SCIENCE AND SOCIETY, 2022

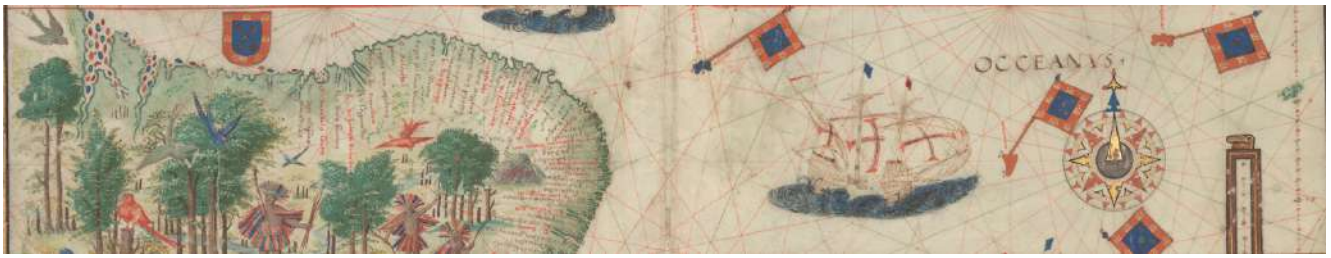
MAPPING THE WORLD

Cartography, Power and Society (1492 – 1945)

a corpus constituted by Martin Vailly

FORCCAST

Formation par la Cartographie de Controverses à l'analyse des sciences et des techniques



SUMMARY

Cover: François Schuiten, Frontière Invisible (5 colors), screen printing, 2015

1. Introduction

Guidelines for the readings

• Does the mapping process needs any infrastructure? How are mapping production and state apparels intertwined?

• What makes a map a tool? A representation? Are these spatial representations a mere scientific, immediate depiction of the territory?

• What is at stake behind the choices of a mapmaker? Is their goal merely scientific?

• Think about the concrete use of maps and the way they are produced: what are the “scripts” of various types of maps?

• Could maps exist as self-sufficient technical objects? Or are they inserted in a broader technical system?

• How could you articulate scientific map production and the role of institutions?

• Which concrete uses have maps? Does they have any impact on concrete, everyday life situations? On social representations and collective imaginaries?

Eurocentrism and Mapmaking

In: *Denis Cosgrove, Apollo's Eye, A Cartographic Genealogy of the Earth in the Western Imagination, Johns Hopkins University Press, Baltimore and London, 2001*

Globalization is a driving idea of our times. Powered by technological innovation, by capital's restless search for investment opportunities, by geopolitical ambition, by ideological or religious fervor, even by touristic desire and adventure, globalization is a hydra of modernity. Whether pictured as a net- worked sphere of accelerating circulation or as an abused and overexploited body, it is from images of the spherical earth that ideas of globalization draw their expressive and political force. The fascination that global images exercise over the millennial imagination is apparent from even the most casual glance at newspapers and magazines, television, or advertising.

Geography lays particular claim to the globe. Its intellectual task is, by definition, to describe the globe's surface. This book originated in a request for a geographical reading of a photographic exhibition containing satellite images of the globe. What initially seemed a simple task became rapidly over- whelming as I began to glimpse the historical depth and cultural complexity of the earth's deceptively simple form. My fundamental question is simple: what have been the historical implications for the West of conceiving and representing the earth as a unitary, regular body of spherical form?

Earthbound humans are unable to embrace more than a tiny part of the planetary surface. But in their imagination they can grasp the whole of the earth, as a surface or a solid body, to locate it within infinities of space and to communicate and share images of it. Only in the late twentieth century did any humans physically witness the full Earth turning in space, and the impact of that achievement echoes through the language and imagery of globalization. But the slightest reflection reveals that for all its radical newness, actually witnessing the globe culminates a long genealogy of imagining and reflecting upon the possibility of doing so. The meanings of the photographed earth were anticipated long before the photographs themselves were taken.

Contemporary globalization is Western in its origins and integrated into processes of modernization through which the very idea of "the West" has been differentiated on a single global surface. "Globalization" disrupts such stable, naturalizing geographical models as "West and rest," core and periphery, "First," "Second," and "Third" Worlds. Globalized space is characterized by circulation, exchange, confluence, moving unevenly across networks of greater or lesser density and efficiency, with diverse and hybrid consequences. And while historically this has long been true of many interactions, local, territorialized experience has meant that in the imagination, cultural worlds and identities have been organized around assumed sociospatial centrality.

Historically, *cosmography* has been the name given to the integrated study of earthly and celestial spheres. As a science, cosmography attracted intense interest among early modern Europeans as they grappled with the sudden expansion of their knowledge space and reflected a desire to grasp unity in the

diversity of creation and to place humans within it. Variously powered by spiritual desire, lust for universal knowledge, dreams of global enlightenment, and geopolitical imperatives of empire, cosmography is an enduring seduction that may even flicker unacknowledged behind contemporary discourses of globalism and globalization, figured in the image of a spherical earth floating in space. Cosmography's genealogy has many strands, every one of them the subject of a large and specialized literature. Its own enduring problem, the sheer volume of knowledge and skills it generates and demands, also challenges attempts to write its story.

There are specialist literatures in the history of science, philosophy, cartography, literature and art, exploration, geography, and material culture. None is independent of broader economic and political contexts, all are profoundly inflected by the continuous ethnographic interaction between the "West" and its "Others," both imagined and actual. At the simplest technical level of representation, the forms of the earth and extraterrestrial space themselves present complex historical problems. Disk or sphere, modeled, pictured or mathematically projected, the globe is known through its representations. And representations have agency in shaping understanding and further action in the world itself.

In the face of such cosmic problems, I have elected to trace images of the globe and the whole earth as they have constructed and communicated the distinctive Western mentality that lies behind the universalist claims of contemporary globalism. As I have said, both "West" and "Western" are themselves historically made and altered constructs, shaping and differentiating an already signified globe.

*Fig. SEQ Fig. * ARABIC 8 – An allegorical depiction of the four parts of the world, Vincenzo Coronelli, Terrestrial Globe "de Marly", 1683, BnF, Paris.*

Europe is the crowned figure, dominating and ruling America, Asia and Africa.

2. Discovering and Mapping New Worlds

Mapping the New World: The Spanish Endeavour

In: *Antonio Barrera-Osorio, Experiencing Nature. The Spanish American Empire and the Early Scientific Revolution, University of Texas Press, Austin, 2006.*

In 1598, the Englishman Richard Hakluyt described the navigational activities of the Casa de la Contratación in Seville for his English readers:

> [The] late Emperour Charles the fift, considering the rawnesse of his Sea-men, and the manifolde shipwracks which they susteyned in passing and repassing betweene Spaine and the West Indies, with an high reach and great foresight, established no onely a Pilote Major, for the examination of such as sought to take charge of ships in that voyage, but also founded a notable Lecture of the Art of Navigation, which is read to this day in the Contractation house at Sivil […].

Although the office of the chief pilot was established by Ferdinand the Catholic and not by Charles V, Hakluyt's description captures the teaching and training activities of the "Contractation house at Sivil." The office of the chief pilot, however, was established not only to train pilots but also to make charts. The cosmographers [i.e. mapmakers] of the Casa were hired to make instruments and lecture pilots. The institutionalization of these activities was the result of the Spanish crown's political interests and desire for control in the New World. In the process of gaining control of long-distance lands, the crown established mechanisms at the Casa for making navigational instruments and charts, for teaching navigational techniques to pilots, and for examining the pilots. The establishment of these mechanisms was the result of administrative practices copied from the Portuguese, suggestions made by pilots and cosmographers, and administrative decisions for solving disputes among pilots and cosmographers working at the Casa […].

In the early sixteenth century, European kingdoms sought to establish areas of influence over routes to Africa, Asia, and the New World. Portugal and Spain claimed rights over different areas of the Atlantic Ocean, yet they first had to determine the size of the ocean, the exact locations of the recently encountered lands, navigational routes, and geographical aspects of the new lands. A set of offices within the Casa emerged to face the challenge of collecting and organizing knowledge of the new lands into maps, charts, instruments, treatises, and navigational practices […].

This center of information emerged slowly from the interaction be- tween royal officials and pilots, explorers, and artisans engaged in enterprise in America. In this world of exploration, knowledge became a central element in imperial politics and commercial activities. Its gradual creation mirrored the establishment of the Spanish kingdoms in America. By 1550 the Spanish had established towns and cities from Mexico to Chile and had already transplanted Old World products to the New World. While the conquest of the New World relied on force and violence as well as luck and determination, it also relied on knowledge, as the search for commodities and the writing of reports testified. Consequently, by the 1550s the Casa had already institutionalized practices for gathering, disseminating, and classifying knowledge and for training, certifying, and hiring lay practitioners […].

Portuguese precedents

Iberian navigational and cosmographical traditions emerged from the transformation of Arabic theoretical astronomy into practical knowledge and the interplay between this practical knowledge and economic and religious interests. Portugal sent the first explorers to the Atlantic as an attempt to break into the trade routes of the Muslims by way of West Africa. Spain, once it had won the wars of the Reconquista, would attempt to do the same by going west […].

A number of factors prompted the Portuguese to transform classical knowledge into practical knowledge. They had economic and religious interests in exploring the African coast; they built ships equipped to navigate the Atlantic; and, finally, they developed an atlas of constellations to help Portuguese sailors find their positions while far out at sea. Northern and Mediterranean traditions of shipbuilding and cosmographical research by Iberian Jews influenced shipbuilding and navigation techniques in Portugal […].

With these tools, Portuguese cosmographers developed charts based on the altitude of the sun (during the day) or a pole star (at night) above the horizon. If they wanted to find their latitude in any given place on the Atlantic Ocean, along the African coast, they would find the altitude of the sun or polar star at that place. By subtracting that height from the altitude of the sun or polar star in Lisbon, they would calculate their distance south from Lisbon. This new technique of navigation basically compared the altitude of a given celestial body (a star or the sun) at the point of departure (e.g., Lisbon) with the altitude of the same celestial body at different northerly or southerly points along the voyage […].

Finally, a new type of vessel, the caravel, crystallized the commercial and technical interests of the Portuguese crown and made possible the actual transportation of human and material cargo as well as ideas and practices. In the Mediterranean, winds came from behind the ships; in the Atlantic, ships faced contrary winds or no winds at all. The caravel was designed to sail in shallow waters or in high seas and employed lateen (triangular sails) together with square sails. Lateen sails allowed ships to sail with contrary winds in a zigzag pattern called tacking. The Portuguese learned to calculate distances when tacking. This calculation involved both geometry and plane trigonometry, and sailors used special tables called *toletas.* The Portuguese thus developed the most important technological knowledge and instruments to navigate safely in open sea. These Arab, Mediterranean, and Portuguese traditions of navigation took root in Spain at the Casa de la Contratación as Spain established its empire in the New World.

A Chamber of Knowledge

On February 14, 1503, Isabel and Ferdinand ordered crown officials to establish in the dockyards of Seville a “house for trading and negotiation with the Indies, Canary Islands, our other discovered islands, and would- be discovered islands.” The idea may have come from a 1503 report, attributed to Francisco Pinelo, proposing the establishment of a ware- house for the centralization of trading with the Indies—and surely the Portuguese Casa da India (before 1503 called Casa de Mina e da India) was the model. The Portuguese Casa “included an organization equivalent to a modern hydrographic office, at whose head was a

cosmographer- in-chief. He was assisted by cosmographers whose business it was to draw and to correct charts and to compile books of sailing directions" and perhaps "to assist in the instruction of pilots," as did Spain's Casa later. But the Portuguese chief cosmographer's office was at the court, not at the Casa, and he had access to information from mariners and pilots who came to the Casa da India. The teaching, in the Portuguese case, also seems to have taken place at the court […].

The structure of the Casa emerged slowly over the years, office by office. New officials joined the three original ones: a chief pilot (1508); a ship inspector (1518); a cosmographer (1523 — to make instruments for navigation); a representative of the Casa in Cádiz (1535); a fiscal lawyer (1546 — to protect the interest of the royal treasury); another cosmographer (1552 — to teach cosmography); a legal advisor (1553); a president (1579); and two official lawyers (1583; a third lawyer was appointed in 1593). The lawyers formed the newly established chamber of justice (1583); the other officials remained as members of the chamber of government. In 1588 the crown appointed a purveyor, in 1612 a treasurer; and in 1625 Philip IV appointed Conde Duque de Olivares life magistrate to the Casa […].

By the 1550s the Casa already provided salaried offices for research (focusing on the creation of royal sea-charts and the making of instruments), for sharing and disseminating that new information and instrumentation, for licensing pilots, and for monitoring the availability of jobs for those certified. Thus, the development of knowledge-producing structures, practices, and professionals was bound up in the building of empire. How this process of institutionalization occurred is quite revealing with regard to the means by which scientific knowledge became part of the expansion and solidification of empire.

Examining Pilots

[…]Soon after arriving in Spain, Ferdinand reorganized the administration of Castile's holdings in the Indies. In addition to appointing the bishop Juan Rodríguez de Fonseca (1451–1524) and the royal secretary Lope Conchillos to oversee the general administration of the Indies, Ferdinand appointed Amerigo Vespucci (1454–1512) as the first chief pilot of the Casa on March 22, 1508 […]

The duties of chief pilot included the examination and approval of pilots as well as the elaboration of the master sea-chart, called a royal portolan, from which particular sea-charts had to be drawn. These functions defined the kind of knowledge the Casa would develop and emphasized the transformation of pilots into efficient imperial agents through their training and examination. Over time these functions would be ascribed to the Casa directly, as an institution, rather than to the chief pilot as a person.

Pilots' lack of knowledge in the use of instruments caused "many ill services to us [Ferdinand] and great harm to the merchants of the Indies." Vespucci himself experienced the dangers of pilots' ignorance in cosmography. During one of his voyages, in 1501, his ship was lost after a storm, and none of the pilots or mariners knew where they were for some fifty leagues. Vespucci took out his quadrant and astrolabe and found their position. In 1512 the crown ordered Vespucci to examine pilots in the use of the quadrant and astrolabe and to instruct them so that pilots could "bring together the practice and theory [*junta la platica con la teoria*]" of navigation […].

The Chair of Cosmography

[…] With the addition of the chair of cosmography and the statutes of 1552, the structure of the Casa's chamber of knowledge was complete. The statutes of 1552 codified the following practices: examination of pilots had to take place only at the Casa, before royal cosmographers and regular pilots, and certification was granted by a majority of votes from those present at the examination. Examinees needed to have six years of practice in navigation and knowledge of the theory of navigation. Furthermore, the chief pilot could neither instruct nor sell instruments and charts to prospective examinees, so that no conflict of interest could arise. Finally, the chief pilot, cosmographers, and pilots were entrusted with the crucial task of emending the royal sea-chart together.

The statutes established various offices and laid out rules for training and certifying pilots, procedures for hiring professionals, and methods for research, creating a center of navigational information. As the American enterprise grew, the activities of the Casa's navigational center became more specialized. First in stature and authority was the chief pilot, as a supervisor of pilots and instruments; next came the cosmographer of instruments, himself a product of the Casa's needs to improve and design instruments for navigation. Finally came the cosmographer-lecturer, who instructed pilots in the art of navigation and cosmography. The Casa's center of navigational information became the place to normalize and institutionalize knowledge and practices according to the political interest of the crown and merchants. As mentioned above, this coincided with a shift in Spanish policies in both the New and the Old World: a shift in the 1550s toward the consolidation of Spanish power in the Atlantic and in the Mediterranean.

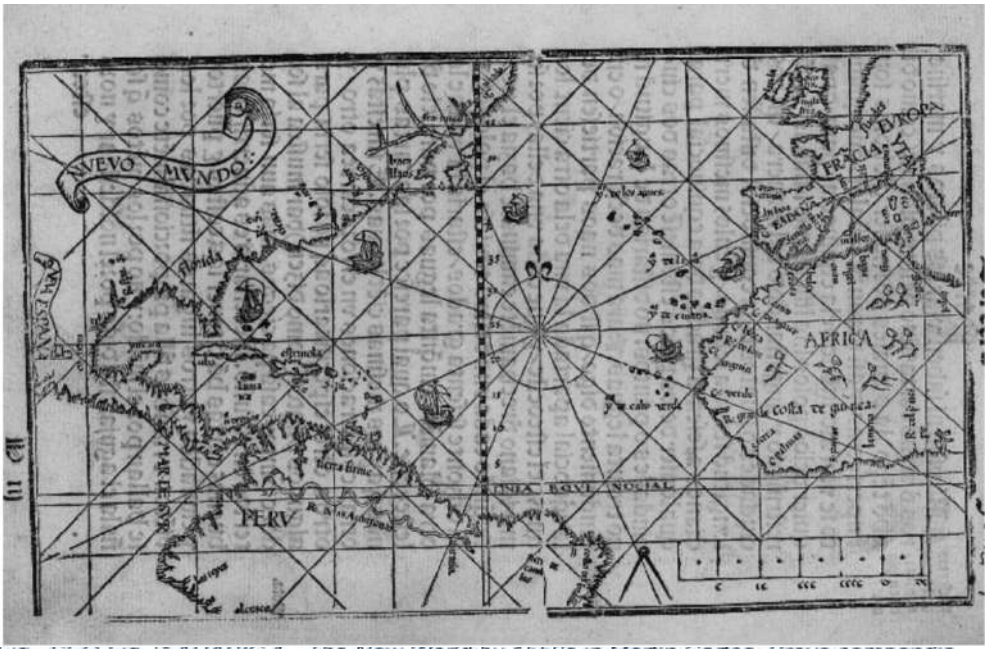


Fig. SEQ Fig. * ARABIC 1 - The New World by 1550s in Martin Cortes, Breve compendio de la sphera (Toledo, 1551). John Carter Brown Library at Brown University. In : Barrera-Osorio, Experiencing Nature, p.48.

The long-distance control of the New World was dependent upon the mapping and control of the Atlantic Ocean (Fig. 1). The political and economic needs of the Spanish empire — to extract resources from the New World — created a context in which the production of knowledge served to transform human and

material resources into agents and tools of imperial domination. The mechanisms for collecting and disseminating this knowledge were institutionalized at the Casa de la Contratación over a period of fifty years. The establishment of this chamber of knowledge facilitated contacts and negotiations between the agents of the new navigational practices on the one hand and the agents of traditional practices of navigation on the other. These contacts, however, were full of tensions.

Negotiating New Practices

The relationship between formal education and personal experience — in other words, the relationship between theory and practice — became a particular area of concern for all the groups engaged in the exploration and exploitation of the Indies. During the sixteenth century, those with experience in the American enterprise claimed over and over again that their knowledge was more certain and truer than the knowledge of people who had never been there. In the case of pilots, the tensions were particularly intense. Pilots emphasized the role of personal experience and offered a strong counterargument to the royal officials' emphasis on theory. Some royal officials, however, did support them. In 1548 a royal official named Hernández went to the Casa de la Contratación to find a new chief pilot to replace Sebastian Cabot. Hernández wrote to the king that he had been unable to find an appropriate candidate because no one fulfilled the conditions of having both experience in navigation and a good foundation in cosmography. Because he needed to suggest a candidate anyway, Hernández decided that he preferred those with experience over those with "letters."[…].

The 1578 investigation into instruments and pilots' ability to use them shows how difficult it was for the crown to impose new navigational techniques on its pilots. The difficulties, however, were not related to in- efficiency on the part of the Casa officials, but rather to the particular understanding of the pilots' own navigational activities. Simply stated, they emphasized practice over theory. Against the crown's position that long-distance control of the New World was more efficient and more productive, if based on instruments and cosmography, pilots maintained the sufficiency of their own experience and their art. The crown hired and supported experts and people with direct experience in the American enterprise, either merchants living there or pilots running the ships; but the crown also wanted to discipline that experience. It was in the disciplining of experience that the crown found opposition despite its efforts […].

Instruments and technology slowly became integral elements in the economic and political development of New World communities. The establishment of these communities would have been impossible without ships, charts, and compasses. The establishment of economic activities and communities depended not only on the ecological transformation of the New World and reports but also on the development of technology and instruments for exploiting natural resources, from silver to oysters and dyes.

Ethnographic Mapping in the Renaissance

In: *Surekha Davies, Renaissance Ethnography and the Invention of the Human. New Worlds, Maps and Monsters, Routledge, Cambridge University Press, Cambridge, 2016*

Mapping Human Variety

The Renaissance world map placed information about the world's peoples within a two-dimensional grid in which the location of cultures was fundamental to understanding human variety. As mapmakers increasingly used the latitudinal and longitudinal coordinate system of the second- century CE Greco-Egyptian geographer Ptolemy's *Geographia* for their world maps and atlases, the relationship between geography, climate and humans became more precisely intertwined. Since geography was thought to influence human customs, temperaments and physiques, placing ethnographic images within a gridded spatial system was tantamount to providing viewers with a shortcut for extrapolating the civility of a people.

New mapping techniques and oceanic expansion prompted scholars and artisans to rethink the boundaries of the human. Readers versed in classical humoral theory expected extreme environments to cause the degeneration of humans into peoples who were physically or behaviourally monstrous. In works of natural history, ancient authors such as Pliny the Elder had argued that regions to the far south and east of the Greek world had such hostile climates that they engendered monstrous peoples.

Iconic map illustrations and captions delineating peoples of the world effectively made epistemological claims about the proper way to make ethnographic knowledge, and ontological ones about the concept of the human and the boundaries between humans and monstrous peoples. The maps' illustrations emblematized what a region's people had in common and what made them distinguishable from those of other regions. Mapmakers across regional cartographic traditions – from Amsterdam to Seville – shared certain visual codes, as we shall see. By selecting and devising images, mapmakers did not merely reflect the ethnographic and natural historical contents of their sources, but also constituted it in new ways. Mapmakers' map inscriptions, atlas prefaces and other writings illuminate how readers were expected to decode the imagery, thus establishing an interpretative collaboration between mapmaker, illustrator, commentator and viewer […].

Geography, Environment and the Colonial Project

In the history of the development of analytical languages for understanding other peoples, the issue of geography was paramount. For European readers in the sixteenth and early seventeenth centuries, human variety was a function of place, a tenet that took on a visually persuasive form on illustrated maps. Interpretative cruxes that emerged – the fact that Amerindians at the same latitude as Ethiopians were not black, for instance – raised questions about whether social customs could affect mental capacities, and, by implication, the likely impact of American climates on European settlers.

Geographical discourses about the nature of the peoples of the Americas informed scholarly and juridical reflections on how the New World should be administered. In order to better understand the colonial enterprises of the early decades of European oceanic expansion, we need to pay attention to changes to the intellectual foundations of colonialism and expansion across multiple European states in response to colonial experiences. This book contributes to scholarship on the nexus of climate, geography and colonialism by showing how geographical thinking underpinned by maps shaped ideas about indigenous bodies and temperaments. These issues were of paramount importance for safeguarding the continuing health and civility of European colonists and their descendants. Multiple epistemologies of ethnology and geography – crucially shaped by maps – fed wide-ranging debates about the justifications for conquest, colonial policies and the methods of proselytizing to different peoples.

A central topic of this book is the impact of maps on viewers' perceptions of human diversity. I argue that maps contained visual codes that made claims about the civility/barbarism of the communities they mapped, claims that had implications for subsequent cultural encounters and, to an extent, for colonial administration. Imperial officials, particularly those based in European metropolises rather than in the field, were dependent on the information in circulation. Renaissance scholars like the former Jesuit Giovanni Botero argued that multiple approaches were needed to Christianize heathen peoples with different levels of civility. A glance at a seventeenth-century Dutch map speckled with peoples of contrasting attributes would also suggest that successful evangelization and colonization required a plurality of approaches. Maps offered statesmen and scholars what one might anachronistically call a panoptic view on the world […].

Harnessing the eyewitness: artefactual epistemology and science as a visual pursuit

Just as humanist philologists, theologians and historians needed to develop methods for evaluating information in a text without relying on its (often long dead) author's reputation for truth, Renaissance mapmakers needed to develop methods for selecting reliable information from travellers' accounts, and to convince their own readers of their authority. Mapmakers developed what we may call an artefactual mode of testimony, one which fused ethical and epistemic modes of 'being there' with the mode of synthesizing multiple sources into a particular type of artefact. Maps containing images of distant peoples were thus embedded with a distinct ethnographic authority […].

While the emergence of authenticating institutions for methods of seeing, documenting and processing empirical information are of course important in the history of science, also vital for the construction of socially acceptable knowledge were the processes by which the experiences of eyewitnesses were synthesized, transformed and re-circulated by non-witnesses. In their classic work of historical sociology, Steven Shapin and Simon Schaffer analysed the nature of experiment, its intellectual products and their reception through the case study of knowledge-making practices surrounding the air-pump in the seventeenth century. One might say that Renaissance mapmakers who consulted travel literature were examining the results of empirical activity in the form of geographical forays into regions that had yet to be mapped by Europeans. Maps were intellectual products that could legitimate the experimental process of travel.

Thick Descriptions of Strange Things: Thinking with Maps and Monsters

[…] The sixteenth century saw the rise of debates about the nature of the peoples in the Americas as travellers, humanists, editors and publishers attempted to parse Amerindian peoples in relation to monstrous peoples and human beings. The question of whether monstrous peoples were human, a matter of some hermeneutic anxiety in the Middle Ages, moved from the world of theory to that of empirical inquiry during the Renaissance. A history of European representations of distant peoples must thus also incorporate the history of shifting collective perceptions of the concept of the human and the nature of its boundaries […].

Attempts to understand the causes of monsters were efforts to understand physical and cultural differences among people, and have a very long history. In the Middle Ages, commentators frequently drew causal links between physical monstrosity, faith and lifestyle. In the late-thirteenth century Christian history Cursor mundi, four dog-headed, dark-skinned Saracens are physically transformed when they beg to see the wood that would become the True Cross. Not only did their skin become ‘white as milk’, but ‘their shape was entirely made new’. In other words, the distinction between monster and human could be conceived as one of active choice, in the manner of Adam and Eve’s fall from grace, rather than a fixed category.

Another tradition posited extreme climates as the cause of monsters. This too raised problems for the stability of the human: what might happen to colonists and their descendants in a region whose climate had brought forth monsters? Each point on the human–monster graph performed different cultural work. The blurriness of the human–monster boundary could be cause for optimism; a civilizing or evangelizing mission, for example, might well eradicate monstrosity, as proper belief and behaviour wrought a physical transformation on monstrous peoples.

3. Ruling and Exercising Power with Maps

Administrating the Land in Tokugawa's Japan

In: *Marcia Yonemoto, Mapping Early-Modern Japan. Space, Place and Culture in the Tokugawa Period, University of California Press, Berkeley and Los Angeles, 2003.*

Although administrative mapmaking became a standard practice only in the Tokugawa period, maps have been used as tools of governance throughout Japan's recorded history. Evidence shows that Japan's early imperial governments began ordering provincial governments to submit cadastral maps in the seventh century. At about the same time the imperial court initiated the compilation of gazetteers, or *fudoki.*3 Sometime after 745, the legendary Tendai priest Gyo ̄ki (688–749) is said to have mapped the entire country after traveling its length and breadth gathering alms for the building of the To ̄daiji in Nara. In the medieval period, the military governments (shogunates) used maps to adjudicate land disputes on private estates, or *sho ̄en.* And in the late sixteenth century, Oda Nobunaga began surveying lands under his control, a process continued much more extensively and systematically by Toyotomi Hideyoshi; the latter also began to map his lands for purposes of administrative control, albeit in a limited manner.

External influences also shaped mapmaking practice. World maps and globes brought to the archipelago by European missionaries and traders in the late sixteenth century may have inspired the Tokugawa to remap Japan in its entirety. Certainly the ongoing influence of cadastral mapmaking by the Chinese imperial state, with its syncretic mixture of ritual and administrative functions, shaped the content and form of Tokugawa official maps. Under the Chinese imperial state, the ordering of territory through mapping and the writing of gazetteers went hand in hand with cosmic ordering of the heavens discerned through astronomy and astrology. Both Chinese and European models combined with Japan's indigenous geographic and cartographic legacy to bequeath to the early Tokugawa shogunate the motives and the methods for mapping its realm. The Tokugawa in turn built on these precedents but took them to new heights by transforming mapmaking into a systematic and ritualized practice.

The Tokugawa government generated five complete sets of provincial maps *(kuniezu)* and from this and other data compiled four maps of Japan *(Nihon so ̄zu)* in the course of its long reign. The provincial mapmaking projects were begun in 1605, ca. 1633, 1644, 1697, and 1835. Two maps of Japan were likely made in the 1630s (neither is extant), a third was completed in 1670, and the fourth was completed in 1702. The shogunate also made maps of cities and castles. The available evidence seems to suggest two very different narratives of official mapmaking under the Tokugawa shogunate. One narrative emphasizes innovation: it sees maps as a novel form of the exercise and display of power by a regime seeking to stabilize and extend its rule in unprecedented ways. The other narrative emphasizes continuity: the Tokugawa elaborated upon existing cartographic and geographic practices and, like its predecessors, saw the exercise of its political authority as necessarily limited by competitors for power (in the case of the Tokugawa, these competitors were the daimyo). The most likely scenario, if the more complicated one, lies between these two poles.

In the case of provincial maps, it is true that the shogunate attempted, and in part succeeded, in gradually increasing its direct control over the administrative mapmaking process. In general, the shogunate seems to have used its mapmaking projects as one of many forms of indirect control over the daimyo. Its repeated demands that daimyo make and render to the government detailed local maps and cadastral records compelled the daimyo to expend time, energy, and financial resources to provide the shogunate with valuable geographical information. More- over, from 1605, when the shogunate first issued edicts to the daimyo to submit cadastral registers and "maps of all the provinces" *(kuni-guni no chizu),* through its last large-scale mapping effort in the Tenpo ¯ era (1830–44), the shogunal government steadily increased its investment of resources in its mapmaking projects.

The first provincial mapmaking edicts of 1605 were confoundingly vague, requiring only that each map contain a clearly written notation of the productivity (in rice) of each district, or *gun,* and that it depict the provincial *(kuni)* boundary. In response to the confusion this caused the shogunate dispatched its own inspectors *(junkenshi)* to supervise the collection of data and the making of maps for the second round of pro- vincial mapping in the 1630s. It also put some of its highest-ranking officials, the *ro ¯ju ¯* (senior councilors), in charge of collecting the finished maps. For the third provincial map project in the Sho ¯ho ¯ period (1644 – 48), two shogunal police inspectors *(o ¯metsuke)* were charged with crafting detailed instructions and standards for the making of maps; in all, more than a dozen regulations specified the content and structure of the new maps and registers, and a fixed scale of measurement was established: six *sun* on the map was to equal one *ri* on land or sea.

Moreover, in addition to the provincial maps and their accompanying land registers, the bakufu also requested in the Sho ¯ho ¯ edicts the submission of castle maps *(shiro ezu),* which were to include detailed information on the size of each enceinte, the depth and width of moats, and the topography immediately surrounding the castle. The shogunate's fourth provincial mapping project, which began around 1697, took five years and resulted in the collection of eighty-three maps. It was overseen jointly by a quartet of powerful officials: the *o ¯metsuke,* the *jisha bugyo ¯* (magistrate of shrines and temples), the *machi bugyo ¯* (city magistrate of Edo), and the *kanjo ¯bugyo ¯* (finance magistrate). To further regulate the process, the shogunate also established a map clearinghouse (ezugoya) in Edo for the inspection of all maps and cadastral registers. Finally, in the Tenpo ¯ era the shogunate attempted to manage the mapmaking process directly from start to finish, requesting that daimyo submit only the productivity figures for villages in their own domains; shogunal officials would then calculate the overall productivity figures and construct the maps themselves.

This portrait of steadily increasing shogunal control over the provincial mapmaking process, however, obscures the recurring problems the shogunate had in getting daimyo and other local officials to comply with its orders. These conflicts stemmed from the fact that, in most cases, provincial boundaries did not correspond to domain boundaries; provinces usually were comprised of several domains or, less frequently, a single daimyo oversaw territory in more than one province. Because of this, the making of provincial maps often required the cooperation of several daimyo and cadres of local officials, and disagreement among them over province, domain, or district boundaries was not infrequent. For example, during the making of the Sho ¯ho ¯ *kuniezu,* the shogunate admonished officials in Saga domain not to provoke their neighbors into conflict over boundary issues. In Bizen and Sanuki provinces, the domains of Kagoshima and Shiogama argued over possession of three islands located between them, in the Inland Sea. The shogunate finally had to intervene, awarding the islands to Bizen. A dispute between domains in Bungo

and Higo provinces provoked officials from those domains to lead a procession of local people all the way to Edo, where shogunal officials in charge of the mapmaking project were compelled to hold a special hearing to adjudicate the matter.

But more often than not, mapping failed to resolve boundary disputes, and contested territory appeared on the provincial maps as "disputed land" *(ronchi).* In the Genroku period, in order to forestall further disputes, the shogunate identified provinces comprised of more than one domain and ordered the daimyo in these provinces to submit geographical information concerning provincial, district, and village names directly to the province's map intendant, who would presumably rectify the ambiguous boundaries on his own. Despite this measure, however, eighteenth-century local records show that the provinces of Chikuzen, Higo, and Iga had, respectively, six, eight, and five ongoing boundary disputes. Of these nineteen disputes, only five were settled at the time the Genroku *kuniezu* were being made. One of the six disputes in Chikuzen involved a ten-kilometer stretch of the boundary di- viding Chikuzen and Chikugo provinces and Akitsuki and Kurumae domains. This conflict proved so intractable it took the shogunal courts until 1854 to finally resolve it […].

As fitful as the evolution of the shogunate's efforts to map the provinces was, the Tokugawa nevertheless managed to produce the most comprehensive and detailed local administrative maps and cadastral records ever made by a Japanese government, military or imperial. In addition to this significant accomplishment, the shogunate also drafted at least four large-format maps of all Japan. Judged solely in technological terms, these maps are quite flawed; errors in surveying and drafting caused significant skewing of the outlines of the main islands of the archipelago. From the perspective of political symbolism, however, the maps succeed in conveying in bold and dramatic fashion the broad geographical and political dimensions of the "Tokugawa peace." More than anything, they are testaments to the ambition and imagination of the early Tokugawa rulers who were able not only to conceive, but also to construct maps of such unprecedented detail, size, and scope. Indeed, as we shall see, the impressive appearance of the map of Japan, combined with the relative simplicity of its representational scheme, contributed to its utility for both official and commercial mapmakers.

The map most scholars agree best represents the first attempt to comprehensively map Japan is the so-called Keicho¯ map, begun in 1605, completed around 1639, and revised in 1653. It is notable for several characteristics that would serve as the template for all the shogunate's later maps of Japan: it is huge, measuring approximately twelve by four- teen feet, and shows the islands of Honshu, Shikoku, and Kyushu. The most visually dominant geographical entity is the province, each of which is set off by the use of color. Sea routes, rivers, roads, castle towns, post stations, and harbors also appear on the map, as do traveling distances by land and sea. Place-names of individual villages and towns, however, are few.

Later maps of Japan compiled by the shogunate in the 1670s and in the early eighteenth century extended the boundaries of the realm to include parts of the northernmost island of Ezo, and shortcomings in surveying and drafting were also corrected. But precision was not as important as symbolism in determining the workability of the map. Magisterial in their sweeping visions of an integrated polity, the shogunate's maps of Japan constituted a splendid, if largely invented, image of the seamless unity of a country that in actuality was quite profoundly divided by regional, administrative, class, and status differences. In great part because the shogunate was remarkably laissez-faire in controlling access to its

maps, the shogunate's view of Japan influenced the work of artists and mapmakers who copied and emended administrative maps for commercial publication; in this manner, official maps shaped the geographic imagination at large.

Although the dissemination of map images to the reading public was not part of the shogunate's original agenda, the transformation of the map from local administrative tool to a replicable "logo" of a unified polity was the Tokugawa shogunate's most durable legacy to early modern mapmaking as a whole. The shogunate's attempts to envision the ideal polity effectively—if unintentionally—spread map images and mapmaking techniques throughout the realm, where they were adopted and adapted in ways the government could not have foreseen.

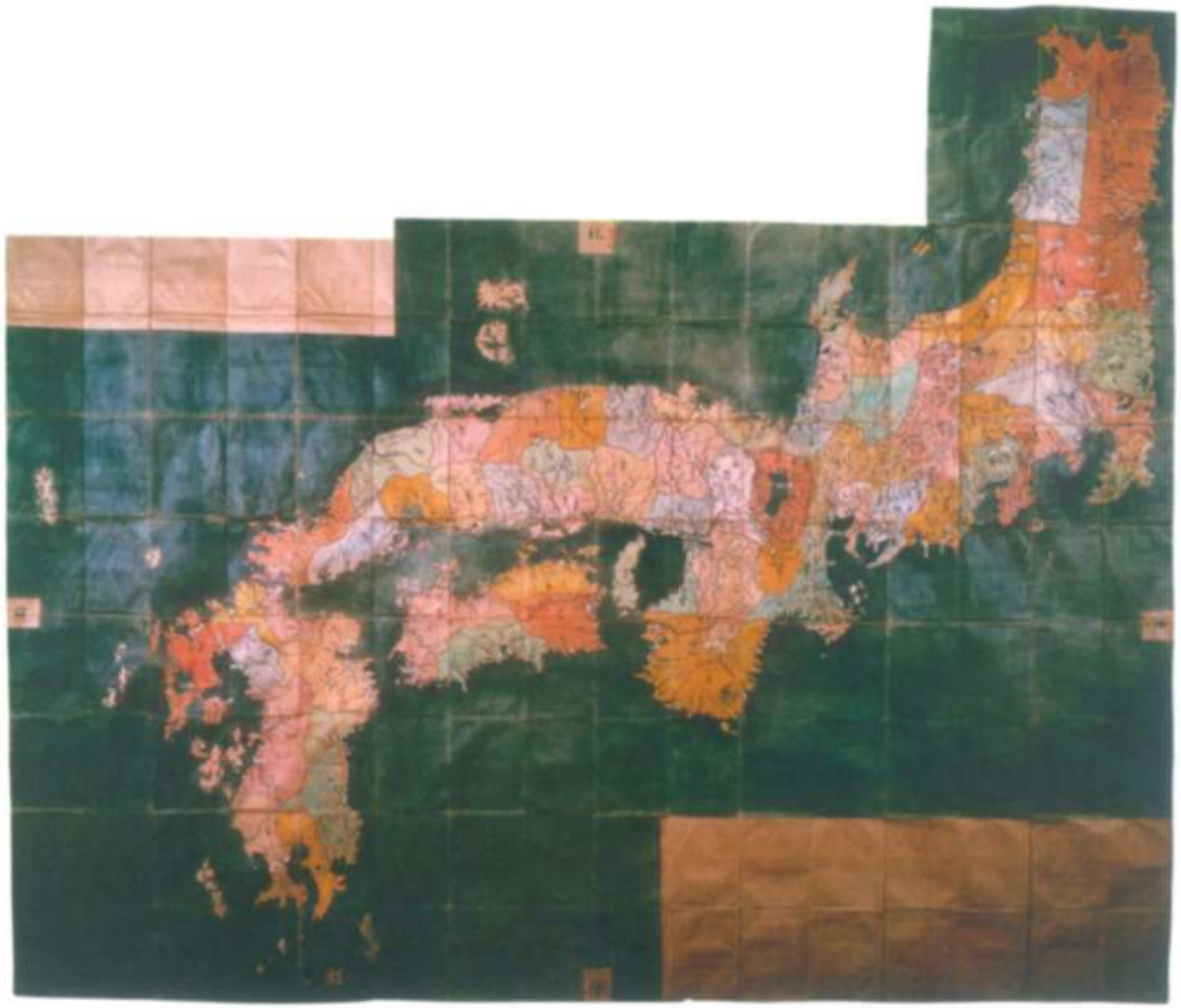


*Fig. SEQ Fig. * ARABIC 6 - Keichō Map of Japan, ca. 1653. National Diet Library, Tokyo. In Harley and Woodward (eds.), History of Cartography, Volume 2-2, Plate 26.*

Maps and Territorial Claims in Muscovy

In : *Valerie Kivelson, Cartographies of Tsardom, The Land and Its Meanings in Seventeenth-Century Russia, Cornell University Press, Ithaca, 2006*

PLATE 3. RGADA, f. 1209, Aleksin, stlb. 31494, ch. 1, l. 115. Fanciful trees dominate this vision of wilderness from Russia's southern frontier. Trees point in all directions, adding to the disorienting impression of the wild forest. Human settlement is evident only on close examination. This map was made by (or on order of) the governor of Iaroslav-Maloi, Lazar Lavrov, in 1671 in conjunction with a lawsuit over the *pustoshi* claimed by both Gur Chelishchev and Dorofei Basov.

Disorder and uncertainty characterized not only claims of ownership but also essential issues about the land itself. Definitions of property, locations of holdings, and boundaries between property and wilderness were all unclear and unresolved. Naming and bounding particular bits of land were tremendously important and dauntingly difficult in the chaotic conditions of the Russian landscape, where human disorder and natural boundlessness combined to defy efforts at organization or precision. Some maps from regions along the southeast frontier of the Muscovite empire illustrate this disorder particularly vividly. The tiny settlements are scarcely detectable amid the wildly exuberant surrounding forest in a fantastical 1671 map from Maloiaroslavkii Province (Plate 3). Nature constantly encroached on human boundaries; and boundaries shifted. Marking them in the ever-changing, ever-shifting natural landscape required enormous energy. Active policing and monitoring were needed to guarantee the Perpetuation of frail human markers amid the vastness of nature.

In the seventeenth century, indefiniteness of proprietary and natural boundaries was a constant irritant to Muscovites of all social stations, from landed magnate to petty landholder, from state administrator to enserfed peasant. Muscovites sought out available plots of land, litigated for ownership, regulated ownership and proprietary rights. They seized one another's fields and erected, removed, and replaced

boundary markers. To consecrate their boundaries they invoked the powers of sacred images, and to preserve their fields and pastures they fought back the creeping onslaught of forests and swamps. Trial transcripts and judgment charters, which survive in the many thousands, vividly illustrate the intensity of on-the-ground practices of claiming, contesting, legitimizing, delineating, and enforcing use and ownership of immovable property. The hundreds of painted maps from real-estate trials complement the written records and graphically depict contemporary notions of human geography. The maps imposed boundaries on properties sharply and unproblematically. Disorder gave way to neatly ordered clarity. Maps show properties as bounded entities, with no blurring or melding, no overlap, no open-ended vagueness or question marks. From the muddle of conflicting claims, mapmakers drew an orderly vision of distinctly bounded properties. At the same time, and as part of the same process, with their sharp ink outlines they set off property, that is, real estate that was owned and worked, from the vast contiguous woods and steppes that made up the Russian land. The striking contrast between the tidily ordered, clearly marked and differentiated world of the maps and the patent dis- order that reigned in Muscovite landholding practices provides the starting point for this chapter […].

Empty Lands

Confusion over names and locations of properties indicate the some of the difficulties that Muscovites faced in defining and delimiting pieces of that wide, flat, homogeneous land. Conflicts over the kinds of land in question, the categorical rubric under which they should properly have been classed, point to an even more significant difficulty that Muscovite property holders and officials confronted, and that was the overwhelming, haunting problem of emptiness. In adjudicating debates over populated villages and hamlets, officials had an easy route to resolution: they could ask the in- habitants who collected their rents and dues […]. In the case of uninhabited or unclaimed land, the story was quite different. Who knew?

The vast majority of properties mentioned in seventeenth-century sources were *pustoshi,* uninhabited but plowed, or formerly plowed and settled, plots. […] In North America, the signal emptiness of the land could help justify European conquest of virgin territory, a con- quest that would have been more difficult to rationalize if the indigenous population had been move overtly acknowledged. In the Russian context, however, emptiness was a problem, not a solution. […] This unsettled, unmarked territory created uncertainty and anxiety and called out for litigation. Empty land produced chaos […].

Mapmakers used visual symbols to differentiate abandoned from actively settled spots. Maps distinguish inhabited villages from the ghost towns of *pustoshi* by sketching in houses and churches in the living settlements. *A pustosh'* site that had once been hallowed by a church was marked by a haunting image of an empty cruciform, bearing the inscription "Church site that used to be the church of St. Nicholas the Miracle Worker." In this map, the church, so powerfully signified in its absence, is surrounded by a dilapidated cemetery "and many stones," which adds to the spectral alternation of absence and presence.

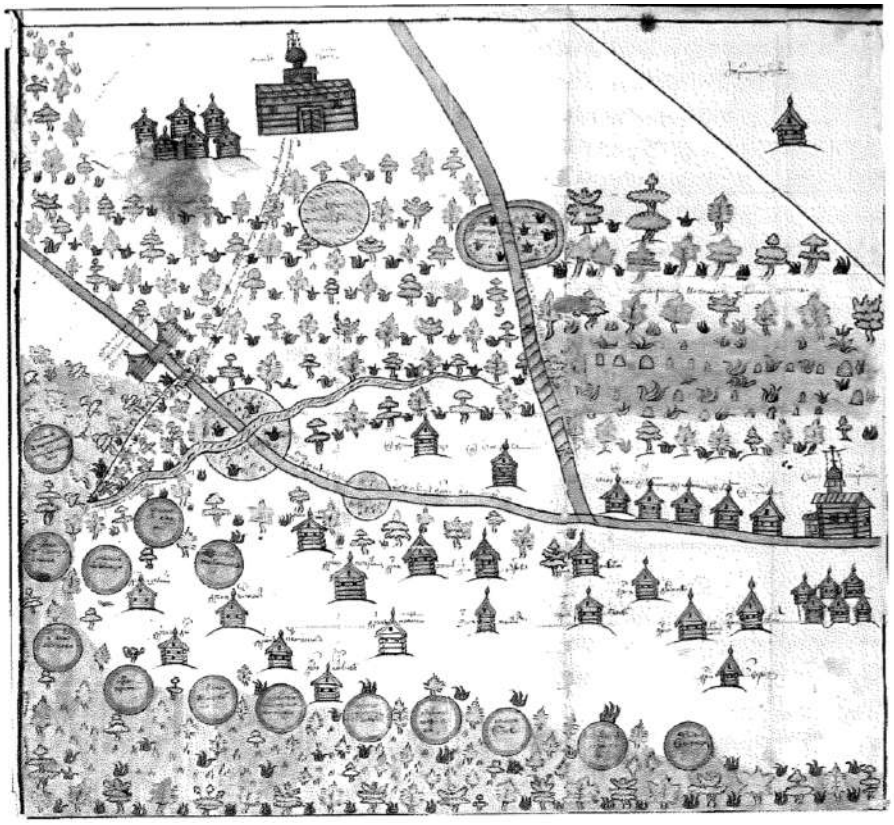


PLATE 7. RGADA, Uglich, stlb. 35626, ch. 1, l. 77 (1692). In this map villages, indicated each by a single wooden house, sit among *oselki*, an alternate term for "*pustoshi*." Whereas the houses and people attest to the villages, the uninhabited fields have to be defined through circles. The map is signed on the back by "Fedka Stepanov, townsman of Mologda, in place of the local elder Siluian Mikhailov and all the residents of the taxpaying commune."

Using corresponding visual imagery, the maps support the notion that meaningful divisions of land had to differentiate dearly among various kinds of land as well as among various owners. The mapmakers sharply delineated properties. They labeled each bit dearly and distinguished it from the surrounding landscape. The mapmakers frequently employed rightly dosed circles to denote different kinds of spaces, spaces hallowed by human usage or settlement, marked as distinct from the unmarked spaces of the surrounding territory (Plate 7) […].

In Muscovy, boundaries of regional units and estates demarcated and enforced a highly spatialized human topography. Individuals and categories of people were inscribed in a landscape of belonging. Mapmakers sketched outlines of belonging, showing which land belonged to whom. Especially in maps of urban locations, mapmakers carefully distinguished lands held by different collectivities: gunners, musketeers, postal servitors, Cossacks, townspeople, monastic servitors, and gentrymen. The distribution of properties in intermingled strips, sometimes with indications of mixed possession, gives a fascinating snapshot of the way that social and service position was mapped spatially onto the urban landscape […]

Peasants and the Land

Peasants had a vital stake in the resolution of their landlords' property disputes. As agriculturists they had a direct interest in holding onto and protecting the land from which they drew sustenance. They were as involved as their masters, or more so, when neighboring peasants seized their fields, crushed their growing grain and hay fields, or stole their harvested grain and hay. In general peasant witnesses, the "local and neighboring people, elders, trustees, bailiffs, and peasants," demonstrated a keen awareness of the property rights of those who worked the land. Although peasant voices are heard in real-estate cases only in support of one or another landholder's claim, the peasants were deeply invested in the outcomes. […] In this way the

peasants could, or were thought to, shape their testimony to suit their own interests. While they might resent their landlord's impositions, they nonetheless had a blear stake in preserving or even extending his borders. The more land he controlled, the more land they had to farm. Their rights in property and his were simultaneous and mutually reinforcing. Hence the peasants dwelling on a particular plot of land and their neighbors had strong reasons to structure their testimony one way or another […].

Muscovite landlords were rarely involved with the direct management of their estates. They were generally interested in the bottom line, their dues and taxes, not in the details of land use and management, which they left to their bailiffs and the peasants themselves. Given the hands-off managerial style of many seventeenth-century landlords, peasants could easily consider their land more or less their own, while still acknowledging the proprietary rights of their landlords. Ownership of land was not conceived of as single, unambiguous, unencumbered, individual right. In their testimony, peasants expressed their concept of multiple, overlapping, and simultaneous degrees of ownership; and the courts listened seriously to their interpretations. Very frequently peasant witnesses identified both the "legal" and "actual" owners of the land […].

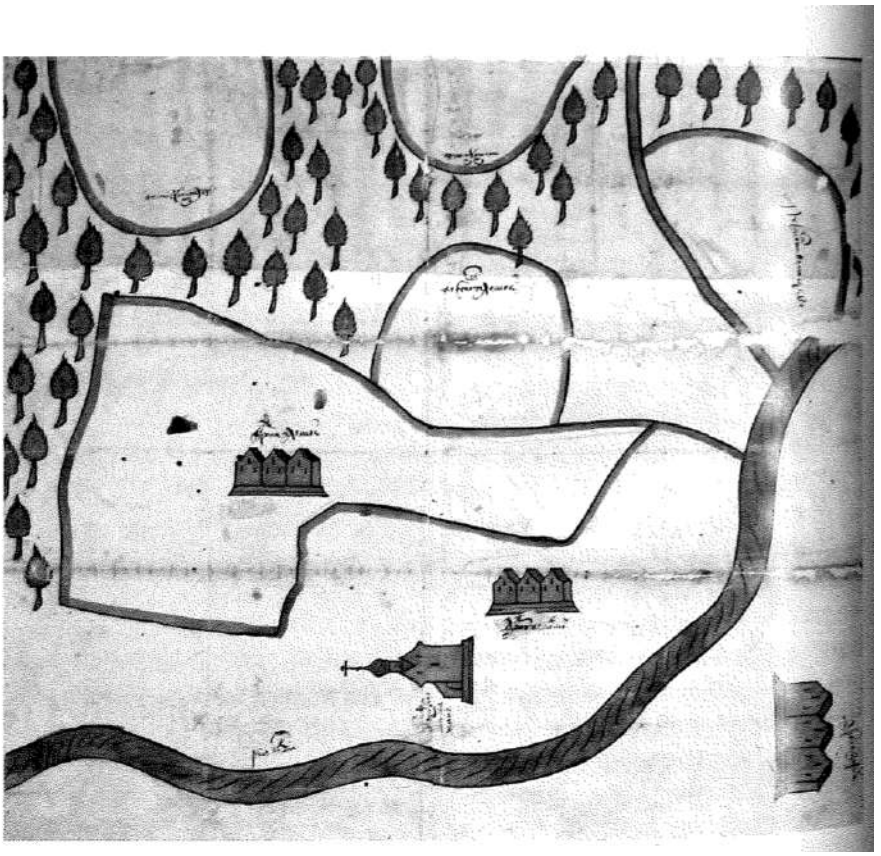


PLATE 11. RGADA, f. 1209, Uglich, stlb. 35741, lacks page numbers. In this 1678 map from Uglich, the *pustosh'* Ploskoe, the one in dispute, is in the middle, closest to the settlements.

The contrast between serfs, with a vested and durable claim in the land and its produce, and "slaves and hirelings," who had no ties to the land and exercised no effect on their masters' claims, helps clarify the significance of the maps' depictions of property, both landed and human, and ownership. In Muscovite sketch maps, peasant houses, consistently dominate the visual field. Together with trees and churches, oversized peasant houses command attention as the most arresting and significant images on the neaps. A 1678 map from Uglich, for instance, represents a marvelously simplified, schematic landscape, in which a few massive structures confer on the peasant residents a solidly, unbudgingly, established presence (Plate 11)[…]. The church and priest's house of the village of Shershavino and two other villages appear with quiet,

almost monumental bulk and simplicity, indicated by rows of three adjoining structures. The tiered platform foundations on which they stand contribute to the visual impression that these oversized structures are firmly planted on the land. Whether roughed in as rows of connected boxes, topped with triangular roofs, like rows of teeth, or charmingly rendered with architectural detail in three dimensions, decorated with wooden slats and ornamental windows and doors, peasant dwellings give life to the maps (. One after another, the maps depict a landscape in which landlords' houses are scarce or absent and peasant houses mark out zones of human habitation and agricultural labor.

These larger-than-life dwellings are not merely ornamental whimsies; they serve several important functions. Most concretely, after 1679, when a system of direct taxation levied per peasant household replaced an earlier taxation assessed on units of land, the presence of peasant houses on the land assumed practical significance. Their tax receipts, their testimony, and most particularly their homes served in an immediate way to solidify their landlords' claims as reputable proprietors of taxable, settled properties.

Less administratively interpreted, the closed circles of the real-estate litigation maps depicted both human and natural resources as tightly enclosed, confined. When filled with rows of houses the circles signify residential bastions and convey a sense of security and control. But maps also demonstrate the landowners' reliance on the testimony of their peasants and on their ability to bear witness to claims to possession.

As instruments of social control, the Muscovite maps were utterly toothless. They were, after all, sheets of paper lined with ink and daubed with paint. Unpublished, they did not even circulate but rather existed in one or two copies held by the authorities and perhaps by the interested parties. Symbolic reading is one thing; lived experience is another. In light of the persistent mobility of the Russian peasantry, maps proved as ineffective at keeping peasants in as at keeping rival claimants out. Legal wrangling and uncertainty persisted unchecked, as did peasant flight. In practice, the solid lines of the maps translated into far more permeable barriers. The late seventeenth century witnessed peasant flight of grand proportions, as the desolate emptiness of abandoned *pustoshi* in the Russian heartland testified. The impulse to map the elusive, shifting physical landscape of Russia may have derived as much from the urgent effort to enclose and confine an unstable peasant population as to delineate one plot from another or to mark the boundaries of settlement from wilderness, but it succeeded in none of these goals. If, as Soja states, "disciplinary power proceeds primarily through the organization, enclosure, and control of individuals in space," then Muscovy still had a long way to go before it would enjoy that disciplinary power to the fullest.

Although ineffectual in any immediate way, the maps contributed incrementally to the growth and hardening of serfdom, both by giving visual shape to its spatial order and, more interestingly, by expressing in visual and legal terms the reciprocal and shared relationship to the land that serfdom required. The maps depicted an idealized scenario in which boundaries were clear and social relations were fully embedded in the lay of the land. What that view accorded to the peasants was an active role in affirming landlords' titles to property, and a compelling claim to possess property in their own right. Entrenching the notion of peasants' rights to property in spatial terms, the maps expressed an underlying social logic that imbued the developing system of serfdom with legitimacy and prepared peasants by and large to accept the terms of their geographic immobility.

All figures taken from Kivelson, Cartographies of Tsardom.

4. A “Hidden Agenda” for Maps

Maps for Political Propaganda

In: *Mark Monmonier, How to Lie with Maps, University of Chicago Press, Chicago, 1991*

A good propagandist knows how to shape opinion by manipulating maps. Political persuasion often concerns territorial claims, nationalities, national pride, borders, strategic positions, conquests, attacks, troop movements, defenses, spheres of influence, regional inequality, and other geographic phenomena conveniently portrayed cartographically. The propagandist molds the map's message by emphasizing supporting features, suppressing contradictory information, and choosing provocative, dramatic symbols. People trust maps, and intriguing maps attract the eye as well as connote authority. Naive citizens willingly accept as truth maps based on a biased and sometimes fraudulent selection of facts.

Although all three manipulate opinion, the propagandist's goals differ from those of the advertiser and the real-estate developer. Both the advertiser and the political propagandist attempt to generate demand, but the advertiser sells a product or service, not an ideology. Both the advertiser and the propagandist attempt to lower public resistance or to improve a vague or tarnished image, but the advertiser's objectives are commercial and financial, whereas the propagandist's are diplomatic and military. Both the real-estate developer and the political propagandist seek approval or permission, but the developer is concerned with a much smaller territory, often uninhabited, and seldom acts unilaterally without official sanction.

Although both the real-estate developer and the propagandist face opponents, the developer usually confronts groups of neighboring property owners, environmentalists, or historic preservationists, whereas the propagandist commonly confronts a vocal ethnic minority, another country, an alliance of countries, an opposing ideology, or a widely accepted standard of right and wrong. Because propaganda maps are more likely to be global or continental rather than local, the political propagandist has a greater opportunity than either the advertiser or the real-estate developer to distort reality by manipulating the projection and framing of the map.

Cartographic Icons Big and Small: Maps as Symbols of Power and Nationhood

The map is the perfect symbol of the state. If your grand duchy or tribal area seems tired, run-down, and frayed at the edges, simply take a sheet of paper, plot some cities, roads, and physical features, draw a heavy, distinct boundary around as much territory as you dare claim, color it in, add a name- perhaps reinforced with the impressive prefix "Republic of" - and presto: you are now the leader of a new sovereign, autonomous country. Should anyone doubt it, merely point to the map. Not only is your new state on paper, it's on a map, so it must be real.

If this map-as-symbol-of-the-state concept seems farfetched, consider the national atlases England and

France produced in the late sixteenth century. Elizabeth I of England commissioned Christopher Saxton to carry out a countrywide topographic survey of England and Wales and to publish the maps in an elaborate hand-colored atlas. In addition to providing information useful for governing her kingdom, the atlas bound together maps of the various English counties and asserted their unity under Elizabeth's rule.

Rich in symbolism, the atlas's frontispiece (fig. 7.1, left) was a heavily decorated engraving that identified the queen as a patron of geography and astronomy. A few decades later, Henry IV of France celebrated the recent reunification of his kingdom by commissioning bookseller Maurice Bouguereau to prepare a similarly detailed and decorated atlas. Like Saxton's atlas, Le theatre Françoys includes an impressive engraving (fig. 7.1, right) proclaiming the glory of king and kingdom. In both atlases regional maps provided geographic detail and a single overview map of the entire country asserted national unity.

The spate of newly independent states formed after World War II revived the national atlas as a symbol of nationhood. Although a few countries in western Europe and North America had state-sponsored national atlases in the late nineteenth and early twentieth centuries, these served largely as reference works and symbols of scientific achievement. But between 1940 and 1980 the number of national atlases increased from fewer than twenty to more than eighty, as former colonies turned to cartography as a tool of both economic development and political identity. In the service of the state, maps and atlases often play dual roles.

Perhaps the haste of new nations to assert their independence cartographically reflects the colonial powers' use of the map as an intellectual tool for legitimizing territorial conquest, economic exploitation, and cultural imperialism. Maps made it easy for European states to carve up Africa and other heathen lands, to lay claim to land and resources, and to ignore existing social and political structures. Knowledge is power, and crude explorers' maps made possible treaties between nations with conflicting claims. That maps drawn up by diplomats and generals became a political reality lends an unintended irony to the aphorism that the pen is mightier than the sword.

Nowhere is the map more a national symbol and an intellectual weapon than in disputes over territory. When nation A and nation B both claim territory C, they usually are at war cartographically as well. Nation A, which defeated nation B several decades ago and now holds territory C, has incorporated C into A on its maps. If A's maps identify C at all, they tend to mention it only when they label other provinces or subregions. If nation B was badly beaten, its maps might show C as a disputed territory. Unlike A's maps, B's maps always name C. If B feels better prepared for battle or believes internal turmoil has weakened A, B's maps might more boldly deny political reality by graphically annexing C […].

Propaganda Maps and History: In Search of Explanation and Justification

Although propaganda cartography is probably not much younger than the map itself, the Nazi ideologues who ruled Germany from 1933 to 1945 warrant special mention. No other group has exploited the map as an intellectual weapon so blatantly, so intensely, so persistently, and with such variety. Nazi propaganda addressed especially to the United States presented a selective and distorted version of history

designed to increase sympathy for Germany, decrease support for Britain and France, and keep America out of World War II, at least until Axis forces had conquered Europe.

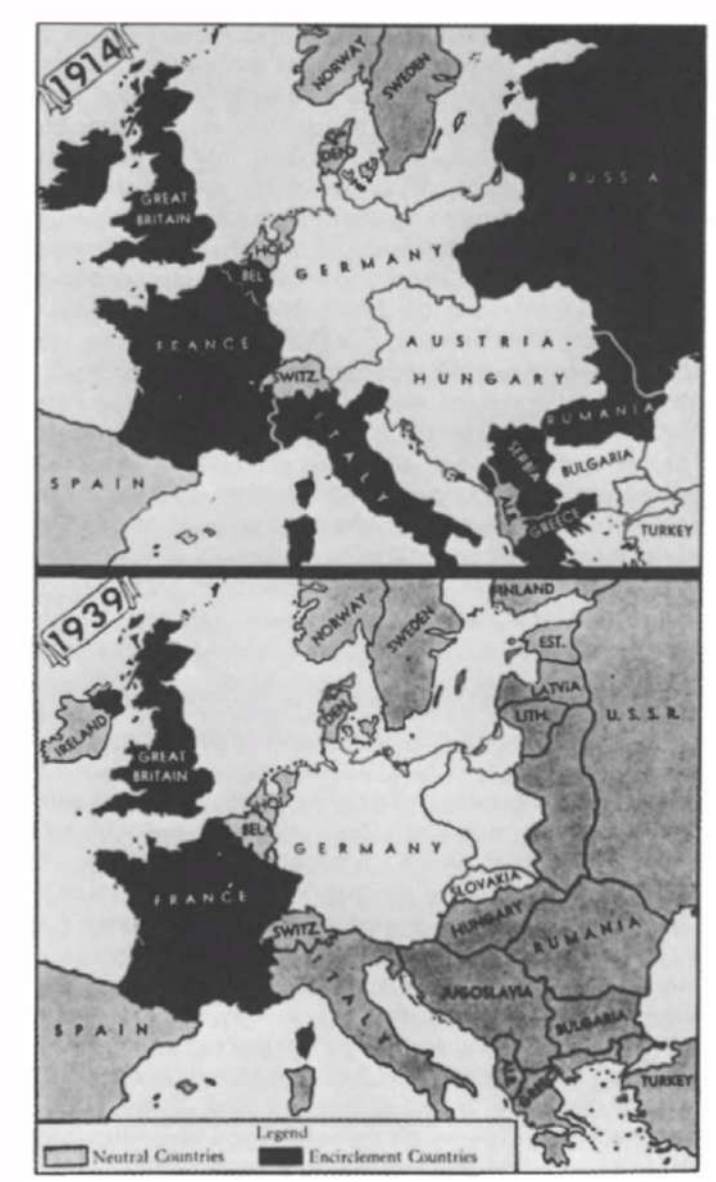


FIGURE 7 9. "Then and Now! 1914 and 1939" (*Facts in Review* 1, no 17 [8 December 1939] 1).

The examples discussed in this section are from a weekly news magazine, Facts in Review, published in New York City during 1939, 1940, and 1941 by the German Library of Information. The sympathy theme of Nazi cartopropaganda often recalled Germany's defeat in World War I - a humiliation followed by an economic depression that helped the National Socialists to power. Figure 7.9, which compared the German plight in 1914 with that of 1939, invoked a persistent anti-British theme.

These two maps formed much of the front page of Facts in Review for 8 December 1939. A caption to the left of the 1914 map noted the encirclement that "provided the necessary basis for Britain's successful Hunger-blockade," whereas the caption for the 1939 map alluded to Britain's failed attempts to repeat the encirclement and proclaimed that "the path of industrial and economic cooperation to the East and the Southeast lies open!" Note, though, that the 1939 map conveniently groups Germany's main allies at the time, Mussolini's Italy and Stalin's Russia, with Switzerland and other "neutral countries." In early 1941, another map attempted to explain and justify Germany's western advance against England into France, Belgium, and Holland by comparing Germany's strategic disadvantage in 1914 with the more favorable situation in 1940. […].

Other Nazi maps attempted to divert sympathy from Britain. Captioned "A Study in Empires," the charts in figure 7.11 compare the 264,300 mF on which Germany's 87 million in-habitants "must subsist" with the 13,320,854 mF that Britain, with only 46 million people, "has acquired." How can little Germany be the aggressor nation? the left panel asks. In contrast, the right panel suggests a note of greed in Britain's conquest of 26 percent of the world's land area. The map's caption sounds a further chord of grievance by noting that the British Empire "includ[es] the former German colonies." […].

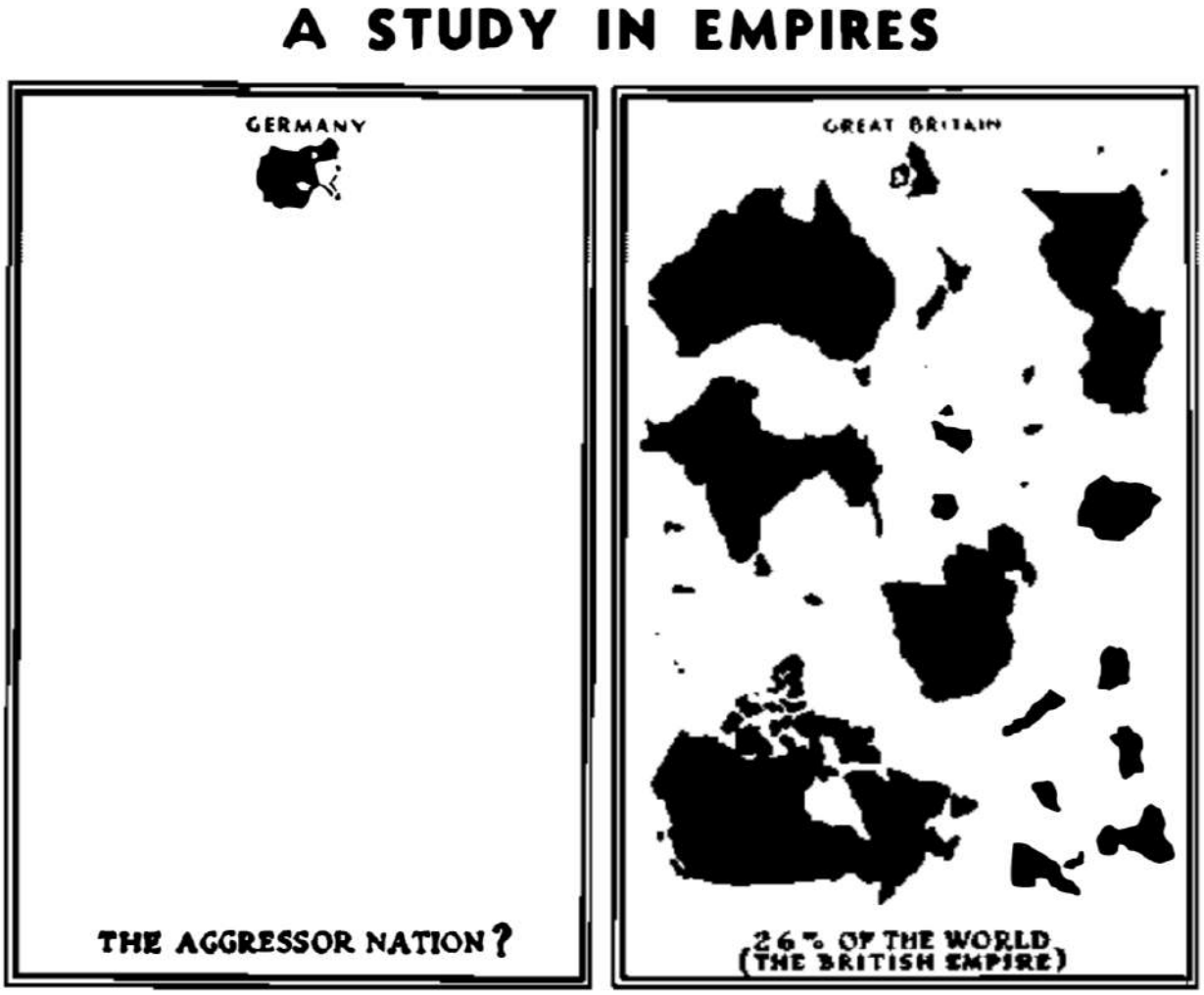


FIGURE 7 11. "A Study in Empires" (*Facts in Review* 2, no 5 [5 February 1940] 33)

Useful for representing one's opponents as the bad guys, maps can also advertise oneself as the good guy. Accompanying a story headlined "Repatriation: Background for Peace," figure 7.15 shows Germany the Peacemaker quietly reducing ethnic friction in the Baltic states by evacuating 80,000 to 120,000 Germans. As Facts in Review proudly observes, "Germany is not afraid to correct mistakes of geography and history." The map's pictorial symbols dramatize the repatriation by showing proud, brave, obedient Germans clutching their suitcases and lining up to board ships sent to "lead [these] lost Germans back home to the Reich." To the east in stark, depressing black looms the Soviet Union, and to the south in pure, hopeful white lies Germany.

In trying to persuade the United States to remain neutral, Nazi cartographic propagandists flattered both isolationism and Monroe Doctrine militarism. Titled "Spheres of Influence," [another map] uses bold lines to send a clear message to Americans: stay in your own hemisphere and out of Europe. Faintly resembling the lobes of Goode's interrupted projection, familiar to many students, the map also supported a geopolitical theater for Germany's Pacific ally, Japan. How successful the Nazi cartographic offensive might

have been is moot, for the United States entered the war on the side of England after Japan attacked Pearl Harbor, Hawaii, on 8 December 1941.

FIGURE 7.15. "Repatriation Background for Peace" (*Facts in Review* 1, no 16 [30 November 1939]: 3).

All figures taken from Monmonier, How to Lie with Maps, pp.87-107

Early-Modern Maps and what they Hide

In: *John B. Harley, "Silences and Secrecy. The Hidden Agenda of Cartography in Early-Modern Europe", in Imago Mundi, Vol. 40, 1988, pp.57-76.*

Secrecy and censorship: The intentional silences in maps

(i) Strategic secrecy

Some of the most clear-cut cases of an increasing state concern with the control and restriction of map knowledge are associated with military or strategic considerations. In Europe in the sixteenth and seventeenth centuries hardly a year passed without some war being fought. Maps were an object of military intelligence; statesmen and princes collected maps to plan, or, later, to commemorate battles; military textbooks advocated the use of maps. Strategic reasons for keeping map knowledge a secret included the need for confidentiality about the offensive and defensive operations of state armies, the wish to disguise the thrust of external colonization, and the need to stifle opposition within domestic populations when developing administrative and judicial systems as well as the more obvious need to conceal detailed knowledge about fortifications.

But besides these understandable and practical bases for military secrecy, an increasing number of states adopted a more custodial attitude towards maps of their cities and territories in general independent of such strategic considerations […].Herein lies one of the paradoxes of map history. Just as the printing press was facilitating the much wider dissemination of survey data, and just as regional topographical maps were being made for the first time, so, some states and their princes were determinedly keeping their maps secret through prohibiting their publication.

Why did some states insist upon cartographic secrecy while others allowed the publication of their earliest national surveys? One reason, it may be suggested, is that strong monarchies may have perceived less need for secrecy than did the weak and threatened. Certainly, in strongly centralised Elizabethan England, surviving documents imply few doubts about the wisdom of publishing Saxton's survey. From the 1570s Saxton's maps were seen by statesmen such as Burghley as an aid to national administration and defence although a few may have taken a different view. But such an argument fails to explain all. On the contrary, some of these maps became double-edged weapons. Once generally available, they were used to support other sides in political power struggles. In England, for example, Saxton's maps did not (as had been intended) serve solely to strengthen the power of the monarchy. Once published and in circulation, they would surely also have been a contributory factor in the growth of the strong sense of provincial identity and independence which was so successfully articulated against the crown in the Civil War. With such complex, and sometimes contradictory, aspects in mind we can perhaps begin to glimpse how, for the cautious monarchy determined to preserve its power, map secrecy came to be regarded as a prudent policy of good government.

(ii) Commercial secrecy

The rise of map secrecy in early modern Europe was also associated with a second theatre of geographical activity-that of commerce and the rise of monopoly capitalism. In a period when the foundations of the European world economy and its overseas empires were being laid, absolute monarchs were often also 'merchant kings,' pursing economic objectives through the trade monopolies opened up by their navigations. As in the case of the nation state, the essence of empire is control. For such commercial monopolies to survive and for the policies of *mare clausum* to be implemented, there had to be a monopoly of the knowledge which enabled the new lands and the routes to and from them to be mapped. Arguably, the process of monopolization of map knowledge paralleled the secreting and use of craft mysteries in the control of medieval guilds.

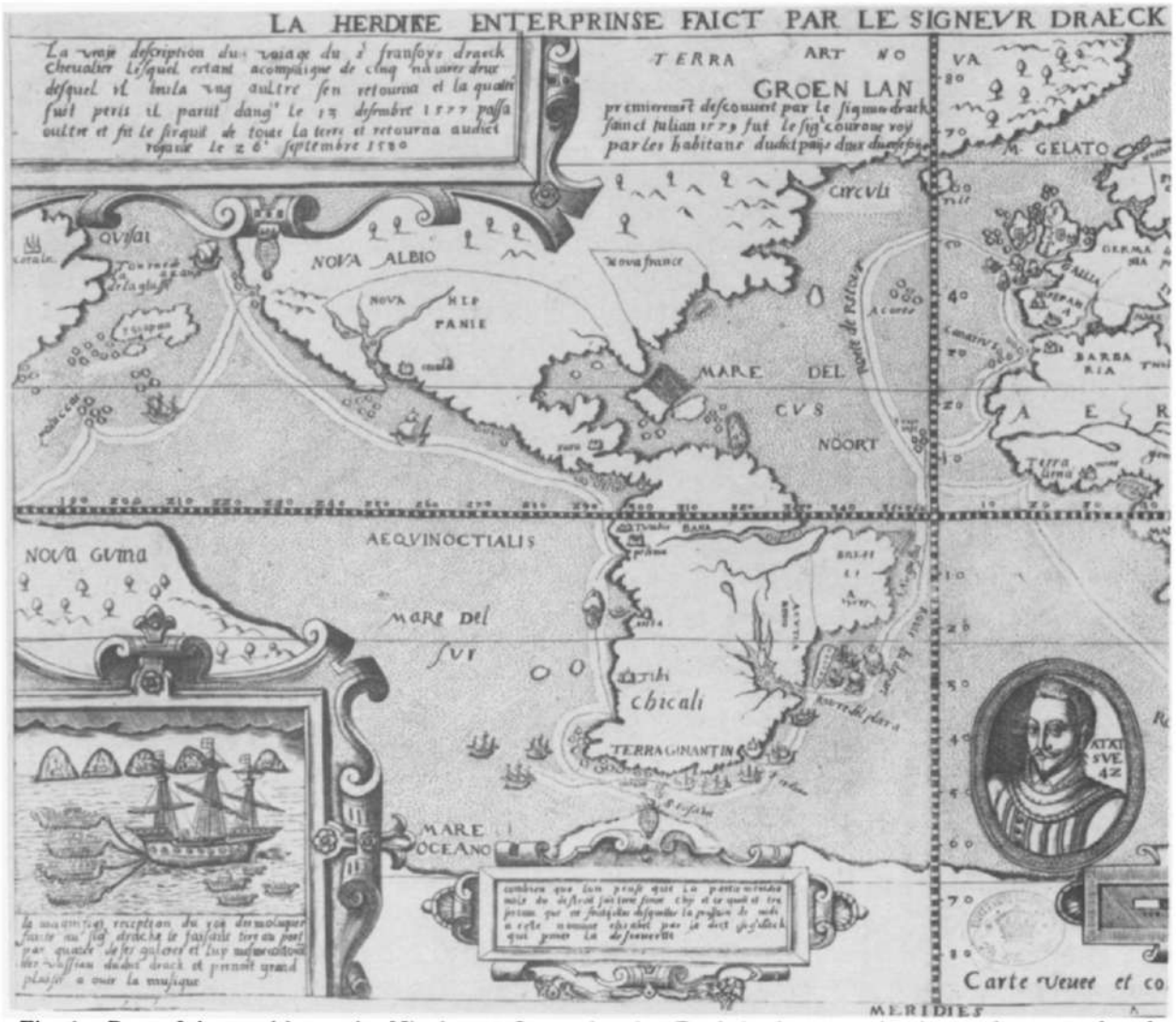


Fig. 1 Part of the world map by Nicola van Sype, showing Drake's circumnavigation and engraved and published at Antwerp, *ca.* 1583, was probably an unauthorised copy, made from a secret English original and smuggled out of the country. *By courtesy of the British Library (Maps C2.a.7).*

The mechanism by which vital cartographic information from nascent overseas empires was censored, regulated and secreted varied considerably. In some countries, it was an ad hoc process linked to

individual voyages. This seems to have been the case in England where contemporary writers on the navigations were aware of the practice of censorship and knew that new knowledge was controlled in a few powerful hands, those of the sovereign, an inner circle of ministers, or the principal merchants and navigators involved with a venture. For example, the sketch maps and drawings brought back by Drake's voyage round the world (1577-80) became secret documents. Drake had been given express orders that 'none shall make any charts or descriptions of the said voyage,' a prohibition of publication that was to remain in force until 1588. (Fig. 1).

Much more elaborate were the bureaucratic systems set up by the crowns of both Portugal and Spain to regulate the overseas trade and the knowledge on which it depended. Maps quickly became key documents in the launching of the Luso-Hispanic empires. While both the extent to which the Portuguese policy of secrecy actually existed and its effectiveness have been the subject of heated debate, the evidence does suggest the length to which a self-interested and powerful monarchy might go to control and suppress sensitive maps

Thus the forces impinging upon the cartography of early modern Europe were much more complex than the initially simple notion of power-knowledge allows for. A number of characteristics can be observed. For instance, while it can be claimed that secrecy has been endemic in the history of maps and map-making as well as in the activities of monopoly capitalism, there has been nothing neat or predictable in the timing or the geographical pattern of its imposition […]. Another point is the way state policies have been inconsistent […]. Nor were the manipulations of one state always meekly accepted by its rivals. These sought to obtain maps as much by espionage, theft and piracy as by direct observation and their own survey […]. Moreover, the strictest policies of cartographic secrecy could be undermined by the ease with which cosmographers and pilots, taking with them their specialist cartographic knowledge, entered the service of rival crowns […].

Epistemological or unintentional silences on maps

(i) The scientific discourse in maps

Already in the Renaissance, two 'scientific' characteristics, the 'universal science of measurement and order' and the principle of classification or ordered tabulation, ' were important underpinnings of map content. From then on, increasingly precise instruments of survey and techniques of mapping contributed to the 'science of measurement' while the way in which cartographic signs were classified and ordered (i.e. set out in tabulated characteristic sheets) points to the adoption of the principle of classification. As scientific progress and increasing technical accuracy marched ahead, few doubts were expressed. State cartography was thus, in the sixteenth century, well on the way to becoming a scientific and technological discourse. Contained within it was the unwritten assumption of an objective world in which the new techniques, being repeatable and transmissible, were always able to be successful in measuring or describing accurately.

Today, many historians still accept this model of scientific progress as the standard interpretation of the rise of state cartography. Yet of equal interest are the silences on those allegedly 'objective' products of state mapping. My contention is that while measurement and classification may have fostered objectivity within the terms of reference of the cultural *episteme*, in other respects the maps still remain a subjective

perspective on the world of that culture. Standardization, with its Euclidian emphasis on space as uniform and continuous, generates the silences of uniformity. For instance, in many of the topographical atlases of early modern Europe, especially those of the seventeenth century, but even in Mercator's and Saxton's, much of the character and individuality of local places is absent from the map. Behind the facade of a few standard signs on these atlases, the outline of one town looks much the same as that of the next; the villages are more nearly identical and are arranged in a neat taxonomic hierarchy; woodland is aggregated into a few types; even rivers and streams become reduced into a mere token of reality; objects outside the surveyor's classification of 'reality' are excluded […]

It is generally accepted that mapping is an activity designed to promote state efficiency and that with good maps the writ of centralized power can be made to run more uniformly over a country as a whole. But we need to ask 'Why was it that it had to be scientific mapping that made this task easier?' If we leave aside all the logistical arguments that have been marshalled in favour of maps - and clearly they persuaded a considerable investment by the rulers of early modern Europe - then there is another side to the explanation: the silences in maps act to legitimize and neutralize arbitrary actions in the consciousness of their originators […]. Thus, with the progress of scientific mapping, space became all too easily a socially-empty commodity, a geometrical landscape of cold, non-human facts.

(ii) The political and social discourse in maps

[…] Political discourse is grounded in an assumption of the legitimacy of an existing political status quo and its values. Its utterances through maps as elsewhere, are intended, consciously or unconsciously, to prolong, to preserve and to develop the 'truths' and achievements initiated by the founding fathers of that political system or modified by their successors. However, it can be argued that this cognitive infrastructure itself determines the nature of the technical specification of maps and provides the rules of what is included and excluded on a map. It can also be suggested that political discourse is responsible for differential emphases, through selection and generalisation, which privilege some aspects of 'reality' while others are silenced. Individual cartographers would not have been in the position to control or balance these nuances, even had they been aware of them.

Examples of many different sorts of political and social silences can be found on maps from the early modern period. One category is the toponymic silence. Conquering states impose a silence on minority or subject populations through their manipulation of place-names. Whole strata of ethnic identity are swept from the map in what amount to acts of cultural genocide. While such manipulations are, at one level, the result of deliberate censorship or policies of acculturation, at another – the epistemological - level, they also can be seen as representing the unconscious rejection of these 'other' people by those belonging to the politically more powerful groups […].

[S]ocial status and the nature of men's occupation were matters of deep concern both in feudal central Europe and amongst the rising middle ranks or *grande bourgeoisie* of other states which would have influenced map knowledge. Witness the careful ranking of the costumed figures that so often compose the marginal decoration of late-sixteenth and seventeenth century maps such as those of Speed and Blaeu, for instance. While those social distinctions are easily discerned, others may be more subliminal […]. For map

makers, their patrons, and their readers, the underclass did not exist and had no geography, still less was it composed of individuals. Instead, what we see singled out on these maps are people privileged by the right to wear a crown or a mitre or to bear a coat of arms or a crozier. The peasantry, the landless labourers, or the urban poor had no place in the social hierarchy and, equally, as a cartographically disenfranchised group, they had no right to representation on the map. […] A peasant village, lacking strong overlordship or church patronage, recedes into the near-silence of an abstract dot or sign.

Moreover, these Europe notions of status were carried into the New World. They are discernible on, in particular, maps of regions where the European culture encountered the Indian culture. They are found, for instance, on maps showing the early English settlement of Virginia. Here the distinction between Indians of the 'better sort' and the common Indian people, frequently made by contemporary writers, is conveyed (as on European maps) by representations of individuals from the privileged upper stratum of Indian society […]. For the two hundred or so Indian settlements that are depicted on John Smith's map of Virginia (1612), a careful distinction is made between 'Kings Houses' (drawn with a visually prominant sign), and 'ordinary Houses' (marked by a relatively insignificant sign), and chief Powhatan's settlement (given the largest sign of all) […].

Fig. 5 Captain John Smith's map of Virginia. William Hole's engraving constructs a landscape with hills, rivers, woods and settlements recognisable to eyes familiar with the English county maps of the period. With the royal coat of arms inserted as an emblem of colonial possession beneath the title scroll we see the beginning of a cartographic discourse which ends with maps silent about Indian rights to the territory. The 1625 edition is shown here. *By courtesy of the British Library (Maps 75005(9)).*

Maps such as those of John Smith ('Lord Baltimore's Map,' 1635) or William Wood ('The South Part of New England,' 1634), seem to show us an already-tamed wilderness, one that has been rendered more

acceptable to English eyes. (Fig. 5) […]. In essence, these maps depict a European landscape in European engraving style but far from being actual portraits of America, they really show landscapes whose advent Europe desired and they remain silent about the true America. This sort of cartographic silence becomes an affirmative ideological act. It serves to prepare the way for European settlement. Potential settlers see, on the map, few obstacles that are insurmountable.

Least of all does the map reflect the presence of indigenous peoples and their imprint on the land: 'It is as if America were a stage tableau, with the arrival of Europeans as the raising of the curtain and the beginning of action.' In short, such maps are ethnocentric images, and part of the apparatus of cultural colonialism. It is not only that they offer a promise of free and apparently virgin land-an empty space for Europeans to partition and fill-but that the image offered is of a landscape in which the Indian is silent or is relegated, by means of the map's marginal decoration, to the status of a naked cannibal. Through these silences, the map becomes a license for the appropriation of the territory depicted. It is yet another means by which to insist upon the inherent superiority of European technologies and European ways of life.

All figures taken from Harley, "Silences and Secrecies"