead to a transformation of the very constitutive basis of statehood and the state system, rather than merely a tendency toward more or fewer violations of sovereignty. Thus, we should ask the following: Is the foundational ideational structure of political organization changing, through new forms of territoriality, the undermining of territoriality, or new forms of non-territorial organization? Is such ideational change being implemented? If not, could it be implemented in the foreseeable future? These key questions are difficult to answer so long as we continue to assume a fixed definition of sovereign statehood and merely question whether or not that is being violated, weakened, or supported.

One approach has interrogated globalization in this fashion, by asking if increasing cross-border flows of information, goods, and people are changing the fundamentally territorial basis of political organization. In particular, international politics may be heading toward either de-territorialization (as territory and boundaries matter less and less) or re-territorialization (as territory remains important but the scale or character of territoriality changes). One early and influential statement on this point was made by Ruggie (1993), who argued that particularly in the European Union territoriality was being “unbundled” in a return to “multiperspectival” political forms.

One common argument that has followed has been the notion that, in the face of globalization’s de-territorializing pressures, the state is losing its ability to fulfill its functions and provide public goods, and hence may be losing legitimacy.⁸⁷ Yet the inability of states to provide what is expected of them does not necessarily mean that this territorial form of organization is inevitably in decline. First, there may not be any readily available alternative to state organization—and without an alternative, political institutions have potent inertia. Furthermore, the argument that a failure of capability or action directly leads to a decline in legitimacy and hence potentially the disappearance of states is built on an implicitly functionalist logic: that is, states persist because they fulfill certain functions, and once they stop fulfilling those functions states will disappear.⁸⁸ Yet the fundamental insight of historical institutionalist scholarship is that institutions often persist long after their original function has expired—if they were consciously created to fulfill a single function to begin with at all. Thus, we should not expect an automatic disappearance of states because of their functional failures. Instead, the potential for de-territorialization is more usefully approached by examining the normative strength of the conceptual basis for statehood (territorial authority) rather than the function-derived legitimacy of individual states.

Other analyses of globalization have also revealed numerous ways in which the world is becoming anything but de-territorialized. Anderson (2002) and others have pointed out the difficulty of conceptualizing a form of political community that is not territorial, no matter the current failings of the territorial state. The notion that the world

⁸⁷ This point has been made by many authors, including Cerny (1994, 1995, 1998), Ferguson and Mansbach (2007, 2008), Clapham (2002), Taylor (1994, 1995), and Axtman (2004).

⁸⁸ For example, consider one extreme example of this view, on the post-Cold War international system: “a change in the state system in Europe was clearly required: if the existing system was producing such unacceptable levels of actual and potential destruction, it was not performing its function. We should not, therefore, be surprised to see a new system emerging” (Cooper 1996: 8).

is becoming less territorial is built upon a conflation of the specifically *modern* form of territoriality with territoriality *in general*: only the modern form is built on linear boundaries and geometric spaces. This specific form of territoriality may or may not be in the process of being undermined, but that is a question distinct from the decline of territoriality in general. Thus, the possible changes to territoriality in the globalizing world are not limited to a purely de-territorializing dynamic, but instead include strengthening ties to territoriality, or re-territorialization, if at potentially diverse scales (Brenner 1999; Albert 1998). This reconfiguring and re-scaling of territoriality can be effectively captured by my conceptualization of territorial political authority, in which authority can vary in terms of boundaries versus centers, homogeneity, and so on. Just because one form of territoriality may be weakening, this does not mean that we are necessarily entering a world entirely divorced from territorial considerations. Thus the paragraphs below consider the potential for a shift back to a place-focused form of territoriality and the possible alternative sites and forms of political authority suggested by de-territorialization and re-territorialization.

The possible shift toward a place-focused territoriality—related but not identical to that of the Middle Ages—is suggested by the common thesis of an increasing *localization* of identity and thus, possibly, political authority. Scholte (1996), for example, notes that in the face of globalizing pressures, many indigenous, city-based, or otherwise local identities have been re-asserted. Many of the arguments positing a nascent network form of organization, such as the global “network society,” also shift our focus toward places rather than spaces, as the nodes of such global networks are place-specific (the network concepts are discussed extensively below).

Yet there are reasons to expect the boundary-focused, spatially defined territoriality of modern states to persist, in spite of these pressures toward global or local identities and organizations. First, the very identity of states—and of many people within them—is still strongly tied to territory, defined by boundaries. Territory thus continues to be “valued independently of its strategic or economic benefits” (Forsberg 1996: 367). Even the challengers to the state, such as sub-state, trans-state, or supra-state regional organizations, are often territorially defined. Furthermore, as Elden points out, today’s world is imagined in the same spatial terms as the past several centuries, at the most fundamental level: “Globalization—ontologically—rests upon exactly the same idea of homogenous, calculable space” (2005: 16). Sometimes that space is global rather than national, but it remains a homogenous expanse that can be geometrically divided.

Finally, the linear boundaries between states, in spite of their increasingly porous character in some realms, still serve practical and symbolic functions. In more interconnected regions, borders may no longer be used to prevent flows of people or information, but they instead serve a symbolic purpose of joining the two sides as the point where those cross-boundary flows occur. Some boundaries that allow goods to flow freely, moreover, often are still used extensively to control the flow of people, thus continuing to define national identity (Rudolph 2005; Migdal 2004; Blake 2004; Paasi 1998; Andreas 2003). Therefore, many territories continue to be defined as spatial expanses, divided by linear boundaries, rather than shifting back to a place-focused localized notion.

For changes to occur in fundamental forms of political organization, therefore, the current system of states must face more than the threats of porous boundaries or

collective goods failures: an *alternative* formation must be imaginable as well. As Chandler (2007) notes, “the lack of purchase of traditional territorial constructions of political community does not necessarily indicate the emergence of new post-territorial forms of political belonging” (116). The European Union is often posed as a possible “post-modern” and alternative political structure to the sovereign territorial state, but the EU is still fundamentally territorial in its relations to non-member peoples and states. Within the EU, there has been some reshaping of what a national territorial identity means, as members have a separate non-national EU identity and citizenship that only comes into play when they are outside the boundaries of their state of citizenship but still within the boundaries of the EU (Behnke 1997). Yet both notions—national versus European identity, and within-EU versus outside-EU political space—are still territorially defined by linear boundaries. Nonetheless, the tenability of such a complex form of political authority, citizenship, and identity suggests that other formations are possible, and may become increasingly likely as pressures favoring de- and re-territorialization build.

Global or local identities completely divorced from territoriality are imaginable—such as religious, class, race, gender, etc.—but these have rarely gained the purchase of national identities, which, even in their diaspora form, are still fundamentally tied to the ideal of a territorial state (Scholte 1996). Furthermore, many alternative sources of authority may actually function synergistically with existing states, such as when non-state actors fulfill functions that states are no longer able or willing to fulfill (Mason 2005). This actually supports state authority, as the state is both complicit in and partially propped up by these non-state interventions. Moreover, the jurisdictional rights and responsibilities, even when delegated away by states, are still defined territorially by state authorities.

Thus, I would argue, the evidence for a fundamental de-territorialization of political authority and organization is relatively weak. Many examples of de-territorialization or re-configuring of territory actually involve little more than changes in the scale of territoriality, upwards to organizations such as the EU or downwards from the state to regional forms of organization. Yet none of these represent a fundamental change to the spatial basis of territorial authority, which continues to be defined by boundaries—even if those boundaries are sometimes no longer official state borders. Other aspects of contemporary technological developments, specifically those relating to the growing strength of electronic, social, and transnational networks, may be more threatening to the ideational foundation of state territoriality.

II.B. Information technology and the network society. Changing the focus from globalization to recent decades’ innovations known as the information technology (IT) revolution allows us to examine some other potential sources of international political change. Although many computing technologies have their origins in the immediate post-World War II era, the truly revolutionary implications of information technology first appeared the 1970s, with micro-processor-based computers, computer networks, and the growing use of computers in many fields (Castells 1996). Just as with cartography in the early modern period, the combination of fundamentally new technological capabilities with their widespread adoption has the potential to drastically alter people’s ideas and behaviors, and thus perhaps to transform political structures as well.

Scholars examining the implications of the new technologies on social and political ideas and practices have noted the importance of contemporary “time-space compression,” the increasingly rapid pace of change and movement throughout the world. Harvey (1990), for instance, argues that such processes “so revolutionize the objective qualities of space and time that we are forced to alter, sometimes in quite radical ways, how we represent the world to ourselves” (240). One of the most influential theorizations of the social and political effects of this compression is Castells’ (1996) idea of the burgeoning “network society,” in which a new “space of flows” is being created alongside (or on top of) the existing “space of places.” This new network form of global organization is structured by electronic circuits, connections among major cities, and the circulation of a global managerial elite (412ff). As Deibert (1997: ch.7) argues, there may be a strong affinity between the de-centering ideas of postmodernism and the “hypermedia environment” that we find ourselves in technologically. Yet merely pointing to new networks does not indicate that the existing form of political space is being effectively undermined, as the power of the “space of places” continues to be seen in people’s identities as citizens of particular states and the localization of other identities (discussed above). Sassen (2002) points out that “digital networks are embedded in . . . actual societal structures and power dynamics” (366). The existing spatial, political, and institutional order may not necessarily be challenged by new IT networks, but may rather re-assert themselves in the new digital realms.

The potential for an increasingly networked world to undermine today’s spatial authority structures has been explicitly examined in discussions of networks among globally connected cities. Magnusson (1996), for instance, argues that although the state is not necessarily disappearing, there may nonetheless be a new level of politics developing among global cities and their connections. Likewise, Taylor (2002, 2005) sees cities and city-networks as a possible “alternative demos” to the potentially defunct nation-state, since the cross-national connections more accurately represent the global impact of political decision-making.

In fact, the importance of cities and their connections may reflect a return to a place-focused form of territoriality—and hence territorial political authority—as cities are commonly imagined not in geometrically spatial terms but rather as unitary places, bound by non-geographically determined ties. AlSayyad and Roy (2006) explicitly note the similarity between post-modern city networks as the city-focused political life of the European Middle Ages, thereby questioning the fundamental “newness” of post-modernity. Yet the relative strength of these networked identities and authorities remains minor when compared against the persistence of the national state—at the most these city-networks appear to be a limited addition, a network of point-defined territorial places layered on top of the spatially extensive state system.

II.C. Computer networks, cyberspace, and political space. Cyberspace, while subject to immense hyperbole in the past decade, does in fact pose new questions concerning possibilities of novel political, social, and spatial arrangements. After all, if there is a fundamentally new form of “space” that is simultaneously experienced by people all over the globe, but is not explicitly located in any particular territory, this could have implications for political territoriality and authority.

For example, the internet provides space for new actors to emerge or existing actors to find new tools and resources. Sassen notes that cyberspace has become “a place where non-formal political actors can be part of the political scene in a way that is much more difficult in national institutional channels” (2002: 382). Diaspora communities have also found new opportunities for increased organization and identity-formation online (Newman and Paasi 1998). Criminal actors have also taken advantage of the global reach of the internet, such as when hackers targeting people in Western countries locate themselves strategically in countries where they are unlikely to be prosecuted, such as Russia or Romania (Gilman 2009). As one analyst puts it, “In the era of the internet and electronic commerce the issue is not jurisdictional conflict, but whether the basic idea of territorial jurisdiction is still relevant” (Kobrin 2001: 24).

This example of hackers engaging in a form of “jurisdictional arbitrage” illustrates both the possibilities offered by the internet for evading traditional state authority, and also the continuing importance of territorially defined authority in spite of those evasions. Hackers know that boundaries continue to matter, and thus consciously place themselves within the physical borders of non-prosecuting states—boundaries that are so porous to cybercrime are still politically solid enough to make it difficult if not impossible for targeted states to reach the hackers.

The internet and the very terminology of “cyberspace” further illustrate the resilience of modern territoriality and the strength of spatial understandings of the world, even in such a new, not inherently spatial realm. “It is ironic that, even as the extension of the Internet led people to declare the ‘end of geography,’ the Internet continued to be understood largely through metaphors of geographic place, for example, superhighways, teleports, server farms, home pages” (Zook 2006: 67). Virtual interactions are fundamentally understood in (imagined) spatial terms, doing little to undermine the key role of geometric spatiality in how we imagine the world. Nonetheless, the possibility of a “no-place” where economic transactions, political activism, and social interactions take place does present the possibility of undermining state territoriality, even if virtual space is built on the same spatial metaphors as our modern world.

The networking possibilities of cyberspace, of course, go beyond the electronic circuits of the physical hardware, and have recently developed into a massive presence of online social networks, such as Facebook, MySpace, and other online applications of the so-called “Web 2.0” generation. These new forms of organization—within which many young people in the developed world spend much of their time and energy—suggest the theoretical possibility of forms of community that are utterly non-territorial and non-spatial, instead based on person-to-person ties. Could online personal networks undermine the normative foundation of territorial authority? While these forms of community are easily entered into, they are very difficult to grasp in their entirety—Who, after all, is a member of one’s community defined by these networks? Only those directly connected, as “friends”? All others within a single densely connected piece of the network?

None of these questions are easily answered, particularly when compared against the ease with which one can look at a political map of the world and imagine where one

state ends and the next begins.⁸⁹ The persistent strength of the socialization by the “school-room” map (Migdal 2004)—literally during school but also afterwards in the media and elsewhere—may leave little room for complex, non-cartographic forms of identity, community, and authority to take hold. After all, part of the popularity of Facebook has been due to its tendency to highlight the connections between people within an already existing network or community—such as a college or university. Thus, although the fundamental technology of social networking *allows* for complex, non-traditional, or non-spatial forms of identity and community, these websites often instead serve to strengthen ties *within* a pre-existing community, albeit perhaps allowing for broader or more extensive connections within it. This is similar to the way in which diaspora communities use the potentially transformative communication technologies to strengthen their pre-existing national identities and ties to their distant homelands. In the end, such non-political forms of organization as Facebook are unlikely to threaten a resilient political form like the territorial state.

II.D. New cartographic technologies. What about, then, the changes in cartographic technologies that have occurred as part of the IT revolution? New technologies and practices for making, distributing, displaying, and using maps may alter the ideational structure that has been constructed by centuries of institutionalized mapmaking and map use. While pre-digital mapmaking was built upon standardization and the abstraction of human space onto the printed Ptolemaic grid, computerized map production and distribution offer the possibility of opening up those constraints to the extent that the homogenization and geometricization of space may be undermined. This could yield new forms of territoriality or undermine territoriality as we know it altogether, giving advocates of non-territorial authorities the representational tools required to overcome our tendency to see the political world as a color-coded, linear-boundary-filled map. The following paragraphs examine this possibility in detail, focusing on the actual and potential impact of Geographic Information Systems (GIS) and web-delivered digital mapping as the two most commonly cited—and most widely used—new cartographic technologies.

GIS is a set of computer technologies for gathering, storing, analyzing, and displaying spatially located data. While the general idea is quite broad, this typically takes the form of using either raster or vector data to create multi-layered maps showing particular variables, relationships, or dynamics. The possibility of creating dynamic maps, or a whole variety of maps from one data set, suggests that this technology might make possible altered notions of territorial authority, control, or identity.

Although the technology was seen at first as a normatively neutral tool for geographic and social analysis, during the 1990s many questions were raised about the

⁸⁹ This is not to say that the tools of social network analysis could not be used to analyze Facebook or MySpace networks to come up with measures of centrality, groupings, etc. This has, of course, been done (e.g., Ellison et al. 2007). But these “objectively” measured characteristics of networks are often invisible to the people actually within them. While that invisibility may add strength to their structuring power, it does not lead to subjective perceptions of community or cohesive organization. Thus members of those groupings will not necessarily see themselves as part of a cohesive group, even if network analysis can point out that they actually are. As the potential changes I am examining here are built upon actors’ ideas of new forms of authority and organization, this distinction makes a fundamental difference.

constraints and incentives imposed by GIS software (e.g., the debate in Pickles [1995]). GIS was criticized for being too technologically driven, making it nearly impossible for people without extensive training to participate in the creation or analysis of these spatial data sets and maps (Goodchild 2006). Thus, these technologies may offer new means for propping up existing social and political hierarchies, rather than opportunities for questioning social relationships.

Yet this debate has suffered from technological determinism on both sides, ignoring the socially embedded nature of any set of cartographic tools. As Chrisman (2005) points out, proponents of GIS tend to argue for a teleological march of progress involving these technologies, without realizing the impossibility of such technologies being socially neutral. Critics, on the other hand, have presented the harmful social effects of GIS as independent of any possibility of social control or restructuring. Instead, we should recognize the reciprocal relationship between a technology such as GIS and societal norms and ideas (just as such a mutually constitutive relationship existed in the early modern period with regards to printed mapmaking and spatial ideas).

When we take into account the potential for causal influence in both directions, therefore, more interesting analyses come to light. For example, one potential innovation of computerized map-production using GIS is the ability to create maps that are less focused on linear boundaries and existing political authorities, particularly in the display of social or demographic data. While a printed map of a particular phenomena must take just one form—often coding something like literacy by country, which merely reinforces the linearly bounded modern notion of political space—a GIS-produced map could theoretically display the data in more complex ways. Yet Crampton (2004) points out that in some ways the adoption of GIS has actually encouraged cartographic simplifications because the software makes certain types of maps much easier to create than others. This illustrates that although it is *possible* for the computerized mapping technology to display information in new or more complex ways, this does not mean it will necessarily be done. Thus, the new technology may still reinforce the same notions of space that printed maps have for centuries.

On the other side of the society-technology relationship, GIS is fundamentally shaped by existing social ideas about space and how it is organized. For example, the maps built into GIS are still founded on the Cartesian coordinate system of modern print mapping. Furthermore, Rose-Redwood (2006) points out that the way in which digital technologies such as GIS spatially code the world “presupposes the existence of an *already* geo-coded world of house numbers, zip codes, and the like” (470). This “geo-coding” was largely implemented—and continues to be reinforced—by a combination of state action and private organizational initiative. Thus even new digital mapping technologies are built on centuries of geographic understanding, making it likely that they will be shaped by those ideas and reinforce them going forward.

One effort to make GIS technology (and its outputs) representative of a broader set of actors and interests has been in the “GIS/2” or “Popular Participation GIS” (PPGIS) movements. These constitute “an attempt at developing—imagining at least—a more equitable, accessible, and empowering GIS” (Miller 2006: 189). This has predominantly focused on increasing the involvement of non-technically-trained participants in creating GIS databases and maps, if not actually making GIS software more accessible to untrained persons (e.g., Dunn 2007). This has been intended to

restructure the “power-knowledge” inherent in GIS and the maps produced by GIS, away from control by the state (Crampton and Krygier 2006). Many of these efforts, however, have fallen short of breaking down the technological barriers to entry into GIS use, and many of the GIS/2 proposals have been more at the level of abstract or theoretical calls for participation than actual practical solutions (Miller 2006).

An area of digital mapping that has opened up to much wider participation, however, is the web-based mapping involved in products such as Google or Yahoo! Maps, or Google Earth. Although the two Google products have only been publicly released since 2005, they have seen enormous public use. Furthermore, the Google products have allowed for public participation in the form of so-called “mashups,” in which users create additional information to be layered on top of the Google Maps base. Miller (2006) argues that these combinations of sophisticated but easy to use online mapping with user-created content have offered the first real example of the goals of PPGIS or GIS/2 discussed above. For example, in the wake of Hurricane Katrina, two individuals created a website that allowed anyone to place information or questions about particular locations hit by the hurricane on a Google Maps base. This website proved to be very use for those trying to get information out to relatives or authorities concerning their status and whereabouts. Miller sees this mashup as a repeatable model of participatory digital mapping: “a technically minded agent builds a system that can be used by the non-technically minded to generate content out of their own data or local knowledge” (2006: 197).

This is merely one example of the possibilities of “distributed mapping” systems, in which users define and create on-demand maps, with only ephemeral map products but more permanent digital “mapping environments” (Crampton 2003). Beyond enabling map users to generate the maps they need from a set source of geographic data, there are more “open-source” forms of mapping, in which users also are involved in creating the base cartographic layers as well as occasional content. One example is efforts such as openstreetmap.org, which uses the wikipedia-style approach of allowing users to create and edit the base street-map layer, so as to have a public domain version of Google or Yahoo! Maps (Crampton 2009). There are, in fact, a large number of ongoing efforts involving “volunteered geographic information,” ranging from street mapping to geo-tagging photos. These projects have been made possible by the web 2.0 model of interaction as well as the increasing availability of GPS devices and broadband internet. Of course, while these open-source maps may not have some of the same potential issues of institutional bias as traditional mapmaking, they are subject to the problems inherent to a system where the truth of claims is often simply asserted by volunteers “without citation, reference, or other authority” (Goodchild 2007).

To many analysts, these developments imply the opening up of cartographic technology to the masses, and hence perhaps the end of the tendency of mapping to reinforce existing institutional and social hierarchies:

Maps are no longer imparted to us by a trained cadre of experts, but along with most other information we create them as needed ourselves. . . . Open-source mapping means that cartography is no longer in the hands of cartographers or GIScientists but the users (Crampton and Krygier 2006: 15, 19).

This optimistic reading of the impact of these new digital cartographic technologies can be very convincing, particularly when the new techniques are compared against the mapping possibilities of even one decade ago.

This is nowhere more true than in the ability to add layers to Google Earth, and remove them as well. Thus, linear national boundaries can be depicted in the traditional fashion, as a fundamental feature of the physical globe. But by un-checking a single box, the user can make those disappear. Layers and filters added by users, furthermore, can add a wide variety of information, from displays of social or demographic variables to labels of specific points of interest. In 2009 Google Earth even added the ability for users to create “tours,” which can be programmed as fly-over itineraries, complete with music and narration. This can turn the static content of the system into dynamic content, all by drastically increasing participation and user input and control.

Yet the participatory control and emancipatory potential of these technologies can easily be overstated. Yes, everyday (if somewhat technically sophisticated) users can add content, and can certainly change the way that they view the mapped content that already exists. These technological tools, however, do not appear out of thin air, but are created by technical experts with their own ideas and norms, even if not any nefarious agendas. The “default settings” on tools such as Google Earth are an inherent feature of any software product, no matter how adjustable the software is in skilled hands. Thus, what the maps look like when the program is first used—and the outer bounds of what can be changed on them—is determined in the same way as GIS (or traditional mapmaking) always has been created: by trained experts inside an institution.

The most fundamental “default setting” of these online mapping tools, furthermore, is the Ptolemaic basis for all of their mappings in the Cartesian coordinate grid. GIS maps as well as online digital mappings all start with the geometric understanding of space, defined by a coordinate location on the surface of the earth. Even though virtual globes such as Google Earth no longer have to flatten the sphere into a map, they also treat space as a geometrically measurable expanse. Even replacing abstract map images with satellite photography (as is possible with most of the online tools) merely moves one step closer to the Enlightenment ideal of a map reflecting reality in a perfect “mirror.” While the tendency of printed maps towards linear (political) division and homogenous (political) color-coding is reversed, at least potentially, the underlying spatial understanding remains the same. Furthermore, digital mappings often continue to use existing political divisions as their units of analysis, simply due to the technical sophistication required to do otherwise (Crampton 2004).

Nonetheless, some of the pressures toward abstraction and simplification inherent in early modern map printing technologies are removed, as complex layerings and even dynamic images are easily possible with digital mapping tools. Furthermore, in spite of the geometric foundation of digital mappings, sometimes these are unimportant to the goals of popular mappings, as for example, with the post-Katrina Google Maps mashup discussed above: “The ‘standards and goals’ of . . . participants had nothing to do with Cartesian coordinate systems and only as much attention to positional accuracy as would be required for rescuers to locate an intersection or a row of houses; all relative positions” (Miller 2006: 196). Thus the user-cartographers were not bound by Ptolemaic notions of accuracy, but instead relied on a route-finding approach because it better served their

purposes. Yet the representational foundation for this, and for all other Google Map mashups or Google Earth layers, remains Ptolemaic.

Efforts to use new mapping tools to represent the network nature of the post-modern “space of flows” are another potential avenue for the cartographic restructuring of ideas of political authority. After all, if linearly bounded states are losing their power or functions to global networks of flows, effectively representing the latter could serve to undermine the common notion of the political world as a set of territorially exclusive states. New representations may thus be useful, or even necessary:

Under these circumstances, the image of global social space as a complex mosaic of superimposed and interpenetrating nodes, levels, scales, and morphologies has become more appropriate than the traditional Cartesian model of homogenous, interlinked blocks of territory associated with the modern interstate system. New representations of sociospatial form are needed to analyze these emergent pluri-territorial, polycentric, and multi-scalar geographies of globalization (Brenner 1999: 69).

But is this even possible? Can the complexity of the space of flows be represented in a way that both satisfactorily captures its dynamics and is comprehensible enough to influence societal norms?

Efforts to map aspects of the global networks exist, but are less than revolutionary in their depictions, and hence in their implications. For example, Dodge and Kitchin’s *Atlas of Cyberspace* (2001) maps numerous aspects of the global computer network, but tends to use one of two techniques: either layering network information or representations (sometimes in three dimensions) over existing Ptolemaic maps, or creating complex non-geographic network diagrams of nodes, hubs, and links.⁹⁰ While these may capture many features of these networks, the former will do little to undermine existing conceptions of space and the latter may be too abstract for building new notions of identity, community, or authority. After all, the very simplicity of early modern mapping was one of its most persuasive assets, just as simplicity and ease-of-comprehension remains one of the most ideationally powerful features of today’s political maps, with their clean linear boundaries and homogeneously colored spaces.

Thus, in many ways, these new technologies are really the ultimate refinement of the existing cartographic paradigm, which has focused, since at least the European Enlightenment, on improving map accuracy, defined as a perfect geometric relationship between the Earth’s surface and the map image. Nonetheless, there are ways in which the new technologies may be revolutionary enough that truly novel representations and ideas could arise. In particular, three-dimensional and dynamic maps may break down the single-viewpoint foundation of traditional mapping, as may the possibility of almost everyone to create their own maps. Thus, in spite of the continuing foundation provided by Cartesian space, new possibilities for how space is represented and understood may arise.

A separate line of inquiry concerns the use of these new tools, not by the general public, but by traditional international political actors, such as states and their representatives. For example, international negotiations have increasingly made use of digital mapping technologies. At the Dayton negotiations in 1995, for instance, GIS and

⁹⁰ For an analysis of the issues surrounding making maps of cyberspace, see Zook and Dodge (2009).

other computer-based mappings were used extensively (Johnson 1999). This relatively early use did see its share of problems—both with the technologies still being relatively low-resolution and with some negotiators being resistant to moving away from their paper maps—but it represents the general trend toward using these digital tools. The question remains, however, as to whether or not this will lead to any potential changes in the *outcomes* of negotiation, particularly at the level of the form of territoriality being discussed. So far at least, digital maps have merely been used to further efforts toward achieving traditional goals, such as drawing clear, undisputed linear boundaries between territorial jurisdictions. In spite of the *technological* possibility of visualizing more complex or layered notions of political authority or sovereignty, the normative strength of the traditional concept of territoriality appears to remain firm.

In the near term, however, there are two parallel but contradictory tendencies that may be among the outcomes shaped by digital mapping techniques: 1) the destabilization of some settled boundaries as increasing exactitude reveals inconsistencies and reduces the range of politically useful ambiguity; and 2) the potential stabilization or settlement of divisions that previously were impossible to resolve. *Both* tendencies are the result of the same trend toward perfect geometric accuracy in mapping.

First, the technological trend toward increasing accuracy and reduced cost in location-finding and map-making may yield situations in which the previously existing “wriggle room” for resolving negotiations is no longer available. For example, during the early modern period, many agreements on divisions of political claims were made in the face of great uncertainty or ambiguity regarding the actual divisions on the ground, a fact that made these resolutions easier, not harder, to achieve. In the 1520s, Spanish and Portuguese officials met to try to resolve the position of the anti-meridian to the line drawn by the Treaty of Tordesillas—that is, to resolve where the mutual division of the world between these two powers would fall on the other side of the globe. Because of the contemporary impossibility of determining longitude at sea—and extraordinary difficulty of determining longitude even on land—no technical solution to this question was possible. Yet this technical ambiguity made a political agreement possible, as claims were traded without either side having to admit that they were giving away anything on their own side of the line. This dynamic persisted in early modern European peace settlements, as treaties were signed without having resolved the exact nature of the boundary, allowing complex local solutions on frontiers to emerge that might have been impossible at the highest negotiating level. Today, as the technological ability to find one’s position with pin-point accuracy and reference it to detailed maps is increasingly available, the recourse to ambiguous but workable divisions is less available.

A countervailing trend, however, may enable effective bargaining over currently difficult divisions, and thus their resolution. The complexity of determining, mapping, and displaying information about spaces other than land surfaces—such as the oceans or underground resources—have made the effective resolution and enforcement of agreements on such issues difficult. Yet with technologies for measuring and displaying detailed information increasing in accuracy and increasingly affordable and available, certain divisions may be more easily effected. Three-dimensional mapping of oceanic resources (both in the water and under the sea floor) or of underground resources are part of this, as is the ability of moving maps to display the dimension of time. Thus, spatial claims that are more migratory in character (i.e., a claim to a space during a certain,

regular time period but not otherwise—such as a satellite orbit) can be easily displayed. The importance of *easy* and *familiar* means of displaying these patterns or data is key, because most often the actors doing the negotiating are not personally at the forefront of technological use—but with techniques for displaying the information in user-friendly formats such as Google Earth, the negotiating parties need not be particularly technically proficient. This may end up making certain previously *indivisible* spaces or resources divisible in new ways.

Both potential trends are the result of the single tendency toward perfect geometric accuracy in spatial representations. Yet the outcomes could be very different: stable arrangements becoming unsettled, while previously difficult settlements becoming easier.

* * *

In sum, there are two approaches to evaluating the possible effects of contemporary technological changes on international political structures and outcomes. First, we can take the current evidence of changes actually occurring, and ask how much of that is driven by technological developments in a process similar to that of cartography in early modern Europe. On this issue, major contemporary changes analogous to the medieval-to-modern shift do not appear to be occurring, or at least to have occurred as of yet. States today continue to structure much of what occurs throughout the world, in terms of political, social, and economic interactions. Even if states are no longer acting entirely alone in this role, the importance of linear *state* boundaries, control over *state* territory, and *state* military action remains clear. For all the possibilities of conceiving new forms of political community, authority, or organization, few seem to have gained much traction as of yet in terms of actual implementation, and territorial exclusivity remains the order of the day.

As a second approach, we can consider some possible sources for future changes to international structures, based on current technological trends. After all, as Caporaso points out, “If and when the system changes . . . we will only know it long after the time has past” (2000: 25). Although this is a bit pessimistic about our ability to recognize systemic change, it does serve to remind us that the early modern transformation took centuries, particularly for the final consolidation of territorial exclusivity, and that many of the driving technological changes were widely adopted long before the systemic restructuring occurred. In fact, those cartographic developments *had to be* adopted for a long period in order to reshape fundamental ideas about political authority—this sort of technologically and ideationally driven change simply cannot occur overnight. Thus, if some of the current developments in information technologies eventually lead to a restructuring of the international system, we can at least attempt to discern possible patterns for that change.

Attempting to predict future developments, a pattern becomes clear in the discussion above of some of today’s IT advances: cartographic technologies appear much less likely to lead to fundamental changes in notions of authority than do non-cartographic technologies. The clear influence of cartographic developments on the shape of the modern state system makes it appealing to suggest that today’s revolutionary developments represented by digital cartography will have equally revolutionary effects on political territoriality and authority. But this ignores the fundamental continuity between the Ptolemaic cartography of the early modern and Enlightenment periods

(which led to the constitution of states as territorially exclusive entities) and the digital cartographies of today. All are built on an effort to understand space in terms of geometric “accuracy” rather than any other experiential basis, and all tend to undermine non-territorial notions of organization.

Information technology developments outside of cartography may actually be more likely to lead to the kind of fundamental changes we are interested in, but this category is both broad and subject to hyperbolic assessments. From the “Declaration of the Independence of Cyberspace” (Barlow 1996) to today’s social-networking web 2.0, the internet has often been hailed as the new frontier, where existing social, political, and economic structures will no longer apply. While this assessment is overenthusiastic (as was discussed earlier), these technologies do present *possibilities*, however remote, of re-shaping ideas, and hence eventually practices, concerning political authority. But the possibility of an online-network-constructed form of political community, let alone authority, is still very remote today. It is unclear, furthermore, exactly what such a form of organization would look like, or if we would even recognize it as political. Nonetheless, the potential for fundamental changes to originate in unexpected areas is one of the insights suggested by the early modern case, and thus these possibilities should not be entirely dismissed.

III. Conclusion: Directions for Future Research

In sum, this chapter’s analysis of contemporary change in the international system offers some support for both optimistic and pessimistic predictions. On the one hand, the *potential* for change is obvious: new information and communication technologies open clear possibilities for new understandings of political identity, authority, and organization. These possibilities could theoretically drive changes in political structures, should fundamental ideational changes actually take hold and be implemented in political practices. On the other hand, the actual *presence* of fundamental change is, so far at least, extremely limited. States may no longer fulfill all of their purported functions, but nonetheless territorial authority and boundaries remain firmly entrenched in both the ideational apparatus of political actors and in their actual material practices. While change has been limited thus far, however, the transformative potential of new technologies, and of globalizing trends more generally, means that this issue is anything but settled, suggesting a few directions for future research on contemporary change.

First, continuing research is needed on the use of digital mapping technologies by state and non-state actors. How are governments, NGOs, and other actors using developing cartographic technologies, and how is that use possibly altering the direction of technological change? This topic represents an important, but rapidly changing, subject of research.

Boundaries also need to be investigated more carefully. While the past two decades have seen some increasing focus on boundary practices, narratives, and norms (e.g., Newman and Paasi 1998; Nicol and Ian Townsend-Gault 2004), most of this has been from fields other than international relations (interesting exceptions include Migdal [2004] and Gavrilis [2008]). Considering the foundational importance of territorially exclusive boundaries for the very character of the international system, this inattention needs to be remedied. Taking an explicitly political approach by considering the structure of political authority at boundaries—in ideas and practices—may allow us to shed new

light on important questions: Is political authority weakening or changing at state boundaries, or do authority structures remain strong in spite of the increasingly porous character of some frontiers? Will changes at ground level in boundary regions lead to the undermining of territorial exclusivity of the modern state system? Are new forms of boundaries being implemented, or even imagined?

This topic can probably be most fruitfully investigated through case studies of boundary regions and the local-level practices and ideas therein—an approach that will generate insights about the potentially increasing *variety* of boundary norms and practices. After all, the conceptualization and implementation of homogenously linear boundaries formed a key part of the constitution of the modern state system, so changes to those ideas and practices could be constitutive of systemic transformation.

Yet we should not focus solely on boundaries and their possible changes, since there are other sources or sites of potential transformation that do not explicitly cut through or alter boundaries but instead have nothing to do with territorial divisions whatsoever. This includes most prominently the possible network forms of organization, as these could be entirely non-spatial. New network organizations may not directly undermine territorial exclusivity, but by offering the possibility of ignoring territorial authority structures, networks may perform a conceptual end-run around territoriality altogether. Although it would be very difficult to argue that a true “network society” has arisen and displaced territorial authorities as of yet, research should continue into the practical implementations of networked political forms. The impact of networked technologies can also be examined in terms of the use of digital technologies in warfare, as the possible “virtualization” of the battlefield may be as transformative as other military revolutions throughout history have been (Der Derian 2000; Demchak 2003; Singer 2009).

In any case, the conceptual apparatus suggested by this dissertation will prove useful for approaching these issues of contemporary political change. Specifically, focusing on conceptions of political authority and their implementation in practices makes it possible to measure change in a meaningful—though entirely qualitative—fashion. This dissertation has shown that many of the existing approaches to explaining historical systemic change have mis-measured the outcome of interest, often projecting modern states back into historical periods structured by entirely different ideas and practices. Focusing on changes in authority showed that the shift to modernity was slower and more uneven than many think, and also pointed to new drivers and dynamics of change. Thus, in our studies of today and predictions about tomorrow, we should maintain this emphasis on the authoritative foundation of politics, bringing into focus possible changes in the ideas and practices that constitute the international system.

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