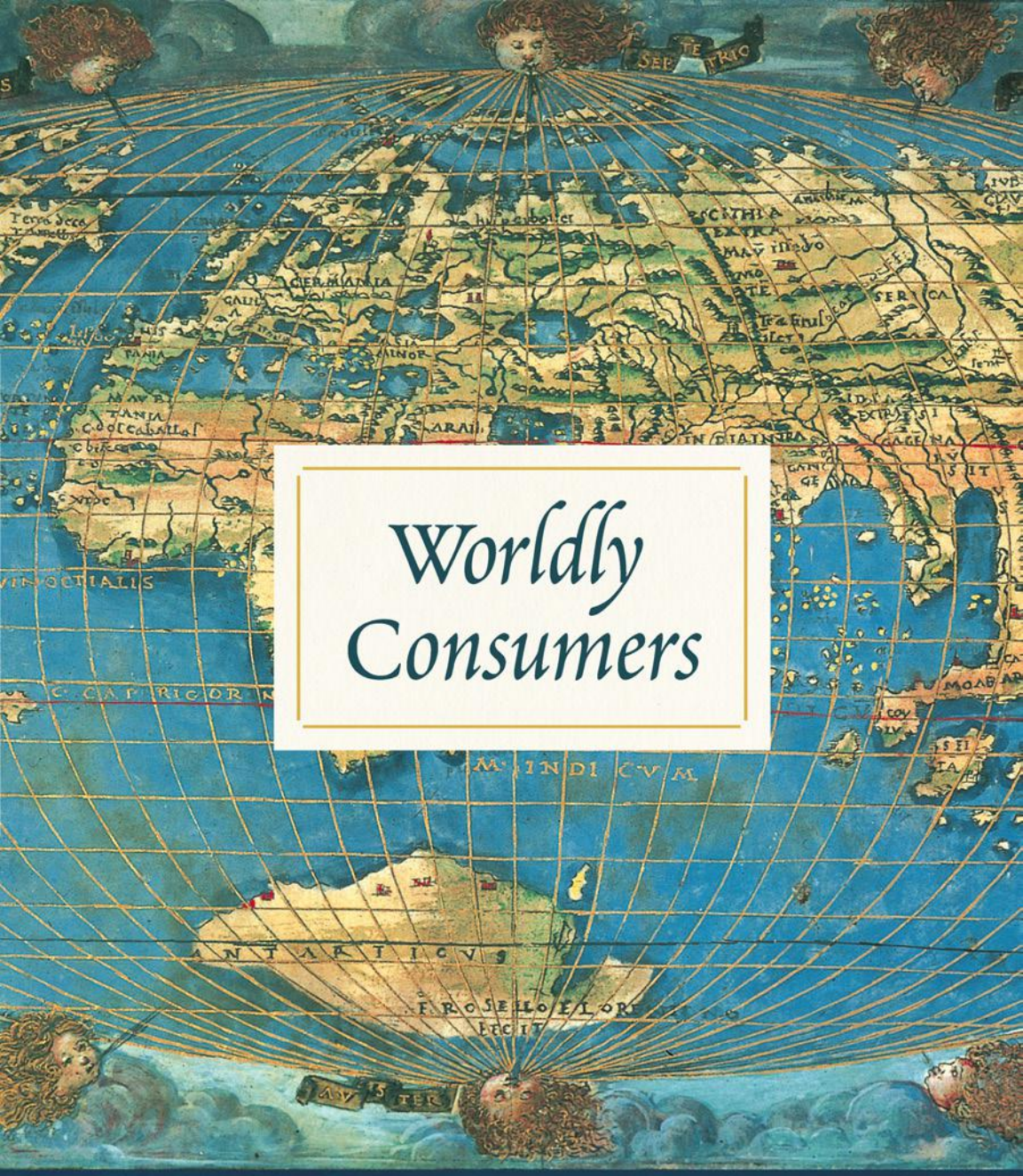

Worldly Consumers

The Demand for Maps in Renaissance Italy

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CONTENTS

INTRODUCTION

Finding the Consumers of Sixteenth-Century Maps

A customer walking into Francesco Rosselli's Florentine shop at the turn of the sixteenth century would have found multiple religious prints, a few books, print copies of paintings by artists including Raphael and Botticelli—and a number of cartographic prints. Images of Constantinople, Rome, Italy, and France, along with multiple world maps, filled the shop, while a glance in the back would have revealed copperplates to print maps of Lombardy, Crete, and exotic India. These maps were priced at affordable rates for Rosselli's Florentine audience: one world map was advertised at 7 *soldi*, less than a day's wages for an unskilled laborer; a map of France or a small chart could be bought for 3 *soldi*, roughly equivalent to the pay for two hours of work by a skilled laborer.[1] Even the sign hanging outside Rosselli's print shop prominently displayed a large image of the world, promoting this shop as the only place on the continent to buy single-sheet maps.[2]

The decreased cost of printed maps vastly expanded the potential market for cartographic works, and yet we know very little about the patrons of print shops like Francesco Rosselli's and even less about the demand for maps or how owners used them. As historian of cartography David Woodward has observed, "more attention has been paid to the process of compiling and using maps in official administration, exploration, and warfare than to their purchase and use at the popular level as informal consumer goods."[3] In spite of this, it was as consumer goods that the vast majority of Europeans interacted with maps, often as single-sheet images that could be purchased from print shops like Rosselli's or found bound in books.[4]

Worldly Consumers reconstructs the consumption of maps in sixteenth-century Italy and argues that maps were in demand not merely because they were expensive or contained useful geographical information, but primarily because they could provoke wonder and amazement in the viewer and

fashion an identity for their owner as cultured and erudite. This new value attached to maps was driven by the changes to cartography that occurred in the late fifteenth and sixteenth centuries, as the rise of likeness as a standard for measuring maps made them increasingly polysemous objects that could carry a range of symbolic messages depending on their context and display. In short, maps became a new form of cultural capital, which owners could strategically deploy to serve their needs.

During this period, several changes altered maps dramatically. First, sixteenth-century maps were remarkably inexpensive, as evidence from the inventory of Rosselli's map shop demonstrates. Second, Renaissance maps were held to a different standard than their medieval predecessors, as captured in the words of sixteenth-century Spanish cosmographer Alonso de Chaves, who claimed a map should be "a mirror, in which is represented the image of the world in its absence."[5] The shift from the stylized medieval *mappaemundi* to the more familiar Ortelius map is emblematic of this

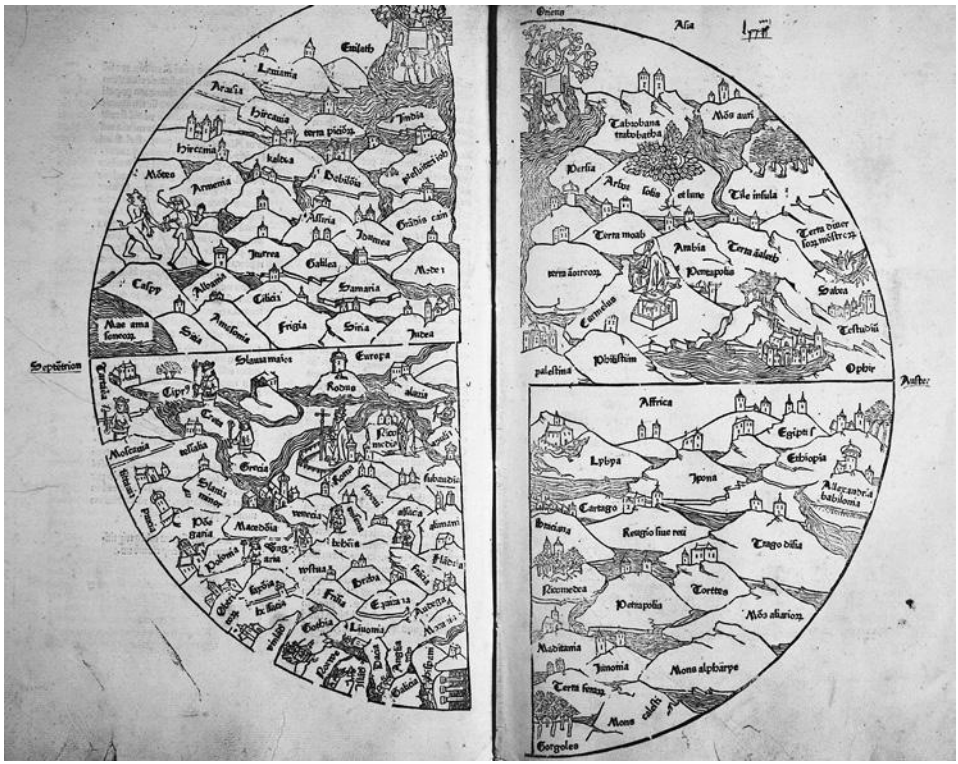

Fig. 1. Anonymous world map in the *Rudimentum Novitiorum*, 1475. Courtesy of the Library of Congress, Rosenwald Collection, Incun.

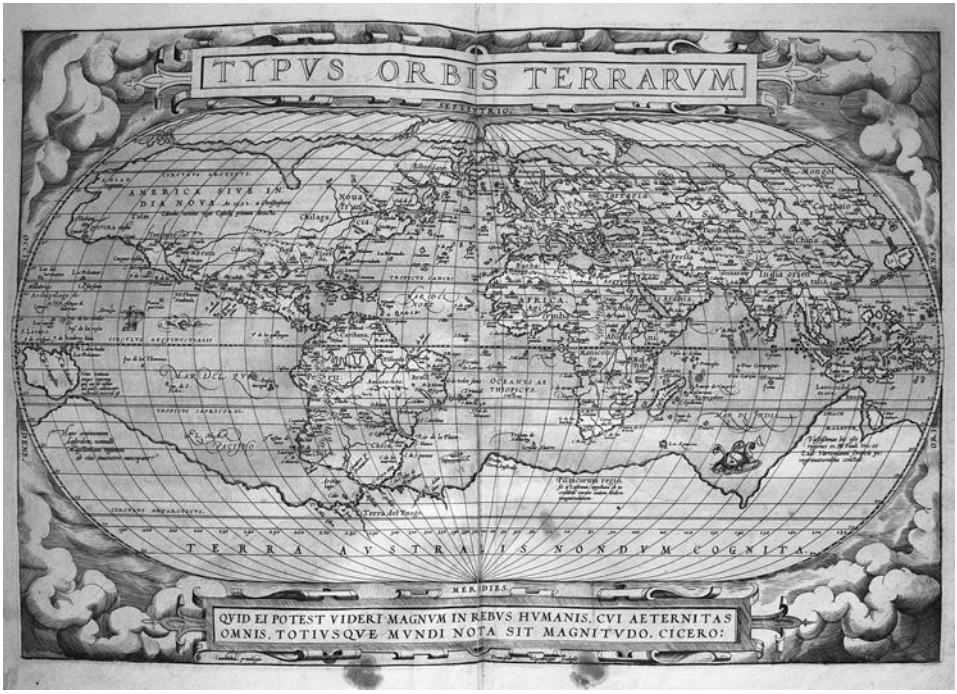

Fig. 2. Abraham Ortelius, "Typus Orbis Terrarum," in *Theatrum Orbis Terrarum*, 1570. Photo courtesy of the Newberry Library, Chicago.

fundamental transformation in picturing space, as is evident when comparing world maps made in the fifteenth and sixteenth centuries (figs. 1 and 2). These two maps, produced less than a hundred years apart, represent the world in remarkably distinct ways. The first, printed in 1475, is a world map on the model of medieval *mappaemundi*, which show the three continents with Asia at the top, presenting a spiritual picture of the world with the focal point on Jerusalem at the center. The second is the 1570 world map from Ortelius's popular atlas *Theatrum Orbis Terrarum*. In the span of less than a hundred years the conventions of drawing the world changed dramatically, and our modern vision of the world was born.

This expectation for increased verisimilitude between the image and the location depicted did not erase the symbolic, contemplative function that maps had long served; maps did, however, become more flexible objects that owners could frame in multiple ways. The value of a map in the sixteenth century depended on its ability to carry multiple messages simultaneously. The same map of Venice, for example, could be intended as a statement of

the power of the city or as a visual marvel capturing the floating *palazzi* on paper, as an indication of the owner's trade connections or as a celebration of a family's history. Maps could, and did, carry multiple messages for the consumers who purchased them.

These visual changes in the strategies of representation were coupled with a monumental increase in the number of maps circulating in Europe. Before the introduction of printing approximately 1,500 total maps were produced between the eighth and fifteenth centuries on the continent—maps were rare objects.[6] By 1600 there were over 1.3 million maps in Europe, roughly a thousandfold increase in the rate of map production.[7] This shift, largely due to printing, was primarily centered in Italy where the majority of sixteenth-century maps were produced.[8] The vast majority of these maps ended up in private hands.

Maps joined a broad range of material goods as part of a larger revolution in consumption, as individuals poured their growing disposable income into fashionable material objects ranging from lavish clothing to works of art and, by the later sixteenth-century, tobacco, coffee, and tea. Yet maps differed from these items because of the new claim that accurate maps created a link between the image and the place depicted. As Sebastian Münster explained, with an accurate map "not only can one understand the true customs of the place when first seeing a depiction, but one can also see it almost as with one's own eyes."[9] This connection granted viewers understanding simply from gazing at the map's wondrous portrayal of distant locales. Consumers marveled at the novelty of owning a miniature replica of cities, territories, or the world, and valued the knowledge that could be harnessed through viewing maps. If seeing was knowing in the sixteenth century, maps were the best education.[10]

The growing dissemination of cartographic prints to private consumers raises questions about who purchased such maps, why they were sought-after consumer objects, and how these maps were used. Though very few Italians wrote about owning maps and even fewer recorded their reasons for buying them, this book seeks to understand the growing market for cartographic materials by developing a method for measuring the demand for maps in Renaissance Italy. *Worldly Consumers* reconstructs the market for cartographic materials by bringing together various sources, including maps themselves, texts about maps ownership, geography, advice manuals, records of the prices of cartographic prints, and household inventories that reveal how many people owned maps, the most popular genres, and how maps were displayed. This method reveals a complex picture of the demand side of a major scientific and cultural development.

To date this monumental shift in cartography, which created a non-patronage-based market for maps for the first time, has not been adequately explored by historians of cartography. As a whole, the field has emphasized official maps produced by states and the use of maps in an imperialist context rather than the consumption of maps as informal consumer goods.[11] The tendency among historians of cartography to foreground the power—often defined as political power—inherent in maps has obscured the impact of the commercial revolution in cartography, which brought maps into the hands of new viewers.[12] Print shops like that of the Rosselli family in Florence or, later in the sixteenth century, those of Giovanni Valvassore, Matteo Pagano, Paolo Forlani, and others in Venice and the Lafreri family in Rome did not cater to governments—they sold to Italian consumers who chose to purchase maps.[13]

Historians of cartography cannot ignore what maps meant to these first-time map buyers, particularly in the early years of printed maps when the sheer number of maps in circulation increased at an astronomical pace. Led by J. B. Harley, the "social turn" in the history of cartography has proved remarkably fruitful, yet rarely speaks to the consumption of maps. Harley, who analyzed "the discourse of maps in the context of political power," drew on theoretical advances in literary criticism, incorporating ideas of discourse and cartographic language, Panofsky's theory of iconology, and the sociology of knowledge, as well as Foucault's ideas on power.[14] His work concentrated on official maps because they served his story of the political manipulations in maps particularly well; he argued that the "silences" on maps, namely those which "exert a social influence through their omissions," shed light on the political undercurrents of cartography.[15] Subsequently, historians like David Turnbull have built on Harley's work; Turnbull argued that knowledge could only become both universal and accurate "when the state, science and cartography become integrated."[16] Others, such as Richard Helgerson, have turned Harley's approach toward issues like constructing an idea of national unity or identity and potentially challenging loyalty to the monarch. Helgerson argued that visualizing the land of England on a map strengthened the power of a local and national identity while diminishing dynastic loyalty; for Helgerson, maps opened up a "conceptual gap between the land and its ruler," as the land itself became a source for state identity.[17] Both Turnbull's and Helgerson's works—like Harley's—pay little attention to widespread private consumption of maps.

While Harley's theories about the social construction of maps have proved enormously influential, there are distinct limits to his approach. Though Harley and his followers helpfully illuminate the political uses and misuses of maps, it is less clear how this line of analysis could be applied

to maps produced and used outside of the political arena. This is in part because the approach intentionally downplays the contextual nature of maps and their multiple uses. Helgerson, for example, explicitly casts aside the notion that maps "serve the purposes of their user, whatever side he may be on" in favor of seeing specific ideological goals implicit in every map.[18] By his criteria, maps should be evaluated on their manipulative power in one specific context rather than evaluating their aesthetics, means of production, dissemination, or uses in a range of settings.[19]

David Woodward has argued that Harley's definition of power must be expanded to include the aesthetic, symbolic, and cultural value of maps.[20] A number of historians have taken up this call; for instance, several historians of Iberian cartography—a field traditionally focused on the relationship between cartography and the state, largely because in the sixteenth century Iberian mapmaking was heavily politicized and influenced by state power—have fused Harley's power-centered analysis of cartography with a cultural approach.[21] For example, Jerry Brotton's analysis of Portuguese mapping and trading views maps as material objects, cultural artifacts, and intellectual signposts which reveal the changing contours of European geographic and intellectual horizons. Mapmakers and owners were not only attracted to comprehensive and accurate maps but were also driven by the mysterious, almost mystical power of maps. As Brotton relates, "possession of decoratively elaborate and aesthetically magnificent maps such as the Cantino Planisphere empowered their owners in making a series of claims to both worldly and other-worldly authority."[22] This authority could be political but also encompassed the amorphous authority of knowledge.[23]

Richard Kagan and Benjamin Schmidt's assessment of official cartography similarly signals a move toward appreciating cartography's aesthetic value. Kagan and Schmidt explore the multiple uses of official maps, not only in understanding territorial boundaries or promoting imperial ambitions but also for bringing rulers "pleasure and joy," as royal cosmographer to the Habsburgs Alonso de Santa Cruz claimed.[24] Yet as the authors note, "such fine distinctions between pure pleasure and practical purpose are often difficult to gage in the world of early modern statecraft."[25] Herein lies one of the problems of studying "official" cartography: all maps *could* have political implications, regardless of their intended uses, as the sixteenth-century Spanish cosmographers studied by Alison Sandman argued.[26] This mindset serves to eclipse the aesthetic and pleasurable value of maps, which were frequently displayed in the courts of rulers, and thereby paradoxically overlooks other political uses of maps, for example in the homes of Venetian citizens who glorified their republic by displaying conquered

territories. Thus a primarily political approach can overemphasize the propagandistic or ideological power of maps while downplaying the many uses of maps both within the court and outside among private consumers.[27]

Further, official maps represented only a small minority of maps produced in the Renaissance, particularly because of the growing availability of printed maps to private consumers.[28] Whereas rulers often owned unique versions of manuscript, tapestry, or other commissioned maps, the vast majority of early modern maps were printed and widely circulated among ordinary individuals. In the sixteenth century the center of this consumer revolution in cartography was Italy, where the majority of Renaissance maps were printed. In contrast to the Iberians, the English, or the French, who were building growing empires during this time, the Italian states did not have the same territorial reach or ambition; as a result Italian maps fit less easily into an imperial model of cartography. A focus on official cartography thus cannot elucidate the very center of sixteenth-century cartography, which was in the Italian city-states. Neglecting the consumption of maps obscures the motivations that led men like Francesco Rosselli to print and sell maps in early sixteenth-century Florence or the reasons that Florentines bought his maps of India, Constantinople, Rome, and the world.

One avenue of inquiry pioneered by historians of Italian cartography has been the study of regional cartographic cultures, as proposed by David Woodward in his preface to the Renaissance volume of *The History of Cartography*. As Woodward explains, "the *History* is not a history of how particular regions were mapped, but a study of how various cartographic cultures arose in different geographic centers."[29] To date, this approach has focused on local production and networks of mapmakers between mapping centers—by extending beyond the production of maps to their reception and the demand for maps in different contexts, these cartographic cultures become more vibrant. Understanding the place of such maps in the economic, social, or cultural environment of each region is a vital part of this project.

Reception and consumption are key to understanding local cartographic communities. Until we know more about who owned these maps, how they were displayed, and how European consumers used maps, the symbolic and cultural value of maps will remain nebulous. David Woodward has led the way in examining the process of production, aesthetics, and consumption of printed maps; in *Maps as Prints in the Italian Renaissance* Woodward laid out a new approach to cartography, namely treating the authors, printers, and consumers of maps in concert.[30] Along these lines, Woodward suggested studying maps in the context of the larger print culture of early modern Europe, a facet of mapping that has often been dwarfed by studies of state-

produced maps which were often kept in manuscript. He argued that the market for maps has been overlooked in the history of cartography, particularly for printed maps: "Without a market, these maps, atlases, prints and print albums would not have been made. Nor would a market have existed without the development of a taste for geographical prints."[31] Yet as Woodward noted, the historical sources on the consumption of maps are more difficult to assess.[32] In spite of this, the work of Woodward, along with that of Denis Cosgrove and others, hints at the many benefits of exploring the market for maps in Renaissance Italy.[33]

A multivalent approach to maps, uncovering the multiple interpretations of maps depending on their maker, the intended audience, and their owner, is necessary for comprehending the culture of cartography in the sixteenth century.[34] This is particularly true for Italy; although some territorial maps produced on the peninsula certainly did seek to distinguish the boundaries between regions or serve the administrative needs of states, the majority of Italian maps serve no self-evidently political purposes.[35] The revival of Ptolemy's *Geography*, for instance, appealed to humanists and antiquarians, but the value of these maps fits uneasily into Harley's model of cartographic power. The authority that these maps sought to assert should instead be located in the altered aesthetic of representing the world, in the promise that all places could be represented by the ever-expanding latitude and longitude, assuring viewers that the "unknown" portions of the earth would eventually become known.[36]

Nor was this pattern solely located in Italy; the trend toward independently-employed cartographers marketing their maps directly to consumers rather than states was mimicked in other regions. This Italian, consumer-driven model of private cartography quickly spread, particularly to the Netherlands by the late sixteenth century. Seventeenth-century Dutch cartographers, for example, intentionally removed insignia, flags, and other vestiges of political authority from their works, marketing their maps as apolitical and therefore exportable to other states, a strategy pioneered by Italian mapmakers throughout the sixteenth century.[37] In the second half of the 1500s mapmakers Gerardus Mercator and Abraham Ortelius both attempted to depoliticize their maps by marketing their works as politically neutral, uninfluenced by any single government, and thus useful to diplomats, scholars, and merchants regardless of their political views.[38] These overt strategies to distance mapmaking from the state indicates that cartographers found a large and vibrant market for their works among private buyers of maps.

An investigation of sixteenth-century map ownership forces us to re-

assess the purpose and meaning of maps. This book will do so through a multi-faceted approach to the demand for maps that combines studies of the display, collection, and content of maps in order to assess their aesthetic and cultural value. This necessitates reconstructing the market for maps to examine how the consumption of maps functioned, drawing on the work of economic historians like Richard Goldthwaite. Maps, like other consumer goods, fit into a story of production and consumption. Goldthwaite has led the effort to combine an economic and social reading of the Italian Renaissance, particularly using a two-sided approach of supply and demand in *The Building of Renaissance Florence*. In Goldthwaite's analysis, the growing trade in luxury goods was the result of the larger availability of discretionary funds, and thus increased consumption in the fifteenth century revealed optimism about the economic situation.[39] Goldthwaite also argues that in Florence, local production satisfied demand for luxury goods, leading to a decline in imported foreign products.[40] These conclusions are significant for the map trade in Renaissance Florence, which was the first city to have a local shop selling printed maps; if local artists were commissioned to make manuscript maps, and demand for such luxury goods was high in Florence, Francesco Rosselli's shop may have opened in response to such demand.

Recent work in material culture, print culture, and the history of science can also help reframe the value of Renaissance maps.[41] Most notably the trend in the history of science toward looking at the connections between knowledge making, visual culture, and commerce has great relevance for the history of cartography.[42] As Paula Findlen posits in *Possessing Nature,* early modern material objects were seen as carriers of information, as with the fossils, corals, and insects prized by Italian collectors.[43] This partially explains why collections of curiosities often incorporated maps and globes, and why Cosimo I of Tuscany literally covered the cabinets of his collection of wondrous objects with maps; maps, too, were valued for their ability to transmit knowledge and wonder.[44] Thus, expanding our definition of the power of maps will not only allow historians of cartography to more fully understand the place of maps in early modern society but will also elucidate a new culture of putting knowledge on display. The mapping revolution of the fifteenth and sixteenth centuries put maps in the hands of men who had never before owned a geographic image, and this desire to own maps drove a transformation in the way Europeans understood space and their place in the world.

The study of marketing, consuming, and displaying maps in Renaissance Italy likewise reinforces the importance of identity construction and self-fashioning in the creation of Renaissance culture.[45] Renaissance

individuals used strategies like ostentatious dress, elaborate portraiture, and the conspicuous display of wealth to shape their public image. From a cartographic perspective, the Renaissance was about showing off one's cosmopolitanism—map owners put knowledge on display to impress their neighbors and in doing so used cartography to craft their identities.

Worldly Consumers draws on a variety of sources in order to demonstrate the value attached to sixteenth-century maps, including household inventories made in Florence and Venice, books on geography and exploration, manuals advising collectors on how to display maps, epigrams, print catalogues, and the visual and textual evidence of maps themselves. One of the most illuminating of these sources is the thousands of household inventories kept by Italian city-states. These inventories, which record the movable objects in the home, can be used to establish who owned maps and which genres were popular. The 3,351 inventories surveyed for this book recorded a total of 1,116 maps along with 112 books containing one or more map. As the inventories show, Italians owned many types of maps, the most popular being world maps and landscapes; the choices consumers made when deciding which maps to buy provide a view into the consumption of sixteenth-century maps. They indicate that maps were found in ten percent of Venetian homes, a pattern that includes people from both the highest and lowest levels of Venetian society.[46] In addition, inventories are a valuable source for information on the prices of sixteenth-century maps, which are otherwise difficult to estimate because of the lack of detailed written records and the variation in quality, materials, and other factors influencing cost. Scattered references in household inventories provide one of the best sources of information on the price for maps, second only to the unique shop inventory from the period, that of the Rosselli family.

Inventories also frequently specify the location and type of cartographic materials in Renaissance Italian homes, suggesting how map owners selected and placed their map. This evidence indicates that individuals used maps to reinforce their public persona. As chapter 6 will show, Venetian *cavaliere* Andrea Maioli recreated battles on his walls by coupling images of Charles V and the Imperial Army with maps of Bruges, Holland, Flanders, and Amsterdam, thereby reinforcing his military past.[47] Marco Dandolo, whose ancestors included four doges, territorial ambassadors, and naval commanders, reminded visitors to his early seventeenth-century home of his family's illustrious past by displaying maps of cities where his ancestors fought or governed.[48]

Several historians have used inventories to analyze the consumption of early modern Europeans, examining the ownership of art, religious images,

and maps.[49] John Lydecker's 1987 dissertation, "The Domestic Setting of the Arts in Renaissance Florence," examined wills, estate books, personal ledgers, and probate records to uncover the place of the visual arts in Florentine *palazzi*, arguing that such records can be used to reconstruct individual attitudes toward material possessions.[50] His impressive list of the objects owned by six patrician families allowed him to chart generational changes in patterns of consumption. Lydecker contends that inventories indicate that patrician palaces increasingly became a private locus for art, fostering modern notions about the fine arts.[51] Similarly, Guido Rebecchini's *Private Collectors in Mantua* is a detailed analysis of the collections of four families that highlights the purchase, inheritance, and display of art by Mantua's elite collectors through several generations. As in Lydecker's work, Rebecchini uses Mantuan inventories to place works of art in their original context within the home, using the evidence from inventories to demonstrate how changing tastes are reflected in the display of collections.[52]

Margaret Morse has recently investigated the private ownership of religious images in Venetian homes; Morse notes that Venice's palaces and residential buildings were once "the sites of the consumption and display of a remarkable quantity and variety of material goods" that can be accessed through household inventories.[53] Her research indicates which religious images were most popular along with the location of their display within the home, revealing the value and ubiquitousness of Venetian religious culture by demonstrating that ninety percent of Venetian households contained articles of religious significance.[54] For Morse, the inventories indicate the "regular appropriation of piety into the personal space," showing that Renaissance homes were not secular spaces.[55] One of the many functions of religious images in the home was "the construction of the family's public image" through the placement of images in specific locations; as chapter 6 will argue, maps served a similar purpose.[56]

Isabella Palumbo-Fossati has similarly used Venetian inventories to reconstruct the interiors of the homes of artisans and artists, focusing primarily on the engraver Andrea Foschi and the miniaturist Gasparo Segezi, both of whom died in the later sixteenth century. Palumbo-Fossati stressed that these Venetian inventories include individuals of all social classes and from all the districts of Venice, providing an unrivaled glimpse into the lives of Venice's nonpatrician classes. Her analysis illustrated the ways in which inventories present "a mirror of the life and living standards" of sixteenth-century Italians.[57]

These inventories are also a valuable source on the consumption of maps. Historian of cartography Catherine Delano-Smith called map own-

ership "a grey area in the history of early modern cartography" and along with David Woodward has pushed for an analysis of it.[58] On cartographic ownership, Delano-Smith used Cambridge probate inventories to demonstrate who bought maps and what maps they bought in Cambridge—map owners usually fell into one of two categories, those who displayed maps as a domestic decoration and those who purchased maps for their academic or political relevance.[59] Delano-Smith concluded that the records reveal several motivations for purchasing maps, including academic, political, and didactic uses as well as because a map was "an interesting or fashionable domestic decoration."[60] Interestingly, Delano-Smith also found that about half of the maps were on display, even though a high number of the maps in her records were bound in books, which points strongly to the public function of the display of maps.

Federica Ambrosini has also used Venetian inventories to estimate map ownership, focusing primarily on world maps displayed in the seventeenth century. After cataloging the maps contained in dozens of homes, Ambrosini concluded that the display of world maps was a way for Venice, "reduced to the passive role of a spectator," to once again feel central to the advancement of the era.[61] However, as chapter 6 will demonstrate, analyzing the display of maps in one specific room in the Venetian home, the *portego*, indicates that Venetian motives were not quite so melancholy—the display of maps was more about promoting and inflating the reputation of an individual over the reputation of the state as a whole.

The results of such counting operations can be surprising. For example, Peter Barber's examination of the maps in Ferdinand Columbus's print collection revealed that the most prolific genres of maps included traditional *mappaemundi* and views of cities. Unexpectedly, the son of Christopher Columbus had only two maps that showed the European discoveries made by his father.[62] We might assume that a large collector like Ferdinand Columbus would focus on world maps in the early sixteenth century, but instead Ferdinand amassed six views of Venice, five of Jerusalem, and four of Rome.[63] Delano-Smith similarly found that Cambridge's largest collector, Andrew Perne, owned multiple world maps and regional maps of Europe and the Middle East—but possessed not a single map of the Americas or the New World.[64] Tastes were slightly different in Venice. Federica Ambrosini has shown how the so-called "descriptions of the world in four parts"—a set of maps depicting each of the four continents—became increasingly popular in Venetian homes in the later sixteenth and seventeenth centuries.[65] Woodward notes that such maps, which proclaimed a complete understanding of the world through its continents, "might suggest that they were a symbolic

furnishing accessory projecting the owner's interest in geography, reflecting his social and scholarly status."[66]

A quantitative analysis of map ownership in Renaissance Italy can both challenge our preconceived notions about what types of maps were valued in the sixteenth century and illuminate ownership patterns for map purchasers. These records, which disclose not only the social status of men and women who owned maps but also the genres of maps they purchased, the cost of such maps, and the rooms in which they were displayed, provide a great deal of valuable evidence for determining the place and meaning of cartographic materials for Renaissance Italians.

Across Renaissance Italy, numerous city governments kept notarial documents recording the goods of various households. In some cities, specific offices were formed to collect inventories for the purposes of adjudicating family disputes or allocating goods to minor children. In other cities, no particular office was charged with making inventories, but instead families were allowed to deposit notarized inventories with the government, as with the *Ufficio del Registro* in Mantua.[67] *Worldly Consumers* analyzes over three thousand household inventories made between 1464 and 1631 from Florence and Venice. Both Venice and Florence assigned the making and collection of household inventories to specific government offices. In Venice, two offices were tasked with collecting inventories in the sixteenth century. The offices, *Giudici di Petizion* and *Cancelleria Inferiore,* filed over 2,300 inventories between 1497 and 1631. The *Giudici di Petizion* was specifically founded to collect inventories in cases of inheritance disputes, while the second office kept inventories for a variety of purposes. In Florence inventories were kept by the Office of Wards (*Ufficio dei Pupilli*), which was tasked with collecting inventories from Florentines who died with dependent children, the insane, or those who requested the office's assistance. The office served this function from 1383 to 1798, creating one of the largest and most comprehensive collections of inventories from the early modern era. Between 1464 and 1531, the *Ufficio dei Pupilli* collected just over a thousand inventories.[68]

The inventories covered a large cross section of Florentine and Venetian society, from those whose list of possessions filled less than a single sheet of paper to others that ran into the dozens and sometimes hundreds of pages. The format of the inventories was largely consistent, but the goods recorded varied enormously. Typically, notaries would catalogue all movable objects contained in the home, including art, furniture, dishes, and clothes, down to the last pair of socks. A number of inventories also contained copies of books of debts and credits or other account books. The material objects

were commonly described according to their size, country or region of origin, and material.

Inventories were not merely lists of objects, however. Often the notaries included the condition of the objects and in some cases gave prices. While overall the documents followed the same general format, there was a great deal of variation among individual records in how they organized the goods being catalogued. The majority of these inventories described the movable goods room by room. The Venetian inventories often start in the *portego*, the Venetian entry hall. Others grouped objects by type, listing, for example, all of the images followed by all of the clothes. Others simply itemized goods with no internal organization. The description of the movable items in each room makes it possible to reconstruct the interior display of maps in the homes of Renaissance Italians.

These inventories often begin with an opening statement from the notary, which could be as simple as stating "This is the inventory of the movable goods of Mariata Fondana," or might include more lengthy explanations of the deceased's date of death, relatives, profession, and neighborhood.[69] Inventories often began in Latin, but the lists of goods were always in the local dialect, either Venetian or Tuscan for the inventories surveyed. The list of items could range from a few possessions to complete records of multiple homes along with financial documents. Notaries often paginated the inventories themselves, as is clear from cases where the page numbers continue after the end of the inventory. The notary's personal hand-drawn seal signaled the end of the document, verifying both the notary's identity and the accuracy of the inventory.

Maps are described in these inventories in general terms, such as "an image of an old world map" or "an image of Italy," and the notaries rarely recorded if they were printed, manuscripts, or framed. A variety of terms were used to describe cartographic images, and as a result it is not always easy to determine what was meant by the terms used for the object on the wall. The generic *retratto* [picture] or *quadro* [picture, painting] provides only general information except where the subject is specified; for example, we can take *un quadro di napamondo vecchio* [an image of an old world map] or *un quadretto de Italia* [a small picture of Italy] to indicate a map, but a *quadro* of a city could be either a plan or a view, while *uno quadro de paese* [a painting of the countryside or country] could be translated indifferently as a view, a landscape, or a map of a country. Other terms, such as *disegno* [drawing, picture, design] suggest the medium rather than the perspective, but even these leave us wondering if a *pittura* [picture] was executed in pencil, watercolor, oils, or print. The catch-all *quadro*, the term

appearing most frequently, was applied to all genres of image, including maps, portraits, and sacred or historical figures.[70]

The variation of terms applied to maps in these inventories hints at the lack of a consistent language for speaking about maps, particularly those displayed in the home that did not have a clear geographic purpose. World maps were commonly titled *un napamondo* or *un mapamondo*, with *cosmografia* growing in popularity by the later sixteenth century. City and regional maps frequently carried the terms *disegno, rittrato,* and *discrittione*, but the notaries could be quite vague about the exact territory portrayed, as with *un quadretto con un desegno di una citta* [an image showing the design of a city].[71] The most consistent terminology appeared in describing navigational charts, where the over thirty maps appearing in Venetian inventories were all titled *carta da navigare*. Similarly, the landscape images were consistently described as *quadri*, perhaps because the landscape genre was more established than other cartographic genres.

While these household inventories provide the best source for understanding early modern map ownership, there are several limitations to the use of inventories as a historical source.[72] The nature of the inventories themselves limits the claims that can be made from such records, for these inventories provide a snapshot of the contents of the house after the death of the homeowner. It is thus nearly impossible to determine when the goods were bought or if they were inherited or gifted. For instance, a number of inventories catalogue the goods in the homes of widows, including an expansive collection of images and maps in the home of Marietta Morosini, whose husband died in 1623. These records cannot establish if Marietta selected and purchased the maps herself, if her late husband collected the maps, or if they were inherited, making it difficult to form conclusions about map ownership among women.

Similarly, in many cases the inventories were intended to catalogue goods to avoid inheritance disputes; as a result, in most of the records the objects were not given monetary values, and when prices are attached it is unclear how they were determined. When prices do appear, as for example in the inventory of Francesco Rosselli's shop, the notaries may have used the sale prices affixed to goods in shops, or calculated prices themselves, or even could be recording the purchase price of the objects, making it difficult to draw strong conclusions about the range of prices for cartographic works. A notable exception is the inventory of Salustio Gnechi.[73] Gnechi's goods were cataloged and sold at auction; the inventory records a sale price for every object including a world map. Yet the vast majority of inventories did not include such detailed price information. This makes it difficult to

fully assess the accessibility of maps to lower-income purchasers. There are several instances in the records of skilled laborers who owned maps—for example a Venetian woolworker named Andrea Baretta who died in 1587 owned images of the four continents, "Asia, Africha, et Europa, et Perù."[74] Yet without detailed information on price, which is fragmentary and incomplete for both cartographic production and consumption in the sixteenth century, it is difficult to establish with certainty if the maps recorded in the inventories were expensive luxury goods or more affordable images akin to devotional pictures.[75]

Using inventories specifically to investigate map ownership raises additional problems. For one, the inventories very infrequently provide enough information to identify the maker or edition of the map described—typically the inventory descriptions are quite vague, listing maps in general terms such as "a world map" or "a map of France." While in some cases it is possible to make educated guesses about the map's provenance based on the description and date of the inventory, this is rarely possible. This makes household inventories of limited use for cataloguing the sale of specific editions of maps or their popularity.

The generality of the description of the maps raises several related problems. Maps were rarely identified as printed or manuscript. Because of the growing number of printed maps available for purchase in Venice and Florence, as well as the wide range of economic backgrounds of the households listed in the inventories, it is highly likely that many of these maps were printed, yet the notaries rarely allow us to establish this with certainty.[76] Similarly, the inventories almost never provided enough information to establish if a map was made and purchased locally, from the many competing mapmakers selling their works in Venice and Florence, or if the maps were imported from another location.

Likewise, because limited information is provided about the owners, in some cases only a name, in others a neighborhood or profession, our conclusions about the individual buyers must also be somewhat circumspect. Some of the family names which appear in the inventories are well known enough to draw on other historical sources to contextualize their map ownership, yet other individuals seem to appear nowhere else in the historical records. As useful as the inventories are in establishing the widespread and growing nature of map ownership in the sixteenth century, a great deal remains unknown about the buyers themselves.

In spite of these limitations, household inventories can still provide a wealth of information on Renaissance map ownership. These household inventories, particularly when brought into concert with advice manu-

als, show that individuals displayed maps in the home to fashion a public identity—just as they did with paintings, sculptures, antiquities, jewels, and other material goods. While historians have to date focused on family portraits as the most common way that Renaissance consumers crafted their identity, Venetians were more likely to decorate their walls with maps than with portraits.[77] As an early seventeenth-century manuscript by Giulio Mancini on collecting art recommended, collectors should place geographical prints in public hallways or rooms where people come and go.[78] Mancini understood that maps were meant to be seen, and in Venice maps were most commonly displayed in the *portego*, the most public room in the house.

This approach toward reconstructing the place of maps among other decorative images draws on Richard Trexler's study of the "frame" around religious icons. For Trexler, this frame includes the objects and the wall surrounding the holy image, which becomes a space of mediation in the relationship between the viewer and image.[79] Trexler argues that these frames not only shaped how contemporaries viewed the image but also serve as an entry point for historians in uncovering the meaning of these objects.[80] Maps, too, depended on a connection between the image and the real location it displayed, and map owners imbued their maps with multiple meanings which were revealed through the place and placement of the map in the home.

This framing approach evaluates maps within the context created by their owners. For example, Cosimo de'Medici's study in his father's house contained paintings of the Virgin Mary, the passion of Christ, and a beautiful world map.[81] While the juxtaposition of these images at first seem incongruous, the function of Cosimo's *mappamundi* was to represent a Christian view of space, with Jerusalem depicted at the center of the map. Combining a Christian world map with two central figures in Christian history in a study reveals great deal about how Cosimo intended the room to be used and the contemplative, religious function of the art on the walls including the map. The maps in a room in Jacopo Pandolfini's *palazzo* served a very different function. Alongside an image of Christ riding a donkey and a small image of the Virgin, Pandolfini displayed two maps of Flanders, indicating not only his family's devotion but also its commercial connections, power, and worldliness.[82] The display of maps, the "frames" their owners built around them, thus unveils the many symbolic uses of geographic images.

Maps, whether displayed in halls of government or within the home, signified a connection with the outside world.[83] For example, Francesca Fiorani's work on cycles of painted maps in public buildings speaks to the evocative value of maps; she argues that "by interacting with other symbolic

forms, particularly the non-cartographic images surrounding them, these map cycles became the primary vehicles in the construction of political legitimacy, religious supremacy, or universal knowledge."[84] Cartography created a "powerful symbolic realm" for the governing authorities, and we should not be surprised to find that private owners similarly hoped to harness the symbolic potential of maps.[85] This use of maps within the home was not limited to Italy; both John Dee and Sir Thomas Elyot commented on the display of maps in England. Dee remarked how "some, to beautify their Halls, Parlers, Chambers, Galeries, Studies, or Libraries . . . liketh, loveth, getteth and useth Mappes, Chartes, and Geographicall Globes."[86] Elyot likewise praised the "pleasure" and "incredible delight" that a man can gain when he "beholds in his own house everything that within all the world is contained."[87] Yet this phenomenon happened earliest in Italy, which was the center for map printing throughout the sixteenth century. It was access to inexpensive maps combined with a culture of public demonstration of one's virtues that made sixteenth-century Italy a center for cartographic display.

In addition to evidence from inventories and advice manuals, recorded reflections on maps, though unfortunately rare, provide another perspective on the value of maps. Mapmakers attempted to shape the experience of viewers not only by directing their attention through the use of text on maps but also through publicizing the experiences of map viewers. After first seeing Giorgio Vasari's panorama of Florence, Tuscany's Grand Duke Cosimo I was so astonished by the view that according to the mapmaker he demanded, "Tell me, Giorgio, how did you do it?"[88] While this was certainly the self-aggrandizing recollection of the map's creator, it nevertheless indicates the desired response upon viewing a map: amazement. As we will see, this response speaks to an aspect of mapmaking that sixteenth-century viewers found compelling—the ability of maps to play with scale. Ptolemy, who pointed out that the earth, "being enormous . . . cannot be inspected by any one person either as a whole or part by part," praised what he termed cosmography, or world cartography, for its ability to "show the known world as a single and continuous entity."[89] While amazement was the intended response of the viewers of maps, their owners put knowledge on display in order to impress their neighbors.

Worldly Consumers explores the consumption of Renaissance maps by private consumers in six chapters. Chapter 1, "Capturing the World on Paper: The Visual Tradition and Mapmaking" analyzes the ways mapmakers drew on the techniques of Renaissance artists to insert their works into an already vibrant visual tradition. While previous historians have argued

that the rise of accurate maps coincided with a decrease in the symbolic and contemplative function of maps, by repositioning cartography in relation to trends in art this chapter demonstrates that altered expectations for the accuracy of maps did not lessen the meaning that consumers attached to them. However, this shift did leave the message of maps increasingly ambiguous and open to interpretation, which allowed buyers to fashion their own meaning for maps.

The second chapter, "The Commerce of Cartography: Printing, Price, and Francesco Rosselli," examines the connection between changes in cartographic production and consumption in the first decades of printing. Through an analysis of the inventory made in 1528 of Europe's first shop to sell cartographic prints, the chapter reconstructs the market for maps in sixteenth-century Italy. This examination, in concert with placing maps in the broader economic context of similar goods, including books and art prints, demonstrates the affordability of maps to a much wider class of consumer. As the inventory analysis shows, maps were within the financial reach of even unskilled laborers.

The subsequent four chapters turn more fully to the consumption of maps. Through an analysis of over 3,000 household inventories, chapter 3, "A Buyer's Market: Map Ownership in Venice and Florence, 1460–1630," establishes that map ownership was more widespread than historians have previously assumed in Renaissance Venice and Florence. The chapter then explores the tastes of Venetian and Florentine consumers as represented by the types of maps they chose to purchase—the most popular were world maps and landscapes.

Demand for these increasingly popular maps was driven by several factors. A customer leafing through the maps in a late-sixteenth century Italian print shop could not avoid noticing a word that appeared at the top of nearly every map: "new." Chapter 4, "A New Map: The Demand for Cartographic Novelty," argues that a fundamental part of the appeal of maps was their modernity. While the Renaissance is often defined by the imitation of the Greeks and Romans, in the realm of geography the classical authorities were being rejected as early as the late fifteenth century. Geographical writers in particular catalogued the limits and errors of ancient authorities like Ptolemy who, they claimed, had been overshadowed by contemporary geographical discoveries. The vogue for classical authority had been eclipsed by a demand for "the new," as seen in the titles affixed to maps as well as the display of certain types of maps in Italian homes. It was the novelty and originality of sixteenth-century maps that, in part, made them desirable products.

Chapter 5, "The Power of Knowledge: Education and Curiosity in Cartographic Prints," continues the theme of the previous chapter by delving into other cultural values attached to maps. It opens with an examination of the spaces in which Renaissance Italians interacted with maps and the ways specific locations shaped the reception of maps. The chapter argues that evidence from mapmakers, authors, and map owners demonstrates that consumers coveted maps for their educational value and their ability to evoke curiosity, wonder, and knowledge.

The final chapter, "Making an Impression: The Display of Maps in Sixteenth-Century Italian Homes," reconstructs the interior of Italian homes to show how Italians used the domestic display of maps to craft a cosmopolitan identity. Drawing on household inventories, which list the location of maps along with the items surrounding them, this chapter reassembles the placement of maps in the home, demonstrating that individuals intentionally selected specific maps in order to shape their public persona. When combined with advice manuals on the display of maps, this evidence demonstrates that maps were flexible objects that could be deployed in multiple ways depending on the needs of the buyer.

In sixteenth-century Italy the domestic sphere became a window on the world. Maps celebrated the ingenuity of their makers and signaled the good taste and sophistication of their owners. *Worldly Consumers* demonstrates that Renaissance Italians turned domestic spaces into a microcosm of larger geographical spaces in order to craft a cosmopolitan identity for themselves. These maps were valued not solely for their monetary cost or the information they contained but also for the cultural capital they accrued for their owners—a new type of consumer who consciously directed the cultural work of their maps.

CHAPTER ONE

Capturing the World on Paper: The Visual Tradition and Mapmaking

The consumers of maps in 1400 and 1550 were purchasing very different objects. In this span, the visual look of maps was dramatically transformed. The rediscovery and spread of Ptolemy's *Geography,* which accelerated changes in the way Europeans thought about abstract space, was followed by the rise of printing and the development of multiple new projections for drawing the world on paper, including the oval, conic, cordiform, double hemisphere, and Mercator projections. Cities themselves were reimagined visually in completely different ways, as the common medieval profile view gave way to the rise of the bird's-eye, or oblique, projection and the top-down plan projection. This period of vast innovation has often been attributed to the combined influence of Ptolemy's writings and the invention of printing.[1] And yet our picture of the revolution in the visual style of maps is incomplete without an understanding of the fundamental role that art played in this transition, particularly as the use of maps by their consumers was shaped by these changes in mapmaking.

A focus on printing and Ptolemy speaks more to the production side of cartography than the consumption of maps, whereas situating maps with other works of art provides the context in which they were displayed and used. This is not to claim that printing and Ptolemy were unimportant in this period; they did fundamentally transform mapmaking. The translation of Ptolemy's *Geography* from Greek into Latin by a group of Italian humanists around 1406 was followed by dozens of maps based on the Ptolemaic system of latitude and longitude over the course of the century, and first manuscript and then print copies circulated throughout Europe.[2] Similarly, the development of printing drastically increased the number of maps produced in Europe, lowering the cost of mapmaking and thus making maps economically accessible to a broader group of consumers. The numbers

tell a staggering story: in the year 1500 there were an estimated 60,000 individual maps in circulation, a figure that rose to approximately 1.3 million by 1600.[3] An increase of such magnitude transformed maps from an infrequently-seen possession of the wealthy to a relatively common commodity, particularly in the Italian cities which were the center of sixteenth-century map production.

Yet a focus only on these two shifts, dramatic though they were, would ignore another major transformation in mapmaking. The altered nature of maps cannot solely be explained by the number of maps produced, although that was critical, or by the reintroduction of latitude and longitude. Nor can the discovery of new lands in the Western hemisphere and elsewhere account for the changes in cartography in these decades.[4] A significant, and underrecognized, feature of this shift was in the changing way maps *looked*.[5] This widening of possibilities for portraying spaces was driven not by theoretical ancient texts or technological innovation but by changes in art. In fact, the innovation of artisan mapmakers who were trained as artists was a significant influence in the veritable revolution in cartography. These mapmakers altered the way Europeans saw the world, and their success was in large part due to borrowing from the techniques of Renaissance artists and applying them to geographical works. These visual changes to maps informed the ways that consumers used these objects.

Ignoring the fundamental influence of art over Renaissance cartography would thus distort our understanding of the history of cartography. This time period has been framed as one in which cartography became scientific, where the symbolic significance of the medieval *mappaemundi* was replaced with realistic maps that simply showed the world as it was.[6] Historians have often assumed that the contemplative, reflective purpose of maps declined rapidly after the introduction of Ptolemy's methods, which mathematized cartography and heavily stressed accuracy as a measure for maps.[7] But as Angelo Cattaneo recently noted, the geographical information in Fra Mauro's mid-fifteenth-century map was reused for a century, which contradicts the idea of "epistemological ruptures often advanced by historians between allegedly 'symbolic' medieval cartography and 'scientific' Renaissance mapping."[8]

Sixteenth-century mapmakers blended accuracy of depiction with a contemplative purpose, modeling their works on another visual tradition, fine art. By highlighting the close connections between art and cartography, we can see how mapmakers maintained the symbolic and contemplative purpose of maps in the face of a rising expectation of accurate cartography.

THE ARTIST'S MAP

In the Renaissance, the production of art and cartography were very closely connected, indicating that the reception of the two genres was likely similar, as contemporaries saw little distinction between maps and other works of art. The same men produced both, and transitioning from artist to mapmaker required no particular training. Identical techniques were used to engrave the countryside in maps and the background in religious prints.[9] Maps and art were sold in the same shops and placed on the walls of the home side by side. In the Renaissance the purchasers of maps had been trained to look at images in a certain way, expecting to be startled and amazed, struck with wonder, at the ability of the maker to capture nature on paper.[10] In these same decades, the collecting of wondrous objects into cabinets of curiosity spread across Renaissance Italy.[11] Renata Ago reminds us that "the idea behind this enterprise was to accumulate as many signs as possible of the wonders of nature or of the grandness and beauty of human ingenuity . . . a collection was a way to recreate the unity of knowledge."[12] As we will see, maps were valued as material objects that captured the order of the world and transmitted this knowledge to viewers. The overlapping periods of vast innovation in mapmaking and art at the same time, driven by some of the same individuals, speaks to the linked nature of the two genres.

The close connection between Renaissance painting and mapmaking is hardly surprising, for in this period mapmakers were themselves artists. As David Woodward argues, maps were seen by makers, sellers, and buyers as geographical prints and valued in large part for their aesthetics.[13] These artist-mapmakers experimented with visual ways to depict space, shaping the look of the world. The links between art and cartography are first evident when looking at the men who made maps. In particular, the training and careers of Jacopo de'Barbari, Francesco Rosselli, Giacomo Gastaldi, and Domenico Zenoi underscore the close connection in the later fifteenth and early sixteenth century between mapmaking and art. These men produced paintings, prints, and miniatures in addition to their cartographic works, emphasizing the great deal of overlap in the production of art and cartography.

Jacopo de'Barbari, only identified as the creator of his map of Venice in the nineteenth century, was born in the mid-fifteenth century in Venice.[14] Working on both prints and paintings, he established a fine reputation, and his work was admired by his more famous contemporary, Albrecht Dürer.[15] De'Barbari had a flourishing career as an artist; while very little is known of his life, he worked for the emperor Maximilian I in the early years of the six-

teenth century, and art historian Juergen Schulz also claims that de'Barbari worked for the elector Frederick the Wise of Saxony and the archduchess Margaret of Austria.[16] It is almost certain that he had Italian patrons as well, although they have not been identified. He made engraved plates, paintings, and drawings, including a portrait of the renowned mathematician Luca Pacioli, shown with his geometrical tools.[17]

While little information about de'Barbari's business connections remains, de'Barbari was most likely an itinerant artist who made his income through commissions from nobles and merchants like Anthony Kolb.[18] Kolb was a German merchant who lived in Venice and probably helped finance de'Barbari's map of Venice, which would have been an expensive undertaking. In 1500, Kolb petitioned the Venetian Senate for a copyright to export the map "without duties and without Impediments" in order to recoup the costs of producing the map.[19] Kolb's filing of this petition implies that he invested financially in de'Barbari's undertaking and expected to be compensated for his role in the production of the map.

De'Barbari's map of Venice has been viewed as innovative, technically accomplished, and trendsetting. It has been called a "technical *tour de force*," admired for its "sheer beauty of design and execution," and nearly always praised as a vast improvement over earlier forms of urban mapping.[20] Placing de'Barbari's work in the context of art rather than cartography alters our view of his significance. While he was certainly innovative, producing the most detailed city map of his time, in the context of broader artistic changes in the Italian Renaissance de'Barbari's emphasis on accuracy and wonder was akin to the works of contemporary artists like Leonardo da Vinci or his admirer Dürer.

Francesco Rosselli, another late-fifteenth-century Italian mapmaker, had a very similar career path. While Rosselli will be discussed in more detail in the next chapter, which examines his print shop, his background was very similar to de'Barbari's; both men entered the working world as artists and continued to make maps and works of art throughout the course of their careers. Rosselli and his brother Cosimo were both artists; Cosimo worked on the Sistine Chapel while Francesco produced miniatures for a choir book, illuminated manuscripts for Lorenzo de'Medici, and likely illustrated Francesco Berlinghieri's manuscript translation of Ptolemy's *Geography* into Tuscan verse.[21]

In the 1480s or 1490s, Francesco purchased a printing press. Rosselli's printed works were a mix of maps and works of art, including maps of the world, France, Hungary, India, Rome, and Constantinople, as well as religious prints of the life of the Virgin, the Conversion of Paul, David and Go-

liath, and others. Francesco collaborated with Sandro Botticelli to produce printed versions of the artist's designs, including the Assumption of the Virgin. In fact, Rosselli was obliquely insulted in Giorgio Vasari's *Lives of the Artists*, when Vasari noted in his *vita* of Botticelli that he "printed many of his other drawings, but the results were inferior because the plates were badly engraved."[22]

Rosselli had a recognizable style that shaped his prints, whether cartographic or fine art. The many similarities between Rosselli's maps and art prints have allowed modern scholars to attribute anonymous works to the mapmaker. John Phillips, for example, used the stylistic elements in the Tuscan landscapes of Rosselli's "View of Florence" and his "Assumption of the Virgin" and "Triumph of Love" to convincingly argue that Rosselli was the engraver of all three prints.[23] In particular, Francesco's trademark depiction of the hillsides around Florence in the prints identified him as their creator.

In the case of Francesco Rosselli, as with other Italian artists who made maps, the same tools, techniques, and press produced both maps and works of art. Rosselli himself likely did not acknowledge a gulf between these genres that were only considered dissimilar long after his death. Maps and other artistic prints depicted places and often included individuals, events, and landscapes that were drawn directly from an artistic blueprint. Rosselli and de'Barbari fit into the world of Renaissance art, as demonstrated not only through their output and methods but also through Rosselli's artisanal techniques and shop and de'Barbari's aristocratic patronage. In the environment of late-fifteenth-century mapmaking, artists made maps and mapmakers were artists.

The situation was not drastically different fifty years later, when print cartographers had become somewhat more established figures. By the middle of the sixteenth century Venice had several print shops devoted to producing maps and a cohort of roughly a dozen prominent mapmakers, engravers, and printers.[24] Many in this group produced both maps and prints of other subjects. Giacomo Gastaldi, for example, was considered Venice's most prominent mapmaker, and while his works were primarily cartographic he made prints of other subjects and drew the frescoes in the Doge's Palace. Gastaldi was born around 1500 in Piedmont, and began his career as an engineer for the Venetian Republic. In 1544 Gastaldi engraved an image of Trajan's Column in Rome, and the following year he was granted a privilege from the Venetian government to print his first map, of Sicily.[25] In 1548, the Venetian Senate created a new title, "Cosmografo della Repubblica," which was granted to Gastaldi, and contracted Gastaldi to produce frescoes for the Doge's Palace.[26]

Gastaldi's colleague Domenico Zenoi likewise produced maps and prints of other subjects, describing himself as "a Venetian engraver of prints."[27] In fact, Zenoi used the Venetian licensing process to gain a virtual monopoly over several genres of prints. He was granted a sweeping license in 1567 for "printing or having printed or selling pious figures, portraits, and maps of Europe, Asia, Africa and other separate provinces, such as Italy, France, Spain and others that from time to time will be made, which have not already been made by others in the form and scope that he will make them, for the next fifteen years, under penalty."[28] Only a year prior to being granted this license, in 1566, Zenoi was admonished by the government for producing pornographic pictures, or what officials described as "indecent sonnets . . . inserted among them some highly indecent plates," fining both Zenoi and his publisher, another noted mapmaker named Giovanni Francesco Camocio.[29] While according to the Venetian government Zenoi's extracartographic activities were less laudatory than those of Gastaldi, Zenoi's career again demonstrates that mapmakers often made other types of prints or images in addition to their cartographic works.

Perhaps no other example highlights the connections between artists and mapmakers as well as the innovation and creativity of Renaissance mapmaking better than the maps of Leonardo da Vinci. Da Vinci made at least three maps, the most famous being his town plan of Imola, made in 1502. The map shows the city from above and is one of the earliest and most detailed of its kind. Because of the level of detail in the map, one might assume that da Vinci used triangulation or other surveying techniques to draw the city (fig. 3).[30] However, Ballon and Friedman have recently shown through overlaying a modern survey of Imola that da Vinci frequently finessed the location of buildings and streets, most likely in an effort to make the city look more balanced and coherent. As Ballon and Friedman argue, da Vinci was aware that his final map did not chart directly with the city; he altered his earlier preliminary sketches in making the final version of the map.[31] In this respect, Leonardo sometimes privileged the aesthetics of his image over portraying the city in the most accurate way possible. Even as similitude became a touchstone for evaluating maps, cartographers manipulated their creations to serve aesthetic principles.

Da Vinci also made an octant world map in 1514, the first known example of its kind, which divided the earth into eight gores; this map was once thought to be the first to include the name "America" for the New World before the discovery of Martin Waldseemüller's 1507 world map. Visually, the world looked like two clovers, the northern and southern hemispheres split into four sections each, sitting next to each other. The map

Fig. 3. Leonardo da Vinci, plan of the city of Imola, 1502. Art Resource, NY.

was not intended to be cut and pasted on a globe as with other gore maps but was instead an exploration of ways to picture the world. Though Snyder claims that octant maps were "little more than novelties of the era," Da Vinci's octant projection is emblematic of the innovative projections created in the early sixteenth century.[32] Creativity and improvisation of forms became the modus operandi of cartography for several decades, and da Vinci's contributions are indicative of the influence that trends in artistic methods had over the shape of cartography in the early sixteenth century.[33]

Aside from his cartographic works, Leonardo's artistic output also captures the trend toward including landscapes, real or imagined, in the background of portraits, maps, religious art, and other works, as seen most famously in da Vinci's *Mona Lisa*, which includes a long view of a familiar-looking Tuscan countryside, including roads, buildings, and mountains. While this landscape was likely imagined, it was part of a broader artistic effort to root scenes in an actual place to emphasize their realism. Da Vinci himself sketched multiple studies of landscapes, including studies of the Alps that were used to draw the background in his *Virgin and Child and Saint Anne*.[34]

The boundary between artist and mapmaker was not distinct in the sixteenth century, nor was there a sharp divide between their works. In order to understand the uses of Renaissance maps, we must avoid erecting an ahistorical boundary between art and cartography. For example, though landscapes are today defined as works of art rather than maps, this was not the case in the Renaissance. In contemporary descriptions of representing space, cartographers like Giacomo Gastaldi claimed that world maps, city views, and landscapes were all different types of mapping. Landscapes, as noted by Gastaldi in his *La universale descrittione del mondo* (1565), were part of a broader continuum of cartographic works. He labelled landscape mapping "chorography," borrowing the terminology from Ptolemy, and wrote that it included "villas, rivers, streams, brooks, canals, woods, mountains, valleys between the mountains, fields . . . and other particularities."[35] Contracts for the commissioning of works of art often specified that the artist was expected to include landscapes, as with Ghirlandaio's 1485 contract to paint frescoes in Florence's Santa Maria Novella for Giovanni Tornabuoni, which requested that the artist should include "figures, buildings, castles, cities, mountains, hills, plains, rocks, costumes, animals, birds, and beasts of every kind" in the frescoes; the artist's commission included strikingly similar terms to Gastaldi's definition of chorography.[36] Italian artists often included detailed and realistic backgrounds in their works, which were indistinguishable from maps of the time. Furthermore, if painters and mapmakers applied the same description to landscape art and landscape maps, we can assume that viewers likely did not treat the two as distinct genres.

By reconstructing the terminology that Renaissance makers and consumers of maps used, we can more fully understand sixteenth-century cartographic culture. This approach indicates that the content of a print or painting is not necessarily the best way to distinguish between cartographic and noncartographic works. Instead we must acknowledge that contemporaries saw a great deal of overlap in content and purpose of the two genres.

When writing on maps, both ancient and Renaissance authorities spoke of a continuum of scales that maps might depict, from the entirely global down to the extremely local. Ptolemy himself made this argument in the opening lines of his *Geography*. He described different types of maps, beginning by noting that "world cartography is an imitation through drawing of the entire known part of the world together with the things that are, broadly speaking, connected with it." He continued, "It differs from regional cartography in that regional cartography, as an independent discipline, sets out the individual localities, each one independently and by itself, registering

practically everything down to the least thing therein."[37] The distinction was one of scale as well as of the aim of the map. "The goal of regional cartography is an impression of a part, as when one makes an image of just an ear or an eye; but the goal of world cartography is a general view, analogous to making a portrait of the whole head."[38] Any depiction of place fell at some point on Ptolemy's spectrum, from the macrolevel description of the world to the microlevel landscape; Ptolemy explicitly included landscapes with regional cartography when he explained that "regional cartography requires landscape drawing, and no one but a man skilled in drawing would do regional cartography."[39] He termed world cartography "geography," while regional cartography was labeled "chorography."

In the sixteenth century Giacomo Gastaldi used Ptolemy's system as the basis for an even more exacting categorization of mapping genres in the 1565 booklet *La universale descrittione del mondo,* which was meant to accompany a world map and which provided an introduction to geography, cosmography, mapmaking, and Aristotelian theory. In discussing scale, Gastaldi introduced a more specific terminology, explaining what objects fell into each of the four categories he used:

> Those [depictions] of the sky, with the land and sea, the men of antiquity called Cosmography. Others described the more particular parts of the earth, and the sea, with the divisions of the major provinces, regions and described the cities, castles, mountains, rivers, lakes, seas, gulfs, ports, capes, and island, and those descriptions are called Geography.[40]

Here, Gastaldi introduces his degrees of scale slightly differently than Ptolemy, by terming world maps *cosmographia* and regional maps *geographia.* Gastaldi went on to introduce a narrower, more focused category that would fit with Ptolemy's term chorography and a new term, topography, to describe an even smaller scale, including drawings of houses.

> Other types describe the most minute parts of the earth, the sea, as with navigation charts, and the particular descriptions of the territories of cities, with the roads, castles, and villas, rivers, streams, brooks, canals, woods, mountains, valleys between the mountains, fields, fords, and boarders, seas, gulfs, ports, capes, bridges, coves, reefs, shallows, and other particularities. These descriptions are called Chorography. And the most particular description of a site, of a fortress, and a plan of a fortress, and particular possessions, and houses, palaces, and other similar things are Topography.[41]

Gastaldi's description of the different range of map types and their names began with Ptolemaic terminology, but expanded it to include depictions of houses, which Gastaldi categorized as a form of mapping. In Gastaldi's conception, maps of the world, a landscape, and a picture of a palace were thus all points on the same continuum, differing primarily in scale. For mapmakers and map buyers in these centuries, geographic depictions came in a broad range of forms; scale, not function, defined the map.

Both Ptolemy and Gastaldi thus understood that a map could encompass a broad expanse of geographical territory or a more minute portion of the land; both also argued that maps should accurately or realistically represent their subjects, whether that meant a villa or a continent. Ptolemy emphasized accuracy in judging maps when he outlined his three projections for representing the globe. His description of the simple conic and the homeotheric projections ranked these forms according to accuracy—he argued that his homeotheric projection presented land areas "more like the shape on the globe than the former [simple conic] map" and was therefore superior.[42] In introducing this second, preferred projection, Ptolemy noted that it makes the "surface still more similar and similarly proportioned [to the globe]."[43] Although he acknowledged this projection was more difficult to construct, Ptolemy made it clear that it was preferable because it more accurately represents the globe. Gastaldi, too, wrote of his amazement at the ability of maps to create "perfect" representations of the globe on paper. He noted, "although it seems difficult to all the mathematicians, and to me it seems impossible, it is possible to reduce a perfect sphere into a flat form, which is likewise perfect."[44] A similar sentiment was more forcefully promoted by sixteenth-century Spanish cosmographer Alonso de Chaves in his claim that a map should be "a mirror, in which is represented the image of the world in its absence."[45]

This increasingly rationalized approach to mapmaking shaped the visual style of sixteenth-century maps, as maps were judged by a new criterion: how well they tracked with the place they represented. Just as in the same years works of art were praised for astonishing viewers with their realism, maps were also expected to mirror the world. As a result, modern attempts to divide symbolic maps from their more accurate cousins distort sixteenth-century visual culture. For example, in his seminal work on Jacopo de'Barbari's map of Venice art historian Juergen Schulz contended that Renaissance maps were either intended "simply to report geographical and topographical facts" or contained "material that must have had a didactic intent."[46] Schulz's goal was to demonstrate that maps could be analyzed as works of art, distinguishing "art" maps from "factual" maps based on

their content. Schulz's analysis of de'Barbari's map focused on the aesthetics of the image and its method of production, arguing that the map was a work of art because surveying techniques in 1500 could not have made this map, indicating that "the view can have been build only upon a vision of the imagination" and thus "it is a work of art;" once the map has been categorized as art, Schulz explores the "purpose or meaning" of this "extraordinary representation."[47]

In contrast, for Schulz "factual" maps are not works of art because they do not carry other messages or meaning. Yet this assumption that some maps were purely factual while others carried symbolic meanings misrepresents the way de'Barbari's audience would have understood a map.[48] Maps could and did carry multiple meanings and messages that were not directly linked to the factual content of the map. De'Barbari's Venice, for example, was extremely accurate but still conveyed meaningful messages about Venice's identity, the city's history, and the ability of mapmakers to capture nature on paper. Both Ptolemy and Gastaldi saw no conceptual divide between artistic and factual maps but rather described cartographic works according to the scope of the map's representation. Furthermore, as the rise of linear perspective and realism in Renaissance art demonstrates, striving for more accurate representations did not automatically decrease the contemplative function of these paintings.[49]

The Renaissance makers and buyers of maps treated them very similarly to other genres of art, hanging them on the same walls, selling them in the same shops, and using similar language to describe them. The coinciding shift in both fields toward valuing representational images must inform our understanding of popular uses of maps. Arguing that the rise of realism in art destroyed the symbolic value of a painting would be laughable, and likewise the expectation for accuracy in maps did not diminish the didactic uses of cartography.

Around the turn of the sixteenth century, new expectations and visual techniques altered cartography, a change that was closely linked to the reception and consumption of maps. By adopting the contemporary definition of maps as existing along a continuum of scales, we can more fully appreciate the impact of these shifts. However, we are still left with the perception of a tension between the rise of accuracy as a measure for maps and the symbolic messages maps had always contained—how did mapmakers and buyers think about these representational maps?[50] In order to answer this question, we must first examine the shift from medieval mapping genres to Renaissance cartography.

SYMBOLISM AND ACCURACY

The symbolic and contemplative use of maps was a central focus of medieval mapmaking, which partially explains the perception that the rise of accuracy as a touchstone for evaluating maps might have meant a decline in the symbolic language of cartography. In medieval world maps, city views, and regional maps, there was little expectation that the map would serve as a mirror of the place represented. Portolan charts—navigational maps primarily used by Mediterranean sailors—contained detailed coastlines yet also served aesthetic purposes. While the rise of Ptolemaic mapping in the fifteenth century has often been framed as a displacement or even a rejection of the symbolism of medieval maps, in fact the aesthetic and contemplative purpose of maps continued long after the rise of representational depictions.

Medieval maps came in a variety of genres but usually fell into a few distinctive visual categories. Around 1400, maps were generally made in one of four styles: the medieval *mappaemundi* which displayed the three known continents in a circle surrounded by ocean; portolan charts, functional maps intended for navigation, typically in the Mediterranean; regional maps, often depicting itinerary routes; and landscape views of cities, which were relatively uncommon. Even less common maps include administrative maps of forests, water systems, and land boundaries.[51] All of these maps, including the functional portolan charts, were often vested with symbolic meaning, as can be seen through the inclusion of detailed drawings and the decoration of such charts as artworks.

These four types of maps served different purposes and as a result are found in a range of settings. The medieval *mappaemundi* flourished in academic circles, often included as illustrations in manuscripts or in large wall hangings, which were frequently displayed in churches, as in the world map on the floor of the cathedral of San Salvatore in Turin.[52] Portolan charts were used by sailors to navigate the Mediterranean, where detailed knowledge of the coastlines was valued. Regional maps often came in the form of itinerary maps, meant to display routes between locations and in some cases used for pilgrimages. Most city views were typically included in frescoes or paintings of landscapes. For example, Ambrogio Lorenzetti's fresco of Good and Bad Government in Siena, made in 1337–1339, provided a view of the city, including depictions of buildings and the town wall.[53]

Medieval world maps contained the clearest symbolic message. The most prevalent form of medieval *mappaemundi* was the T-O map, named because it visually represents the world as a T inscribed in an O, with Asia,

Africa, and Europe making up the wedges of land inscribed in the circle of water. The first printed map of the world, included in an edition of Isidore of Seville's *Etymologiae* from 1472, was a simplified schematic in this style. This map was a printed illustration to Isidore's text, which labeled the cardinal directions, the three continents, and the bodies of water dividing them. Visually, these maps were shaped by an underlying religious message—through their manipulation of space, *mappaemundi* visually depicted the Christian orientation of medieval Europe. Eschewing detailed coastlines, these maps typically included the Red Sea, the location of the Earthly Paradise, and other biblically significant locations. East was shown at the top of the map because of the biblical belief that the Earthly Paradise was in that direction, past the lands of Gog and Magog. Most importantly, Jerusalem sits at the center of the map, where the three continents meet, pointing users toward the most important aspect of the earthly world: Christianity.

The message is quite explicit in the Ebstorf world map of c. 1230, which used the same schematic as the simplified T-O maps but expanded it to incorporate a wealth of information. Most strikingly, Jesus's head, arms, and legs were included on the map, as though the earth itself was Christ's body and he was literally holding the world. In addition to the explicitly Christian addition of Jesus, the many details on the map show biblical stories, including a depiction of Noah's ark, but also included pagan history and drawings of malformed humans living on the far corners of the world.[54] The making of the Ebstorf map, nearly twelve feet in diameter, was costly; it was painted on thirty sheepskins. The size, the inclusion of Jesus's body, and the map's display in a convent all point to a religious and contemplative purpose.

These maps were never intended as direct representations of the world, used to travel between locations. Rather, these maps present a sacred interpretation of space. The 1475 world map taken from the *Rudimentum Novitiorum*, discussed in the introduction above, was the second world map ever printed and is typical of T-O maps in that it is intended not for spatial orientation but rather spiritual orientation. (fig. 1) The map is made up of a series of hills that each represent a different region and also shows stylized castles, a depiction of the Earthly Paradise, and an image of the pope sitting within the walls of Rome. Although it includes limited geographical information by modern standards, the map was primarily intended to present a religious worldview. Indeed, contrary to modern notions of the utility of maps, these maps were not intended to be used for travel and as a result have in the past been labeled backward or primitive, not only by subsequent cartographers but also by twentieth-century historians of cartography. In fact these maps

were exceptionally good at serving their central purpose: to demonstrate the truth of Christianity made manifest in the order of the world itself.

Portolan charts served a different function, primarily utilitarian: first created for mariners and maritime traders in the thirteenth century, such maps were valued above all for their ability to aid in navigation. The purpose of the portolan chart was to provide an accurate portrayal of coastlines, especially in the Mediterranean and Black Sea, and fifteenth-century Portuguese navigators applied this style in mapping the African coastline.[55] Portolan charts were inextricably linked with sailors; not only were these maps limited in their audience but also their objective was narrow enough to exclude a wider reach. These charts put a high emphasis on the coastline, almost entirely ignoring the lands between these shores. Most also included rhumb lines, straight lines emanating from random points that were used by mariners to calculate directions at sea. Along the coasts these maps included the name of every port, usually written in small text following the shore. Highly accurate geographic information was within the technical reach of medieval Europeans, as demonstrated by the portolan charts produced from the thirteenth through sixteenth centuries, a reminder that the medieval *mappaemundi* should not be read as backward or primitive cartographic works; rather, they simply served a different function than the representational portolan charts.

With such a clear purpose and seemingly limited applicability, one might assume that these maps were treated very differently from the spiritual *mappaemundi*. This, for instance, is the view of Tony Campbell, who points out that "an almost exclusive interest in the real world sets the portolan charts aside from other mapmaking activities of the Middle Ages."[56] However, a more recent assessment by Edward Casey highlights the combined "accuracy and artistry" in portolan charts, and while the charts had a much smaller intended audience than later sixteenth-century printed maps, such as those by Ortelius, stylistically there was a great deal of overlap between the two eras.[57] Medieval maps served both functional and decorative purposes, and they did so in intertwined ways that were not restricted to any particular type of map. Both portolan charts and *mappaemundi* were flexible and could be used for multiple purposes; decorative portolan charts such as the Catalan Atlas of 1375, which was owned by Charles V of France, were valued not for navigation but for their cultural and artistic value.[58] This map, unlike portolan charts used at sea, included detailed drawings inland which told many of the same stories that might appear on a *mappamundi.* Just as the medieval *mappaemundi* often contained images, histo-

ries, biblical stories, and a wealth of information about people and places, the portolan charts could also serve ideological purposes.

In spite of their different genres, both portolan charts and *mappaemundi* could be artistic and decorative, and medieval maps were not ranked by contemporaries as good or bad based on how accurately they represented the world; *mappaemundi* could be entirely symbolic and yet still valued, as with the world map in an manuscript edition of Seville's *Etymologiae* produced between 1446 and 1451. This richly painted map shows the three sons of Noah inhabiting the continents with Asia at the top, Europe in the lower left, and Africa in the lower right. While the map does not represent the actual contours of the continents, it serves its purpose of putting a biblical story on paper visually. Additionally, the map includes an Aristotelian lesson in the elements, with earth at the center surrounded by water, air, and fire, and finally, in the corners of the frame, the fixed firmament of the immobile stars. Furthermore, both the Catalan Atlas and the Ebstorf map included very similar decorations. The Catalan Atlas, a portolan chart made not for navigation but for a wealthy monarch, included drawings of foreign rulers, tents, camels, and other items found in the lands depicted, as well as small flags indicating rulership of ports. Similarly, the medieval Ebstorf world map contained drawings of castles, camels, rulers, and Noah's ark. These similarities reveal the common visual language shared by different genres of images, in this case portolan charts and *mappaemundi*. Maps with very different visual styles could still convey much of the same information.

Not surprisingly, regional maps often included very similar stylistic touches, particularly itinerary maps such as the one included in manuscript copies of Matthew Paris's "Chronica majora," which may have originally been designed not as an insert for the book but as a freestanding folding map intended to be taken on the journey.[59] The map itself described the route between England and Apulia in graphic form, depicting the cities and castles that would be reached at the end of each day's journey. Rather than portraying space as plots on a flat surface, the map drew a line for the journey and only drew the notable landmarks that would be passed on the voyage, including rivers, forests, the English Channel, and other topographic features. Although known in only small numbers, medieval regional maps depicted England, Europe, and the Holy Lands. The known versions of these maps have often been found in manuscripts, frequently in diagrammatic form. Like medieval world maps, regional maps often did not include detailed topographic information or representational depictions of land and

were often paired with text, standing in as a shorthand visual for a longer written description. As Victoria Morse notes, "few local maps have been preserved from (and probably few existed in) the twelfth and thirteenth centuries, when textual and verbal descriptions of lands and boundaries were the norm."[60]

One of the least common medieval maps was the city view, a genre that would become increasingly popular in the sixteenth century.[61] Medieval views of cities were often included in frescoes such as that of the Misericordia in Florence's Loggia del Bigallo, painted in 1352, which is the earliest known view of Florence and depicts the baptistry, city walls, and a city gate along with churches and other buildings. The view includes the Palazzo della Signoria, finished less than forty years before the fresco was drawn, as well as the Loggia del Bigallo itself, just to the right of the baptistry. While this image might seem quite dissimilar from the city maps of today, it was obvious to viewers which city was being shown even if they did not read the inscription naming the city on its walls.

Medieval city maps were typically in paintings or frescoes, and, as with other types of medieval maps, were usually expensive and rarely found outside the homes of the wealthiest people or the halls of government. For example, one world map was kept in the bedchamber of Henry III of England, thought to be a reminder to the king of the virtues and responsibilities of Christian kingship.[62] Most people outside of the elite would only see these cartographic images infrequently, if at all. Views of cities were also included in halls of government, as with the fourteenth-century fresco of Siena in the town hall mentioned previously. And as the Sienese fresco, which sought to humble rulers with their responsibility to the city, reminds us, city maps, like medieval world and regional maps, were not intended to navigate the city but were instead valued for their artistic merit and ability to carry a symbolic message.

Thus by the turn of the fifteenth century only select groups of Europeans had access to maps. The wealthy might own a commissioned *mappamundi* or a city view, or a map included in a manuscript book, and seafarers or merchants might make use of portolan charts. The average person could see a map in a church or perhaps in a hall of government, but maps were not common objects. And in most known medieval maps the symbolic message of the map was deeply embedded in the map's visual style—for world maps, the style *was* the message.

As maps changed visually in the fifteenth century symbolic messages and contemplative meanings were not erased from maps, but mapmakers did increasingly have to square these messages with the expectation that

their works should portray the world as it looked, holding a mirror up to the world. This was driven, in part, by the expanded application of latitude and longitude, taken from Ptolemy's *Geography*, a shift which not only reintroduced the conceptual view of the world as representable on an orderly grid but also visually altered the map.[63] The revival of Ptolemy's methods ushered in a greater emphasis on mathematics in cartography by promoting the idea of the world as an abstract grid where locations could be plotted by two axes, latitude and longitude. And yet even as Ptolemy's method altered the perception of the relationship between a map and the space it represented, maps were expected to maintain their symbolic meanings.

The popularity of Ptolemy's methods changed the way mapmakers thought about space and the relationship between places, representing a reevaluation of what exactly a map should capture. As Samuel Edgerton argued, Ptolemy's map "deemphasizes the center and stresses instead the spreading of the grid in all directions from the perimeter."[64] The shift from *mappaemundi*, which displayed both time and space in an orderly, Christian framework, to the decentered Ptolemaic projections, with an ambiguous religious message, pushed the makers of maps to reconceptualize the purpose of cartography. Mapmakers and buyers developed several strategies to compensate for the seeming de-emphasis of religion in Ptolemaic-style maps, such as marking out religious spaces through the use of color or keys as well as coupling maps with religious images in the home. Followed quickly by the discovery of a fourth continent, these fifteenth-century changes challenged European notions about geographical space.

The spread and popularity of Ptolemy's work exposed many intellectuals to a different method for mapping the globe.[65] After the first manuscript Latin translation was completed, around 1409, a scriptorium was founded in Florence to meet the demand of readers interested in *Geography*.[66] Copies of the manuscript circulated as far as Paris by 1415 and Vienna by 1420. In the 1450s copies were owned by the Duke of Gloucester in England and the King of Portugal.[67] This circulation only increased after the introduction of printing; the first three printed editions of Ptolemy, made in 1475 in Vicenza, in 1477 in Bologna, and in 1478 in Rome, were followed by subsequent editions published in 1482 (Florence, Ulm), 1486 (Ulm), 1490 (Rome), 1507 (Rome), 1508 (Rome), 1511 (Venice), and 1513 (Strasbourg), for a total of thirty-eight editions published by 1600.[68] Of these thirty-eight editions, eighteen were published in Italy and, of these, eleven in Venice.

Geography, in fact, contained no maps. Instead, along with Ptolemy's discussion of cartography and geography the book included lists of latitudes and longitudes that could be charted to make maps. This abstract concep-

tion of space required a different aesthetic for maps that many humanists and mapmakers enthusiastically began to replicate. Ptolemy's maps seemed to privileged geographic accuracy over the spiritual messages of earlier medieval maps; rather than depicting space as a series of potential journeys, as the portolans did with the emphasis on navigation, or abstractly, as the *mappaemundi* did, Ptolemy envisioned space as a uniform geometric grid without a center. Unlike in medieval maps, the Ptolemaic grid implied an equality between every point on the map.

These new methods were not accepted without debate; several fifteenth-century cartographers worried that Ptolemy's grid would make the spiritually-focused *mappaemundi* obsolete. For instance, the Venetian monk Fra Mauro defended the *mappamundi* style as a valuable way to envision the world in his 1459 world map. By incorporating detailed coastlines from portolan charts he showed that the *mappaemundi* could serve many of the same functions as the Ptolemaic maps. While Fra Mauro's map has traditionally been termed the pinnacle of medieval mapmaking, it was also an attack on the implications of Ptolemy's emphasis on representational mapping (fig. 4).

Fra Mauro's concerns over Ptolemaic mapping were clearest in his effort to protect Jerusalem's special status. Rather than lose the rhetorical power of showing Jerusalem at the center by adopting the Ptolemaic system, Fra Mauro crafted a unique causal explanation to retain a central position for the Holy Lands through a mathematical defense of Jerusalem's placement. In the text written on his map Fra Mauro argued that according to Ptolemy's system of latitude, Jerusalem was still near the center of the *inhabited* world. Yet longitudinally, Jerusalem was not at the center even of the inhabited world. Rather than outright rejecting latitude and longitude, Fra Mauro formulated a mathematical answer to this decentering of Jerusalem. He wrote, "however, as Europe is more [densely] populated, Jerusalem does appear to be at the centre [of the inhabited world] by longitude as well, if one takes into account not [geographical] space but the number of inhabitants."[69] Here Fra Mauro created a mathematically based population average to defend the medieval *mappaemundi*'s spiritual message in the face of Ptolemaic decentering.

One effect of Ptolemy's system was to upend the focus of representations of the world. Rather than giving the world a single viewpoint, it offered an infinite number of viewpoints and was expansive in that it could incorporate any number of additional locations. But to mapmakers like Fra Mauro, removing that central viewpoint, Jerusalem, would undermine the very purpose of depicting the world. For Fra Mauro the medieval *mappamundi* was visible proof that God had created the world—proof of the truth

Fig. 4. Fra Mauro, map of the world, 1459. Art Resource, NY.

of Christianity. Switching to Ptolemy's globe would have meant, in essence, losing that world.

Thus one of the strongest objections to Ptolemy was the fear that his grid would erase the particular Christian symbolic meaning in medieval maps. This argument reminds us that mapmakers were very conscious of the message inherent in maps, and at least some guarded that message even while incorporating a new visual aesthetic. For, as Fra Mauro himself argued, the introduction of accuracy need not automatically mean the loss of meaning in maps. While his map defended Jerusalem's place, it also claimed

to be accurate, as indicated in one note which says, "I have been most diligent in trying to put all the coastlines of this sea in accordance with the most accurate map that I could."[70] Mapmakers in the wake of Ptolemy's resurrection responded creatively to the challenge of incorporating meaning into maps that also had to be accurate.

Fra Mauro's defense of Jerusalem's "place" exposed a crucial ambiguity in Ptolemy's system—it did not seem to have a singular rhetorical message. The style of medieval *mappaemundi* was an enduring and popular one in part because it served the needs of people looking at maps, showing the world in a way that promoted a certain religious point of view. It is no surprise that a number of medieval *mappaemundi* were displayed prominently in churches and monasteries. The rhetorical message behind Ptolemy's system was initially ambiguous for its Renaissance audience. In fact, as some historians have argued, the message of Ptolemy's system was the grid itself—thinking of space as a uniform grid, a systematic and organized concept. It is worth remembering that in the fifteenth century latitude and longitude were no more than "powerful rhetorical devices" that could not be measured with any precision.[71] Latitude and longitude were not functional or particularly useful on maps until long after the fifteenth century; their inclusion could, in some cases, become shorthand for "accuracy."

THE REVOLUTION IN DRAWING THE WORLD

The answer to the mapmaker's dilemma of how to maintain symbolism in representational maps was solved by turning to art. Ptolemy's two preferred projections became popular with mapmakers in the fifteenth century, but these were followed by completely new projections in the sixteenth, including the conic, oval, and cordiform in the first decades of the century and the groundbreaking maps of Ortelius and Mercator in the second half of the century.[72] Experimentation was the order of the day. For example, Giovanni Paolo Cimerlino's world map of 1566 used the heart-shaped projection, based on an earlier cordiform projection made by Oronce Finé in 1534 (fig. 5). On this map the world is ringed by several figures, including a winged woman on the left who holds a tablet proclaiming Cimerlino as the map's creator and the date of publication. Putti on either side of the world frame the bottom of the globe, including two balancing on leaning columns.[73] The projection itself was a visual testament to the innovation and creativity of mapmakers.

This wave of new projections indicates the remarkable flexibility of cartographic depictions in the sixteenth century. The same can be said for many of the other projections developed in these years, most of which were

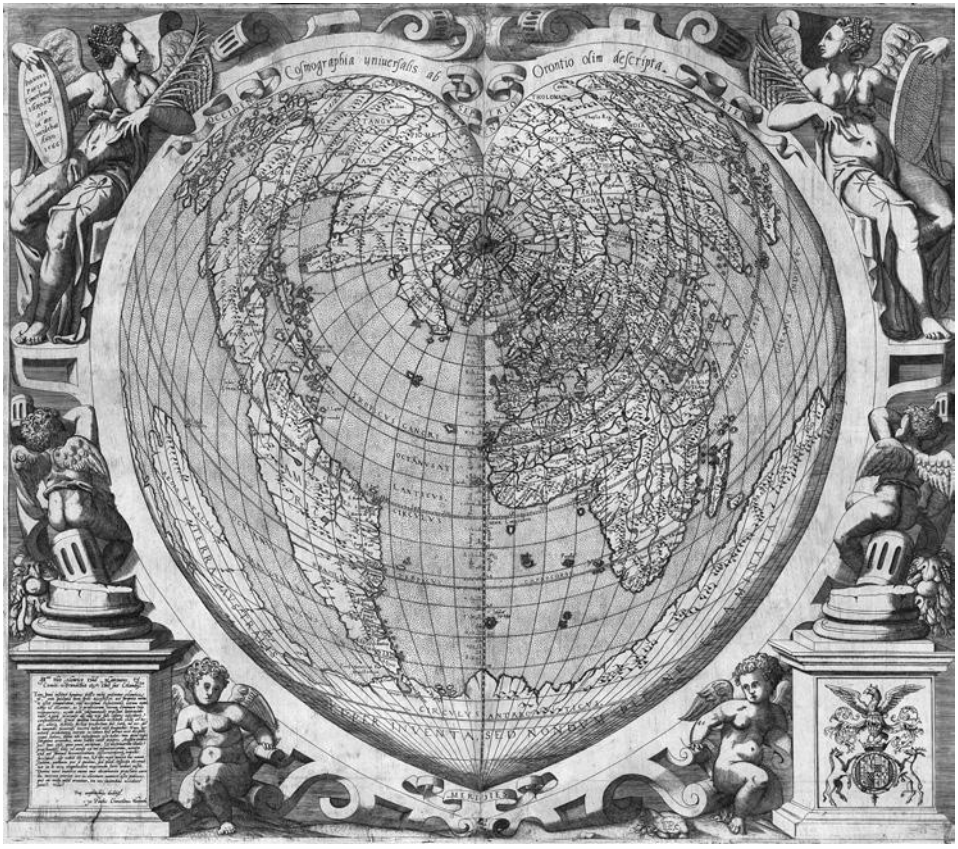

Fig. 5. Giovanni Paolo Cimerlino, "Cosmografia universalis ab Orantio olim descripta," 1566. Photo courtesy of the Newberry Library, Chicago.

created not by men well trained in mathematical principles but by artists like Francesco Rosselli, who was the first to use the extreme conic projection for his 1506 world map and the oval projection in his 1508 world map. The cognitive consequences of viewing the world in such varied ways are difficult to appreciate, but for the mapmakers who pioneered these projections and circulated the recently developed projections created by their colleagues it is easy to imagine this period as an innovative and exciting time. These years saw a period of creativity when there was no "correct" way to depict the world and thus mapmakers were free to craft radically different methods for mapping the globe.

At the same time, previous projections were not discarded; Ptolemy's remained very popular through the end of the sixteenth century, and the

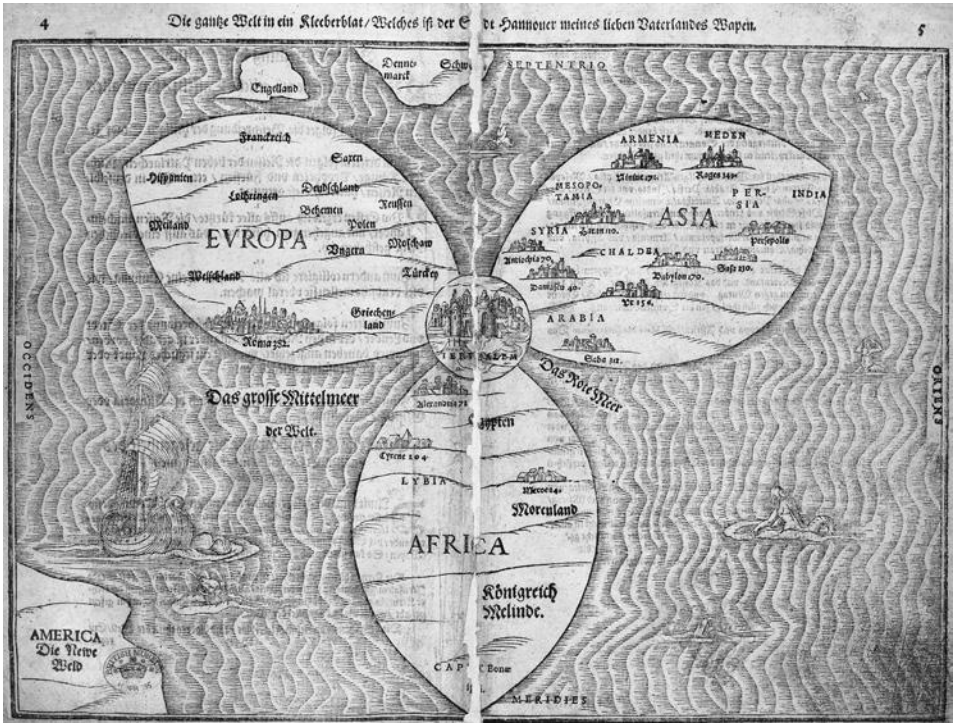

Fig. 6. Heinrich Bünting, world map in the shape of a three-leaf clover, 1585. Photo courtesy of the British Library Board.

medieval *mappamundi* format continued to be used, as with Heinrich Bünting's clover leaf map of 1585 (fig. 6). This map used the Jerusalem-centered view of the medieval *mappaemundi* with the three continents of Europe, Asia, and Africa surrounding the much-enlarged city of Jerusalem. The New World of America was relegated to the corner of the world, an afterthought on an otherwise symbolically Christian map. Geographical information from Fra Mauro's mid-fifteenth-century map was also used in mid-sixteenth-century works such as the Sideri map. This recycling of "outdated" medieval geographical knowledge speaks to the continuity between medieval and Renaissance mapmaking, in terms of geographical content but also in terms of use.[74] Renaissance mapmakers were experts of appropriation, indicating the fluidity and flexibility of Renaissance cartography.

Creativity in sixteenth-century world map projections was paralleled by visual changes in other map genres. Most notably, the rise in popularity of city maps came at the same time that mapmakers began to experiment

with the bird's-eye view and other ways of representing urban spaces. City maps saw an overturn of older models of depicting space, as mapmakers moved away from landscape-oriented views. The changes in city mapping between the fifteenth and sixteenth centuries reveal the ways in which cartographers, by utilizing artistic techniques, maintained the symbolic power of maps while privileging accuracy.

Throughout the fifteenth century cities had often been portrayed in landscape paintings. These images typically adopted a naturalistic viewpoint, representing the city in profile as seen from the countryside. In the last decades of the century the bird's-eye perspective began to eclipse the landscape view in popularity; this viewpoint, showing an oblique aerial view of the city, became extremely popular in the sixteenth century.[75] The rise of oblique maps presented a new set of challenges to the creators and viewers of such images, however, for this perspective altered perceptions of urban spaces and civic identities. A landscape view contained a familiar narrative for a fifteenth-century audience, placing the viewer in the position of a recent arrival to the town and often drawing explicit attention to the strong city walls and the tallest buildings, most often church steeples. In contrast, the bird's-eye view contained no clear narrative, presenting a seemingly artificial view of the city. The bird's-eye view showed the city from a viewpoint impossible to recreate in nature, and it was less apparent how such maps should be read, for the perspective itself de-emphasizes height as a clear differentiating feature. Instead, the angle of observation can direct attention to certain parts of the city as others recede into the background. For example, the de'Barbari and Forlani maps of Venice, as well as nearly every other sixteenth-century bird's-eye view of the city, show *La Serenissima* from the same angle, placing the Piazza San Marco at the focal point while the poor, laboring-class neighborhood of Cannaregio is distorted and pushed into the background.

The development of bird's-eye maps in the late fifteenth century represented a major shift in both conceptions of space and in the purposes of maps. While these maps did still contain symbolic representations, the realism of the perspective was an attempt to amaze the viewer with the conflation of art and artifice. With the rise of printed maps and the vast expansion of a commercial market for maps, which coincided with the adoption of the bird's-eye view, mapmakers were faced with unique challenges in producing urban maps. Similarly to Fra Mauro's concern over the place of Jerusalem on world maps, the oblique perspective demoted the prominent place of sacred locations in the city. Whereas the profile views highlighted the tall church spires, as in Erhard Reeuwich's 1486 woodcut view of Venice, which showed the city in profile from the point of view of a boat arriv-

ing to San Marco, bird's-eye views and top-down plan views did not draw the eye toward the tallest buildings.

As David Friedman has noted, a critical change occurred with the adoption of the bird's-eye view, for with these maps "interpretive images of cities needed . . . also to be plausible accounts of physical reality."[76] This novel demand presented a challenge and opportunity for mapmakers who wanted to create moralized accounts of their cities. This mirrors contemporary challenges for the makers of world maps; whereas the medieval *mappaemundi* put Jerusalem squarely at the center of the earth, Ptolemaic grids presumptively decentered Jerusalem. Christian Jacob, building on the work of Samuel Edgerton, argued that on gridded maps, "no ideologically privileged center can exist like the center that is found on circular maps."[77] Sixteenth-century mapmakers attempted to compensate for this de-emphasis of Jerusalem much the way Fra Mauro had in the previous century. While the *mappaemundi* integrated geographical knowledge with spiritual instruction, representational world maps had to separate these functions, imbuing the map with spirituality through added texts or images.

The shift from landscape to bird's-eye views altered the way viewers responded to the image and expanded the expectations of city maps, which should be both wondrous and realistic. Art historians agree that the fifteenth-century development of linear perspective changed the relationship between viewer and image; likewise, new cartographic perspectives shifted the connection between map and viewer.[78] Linear perspective assumed an original position for the viewer, directed the eye's gaze toward a vanishing point, and attempted to recreate the gaze of the viewer looking through a window. Just as the adoption of linear perspective in paintings involved both new techniques and a different relationship between viewer and image, the shift from landscape to oblique maps altered both the argument and interpretation of city maps. Bird's-eye maps astonished the viewer with a new perspective, displaying the ability of men to capture a fantastical view of the city unreachable by human means. The popularity of these maps, praised for their realism, indicates a change in the expectations of the consumers of maps; viewers expected maps to provoke a sense of wonder through their visual depiction of the city. Coupled with the rise of printed maps and the vast expansion of a commercial market for maps, which coincided with bird's-eye views, mapmakers faced new demands in producing urban maps.

This combination of wonder and realism is most apparent in Jacopo de'Barbari's 1500 map of Venice (fig. 7). At first glance it is not clear if this view of Venice is a work of imagination or science; historians have debated whether de'Barbari employed surveying techniques to lay out the highly

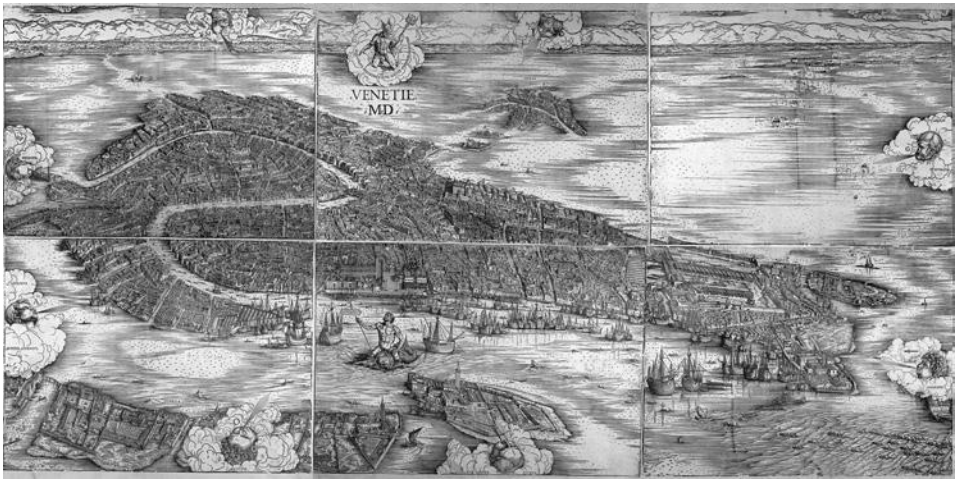

Fig. 7. Jacopo de'Barbari, "Venetie," 1500. Photo courtesy of the Newberry Library, Chicago.

detailed depiction of Venice or took views from various church towers to triangulate locations in the city.[79] Certainly the map offers a view which no person would behold perhaps until the invention of hot air balloons in the eighteenth century, yet the map is also highly detailed, depicting individual streets, buildings, and squares throughout the city. At a size of approximately 4.5 feet by 9 feet, printed on six separate woodcuts, the image was imposing not only in detail but also in scale. The image, described by art historian Bronwen Wilson as a "meditati[on] between the ideal and the real," prompts viewers to marvel at the expanse of the city and the artist's skill in representing it on paper.[80] The view itself is dazzling, displaying the entire city before the viewer's eye, evoking astonishment and fascination. Combined with the size and level of detail, this map was unlike any previous map, a testament not only to Venice's lofty position as a city protected by the gods Mercury and Neptune but also to the ability of de'Barbari to capture Venice's glory in an image.

De'Barbari's view of Venice is often contrasted with Francesco Rosselli's depiction of Florence, originally made in the 1480s and reproduced in a woodcut made by an anonymous engraver around 1510 (fig. 8). Rosselli's map is less detailed than de'Barbari's but carries a similar message about the city: it is expansive and powerful, and in place of Venice's lagoon, Florence is ringed by an idyllic Tuscan countryside. The walls of the city are shown dramatically out of scale, larger than life size, while the massive dome on the Basilica of Santa Maria del Fiore has been enlarged and moved to a more

Fig. 8. The "Catena Map" with view of Florence, ca. 1500–1510, after Francesco Rosselli, ca. 1490. Art Resource, NY.

Fig. 9. Detail from the "Catena Map" with view of Florence, ca. 1500–1510, after Francesco Rosselli, ca. 1490. Art Resource, NY.

central position in the city, standing out as the pupil in the eye-shaped contour created by the walls.[81]

Rosselli also included a figure in the lower right corner, meant to be a self-portrait of the mapmaker, who sits on a hill, holding paper and stylus, sketching the view before him (fig. 9). Through this device Rosselli assured

viewers that the map was based on a real sketch of the city, although the mapmaker fabricated even the hill which the drawer sits upon. By inserting the self-portrait, though, Rosselli crafted a narrative of how his map was made; the map was an artistic work, drawn from nature. The man in the map uses no tools except for his eyes and his pen to recreate the city on paper. This was an elaborate fiction on Rosselli's part, revealed by his altering the cityscape to fit the message he wanted to portray in his map. The map was still a work of imagination, relying on a viewpoint that was not physically possible.

Realistic maps, images that purported to reveal a city, country, or the world as it actually was, still involved manipulation on the part of the mapmaker, either consciously to highlight certain features in the landscape or unconsciously by demoting neighborhoods or regions to the background of the map.[82] This manipulation was precisely to maintain the symbolic message in accurate maps. Much like da Vinci straightening the streets of Imola to make the city more appealing, Rosselli privileged an enlarged portrayal of the Duomo to highlight Florence's devotion and architectural acumen over a completely representational portrayal. Though the public rhetoric of sixteenth-century cartography argued that maps should be a mirror of the place represented, the reality was different: mapmakers finessed locations, enlarged important buildings, and straightened boundaries, manipulating their works to convey a message to the viewer.

Rosselli's efforts further remind us that the imitation of nature was a central aim of Renaissance artists.[83] The close connection between nature and art is perhaps best captured by the artist Benvenuto Cellini, who wrote that "nature is the only book from which we can learn art."[84] As with other genres of Renaissance art, mapmakers walked a line between providing an acceptable semblance of reality and simultaneously capturing the symbolic identity of the place depicted.[85] The mid-sixteenth-century sculptor Vincenzo Danti described the relationship between these two aims in his *Trattato delle perfette proporzioni* (1567). He explained two ways of representing: "*ritrarre*," or portraying reality exactly as it is, and "*imitare*," or creating an idealized version of reality.[86] For Danti the distinction was thus between rote copying and artistic elevation. To "imitate" nature, rather than to "portray" it, meant to improve upon it, to create the perfect version of an object or even a continent. A drawing of a plant, for example, was meant to stand in as the ideal version of that plant.[87] Likewise, the popular genre of Renaissance portraits were framed as mirrors in one sense, yet also idealized the subject's looks, a point acknowledged by Mantua's First Lady of the Renaissance Isabella d'Este when she remarked upon a portrait of

herself that ''in our opinion it is most elegant and ingenious, even if it goes over and beyond the truth in praising me, for as the common proverb goes: 'I know you are not speaking the truth, but still I like it.''[88]

Sixteenth-century Italian mapmakers drew on this artistic definition of *imitare* in crafting simultaneously "lifelike" and idealized maps. Mapmakers blurred the distinction between these two categories by claiming to show the world as it existed in reality but in actuality idealizing these portrayals. Drawing things from nature allowed viewers to gain knowledge of a subject or location; the natural philosopher Ulisse Aldrovandi applied this to plants, but the same could be said of maps as well.[89] Mapmakers wanted to imitate artists in their imitation of nature. Francesco Rosselli's insertion of a self-portrait, which implied that the map was "drawn from nature," draws on an artistic tradition. As Danti stated, "there is nothing on earth that seems to me to give more pleasure and utility to man than painting, and above all paintings of natural things: because it is through these things, painted by an excellent painter, that we acquire knowledge of foreign species, although they are born in distant lands."[90] The same sentiment was applicable to cartography—it was through the skill of a mapmaker that viewers gained knowledge of foreign places, in some cases merely by gazing at a map.

The figure on Rosselli's map represents not only cartographers borrowing from art in promoting an imitation of nature but also mapmakers experimenting with methods for imbuing accurate maps with symbolic meaning. Imagination played an important part in the making and in the viewing of these city maps. Both de'Barbari and Rosselli crafted an unattainable viewpoint to portray the city, necessitating invention. Viewers, too, were supposed to be astonished at the ability of the mapmaker to capture the city on paper and wonder if, in fact, Rosselli's fictional mapmaker on the hill was the creator of this view. As Ballon and Friedman point out, the significant achievement of early urban cartography was the mapmaker's ability to "make an impossible view seem credible and to convert a picture riddled with lies and artistic inventions into a respected form of knowledge."[91] Credibility rested on the mapmaker's use of artistic techniques, imitating the realism found in other works of art.

Both Rosselli's view of Florence and de'Barbari's Venice fit with another contemporary trend in art, that of valuing the skill of the artist over expensive ingredients such as costly pigments, gold foil, and luxurious frames. Giuniano Maio's 1492 treatise *On Majesty* derided appreciating fine things only for their expense, arguing that for luxury goods like paintings "the elegance of the art is appreciated more than the expense."[92] Although

de'Barbari's map was expensive, he foregrounded the skill necessary to produce his view of Venice through the selection of an impossible viewpoint. Similarly, Pier Paolo Vergerio opined that "the beauty and grace of objects, both natural ones and those made by man's art, are things it is proper for men of distinction to be able to discuss with each other and appreciate."[93] Maps, which showed nature captured through man's art, were closely tied with other beautiful objects, both by the men who made them and in the ways consumers categorized and understood them, underscoring the significant overlap between art and cartography during the Renaissance.

CONCLUSION: ACCURACY AND MEANING IN SIXTEENTH-CENTURY MAPS

From the point of view of the artisan mapmakers of the late fifteenth and early sixteenth centuries, the new cartography—like the old—was inextricably bound to artistic production. Many, if not most, of these early Italian mapmakers were schooled in art and produced works of both cartography and art, like de'Barbari, Rosselli, Gastaldi, and Zenoi. Rosselli, in particular, collaborated with other artists like Botticelli while making his maps of Florence and the world. Furthermore, many illustrious artists including da Vinci made their own maps.

Similarly, in the Renaissance the line between works of art and cartography was vague and nearly nonexistent. Mapmakers and the viewers of maps did not make the distinction between landscapes and world maps that exists today; rather, the two were conceptualized as points on a continuum of mapping that began with large-scale world maps and included regional maps, city views, and artistic landscapes as well. The trend toward realism in art was concurrent with a move toward realism in cartography; in both cases this shift did not detract from the symbolic meaning attached to representations of nature but did drive makers to experiment with new ways to combine accuracy and meaning in their works.

The maps produced by these men defied easy categorization; they purported to show the world as it was, yet mapmakers largely relied on acts of imagination to capture that view. In fact, as Ballon and Friedman note, there is no evidence that any of these mapmakers used survey techniques in their city views, instead relying on pictorial methods to create a persuasive viewpoint.[94] De'Barbari's view of Venice, for example, asked his audience to accept and trust a point of view they could not possibly recreate or verify through their own experience, and this trust was built on de'Barbari's ability to capture the city on paper.

The symbolic power of maps was not extinguished when maps became more representational. Maps could and did hold multiple meanings beyond their ability to depict accurate coastlines, as demonstrated by the desire of governments and individuals in the sixteenth century to decorate their homes with maps. A map of the New World, for example, could impress viewers with the owner's knowledge about the world while simultaneously standing as evidence that ancient knowledge had been overturned by contemporary exploration. While the message might not have been as visually obvious as with the medieval *mappaemundi*, maps could still convey multiple messages even when they faced the expectation of realism.

The early sixteenth century represents a window where cartography was still largely a work of imagination, as mathematical techniques and surveying were not as dominant as they would become in later centuries. After of the rediscovery of Ptolemy and the discovery of the New World previous methods of mapping were augmented with innovative new techniques. Many of these diverged from Ptolemy, whom some mapmakers already dismissed as out-of-date in the fifteenth century, as when the fifteenth-century mapmaking monk Fra Mauro criticized Ptolemy for the gaps in his knowledge, writing on his map that "especially to the north and south, he gives areas as *terra incognita* because in his day they were not known," arguing that the known part of the world had expanded greatly since Ptolemy's day.[95]

Incorporating the influence of trends in Renaissance pictorial art to our understanding of cartographic works challenges both a teleological narrative about cartographic improvement and the idea that accurate maps lost their moralizing or symbolic function. In order to fully understand the impact of the sea change in Renaissance cartography we must place mapmaking in the context of art. The changing visual nature of maps must be considered alongside the influence of the revival of Ptolemy and the invention of printing.

But even more fundamentally, this context sheds a new light on the market for maps from both the production and consumption side. Mapmakers saw pictorial art, especially landscapes, and world maps as lying on the same spectrum, which blended accuracy of depiction with the transmission of messages about the territories represented, and as we will see in later chapters map buyers and collectors operated according to the same view.

CHAPTER TWO

The Commerce of Cartography: Printing, Price, and Francesco Rosselli

By 1500 a sweeping shift in cartography had already begun, yet in its earliest years the results and the payoff of this cartographic revolution were impossible to predict. One of the most significant changes was the decrease in map prices with the introduction of printing; in this respect, maps were part of a larger commercial movement that affected a range of consumer objects that Europeans could choose to purchase. However, if we agree with Richard Goldthwaite that the Renaissance itself was a consumer-led phenomenon, we still must ask why consumers selected particular goods for purchase.[1]

This chapter will examine the connection between changes in production and consumption in the first decades of printing in order to understand in part why maps appealed to consumers. Affordability alone cannot explain why maps were desirable consumer objects, although it helps account for the massive increase in map ownership in the sixteenth century. In some ways maps were quite similar to other printed goods, but they were also fundamentally different, for the rhetoric of sixteenth-century maps proclaimed that they were mirrors of the location portrayed. These arguments, rooted in the visual transformation of sixteenth-century maps, promised that maps could foster a new kind of knowledge about distant places. As later chapters will demonstrate, mapmakers promoted their works as an education in the world by showing viewers the contours of the earth.

The changes to cartographic production in the earliest years of printing can be best understood through an in-depth look at one of the most successful Italian cartographers in this period. A prolific mapmaker and the first to open a shop selling maps commercially in Europe, Francesco Rosselli of Florence was pivotal in adapting cartography to the new world of printing and commodification. This chapter will use Rosselli's life as a case study to

understand the production side of cartography at the turn of the sixteenth century, reading the inventory of the Rosselli shop to analyze the market for maps and their consumption.

THE CAREER OF FRANCESCO ROSSELLI

> In praise of master Francesco of Florence, cosmographer.
> By means of his learned hand, Francesco Rosselli painted the earth in a circle;
> having followed the recent discoveries of the Portuguese and Spanish,
> adding them to the Cosmography of Ptolemy[2]

This epigram, recorded in the hand of Venetian diarist Marino Sanuto, dubs Francesco Rosselli a master cosmographer, proclaiming that he combined knowledge of Ptolemy with the discoveries of the Iberian explorers in order to craft a never-before-seen image of the world. Rosselli began his career with less lofty ambitions; he was a shop owner, a miniaturist, and an artisan who utilized the technology of printing to market a new commodity to Renaissance Florentines. Francesco started his career in the 1470s as an artist and miniaturist, creating the maps in a manuscript edition of Ptolemy's *Geography*, and became the foremost printer of maps in Florence, opening the first shop selling maps commercially in Europe. He is a critical figure for understanding the history of early modern cartography because he stands at the center of several trends—the introduction of printing, a creative exploration of methods to draw the world on paper, and, perhaps most importantly, the commodification of maps.

Francesco Rosselli's experience encapsulates the changes to cartography at the turn of the sixteenth century. From early in his career Rosselli displayed an aptitude for innovation that often led to commercial success. Born into a prominent though financially strapped Florentine family, he eventually made his living engraving and selling maps and art prints. Francesco's father Lorenzo was a mason and his brother Cosimo was an artist who contributed to the painting of the Sistine Chapel. The earliest record of Francesco's work dates to 1470–1471 when he produced miniatures for the Sienese Cathedral's choir books; later he illuminated manuscripts for Lorenzo de'Medici and worked with Sandro Botticelli to produce printing engravings based on the artist's works.[3] As Suzanne Boorsch has convincingly argued, it is highly likely that Francesco engraved the images in Berlinghieri's 1482 *terza rima* version of Ptolemy's *Geography*. As there were only a handful of engravers active in Florence in the 1470s and 1480s and Rosselli

was the only one who went on to engrave dozens of subsequent maps, it is reasonable to assume that he was involved in the project. Boorsch asserts that stylistic evidence, such as the shaping of the winds on the maps, also point to Rosselli's authorship, and claims that this commission was key in launching Rosselli's cartographic career.[4]

In the 1480s Rosselli traveled to Hungary and stayed at the court of a well-known patron of Italian artists, King Matthias Corvinus, where he produced a map of Hungary that has not survived.[5] He left his wife and children in Florence—along with his many debts—to be cared for by his brother.[6] On this trip across the Alps Rosselli also learned new engraving techniques that allowed him to increase the number of prints that could be made from an engraved plate.[7] These techniques include engraving with a tool known as the burin.

The burin, originally a tool used by goldsmiths for incising patterns, produced the deep lines of the so-called broad manner. The advantages of using a burin, aside from aesthetics, included its ability to decrease the problem of wear and tear faced by the fine lines created by the earlier *ciappola*, which was used in the fine manner of engraving. The broad manner also increased the number of impressions that could be made from a single engraving; the thicker lines did not deteriorate as quickly as the thinner lines of the fine manner. Rosselli remade several of his copperplates using this technique when he returned from Hungary and maintained a monopoly over this technique for several years; Landau and Parshall note that Rosselli apparently guarded his technical advantage even from friends like the goldsmith Antonio Pollaiuolo.[8]

Rosselli's precarious financial situation turned around in the 1480s, possibly due to his technological edge over his competition, and it was likely in this decade that he opened his workshop. Around 1489 Rosselli purchased a house; his shop was almost certainly opened by the 1490s, although it is impossible to determine the date exactly.[9] Tellingly, the inventory made in 1528 did contain plates made by Rosselli in the 1480s and other engravings from Rosselli's early years as a printer, which indicates a continuous commercial application of these engravings.[10]

The maps produced by Rosselli are among the most important printed maps made in the first century of printing, and shed light on the world of the first print mapmakers. By 1492 Rosselli was making maps in Florence after his trip to Hungary in the 1480s. His most substantial contribution at this time was the 1492 world map based on one of Ptolemy's projections.[11] In this map Rosselli combined Ptolemaic knowledge with newly discovered information on the African coast, incorporating reports from the recent

voyages of Portuguese navigators like Bartholomeo Diaz.[12] At the southern point of Africa, which unlike earlier Ptolemaic maps was not drawn connected to Asia, the cartographer's notation indicates that sailors reached the cape in 1488.[13] Rosselli's depiction of the British Isles also followed the style of the sailor's portolan chart rather that of Ptolemy, indicating a blend of sources for the work's production.

As this example illustrates, collaboration was key to the production of early printed maps; the 1492 world map was almost certainly the product of collaboration with the German mapmaker Henricus Martellus, who was in Florence at the time. Martellus made a manuscript map around 1490 that shares striking similarities with Rosselli's map: both works include the recent Portuguese discoveries on the coast of Africa but generally draw on Ptolemy when more current geographical information was not available, and both substitute a portolan-chart image of the British Isles for Ptolemy's version. However, Rosselli included many islands that Martellus did not, such as Madagascar and many in Southeast Asia. In fact, as Almagia has noted, Rosselli's picture of Southeast Asia is strikingly similar to Martin Behaim's famous globe of 1492.[14] These similarities indicate a link between Rosselli, Behaim, and Martellus; historian Arthur Davies has argued that perhaps Behaim and Martellus, who were acquainted, were independently drawing on an earlier manuscript map that may have been produced around 1485.[15] It is very possible that Rosselli, Martellus, and Behaim had a partnership much like the one between Rosselli and Sandro Botticelli discussed in the previous chapter.[16]

This partnership was not a one-way transfer of information from manuscript to printed maps. In collecting maps for a manuscript edition of Ptolemy's *Geography* Martellus relied on a map of Germany attributed to Nicholas of Cusa made some time before 1464. Martellus's map showed a large number of changes and additions from Nicholas's original, especially in the portrayal of Hungary. As F. Banfi and Robert Almagia concluded in separate investigations, these changes were made by an Italian; this was most likely Francesco Rosselli, who created a printed map of Hungary in the 1480s.[17] Because both Rosselli and Martellus were in Florence at the same time and both produced maps which used information in the other's map, it is reasonable to conclude that the two cartographers were acquainted and collaborating, sharing material back and forth between their printed and manuscript works. Such collaborations among communities of cartographers were key to the transfer of information between manuscript and print maps.

While the voyages of discovery, particularly the European discovery

of the New World, served as a catalyst for mapmaking between 1490 and 1510, printing proved to be an invaluable method for sharing cartographic information among mapmakers and spreading new visions of the world to a larger audience. Rosselli's collaborations with both mapmakers and artists indicate the fluid status of printmaking in its first decades. Printing allowed disparate pieces of information like Behaim's globe and Martellus's manuscript, not to mention Botticelli's works, to travel across Europe, increasing the speed at which geographic information circulated.

By the early sixteenth century Rosselli had already engraved several important maps, opened his print shop, and recovered from his earlier debts. The years from 1506 to 1508 were the most productive in Rosselli's career and have left behind two extremely important maps: one, the first printed map to show the New World, and the other, the first oval projection of the world. These maps were part of a larger trend, inaugurated by the 1506 Contarini-Rosselli conic map, of using radically new projections to depict the world. As discussed in the previous chapter, in the first decades of the sixteenth century multiple projections were used for the first time, nearly always in the medium of print. Rosselli's two most famous maps, the conic map from 1506 and the oval map of 1508, both pioneer projections that had not been used previously to depict the world.[18] Both broke from the conventions of Ptolemaic mapping, the style that Martin Waldseemüller's famous 1507 map relied upon. Rosselli was at the forefront of this wave of innovative projections, and although the conic projection never became popular, the oval projection has been used since Rosselli's time. In the sixteenth century alone the oval projection was most notably adopted by Benedetto Bordone, Giacomo Gastaldi, Sebastian Münster, and Abraham Ortelius in his popular atlas *Typus Orbis Terrarum*.

Rosselli spent time in Venice between 1504 and 1508. The 1506 Contarini-Rosselli map was a collaboration between Rosselli and a Venetian mapmaker named Giovanni Contarini; very little is known of Contarini's background, except that he was from a prominent Venetian family and died in 1507.[19] This map used a polar-centered conic projection to stretch the earth on a fan centered on the North Pole (fig. 10). While partially derivative of one of Ptolemy's two projections, the map presented a radically different way of looking at the world, and it was also the first printed map to show any part of the New World. It is unclear how many copies were printed of this map, though it exists today in a singular known copy—a reminder that a high number of single-sheet maps from the early years of printing have likely not survived the passing centuries.[20]

Venice, which became Europe's foremost city for the production of

Fig. 10. Contarini-Rosselli world map, 1506. Photo courtesy of the British Library Board.

printed maps in the sixteenth century, provided opportunities for Rosselli's growth as a cosmographer. Aside from Contarini, Rosselli became acquainted with several other mapmakers or geography enthusiasts. On August 11, 1508, he attended a lecture on Euclidian geometry in Venice given by the Franciscan mathematician Fra Luca Pacioli, which covered abstract theories on ratios and proportion, a topic of great relevance to mapmakers. On the list of ninety-two men in attendance the last entry is for "Franciscus rosellus florentinus cosmographus"; taking the title of cosmographer asserted Rosselli's status as a maker of knowledge.[21] Cosmographers combined the practical cartography of mariners with the geometric method, blending the practical with the theoretical.[22] This title was significantly different from that of engraver or compiler, akin to Galileo's changed status after leaving behind the title of mathematician for natural philosopher.[23] In Rosselli's case, it remains unclear if he took the title himself or was granted the title, as was Galileo, through a patron.

Rosselli's most famous map, his 1508 oval projection of the world, was also his most innovative map; instead of attempting to stretch the fan-like shape of the Ptolemaic map to include lands to the west, as in the 1506

world map, Rosselli crafted a new way to depict the world (fig. 11). This oval map, with no known classical predecessors, was a significant break from tradition and underscored the flexibility accorded to artisan mapmakers in developing original styles of showing the world. Rosselli's quick shift from the conic to oval projection also hints at the creativity of the early years of printed maps, when former miniaturists were transformed into describers of the cosmos. The map itself is small, 33 centimeters by 17.3 centimeters, or approximately 7 inches by 13 inches. This size suggests that the map may have been prepared for inclusion in a book or for sale as a single-sheet map in Rosselli's shop. Surrounded by the winds, the blue orb of the earth is awash in green land in one painted version of this map.[24] Although Rosselli sold most of his prints without color, allowing customers to add color at an added expense if they desired, of the four extant versions of this map three are colored in different hands. One has thick, bright color, while another has a light watercolor wash. The recently identified Zwickau version is painted similarly to the first. The final is uncolored.[25]

The 1508 world map, which is possibly the "small world map" listed in the Rosselli inventory, became the basis for several subsequent prints.[26] It was not only the first to use the oval projection but also one of the earliest maps to show discoveries from Columbus's fourth voyage. The map seems to encapsulate the change in world view from medieval *mappaemundi* by

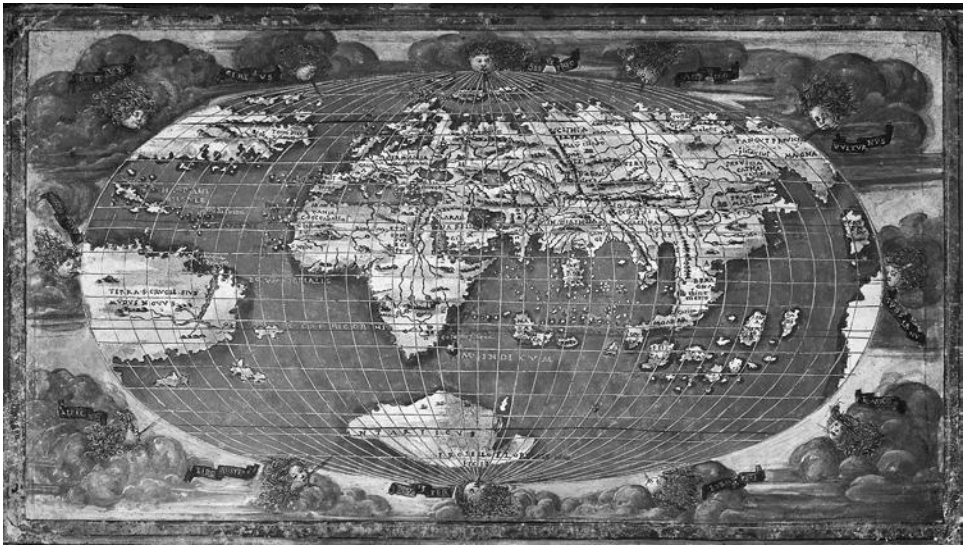

Fig. 11. Francesco Rosselli, world map on an oval projection, 1508. Photo courtesy of the British Library Board.

showing the world as a sphere surrounded by clouds, with more water than land. Rosselli's last-known works were produced around 1508, at the end of a career that spanned manuscript and print, pre- and post-Columbian maps, and the early years of commodified cartography. While Rosselli's cartographic works are important for the history of cartography, the inventory of his shop provides an unequalled insight into the consumers for printed maps and the demand for the newly affordable commercial good. Before turning to the inventory, this chapter will first examine the effects of printing on cartography in the first decades of printed maps.

THE IMPACT OF PRINTING ON CARTOGRAPHY

One of the most fundamental changes in the history of cartography was the introduction of printing in the fifteenth century. The rise of printed maps was key to an economic shift in cartography, but other changes often attributed to printing were slower to appear in the sixteenth century. Although maps themselves began to look different, this was due more to experimentation and artistic technique rather than printing per se. Maps also began to follow more standardized symbols as the cartographic community became increasingly connected due to the greater circulation of maps, yet this too was a slow process. These gradual, long-term changes lagged behind other more immediate shifts, such as the move away from a patronage-based commission system for producing maps. Printing made maps affordable to a much wider group of consumers than ever before, transforming maps from an expensive luxury good into a reasonably priced item on par with many art prints and books, and yet the impact of printing is often misstated, particularly for the early years of printed maps.

Historians have previously lauded printing as a revolutionary shift for visual images. In his seminal work William Ivins claims that "it is hardly too much to say that since the invention of writing there has been no more important invention than that of the exactly repeatable pictorial statement."[27] Elizabeth Eisenstein echoes this sentiment in *The Printing Press as an Agent of Change*, arguing that "the fact that identical images, maps and diagrams could be viewed simultaneously by scattered readers constituted a kind of communications revolution in itself."[28] Yet maps, like other printed materials, fell far short of the standard of "exactly repeatable" or "identical" images in the first century of printing. While accuracy and direct reproducibility have been hailed as the most important facets of printing, allowing the exact same image to travel across countries, early printed maps very rarely met this mark. As Adrian Johns has pointed out for scien-

tific documents, the fixity of print was not inherent to the medium but was itself a historical concept which grew over time due in part to institutional and social changes.[29] The first printed maps almost always relied heavily on pirated information, while the postproduction addition of color could drastically alter the look of "identical" maps, and mapmakers themselves intentionally deceived their consumers about the accuracy, reliability, and age of their maps.[30]

Selling maps was a commercial enterprise, and as a result many of the choices made by engravers and printers were driven by financial considerations. Map sellers heralded nearly every sixteenth-century map as the most accurate, the newest, or the best map of its chosen region in order to appeal to demanding customers. Mapmakers themselves promoted their works as new, accurate depictions even when reusing out-of-date information. Paolo Forlani's 1562 engraving of the world was titled "A Universal Description of All the Hitherto Known Land," a title which it kept in the 1564 edition and the 1576 edition, although the geographical contents had not been updated.[31] Maps were recycled in spite of decades out-of-date information, as when Francesco Rosselli's 1508 world map became the basis for the world maps in Benedetto Bordone's *Isolario* of 1528 and in the 1532 edition of Bartolomeo da li Sonetti's *Isolario*; the latter kept the original author's name even though Rosselli had been dead nearly two decades and the depiction of the New World was woefully outdated.[32] Hyperbolic self-promotion was a common occurrence, as on Forlani's 1561 map of Italy, hailed as "the true and ultimate description" of Italy, in which "many locations are diligently collected and enlarged."[33]

Similarly, mapmakers and printers frequently altered the text on copperplates, misleading consumers about both the maker and age of the map, in order to cut costs. For instance, manipulating the dates on their copperplates was a much-used tactic to persuade buyers that they were purchasing an up-to-date map when in fact the geographical information was sometimes decades behind the times, as with the reuse of Rosselli's map. So too was leaving off a date. Take, for example, the world map engraved by Paolo Forlani in 1565. Four different copies of this map were made in 1565 alone; each impression changed the information provided about the map's makers. The first impression listed Forlani as the maker while the second added the name of mapmaker Ferrando Bertelli and claimed Bertelli made the map in 1565. The third impression erased all of Forlani's name except for the P of his first initial but keeps Bertelli's. The fourth completely erased Forlani's name.[34] Thus in the course of one year four different versions of the same map would lead buyers to believe that the "same" map had been made

either by Forlani, Bertelli, or the two working together. Three subsequent editions of this same map were made in 1571, sometime between 1571 and 1599, and in 1599. The 1571 edition contains the same geographic information, dedication, and title as the earlier editions; the only change was in the date, which has been amended from 1565 to 1571, most likely in an attempt to convince buyers that the information was current. The next two editions also maintain the title of "Universal Description of All the Hitherto Known Land" but erased the date completely, never informing consumers that the map only represented geographical knowledge up to the 1560s.[35] Again the names were changed, indicating a change in ownership of the engraved plate to Luca Bertelli after 1571, perhaps following the death of his relation Ferrando Bertelli, and finally to Christoforo Blanco by 1599.[36]

The same pattern of borrowing information or purchasing plates can be seen in Francesco Rosselli's 1508 oval map of the world, which resurfaced as the world map in Benedetto Bordone's *Isolario* in 1528.[37] This curious appropriation left the Americas as an undefined island without showing any specific information about the coastlines. When Rosselli first made this map in 1508 little was known about the coasts of the New World, but by the time Bordone borrowed this information and created an engraving based heavily on Rosselli's map the coasts were much better known. Again, buyers were not privy to the history behind the image and were never informed that the contents of the map were relatively out of date. The evidence from prints themselves cannot be taken as reliable testimony about the maker or year that the map was engraved because, driven by the bottom line, these maps were often manipulated to mislead their potential buyers.

The addition of color could likewise alter "identical" maps. Because printers had neither the technology nor the financial resources to print in color, maps were often sold in black and white, leaving consumers with the option to add color later at their own expense; in some cases prints were hand colored and sold after coloring, as the Rosselli inventory indicates.[38] Identical printed maps have been found with many different types of color added, from light-wash watercolor to thicker paints or even chalk. This irregular coloring sometimes changed the geographical content of the map; for example, in one edition of Rosselli's 1508 world map the added paint obscures several words, and the unknown painter created a continent with the stroke of a brush by filling in the mapmaker's unfinished borders of a landmass.[39]

Mapmakers also frequently pirated works including their own prior works; unsurprisingly the chief motive was profits. Reusing old plates saved printmakers the cost of engraving and materials. This reuse slowed the dis-

semination of new geographic information; according to David Woodward, "although the new technology theoretically held the promise of new accuracy resulting from the constant feedback of far-flung informants, its effect on map content was less than expected, largely because it was easier and less expensive for publishers to reuse old plates."[40] In the new and uncertain market for cartographic prints, considerations of cost and profit often drove printers to reuse, redate, or rename maps. These minor acts of deception may seem small in comparison to the stability furnished by reproducible images, but they serve as a warning that we cannot assume that prints were inherently more accurate or up to date than their manuscript counterparts. While printing was certainly of critical importance to Renaissance cartography, these changes did not happen overnight and did not affect all facets of mapmaking in the same ways.

In fact, in some ways early printed maps were a step back from their manuscript predecessors—their geographical content was less reliable and more likely to be fabricated. This was in part because several governments endeavored to keep knowledge of their voyages secret by keeping their manuscript maps under lock and key. The Spanish and Portuguese crowns both worried that their geographic discoveries would leak to foreign governments, thus endangering their monopolies over these territories. The Spanish *Casa de Contrataciòn*, for example, attempted to limit the spread of geographical knowledge by centralizing the geographic information gathered by their sailors. While these directives often failed in practice, due in part to the challenge of silencing the testimony of hundreds of sailors from dozens of regions, governments had little incentive to share information garnered from their voyages with artisan printmakers.[41]

In the cartographic world of the sixteenth century, private, secret maps monopolized valuable geographic knowledge while the public, circulated maps were largely based on second-hand reports and rumors. Geographic information about America likely reached private mapmakers outside Iberia in the earliest years after the Columbian voyages either in leaked or stolen manuscript copies of maps or the observations made by sailors on voyages. Historian Felipe Fernandez-Armesto speculates that "most successful transmission of explorers' findings into map form probably depended, as it had in the fifteenth century, on personal contacts, waterfront encounters, and the perusal of rutters, travelogs, or shipboard journals by the mapmakers."[42] Because mapmakers very rarely traveled themselves, and early explorers often did not even map their explorations, printed maps were usually a mash-up of multiple sources, combining multiple maps, taking sections from some and merging them with others.[43]

It is an irony of the early years of printing that those who coveted the seemingly modern printed maps were actually behind the times, for the geographical information in printed maps was on the whole less accurate than that in contemporary manuscript maps. While some consumers were possibly deceived into thinking their maps were accurate, the increasing popularity of these printed maps suggests that contemporary buyers were not always after the most accurate geographical information but were driven by different motives. Buyers may have selected printed maps because of the reduced cost, or because the technology itself appealed. Or these map buyers may have coveted the public appearance of knowledge about the world.

Standardization has been heralded as a byproduct of printing, but the conventions of map notations remained irregular in the sixteenth century. For example, printing did not immediately lead to standardized signs on maps, which did not fully develop until the eighteenth century; universal lettering conventions in maps were likewise not adopted in the sixteenth century.[44] Many maps also lost a critical decorative component with the shift toward printing: as noted previously, fewer printed maps contained color, which was not technically possible or economically feasible for centuries after the introduction of printed maps.

In spite of the high promise of printing, the technology did not immediately revolutionize the content of maps, as recent work in the history of cartography has pointed out.[45] But printing fundamentally and permanently remade the market for maps, transforming them from expensive speciality items into widely owned objects. Whereas maps had once been owned by a small number of sailors, priests, or the wealthiest members of society, after the advent of printing maps became relatively common items possessed by a much larger range of people. As Woodward puts it, "a radical change in the patterns of ownership of maps and works of art took place between the fifteenth and sixteenth centuries. The modest prices of prints compared to original artworks enabled the middle classes to enjoy a consumerism in collecting that had previously been reserved for the nobility."[46] With the advent of printing maps became a more mobile item with a decreased price.

Within the first decades of printed maps, there were thousands of copies of maps circulating in Europe, and as the information from the Rosselli inventory demonstrates, these maps were significantly less expensive than their manuscript counterparts. Whereas men like Lorenzo de'Medici had always been able to afford expensive decorative maps for their homes, spending as much as 50 florins (roughly 650 *lire*) on a single painted globe, such prices were unaffordable to all but the most affluent members of so-

ciety.[47] Likewise, from the production side printing did require new investments, including metal or wood to produce plates and the cost of a printing press, but printed maps were still less expensive to produce than commissioned manuscript maps and thus had correspondingly lower prices. For example, the most expensive printed map listed in the Rosselli inventory cost 7 *lire,* approximately one-eighth of the cost of the least expensive manuscript map in Lorenzo de'Medici's collection, a map of Spain.[48]

Printing also altered the way that mapmakers did business. Though Rosselli sold noncartographic prints, the economic success of the shop indicates that maps had a large enough consumer base to help support the business. The business model of the Rosselli shop indicates a change in the relationship between mapmaker and patron. Rosselli's maps were not commissioned for specific buyers and may have even been printed on demand for customers who sought out his shop. The patronage relationship endured in other cases but not without significant changes. For example, some print mapmakers relied on patronage to provide for the initial costs of making an engraving, as with the mid-sixteenth-century mapmaker Paolo Forlani, who dedicated many of his maps to illustrious men. These patrons presumably funded his initial endeavor but had no claim to ownership over the final products as a patron would have had with a manuscript map or work of art. Jerry Brotton notes that printing "established a perceptible distance between the geographer and his patron"; this distance was a direct result of the mapmaker's ability to sell maps to a broader audience.[49]

In part this was due to the lower cost of creating a single map; though the cost of setting up a print shop or engraving a plate was high, after these initial expenditures single-sheet maps were less costly to produce than manuscript maps.[50] Many maps were still dedicated to wealthy patrons, but unlike manuscript maps, printed maps were never intended to be owned by just one person. Woodward explains that the close relationship between mapmakers and their patrons lessened over time as well, stating that "map publishers also became economically less dependent on noble patronage as the variety and size of their stock increased and as the web of investment and cooperation with other print sellers became developed."[51] A community of mapmakers and printers flourished in several cities, most notably in Venice and Rome by the later sixteenth century, and the trade of plates and information between these communities was vibrant.[52]

Because printing did not immediately usher in exactly repeatable images, we cannot recreate the market for early sixteenth-century maps based on later definitions of the printed image, when symbols, colors, and credit had become standardized. Instead, the best source for understanding the

place of maps in a broader commercial environment is the inventory of the Rosselli shop, which demonstrates how printing transformed maps into a commodity.

PRINTED MAPS AS COMMODITIES

The inventory of the Rosselli shop made in 1528 is an invaluable resource for reconstructing the market for maps in early sixteenth-century Italy, in large part because it contains both a list of maps and their prices. The inventory presents a snapshot of prices and images available in the shop after the death of Alessandro Rosselli in 1525, and by comparing the prices of these maps with similar items in the early sixteenth century this section will highlight the place of maps in a larger commercial market. After a description of the cartographic materials in the inventory and their prices, we will compare these prices with those of contemporary manuscript maps, nongeographic prints in Rosselli's shop, and printed books, in order to place printed maps in the context of similar goods.

In 1528 the Florentine government made an inventory of the cartographic shop first opened by Francesco Rosselli in the late fifteenth century.[53] The shop had been passed down to Francesco's son Alessandro, who was not a mapmaker himself but ran the shop for over a decade after Francesco's death around 1513. When Alessandro died in 1525 the print shop was left without an adult heir, for his son Lorenzo was a minor and thus unable to inherit the family business. The Florentine Magistrato dei Pupilli, the office charged from 1384 with compiling inventories in such cases, made two inventories of the Rosselli store in February of 1528. These two copies, both in the Archivio di Stato di Firenze, are distinct and made by different notaries but contain much of the same information.

This inventory represents the only known source of its kind.[54] It is highly detailed, listing the full contents of the store, from the maps in stock and ready to be sold labeled with their prices to the engravings made and owned by the Rosselli family to produce additional prints. These cartographic prints are described in terms of size, condition, number of sheets, and color. Rosselli's store also sold devotional images and fine-art engravings based on the works of Botticelli, Michelangelo, and Raphael. The inventory includes descriptions of both woodcuts and metal plates and the flatbed press used to make the prints for sale. The shop even advertised its cartographic products by hanging a sign with an image of the world on the storefront.[55] While the inventory does not indicate how many maps were sold or who purchased these maps, Alessandro Rosselli's continuation of the

business for more than a decade after his father's death implies some degree of success. And, importantly, Alessandro continued to sell prints made from his father's engravings, showing not only the durability of copperplate engravings but also the continuing commercial appeal of Francesco's designs.

The primary difference between the two copies of the inventory, made on February 14 and February 20, is that the earlier inventory gives a complete list of the contents of the shop, including plates, while the later inventory includes the movable items in the home along with the items for sale in the shop without listing the plates, furniture, and supplies in the shop.[56] The two inventories were not made by the same notary and list the prints for sale in the shop with slightly varying descriptions and in a different order.

The inventories both include prices for the maps on sale in the shop, and both copies give the same prices, indicating that the value of the shop's contents was likely not assessed by the notaries and almost certainly represents the original sale prices set by the Rosselli family. These prices provide invaluable information for understanding the market for maps in the early sixteenth century. Not only can this information demonstrate that printing dramatically lowered the cost of cartographic materials, but an analysis of the inventory prices can also indicate who would have had the financial resources to purchase maps. As the inventory shows, maps became affordable to a much larger segment of society for the first time in the early sixteenth century.

The contents of the shop in 1528 included world maps, navigation charts, and maps of Rome, Constantinople, France, and Italy. In total fifty-eight individual maps made from thirteen different engravings were on hand in the shop when the inventory was made, ranging in size from small to large, including multiple-sheet maps, printed on various materials, and some for purchase that were already colored. Of these fifty-eight maps, twenty-six were world maps in four different imprints, twenty-one were city or regional maps, and nine were navigation charts. In general, the pricing followed logically from the description of the image—smaller maps were nearly all less expensive than larger maps, those with color cost more than the uncolored maps, and maps printed on paper were less expensive than maps on other materials.

The variety indicated by the cartographic contents of the inventory, which included navigational charts, world maps, and regional maps, some painted, some described as small and others large enough to be on three or nine sheets, reveals a diverse market for maps. This is mirrored by the range of prices for these maps, which spanned from a low price of 3 *soldi* for a

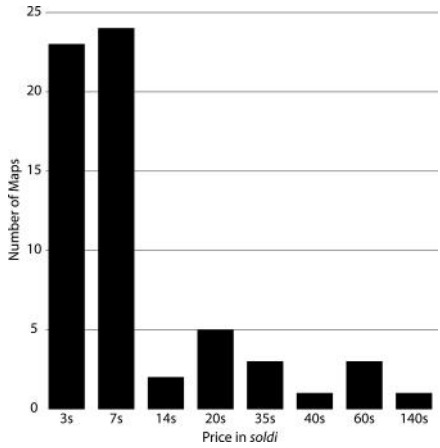

Fig. 12. Maps in the Rosselli inventory, sorted by price

single map up to a high of 7 *lire*; the majority of the maps were at the lower end of this range.[57] The twenty-six world maps were listed at prices between 7 *soldi* and 3 *lire*, while the two city maps and the map of Italy cost 1 *lira* 15 *soldi*, and 3 *lire* respectively. A map of France was listed for 3 *soldi* per image. The greatest variation was found in the navigational charts, with both the least expensive and most expensive maps in the shop coming from this genre.

These prices demonstrate that vast majority of maps in the shop were affordable to even unskilled workers (fig. 12).[58] Richard Goldthwaite has calculated that in Florence, an unskilled worker in 1527 made approximately 9 *soldi* per day, while skilled workers made roughly double this amount. Of the cartographic prints for sale in the shop, 87 percent cost 1 *lira* or less, while just over 80 percent cost less than a day's wages for an unskilled laborer. As shown in figure 12, which lists the price per image of the maps recorded in the Rosselli inventory, the vast majority of maps in the shop were listed at seven *soldi* or below, an affordable price for nearly every social class. Of the fifty-eight maps in the inventory, forty-seven were either 3 *soldi* or 7 *soldi*. While the more expensive maps may have been outside the financial reach of Florence's working classes, many maps, including world maps, navigational charts, and regional maps, were remarkably affordable, particularly in comparison with the more expensive manuscript maps.

One caution should be made in using the prices in the inventory: the notaries did not explicitly state if the prices listed were those set by the Rosselli family or indicate the worth of the products as determined by the men

drawing up the inventory. However, there are two strong indicators that the prices listed in the inventory were the selling prices. First, prices were not attached to any of the plates or other goods in the shop that would not have been available for sale, for example the press itself, while every print is listed with a price, including art prints, religious prints, and books. The prices were therefore likely not an assessment of the total value of the shop's contents. Second, the two copies made of the inventories list identical prices even though the descriptions of the items are not identical.[59] If the second inventory was simply a copy of the first, recording the prices determined by the earlier notaries, we must then explain why the two copies of the inventory would use different terminology and record different rooms of the Rosselli house. Based on this, it is a reasonable conclusion that the prices assigned to prints represented the selling price.

The tastes of early cartographic consumers are hinted at by the inventory's list of engravings. Notably, there are more regional maps listed as plates than on hand for sale. The shop contained plates of Lombardy, Crete, India, and Hungary.[60] The map of Hungary was almost certainly based on Francesco Rosselli's trip in the 1480s, a map which is now lost, while the map of France was most likely the one made by Francesco Rosselli around 1500, extant in a single copy now at the British Library.[61] The inventory also lists the famous view of Florence with a chain frame made by Rosselli in the 1480s, known through a woodcut copy made in 1510, discussed in the previous chapter.[62]

The inventory indicates that the shop possessed the plates for every map listed on sale, demonstrating that the plates were still in use and producing revenue for the family. An interesting clue about the workings of early print shops can be seen in the notations among the plates that several were engraved on both sides of the plate. One, for example, was listed as "a world map, on the other side Italy," while another was described as "a large and new world map in copper, worked on both sides."[63] Copper, an expensive metal, was gradually replaced by woodcuts over the course of the sixteenth century in large part because of price. Buying metals for engraved plates represented a large expense for such shops; in the early sixteenth century most copper ore had to be imported at great cost from Hungary and the Tirol.[64] The ability to use a copperplate engraving for decades was in many cases necessary simply to recoup the expenses for the metal.

The fact that the inventory lists fifty-eight individual sheet maps printed from thirteen different engravings indicates a degree of turnover in the shop. Woodward has estimated that in order to cover the costs of capital, overhead, raw materials, and manual labor, the break-even point for the number

of impressions from a single engraved copperplate was between 110 and 220, while in order to bring in a reasonable profit at least 250 to 300 impressions would need to be sold from each engraving.[65] For the thirteen different impressions in the inventory, assuming that each plate was approximately twenty years old, the shop would need to sell between five and eleven prints per year to break even, or twelve to fifteen to make a profit.[66]

Eight of the thirteen impressions were stocked with only a single copy; these maps represent the most expensive in the shop, which makes sense from an economic standpoint as the market for the costlier prints would presumably be more limited than that for the less expensive ones. It is also possible that Rosselli's most costly prints were competing for buyers with commissioned manuscript maps, which would have been available for a comparable price. For the remaining five impressions, including two navigational charts, two world maps, and a map of France, the shop had multiple copies—two and four copies of the navigational charts, five and twenty of the world maps, and nineteen copies of the map of France. The higher numbers, particularly for the "20 small world maps on cloth," possibly Rosselli's 1508 world map, and for the "19 stamped folio in cloth of France," most likely Rosselli's 1500 map of France, indicate the continued commercial viability of two maps made in the first decade of the sixteenth century.[67] The presence of these maps also indicates the financial durability of older cartographic prints; by the 1520s the sale of these maps was supporting the original mapmaker's grandchildren.

The Rosselli inventory provides tantalizing clues about the market for maps in the early years of the sixteenth century. Most importantly, the inventory indicates that maps were quite affordable to a large swath of Florentine society, transforming cartography from an elite pursuit to a popular consumer good.

MAPS IN CONTEXT

The vast majority of Rosselli's maps were remarkably inexpensive, particularly when compared to the known prices for other maps, both printed and manuscript, and comparable consumer goods like printed books and artwork. Placing the prices for Rosselli's maps in context provides a clearer picture of the market for maps, including who had the financial resources to afford to these maps. Unfortunately very few prices for contemporary printed maps are known. One of the only examples outside of the Rosselli inventory is for the view of Venice made in 1500 by Jacopo de'Barbari, which was sold for 3 ducats, or over 18 *lire*.[68] This map, made in six sheets, was approxi-

mately nine feet by four feet, much larger than the average printed map and mimicked the form of a commissioned wall hanging, partially explaining the higher price.

Household inventories do contain scattered references to map prices, although in most cases notaries did not distinguish between print and manuscript maps. The prices affixed to maps in sixteenth-century Venetian inventories fall in a similar range to those in the Rosselli inventory. Paolo Moro's world map was listed at 1 *lira*, while two world maps owned by Sallustio Gnecchi cost 1 ducat and 2 *lire* 10 *soldi* respectively.[69] An unnamed household contained a world map that cost 2 *lire* 14 *soldi*, and Pietro Bressan's design of the castle of Milan on good paper was a mere 12 *soldi*.[70] Bressan clearly had an interest in maps as well as classical books, as he also owned a copy of Ptolemy's *Geography*, a world map, Pliny's *Natural History*, and Vetruvius' *On Architecture*.[71] Dionisio Dolfin's map of France was more expensive, listed at 4 *lire*, which he displayed near three 6 *lire* images of countrysides.[72] Isabetta Ravizza, the widow of Giacomo Ravizza, owned five pictures of landscapes, and her four-part series of the parts of the world cost a total of 4 *lire*, or 1 *lira* per continent.[73] Bartolomeo Giudise owned a more costly collection of three images of landscapes listed at a total of 15 *lire*.[74]

Venetian wages followed similar patterns to wages in Florence. Brian Pullan estimates that in the mid-sixteenth century a Venetian laborer in the building trade would earn roughly 20 *soldi* per day, rising to 38 *soldi* by the end of the century. A master craftsman could earn just under 30 *soldi* per day at midcentury, rising to 52 *soldi* at the close of the century.[75] Robert Davis has stated that although master craftsmen at the Arsenale were legally limited to 24 *soldi* per day for most of the sixteenth century, rising to 40 *soldi* in the 1580s, independent craftsmen could earn over 100 *soldi* per day, particularly during the work shortage after the plague of 1630–1631.[76] From this small number of examples we can get a general impression of the range of prices for cartographic items in Venice. The inventories indicate that in Venice, as in Florence, maps were remarkably affordable.

In Florence, maps had been displayed as artwork from at least 1418, when Cosimo de'Medici hung "a beautiful world map" in his study.[77] Nearly a century later an inventory of Lorenzo de'Medici's house, dated 1512, reveals a large collection of maps. This inventory includes regional maps of Italy and Spain, city maps of Rome and Milan, and multiple world maps.[78] These maps were luxury items with correspondingly high prices. The most expensive of Lorenzo's maps, a large painted globe, cost 50 florins, or 350 *lire*, in 1512. Globes, by their nature, would likely be more expensive than

manuscript maps, but Lorenzo's other maps were also extremely costly. His two maps of Italy were 25 florins each, or 175 *lire*, while a painted map of Rome cost 20 florins (140 *lire*). The least pricey map in his inventory cost 8 florins (56 *lire*), seven times more than the most costly item in the Rosselli shop.

Lorenzo de'Medici was the wealthiest man in Florence, so it is not surprising that the decorations on his walls were expensive. But maps were not only displayed in upper class *palazzi*; Florentine inventories also provide evidence for the price of maps in more modest homes. For instance, in 1488 the merchant Luigi d'Ugolino Martelli had six maps and one globe worth 10 florins (70 *lire*), an average of 10 *lire* per map.[79] Jacopo Pandolfini, from a patrician family, was established in the silk business and sold one of his maps to Buonaiuto Buti in 1475 for 1 florin (7 *lire*).[80] In 1497 Giovanni di Francesco Tornabuoni displayed two world maps and painted regional maps in gilded frames in his home; while prices were unfortunately not listed the maps were likely expensive, especially when considering the price of the frames.[81] Domenico di Matteo di Memo owned a small *spera*, either a circular map or a globe, in 1528, which cost 1 *lire* 1 *soldo*.[82] It is unclear if this item was printed, although the price would seem to indicate that it was. In fact, the map could have come from the Rosselli shop.

Aside from the prices of other maps, we can compare the prices in the Rosselli inventory with those of similar printed goods. The inventory itself includes the cost of multiple noncartographic prints, including religious images and art prints designed after Florence's most famous works of artist. A print of Baccio Bandinelli's *Innocenti* in two folios cost 1 *lire*, while a folio in *reale*-sized cloth [approximately 61 by 44 centimeters], both white and painted, was 12 *soldi*.[83] Two prints made after Raphael designs were listed for a very inexpensive 4 *soldi* 4 *denari* for the small print and 5 *soldi* 6 *denari* for the larger print.[84] The shop stocked a high number of each of these prints, 449 of the less expensive print and 305 of the more expensive one, indicating that these prints were popular items. The nine history books in the inventory could not be assessed; the notary records that they were so torn and broken that a price could not be given.[85] But a collection of sonnets and comedies was listed at 35 *lire* for 7 *lisime*, or reams, of printed folios.[86] It is unclear if these were single-sheet items listed in bulk or if each folio represented a *quaderno*, or booklet, of 25 pages, meaning each cost 5 *soldi*. The same confusion surrounds the item listed as "52 *lisime*, half imprinted from woodcuts of things both good and bad, printed by the minor [presumably Alessandro's minor son Lorenzo]; and other prints."[87] The price affixed to these items is 220 *lire* 10 *soldi*, which would be only 2 *denari* per sheet,

or just over 4 *soldi* each if they were grouped in *quaderni*. A folio booklet of designs cost 7 *lire* 10 *soldi*, while buying one of the thirty-five folios without a description would cost 2 *lire* 2 *soldi*.[88] While the shop contained more individual sheets of the noncartographic material, these prints were listed in a comparable price range to the available maps.

It is worth bringing Francesco's cartographic and artistic interests into the same dialogue, particularly with this inventory, for one danger of treating Rosselli's art and cartographic prints separately is overlooking important information from one that informs the other. Looking at the price and stock of art prints versus cartographic prints indicates that maps were still something of a specialty item, not bought in the same numbers as art prints, and some were significantly more expensive than the average art print. The greater number of sheets on hand for each print indicates that the turnover for the noncartographic prints was higher, and the shop contained many more plates for these prints than for the maps.[89] Of the seventy-nine woodblocks and copperplates in the shop, nineteen were cartographic and the rest were largely religious images. Perhaps the first shop selling maps commercially depended on the revenue from these religious images in order to supplement the income from map sales, still a niche market in the early sixteenth century.

Comparing the price of prints with book prices provides another angle on the place of maps in the broader market. The market for printed books was larger than the market for geographical prints, and while nearly all printed books were less expensive than manuscript maps such as Lorenzo's luxury items, many books were comparable with the less expensive maps in the Rosselli print shop. As we might expect, book prices also varied considerably based on the assumed audience. For example, one bookseller working in Padua on behalf of Antonio Moreto listed an illuminated Latin grammar book for 16 *soldi* in 1480, while Guarino's grammar book cost 10 *soldi*; these texts were most likely aimed at students. Boccaccio's *Decameron*, a long and pricey text, cost 4 *lire*, while an edition of the Bible cost 10 *lire*.[90] Specialty texts, large editions, or expensively bound and decorated books could easily become expensive luxury goods.[91]

Venetian bookseller Francesco de Madiis recorded his sales of 12,934 books in the 1480s, noting prices for most of them. In 1484–1485 he sold psalters from 15 to 18 *soldi* on vellum, or 3 to 4 *soldi* on paper, a reminder that the drop in prices with printing was not only from the ability to mass-produce books but also because paper cost less than vellum. His chivalric romances ranged from 9 to 10 *soldi* on the low end to 1 to 1.5 *lire* on the high end. De Madiis also sold nearly 400 grammar books between 1484 and

1488, indicating a large market for such works.[92] Aldus Manutius, one of the foremost Venetian publishers of classical texts, also sold many high-end books, including several Greek texts listed in his 1503 catalogue. An edition of Sophocles was priced at 3 *lire*, a Greek anthology cost 4 *lire*, and a two-volume set of Homer or Euripedes would cost 9 *lire*.[93] The most expensive set of books from the Aldine Press was a five-volume edition of Aristotle that in total cost over 70 *lire*.[94] These higher prices almost certainly reflect the smaller, more elite market for specialty texts, as the potential consumers would be limited to those with a reading knowledge of Greek, most likely university lecturers, intellectuals, and some civil officials. For these buyers, Homer or Euripedes would represent roughly a week's salary, certainly a substantial investment but not outside their financial means.[95] Manutius's world was not so far removed from Rosselli's; Manutius attended the same lecture on Euclid as Francesco Rosselli.[96]

The price of printed books ranged broadly depending on the size, quality, and content of the book. For instance, in listings made between 1480 and 1491, the price of a copy of Guarino's grammar was listed at 10 *soldi* in Padua, between 6 and 10 *soldi* in Venice depending on if the copy was bound, 3 *soldi* 2 *denari* in Parma, and 1 *soldo* for an unbound copy a few years later in Parma.[97] Similarly, a copy of the Office of Our Lady, depending on the binding, was between 10 *soldi* and 3 *lire* 10 *soldi* in Padua in 1480, but a bound copy in Parma in the same decade cost as little as 1 *soldo* 2 *denari*.[98] The great degree of variation hints at a range of qualities but also the unstable prices for a relatively new consumer good. As O'Malley and Welch found in their analysis of Renaissance material culture, price in the sixteenth century was frequently unrelated to the cost of production or an assessment of demand. Instead, a wide variety of prices existed for the same goods, which they concluded indicated a shifting value based on social needs rather than the inherent properties of the object.[99] The wide range of prices attached to books and prints supports their conclusions.

The large range of prices provides a window onto the diversity of the growing market for printed books. The Latin grammar books, listed for under 1 *lire* each, had a much larger market than a specialized text like Sophocles in Greek. Differences in material, such as vellum versus paper, also greatly affected the price of these objects. And in the case of the Aldine Press, many of these printed books were bound in leather and included color illustrations and often gold foil coloring or bindings. As with manuscript books, these printed books were luxury items affordable only to the elite of Italy. The same variation in price can be seen in the Rosselli inventory, which included maps printed on different materials, in various sizes, and in

some cases with the postprinting addition of color. This variety not only accounts for the range in prices but also indicates that some maps were aimed specifically at higher-end consumers, who could choose to purchase a larger colored map. As with maps, the range of prices for printed books was large; a book could cost as little as 1 *soldo* or as much as 10 *lire*, and books could also be purchased in multiple sizes, on both paper and vellum, bound or unbound. This variation contributed greatly to the range of prices but also indicates options on the part of the consumers to customize goods based on their needs and financial status.

Without more evidence on who purchased maps from Rosselli's shop it is difficult to establish the market for Rosselli's maps with any great degree of specificity. However, knowing the prices for his maps does give some indication of who had the economic capabilities to purchase these objects. While the most expensive maps cost much less than the commissioned manuscript maps in Lorenzo de'Medici's palace, they cost more than many printed books. The least expensive maps in the inventory, including navigation charts, a world map, and a map of France, were priced comparably to many printed books used by students and less expensive works like chivalric romances. The range of prices available for maps suggests that the new market was somewhat unstable, yet as we will see in the next chapter, maps quickly became popular among consumers.

CONCLUSION: THE POWER OF MAPS

The Rosselli inventory provides an unrivaled glimpse into the market for early printed maps. Because the shop also sold prints we can easily compare the sale of maps versus prints in the early sixteenth century. For instance, while the most expensive goods in the shop were maps, there were several art prints that cost more than the cheapest maps. Bandinelli's print of the *Innocenti* cost 1 *lira*, while 87 percentof the maps in the shop cost 1 *lira* or less. Second, the number of noncartographic prints in the shop was much higher than the number of maps. While there were fifty-eight maps total, there were nearly five times as many copies of a single print by Bandinelli, an indication that the market for art prints was still much larger than that for a relatively new product, the printed map.

The surprisingly affordable price attached to the majority of Rosselli's maps is the most significant evidence in the inventory, and speaks to the market for maps as a new consumer good. As this chapter has shown, the Rosselli inventory demonstrates that maps were within the financial means of the majority of Renaissance Florentines, with a large number of maps

costing under 1 *lira*. This dramatic shift in the cartographic market was driven by the advent of printing, which expanded the number of maps being produced while simultaneously decreasing costs. This, then, was the most important immediate effect of printing, which did not standardize the signs or lettering conventions of maps and often decreased the geographical accuracy of maps versus their manuscript counterparts.

Printing may have increased the production of maps, making maps into affordable commodities, but these maps would not have found buyers if they had not appealed to the tastes of Renaissance Italians. This chapter has demonstrated that maps were within the financial reach of consumers, but we have not yet addressed why maps appealed to buyers—in order to sell their goods mapmakers needed a marketing strategy, and consumers also attached their own meanings to cartographic prints. We must examine what maps Italian consumers purchased and what these buyers did with their maps in order to understand the cartographic consumer culture of Renaissance Italy.

CHAPTER THREE

A Buyer's Market: Map Ownership in Venice and Florence, 1460–1630

In 1566 Paolo Forlani engraved 23 cartographic plates, including maps of the Atlantic, Egypt, Ireland, and Malta; it was the most productive single year in his career.[1] Forlani, a mapmaker, engraver, and printer who made over one hundred maps, was part of Venice's vibrant community of cartographers, many of whom sold maps on the Frezzaria and the Merzaria, the central streets for Venice's printmaking shops.[2] Forlani's successful career producing maps speaks to both the vitality of the print market and the tastes of consumers, and yet solely investigating the production of maps cannot give a complete picture of the consumption of such prints. This and subsequent chapters will turn to the buyers of Renaissance maps, analyzing the demand for maps and the ways they were used by their owners. These consumers of maps selected from among a range of products at a range of prices and put their maps to multiple uses.

In order to assess the consumption of maps, this chapter will establish, through the use of household inventories, the number and type of maps owned by sixteenth-century Florentines and Venetians. The popularity of different map genres, as revealed by the choices consumers made in purchasing and displaying maps, provides a different picture of the sixteenth-century cartographic culture than that indicated solely by studying cartographic production. Household inventories are one of the most fruitful sources of information on the purchase and use of maps by consumers, and Renaissance Italian states often kept detailed records of inventories, typically for inheritance or tax purposes. In Venice, for example, these inventories catalogued the movable objects in the homes of over two thousand sixteenth-century Venetians, records that include maps of all types.

The goal of this chapter is to shed light on the demand for maps in sixteenth-century Italy through an analysis of these household inventories

made in Venice and Florence. These records are an invaluable source for understanding the prevalence and desirability of maps in sixteenth-century homes, establishing a direct link between a map and its owner. An analysis of these inventories also establishes that maps were more widespread in Italian homes than previously thought; over 10 percent of inventoried Venetian households contained maps. The 3,351 inventories surveyed for this chapter contained a total of 1,116 maps along with 112 books that likely included one or more map. As the inventories show, Italians owned many types of maps, the most popular being world maps and landscapes.

One of the most significant findings from this analysis of Italian household inventories contradicts what we might assume about popular genres based only on the history of cartographic production. Attempting to estimate demand based on the production of maps would point to regional maps as the most popular genre: Paolo Forlani, for instance, produced only five world map engravings in his career and over ten times as many regional maps. Similarly, in his survey of map genres in Roman and Venetian atlases, David Woodward found that the majority were regional maps, while less than 10 percent were world maps.[3] Yet when looking at the maps displayed in the homes of sixteenth-century Italians, a different pattern emerges. In these households, specific types of maps were in high demand, particularly world and landscape maps.

The inventories also provide a snapshot of the possessions in thousands of Renaissance homes, capturing not only the maps but also other images and luxury items owned by Venetians and Florentines. Thus these records establish not only the frequency of map ownership and the genres preferred by consumers but also the place of maps in the broader market of consumer goods. In spite of the limitations of household inventories, they serve as a unique and revealing resource for understanding the place of maps in Renaissance culture.

ANALYZING HOUSEHOLD INVENTORIES

This chapter will present a numerical overview of the maps owned by Renaissance Venetians and Florentines based on evidence from household inventories. After establishing the prevalence of maps and the popularity of different genres, subsequent chapters will address the placement and display of maps, along with the multiple uses for cartographic materials.

For the purposes of analyzing the tastes of Italian consumers I have categorized the maps into genres that would have been recognizable to a

sixteenth-century consumer: world, regional, city, navigation charts, and landscape maps. The terminology applied to these genres varied in the inventories. The most common term on every type of map was *quadro*, meaning "picture" or "image." The same term was applied to images of saints, portraits of family members, or other works of art. As Chriscinda Henry points out, "although modern scholars often take *quadro* to signify a painting, the inventories employ this term as a catch-all way to designate a broad range of framed and unframed art objects including miniature tapestries, wood and terracotta relief panels, even prints pasted directly on the wall."[4] The fact that the same term was applied to maps indicates that they were classified, by the notaries at least, as images much like any other.

Within each type, the descriptive language applied by the notaries often varied. World maps, including grouped maps of the known continents of the world, were often termed *mapamondo*, *cosmografia*, or variants of those terms. Navigation charts were consistently called *carta* or *charta da navigar* while other genres were given less precise terminology. Regional and city maps were almost always described as "a picture of Italy" or "a drawing of Rome," as will be discussed in more detail below.[5] In rare cases, the notaries simply said "a view of a city" or "an image of an archipelago." The most problematic of these categories is landscape maps, called *paesi* in the records. In his 1598 Italian-English dictionary, Giovanni Florio defined *paese* as "a countrie, a region, a province. Also the countrie."[6] The term appeared on several maps, as in the 1548 Venetian edition of Ptolemy's *Geography,* which contained a map of the New World and explained the customs and foods of "the indians of this country [*paese*]."[7] The third volume of Giovanni Battista Ramusio's collection of travel narratives promised that it contained "Geographical maps, which demonstrate the site of diverse islands, cities, and countries [*paesi*]."[8] In his description of the New World, Giovanni Antonio Magini wrote about "the countries [*paesi*] of Brasil, of Tisnada, of the Caribbean, of Paguana, of Peru, and others," followed by a mention of the "country [*paese*] of Papagalli [land of parrots]" a title sometimes applied to the South American continent.[9] The term was also applied to countrysides, as in Giorgio Vasari's explanation of his fresco of Florence and the surrounding territory, where he explained the techniques used to capture the expanse of countryside in his depiction of the siege of 1530. After relating how he included "everything that was in that countryside [*paese*]," he went on to add that he reduced twenty miles of the surrounding area [*paese*] into six bracchia of measured plan.[10] *Paese* could refer interchangeably to a country or a countryside, and as both Christopher Wood and

Ryan Gregg have pointed out, in the Renaissance the term was often applied to the landscape background of portraits or other paintings.[11] In some cases, *paese* was used to refer to a city and its surrounding countryside, the *contado*, as in the inventory of Cosimo I's possessions, which listed "a design of the territory [*paese*] of Siena," or Vasari's description of a fresco as "all the countryside [*paese*] of Pisa . . . I drew the city from nature."[12]

The flexibility of meaning for the word *paese* makes it difficult to categorize with any degree of exactness. The frequency of the term may even imply that notaries used *paese* as a catchall when they did not recognize the territory represented in the map. It is thus possible that the *paesi* listed in the inventories were maps of specific countries—while most regional maps from this period did include titles, notaries often tended toward generalities in their descriptions. The images labeled *paesi* may also have been landscapes and countrysides, a genre which grew in popularity by the early seventeenth century, when the majority of *paesi* were recorded in Italian inventories.

In spite of the uncertainty, the images were shown with and treated like maps, and contemporary cartographers and geographers closely linked images of territory whether on the large or small scale. Ptolemy's *Geography* spoke of world maps and landscapes as two parts of the same continuum, defining landscapes as regional cartography, a category including depictions of "harbors, towns, districts, branches of principal rivers, and so on," adding that "regional cartography requires landscape drawing."[13] The writings of the seventeenth-century doctor and collector of art Giulio Mancini demonstrate a similar view of the relationship between landscape and world maps. In his *Considerazioni sulla pittura*, Mancini advised Italians on how to display their maps. He grouped world and landscape maps together, saying "for landscapes and cosmographies, place them in the galleries and places where everyone can go [*andar*]."[14] To contemporary consumers landscapes and other genres of maps were not dissimilar, and according to Mancini the two types should be treated identically when on display.

Renaissance Venetians and Florentines possessed a variety of maps, covering vastly different parts of the world. They owned maps of local Italian cities, foreign regions, depictions of the different continents, and a number of images of the world. In spite of this variety, different types of maps were treated quite similarly: displayed in the same rooms, hung next to the same images, and collected according to similar tastes. The next two sections will look at map ownership in Venice and Florence, highlighting patterns of map consumption.

MAP OWNERSHIP IN VENICE, 1500–1630

Venetians decorated their homes with maps with increasing frequency over the course of the sixteenth and early seventeenth centuries. While the most popular genres were world and landscape maps, Venetian tastes also reflected a Veneto- and Italo-centric focus, with many of the regional maps depicting areas with close ties to *La Serenissima*. In this way, map owners customized their purchases to speak to specifically Venetian concerns. Overall, a numerical analysis of maps in the inventories demonstrates that 10 percent of all Venetian households inventoried between 1497 and 1631 contained maps or books with maps.[15]

The raw number of households containing maps or books with maps increased over the course of the sixteenth century, in part reflecting the increase in the number of inventories produced across that time span (fig. 13). Between 1497 and 1524, only eleven inventories were made; one hundred years later that number jumped to 765.[16] Yet the population of Venice did not increase at the same rate as the number of inventories produced, indicating that a larger segment of Venice's households were inventoried by the later period, thus confirming the assumption that maps did become more popular over the course of the sixteenth century. The graph of the number of households with maps also points to several interesting patterns. Aside from the spike at the end of the period, the largest grouping of households with maps was in the 1560–1590 time period, with the 1560s showing a

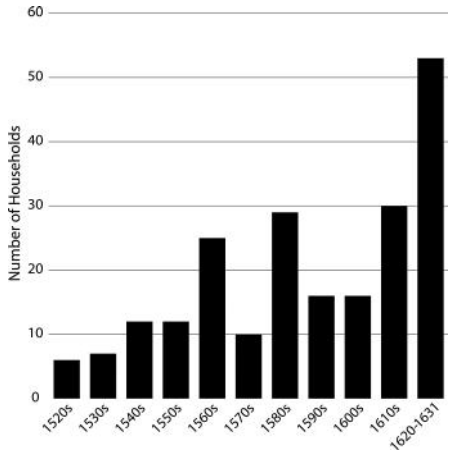

Fig. 13. Households containing maps by decade, Venice, 1497–1631

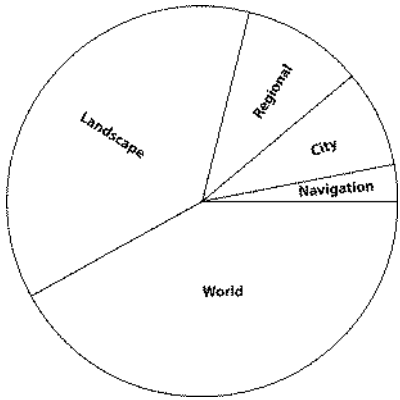

Fig. 14. Maps in Venetian inventories by type, 1497–1631

more than 100 percent increase over the previous decade. This coincides with the time period when Venice's local market for maps was most active.[17]

The number of maps, excluding books containing maps, found in 2,350 Venetian inventories made between 1497 and 1631 totals 1,009. Of this number, 427 were world views, including four-part sets of the four known continents.[18] World maps thus made up the largest part of Venetian maps collected in these years. The second most prolific type of map, with 372, was the landscape *paese*. Trailing behind these two categories were regional maps with 102, city views with seventy-six, and navigation charts with thirty-two (fig. 14). This numerical breakdown of Venetian map ownership indicates that while there was a great deal of variety in the different types of maps purchased, the vast majority of maps were either world maps or landscapes; in fact, nearly eight out of every ten maps owned by Venetians fell in one of these two categories. Evidence on the production of maps indicates that regional, city, and navigational maps were engraved in high numbers, but they trailed far behind world and landscape maps among consumers—and even if a high number of the *paesi* listed in the inventories were regional maps rather than landscapes, the most prolific category would remain world maps.

Surprisingly, navigational charts made up only 3 percent of the total number of maps owned by Venetians, a startlingly small number for a maritime power. There are several possible explanations for this: for one, it is possible that navigational maps were undercounted in inventories because they were not stored in the home. Large numbers of these maps may have been kept in business offices or on boats themselves, meaning they would not be recorded in the inventory records. Similarly, navigational maps

served a very specific purpose, namely maritime navigation, which shaped not just where these maps may have been stored but also appealed to a narrower, more specialized group of consumers than the decorative maps which were popular in Venice.

The number of regional and city maps might seem low when compared with our knowledge about the production of such maps in the sixteenth century. Paolo Forlani alone produced ninety-one known non–world maps, including maps of cities, regions, countries, and continents. Again, the format of the household inventory can partially explain this discrepancy. The inventories record primarily maps that were hung on walls or displayed in visible parts of the home. While notaries did list objects stored in boxes or chests, maps were almost never found in these lists; rather, maps were found on the walls of the home. However, many sixteenth-century maps were bound into books; the inventories thus significantly underestimate the number of maps in the home because notaries did not list the contents of every book.

Maps were also sold in several new ways in the sixteenth century. The rise of the composite atlases, also called Italian assembled-to-order (IATO) atlases or Lafreri atlases, could partially account for the underrepresentation, particularly of regional maps.[19] These atlases, as the name implied, were manufactured according to the specifications of the buyer, who could visit a shop and order hand-selected maps to be bound in an atlas. Typically an IATO atlas would contain one world map followed by multiple maps of different cities and regions. Likewise, atlases such as Braun and Hogenberg's *Civitates Orbis Terrarum*, which contained city views, and Bordone's *Isolario*, a collection of views of islands, were popular sources for regional and city maps. In fact, copies of such atlases were found in many Venetian homes, serving as a reminder that the raw number of maps recorded in the inventories was much lower than the actual number of maps individuals owned.

Even within the categories of world maps, regional maps, city views, navigation charts, and landscape maps, there was a great deal of variety. For example, while world maps were the most popular genre, there were several notable subgenres and a shift in the terminology over the course of the sixteenth century. In the first half of the century world maps were most frequently referred to as *mapamondo* or *napamondo*, applying the same term used for medieval world maps. By the end of the sixteenth century world maps were called *cosmografie*, *quadri del mondo*, or *carte del mondo*, although *mapamondo* continued to be used less frequently into the seventeenth century.

The diversity of terms may be a reflection of the numerous different pictorial styles that could fall under the general heading "world map." These descriptions in the inventories point to several types of world maps on display. For instance, one house contained "an image of Ptolemy,"[20] almost certainly a world map made in the Ptolemaic style. Unfortunately the majority of these maps cannot be tied to specific known editions or even general styles, because most are simply titled "a cosmography" or "a world map." Other terms that are used include "design of the world," "inscription of the world," or "description of the world." Andrea Moresini's map was described as a "picture [*pitura*] of the world," while Lunardo Justiniano's five world maps are recorded as "five images called world maps [*napamondi*]," perhaps indicating that the term *napamondo* was inscribed directly on the image.[21] The terms *balla* and *sfera*, which could be either circular world maps or globes, also appeared infrequently in the inventories. Giacomo dalla Vedova owned "two *balle* of the world," while Pietro Palombino and Giuseppe Zerlino owned one and two world maps "*in balla*," respectively.[22] Ludovico Usper had "two *balli de sfero*, one terrestrial and the other celestial," along with a world map in *sfera*.[23]

Several times notaries specified the material of the map, providing clues as to the medium—print or manuscript—which was rarely mentioned directly. Those maps described as "on paper" were most likely printed, as in the home of Anna Trivisana, which contained "an image in paper of the description of the world" or "an image of the world on paper" in Marino Battitore's inventory.[24] The interchangeability of the use of "*carta*" and "*charta*" adds ambiguity to certain listings, as with Guerino Guerini's "*una carta de napamondo*."[25]

In many cases, notaries included world maps in lists with other images. For example, the inventory of the wool merchant Benvenuto Rossini lists "ten images of diverse drawings large and small, a world map, and a Saint Gierolamo."[26] A Florentine named Marco di Pietro Bortolini had "five images of Venus, and a Flemish figure, and a world map."[27] This could indicate both that maps were seen as one of many types of images rather than distinct objects and that world maps were common enough to be tacked on in the middle of lists rather than listed separately. The pairing of world maps with other visual imagery underscores the place of such images not only in the home but also in the minds of notaries cataloging possessions: maps were one of many genres that appeared on Venetian walls.

Several of these world maps were of an explicitly religious nature, indicating the richness of an overlapping cartographic and religious iconography. Antonio Gerolamo, originally from Modena but living in Santa Croce,

had "an image with Jesus with the world in his hand."[28] This type of image, of Christ with the world in his hand, was present in nine different inventories.[29] This genre fit closely with the medieval motif of producing maps with religious messages, demonstrating the continuity between the symbolism of medieval and Renaissance maps. Furthermore, the portrayal of the globe was recognizable enough that notaries unfamiliar with the house could instantly identify the image as Christ with the world.

There were also a small number of images showing the creation of the earth, for instance in Ottavio Fabri's house where "a small image of the creation of the world" was displayed with one of Adam and Eve.[30] By pairing the two images, Fabri's decoration stood testament to his family's devotion. Coupling maps with religious images was very common in the sixteenth century, partly because religious images were almost omnipresent in Venetian homes—Margaret Morse has estimated that roughly 90 percent of Venetian homes contained religious images or devotional objects in the sixteenth century.[31] But there was also a strong medieval tradition of combining religious and cartographic messages, as in the Ebstorf map, made in the thirteenth century, which depicted the head, arms, and legs of Christ imposed on a circular image of the world with Jerusalem at the center. Even as the shape of world maps changed, threatening to erase the Christian message of the *mappaemundi*, map owners reinforced the religious implications of their maps through their choices of display.

The popularity of world maps in Venetian homes indicates that such maps were fashionable wall adornments. The inventories contained no examples of world maps listed in chests or stored out of the public view; rather, world maps were coupled with other works of art shown on the walls of multiple rooms. As chapter 6 will argue, this public display was intended to make a statement about the knowledgeable and cosmopolitan nature of the home's residents. Likewise, the diverse types of depictions of the world hint at the flexibility of cartographic images, which could carry religious meaning, transmit classical knowledge, or send a variety of other messages.

The terminology used on city maps was somewhat different than that for world maps. While the most common term was *quadro*, as with world maps, city views frequently included the term *disegno* or *dessegno*, meaning a design or picture. Alvise Bon owned "a small image of a design of Padua," and Gerolamo Ferro possessed "a design in a *quadro* of Verona."[32] Less frequently, notaries applied the term *dipinta*, as in the German Gasparo Roncler's "image where the city of Messana was painted," or "an image with Rome painted" in Marco Crasso's home.[33] The use of *dipinta* likely indicated a painted image or a fresco but could also refer to a print with

color added. Infrequently, city views were described as a *descritione*—for example, Marco Dandolo's "map with a description of Rome" and "printed map with a description of Bergamo."[34]

Venetians customized their world maps on display by choosing maps with explicit religious messages or coupling maps with other images to highlight certain features; in this way owners crafted a narrative with their maps, not just through the maps they selected for purchase but also through the pairing of images in the decoration of their walls. A similar pattern holds true for city views; Venetians possessed a range of different city views, and, most notably, they preferred to collect maps of places with close ties to their own city. While some inventories were not specific about the city, as in the merchant Marino Battitore's house, which contained "images of diverse sorts of cities and principalities in total numbering thirty," or Giacomo dalla Vedova's "small image with the design of a city," the majority of the inventories listed the name of the city in the map.[35] Many of these cities were Italian, especially northern Italian cities under Venetian rule, such as Padua, Bergamo, and Verona. Elia Uper, from Bavaria, kept an image of the city of Vienna in his house.[36] Several homes contained images of Rome, and the port of Messina and cities on Crete and Corfu also decorated multiple houses. Historic maps also appealed to Venetians: Paolo Carnali displayed a map of Troy in his home, as did Antonio Correr.[37]

However, in spite of this interest in Italian and Venetian-centered maps, depictions of Venice itself were uncommon. Among seventy-six city maps recorded in the inventories, maps of Venice appeared only twice. Following Jacopo de'Barbari's magnificent map of Venice made in 1500, Venice was one of the most popular cities mapped in the sixteenth century. In fact, the collection of Ferdinand Columbus, son of Christopher, contained six views of Venice.[38] It is unexpected, then, that Venetians chose not to display maps of their own city. Of the two images of Venice found in the inventories, one belonged to Anzola di Piccoli and was described as "another [image] of Venice with drawings of old doges"; the other, "a large image of the city of Venice," was in the home of Giovanni Andrea Raggio from Genoa.[39] The latter may have been de'Barbari's 1500 view of Venice, by far the largest map produced of Venice in the early modern period. Both of these maps of Venice were from early seventeenth-century inventories, and one was in the home of a foreigner. This evidence, scant though it might be, strongly indicates that Venetians did not own maps of Venice.

It is telling that over the course of the sixteenth century there were likely thousands of maps of Venice printed in the city, and based on the analysis of these inventories it seems that many of them were not intended to

be purchased by residents of Venice. Art historian Juergen Schulz concluded that the purpose of de'Barbari's map of Venice was celebratory; the inventory evidence suggests that this message was intended for a non-Venetian audience.[40] This preference seems to have been acknowledged by map brokers of the era: when the German merchant Anthony Kolb petitioned the Venetian Senate to grant a license to export de'Barbari's map of Venice, he argued that the map was made "principally for the fame of this excellent city of Venice."[41] Kolb thus saw the purpose of de'Barbari's map as improving the city's reputation outside of Venice. His petition also emphasized the dangers of piracy, stressing that "many details from the map are extracted by other works"; these other maps, made for less noble purposes, might not frame Venice's identity in an appropriate manner.[42] This concern speaks to the purpose of de'Barbari's map, or any map of a city or region—it was a learning tool that promoted a particular vision of the territory represented. In the case of Venice, de'Barbari's image showed the city as a maritime and merchant powerhouse, a wonder protected by the gods of antiquity. Anyone gazing upon the map would internalize this message about the city; the map, therefore, was a potent marketing tool.

Kolb's application provides a unique view into the Venetian market for maps: one of his primary concerns was financial. Kolb claimed that de'Barbari "did not expect to recoup his expenses" unless he could sell the prints for three ducats each and receive a license to export the item "without duties and without Impediments."[43] Marino Sanuto also recorded Kolb's application before the Senate and emphasized that the map was "made with great expense."[44] Kolb's petition was designed to emphasize the direct connection between the map, Venice's reputation, and the state. Combined with the evidence that very few Venetian homes displayed maps of Venice, this indicates that these maps were aimed at non-Venetian audiences.

While images of Venice were uncommon, Venetians did show regional preferences in the city maps they purchased. Twenty individual cities were among those depicted in the twenty-nine maps with identifiable city names. Of these, five were of cities in the Veneto, with a further three maps of ports in the extended Venetian empire, including Venice herself, Padua, Verona, Bergamo, and Brescia, plus Piran and cities in Corfu and Crete. A total of eleven of the twenty cities were Italian, with depictions of Rome, Milan, the Sicilian town of Messina, Palma, Ferrara, and Colonna. Of the remaining nine cities, five were from the area around Greece—Troy, Corfu, Crete, and two different images of Turkish cities. The other three cities were Austrian and Hungarian, including the city of Alba Regali (modern Székesfehérvár, Hungary), Buda, and Vienna. In raw numbers, fourteen of

the twenty-nine city maps with identifiable locations were of Venetian-controlled cities, while a total of twenty were of Italian cities. Surprisingly, given the popularity of atlases of maps of important cities such as the *Civitates Orbis Terrarum*, published in six volumes between 1572 and 1617, the Venetian inventories did not contain images of important cities such as Paris, London, Constantinople, or the New World city often compared to Venice, Mexico City. This might be an artifact of the distinction between maps bound in books and maps displayed on the wall—Venetians certainly purchased made-to-order atlases containing images of each of these cities in the sixteenth century.

Yet when it came to choosing maps to display on the walls, Venetians chose to foreground their connections with allies and local cities. In particular, Venetians displayed cities which were part of the extended Venetian empire. This could indicate that the families displaying images of Padua, Verona, Corfu, and Crete had close ties to those cities, either through owning property in those areas or having trading connections with the region. Alternately, the images may have represented pride in Venice's extended political reach. While there is a noticeable lack of images of Venice herself, displaying cities subject to *La Serenissima* could be an indication of civic pride, another way to bolster Venice's reputation.[45]

The non-Italian cities on display can also be linked to contemporary Venetian interests, as many of these maps may have served as reminders of Venetian current events. As noted above, a large number of non-Italian cities were in areas where Venice had a strong naval presence. The Ottoman reach over the eastern Mediterranean threatened Venetian claims in the Aegean and Cyprus; the victory at Lepanto in 1571 did not eliminate this threat completely, especially after Venice lost Cyprus only two years after their naval success. Giovanni di Fermo owned "a large map of a Turkish battle," and Lunardo Justiniano's home displayed "two large images, one with a Turkish camp and the other with an old Turk."[46] Images of Turkish rulers were common adornments on Venetian walls. Similarly, the maps of various cities on the shifting border between the Holy Roman Empire and the Ottoman Empire—Alba Regali, Buda, and Vienna—indicated Venetian interest in the areas to their east.

Venetian-owned regional maps reflected similar interests; there were several maps of areas controlled by Venice, including "a design of the territory of Vincenza" and "a design of the territory of Bergamo."[47] Yet by and large, regional maps tended toward the foreign and exotic. These maps spanned all areas of the Old World, from Ethiopia to India, though maps of Europe were the most popular. Giovanni Andrea Raggio, from Genoa,

clearly favored maps of Persia—his home contained "eighteen images of different parts of Persia," accounting for all maps of Persia found in the inventories.[48] The concentration of maps in Raggio's collection is also a reminder to avoid overextrapolating from the limited amount of information provided by the inventory records.

As with other maps, several simply do not contain enough information to determine the subject matter, as, for example, with Francesco Morosini's inventory, which contained "many images of countries, and parts of the world, in total numbering nineteen."[49] Generic landforms also appeared, such as Gerolamo Ferro's "design of lagoons," possibly the Venetian lagoon, or Giovanni Soro's "image of an archipelago on paper."[50] The eleven national regions identified in the country maps include Italy, France, England, Flanders, Hungary, Persia, Cyprus, Transylvania, Ethiopia, the Holy Land, and India.

Six different inventories contained maps of Italy. The doctor Alberto Quattrocchi kept a "Geography of Italy" in the room where he slept; Giovanni Soro had an image of Italy in paper, while Cornelia Bellon had a painted image of Italy on cloth.[51] Gerolamo Ferro had "two designs one of France and one of England" next to "a design of Italy."[52] Alemano Arighi and Phibi Capella also owned maps of Italy; Arighi's was described as "a small map of Italy in a black frame" while Capella's was simply called "a painted Italy."[53] The variety of terms—*quadro*, *desegno*, *depenta*, *geografia*—in these six descriptions of similar objects underlines the lack of a coherent vocabulary for discussing maps in the sixteenth and early seventeenth centuries. Yet the popularity of maps of Italy could also speak to a potential interest in the historical unity of Italy during the classical period and the division of the peninsula in contemporary times.

The region which appeared most frequently was not Italy but Flanders, with sixteen maps owned by nine different men, possibly a reflection of the increasingly close trading relationship between Flanders and Venice or even the import of maps from Flemish presses, which outpaced Italian map printing by the late sixteenth century. Andrea Maioli displayed "an image of the land of Bruges," "an image in paper depicting the land of Amsterdam," "an image in paper depicting the country of Gelderland," and "another similar image of the countryside of Flanders."[54] As with city maps, Venetian regional maps frequently depicted local regions and neighboring territories, as well as areas with commercial ties to Venice. Yet unlike city maps, Venetians were more likely to display far-off lands like India, Ethiopia, and Persia in their regional maps.

A notable subset of regional maps was maps of islands. These images

of islands were popular both as wall decorations and bound in books; Gierolamo Corner owned a map of Cyprus, while several others owned *Isolario* or books of islands.[55] The collection of books in Caterina Tilmans's house included an *Isolario,* while another Venetian home contained a "book of islands of the Sea" and the book shop of Auzollo Bonfaudini sold an "Isolario of Bordone in folio."[56] The *Isolario* of Benedetto Bordone was very popular in the sixteenth century and, along with the collection of maps of various islands, featured a world map based on Francesco Rosselli's 1508 oval world map.[57]

Maps related to navigation made up a surprisingly small number of maps present in Venetian homes considering the city's close ties with the sea. The inventories contained thirty-two navigational maps, most listed as *charta da navegar* or *carta da navegar*. Many of these maps were likely not intended to be used for navigation but were for decorative purposes. For example, Rocco di Mazzochi displayed "an antique navigational chart" in his house, almost certainly not intended to be taken out on a ship.[58] Antonio Baldigara owned "one chart for navigation on good paper with its compasses,"[59] possibly referring to the specialized compass rose on portolan charts; most charts intended for navigation were still made in vellum in the sixteenth century, as paper was not very durable at sea. The reference to "*carta bona*" likely indicates that the map was intended for display or collection.

Venetians treated their navigational charts differently than other genres of maps. Unlike other types of maps, which were most frequently displayed on the wall and in rooms containing multiple other images, navigation charts were often in rooms without other images, and in several instances they were listed as stored in boxes. Augustin da Canal had two navigational charts in a chest without other images; Paolo Allegri's navigational chart was also in a room without images; and the four navigational charts in the house of Madalena, the widow of Vidal Marini, were stored in a painted case.[60] The barber Filippo kept several art prints in his shop, including images of the four seasons, several Madonnas, and images of Ariosto, Bacchus, and Adam. Whereas in many other homes maps were shown with these types of images, his map, a navigational chart, was stored in a different location, removed from his other images.[61] The placement of these navigational charts suggests different uses from other genres of maps.

If a number of the navigational charts in Venetian inventories were not meant to be used at sea and were frequently not displayed, they may have been used for other purposes. Venetians with overseas trading interests perhaps used such maps to determine the location, route, and timetable of

shipments to ports around the Mediterranean. Such maps could also be useful for following naval battles or the sieges of ports such as the siege of Malta in 1565, which David Woodward has shown was a popular topic for print, both in text and in maps.[62] The potential commercial uses of these maps are hinted at by the location of Guerino Guerini's small navigational chart, which was stored "in the study at the back of the shop."[63] The low number of navigational charts in the inventories is most likely explained by the location these maps would have been kept in—unlike other genres, they were less likely to appear in the home. Their location, as well as their infrequent appearance in the house, may indicate that they were not valued for the same reasons as other genres of maps.

The last category of maps was the *paese*, or landscape map. Because the notarial record of these images often did not include information on the specific place depicted, these maps could have been generic landscapes or possibly images of identifiable countrysides or countries that the notaries did not include in the inventories. In either case, contemporaries defined these images as maps and treated them much like other genres of cartography. Recognizing this fact, historians and art historians in the past several decades have been treating maps and landscape art together rather than as separate objects. In her seminal study of Dutch landscape paintings, Svetlana Alpers argued, "what should be of interest to students of maps and pictures is not where the line was drawn between them but precisely the nature of their overlap, the basis of their resemblance."[64] As Alpers points out, contemporaries treated these categories as almost identical; historians should thus not aspire to ahistorically differentiate between "map" and "art" or "map" and "landscape." Rather than separate these landscape maps from other types of maps, defining both as part of a coherent cartographic movement is more illuminating. In Italy, the demand for landscapes as consumer objects was driven by the same motivation to purchase other types of maps: the impulse of consumers to purchase images of specific places. Even those landscapes depicting generic locations were motivated by an interest in capturing and displaying the outside world within the home.

Turning to the inventories, we find that these landscape maps were extremely popular in Venice, particularly in the later decades of the sixteenth and early seventeenth centuries. These maps made up approximately one out of every three maps owned by Venetians inventoried between 1497 and 1631, but of the 372 total landscape maps, only ten were from inventories made before 1550, and only sixteen were in inventories made between 1550 and 1575. This was a new genre of map which grew in popularity beginning near the end of the sixteenth century, with 93 percent of all landscape maps

owned between 1497 and 1631 found in inventories for the last fifty-five years of the time period surveyed.

The language describing these landscape maps was very similar to that of other genres of maps and images. Nearly every *paese* was termed a *quadro* [the generic Venetian term for image], and rarely they were simply called "two *paesi*" or "four printed *paesi*."[65] The notaries also used a variety of prepositions in describing the images, calling them "an image with [*con*] a *paese*," "a large image of [*a*] a *paese*," "two images of [*de*] old *paesi*," or "two small images of [*di*] *paesi*."[66] The majority of the landscape maps recorded in Venetian inventories did not include a description of the place depicted, as for example Antonio Sacchi's "four images of landscapes" or Pietro Galadei's "two *paesi*."[67] This may have been because the notaries either did not know, did not recognize, or did not record the area shown. However, Bernardin Serena's portico was decorated with "two images of the countryside of Tuscany," indicating that landscape maps were not always of unrecognizable territories.[68]

A number of the images were from Flanders, in the Flemish style, or of Flemish territories, hinting at a direct connection between the Flemish landscapes described by Alpers and those owned by Venetians. Many of the landscape maps are described as "*di Fiandra*" or "*alla fiamenga*."[69] This ambiguous designation could mean that the maps were made either in Flanders or after the Flemish style, or even that the countrysides depicted were Flemish. Considering the high number of maps of regions in the Low Countries and the close commercial relationship between the two locations it is quite possible that many of these landscape maps were imported for Venetian consumers from Flanders. If Venetians were exporting the majority of maps made of Venice to other areas, perhaps they also imported representations of distant places to display in their homes.

Other evidence in the descriptions of these landscape maps point to their potential uses. Alvise Mocenigo owned "six images of countrysides with figures of diverse sorts" and Giovanni Soro had "an image in cloth in the Flemish style of diverse countrysides and figures."[70] Francesco Bonaldi's image contained "diverse animals," while both Lorenzo Doni from Florence and Christoffolo Vento, a merchant, owned *paesi* that contained "small figures."[71] Another inventory contained "a large image of a countryside with animals and people."[72] These images combined knowledge of geographical spaces with information about clothing and animals, a combination frequently appearing in many sixteenth-century maps. Braun and Hogenberg's atlas of city views, the *Civitates Orbis Terrarum*, featured clothed figures on multiple city views, demonstrating the dress of different territories. In their

image of Rome, for example, a man and woman stand in the foreground, the man gesturing back toward the city with one arm while the woman looks on, showing off her outfit. Thus one aim of such maps was educating viewers about fashion and appropriate dress in the region depicted, a use which will be discussed in further detail in chapter 5. Landscapes with figures visually transported the viewer to far-off locations, serving as a reminder of the variety of people and places in the world, as in Braun and Hogenberg's atlas. These images could have also functioned as imaginary landscapes, almost a pictorial zoo for the viewer. Landscape and city maps were the most common to include figures, but they appeared in multiple genres of maps.

The Venetian inventories indicate that maps became a relatively common household decoration by the end of the sixteenth century, with multiple genres displayed on the walls of Venetian homes. But the inventories do not reveal the extent to which maps were kept in other places in the household, most notably in books. A corollary to the geographic works on display in these homes is books that contained maps. Sixteenth-century Italians may have encountered maps in books more frequently than those displayed on the wall, considering the numbers of printed atlases, single-sheet maps bound in books, and even maps in bibles.[73] Catherine Delano-Smith rightly notes that the simplest single-sheet maps were rarely preserved, while those maps produced specifically for inclusion in books exist in much higher numbers.[74] Some of these small, inexpensive maps have only survived because their owners slipped them between the pages of books where they were preserved.[75] This side effect of the production of maps can give us a skewed perception of the marketplace of sixteenth-century maps.

Books on cartography and geography became increasingly popular over the course of the sixteenth century; the inventories contained 112 books about cartography and geography that either contained or likely contained maps. These books represent an important segment of map ownership. While some titles were no more descriptive than "Cosmografia," in most cases the exact title and author's name were recorded in the inventories. The most popular geographic book, perhaps not surprisingly, was Ptolemy's *Geography*. Auzollo Bonfaudini stocked a copy of "Geo. Tolomei" in his bookstore, while Ippolito Ganason's private library contained two copies of the "Geografia de Ptolomeo."[76] The lawyer Ludovico Usper owned "Claudio Tholomeo Geographia in quarto" alongside numerous law statutes and the doctor Alberto Quattrocchi listed "Ptholomeus" among the inventory of his books.[77] Pietro Bressan owned both "Tholomi Geographi in tabulis" and "Geographia in charta," which likely refered to Ptolemy's *Geography*.[78]

A significant number of the texts titled "Geographia" or "Cosmo-

graphia" were likely editions of Ptolemy—there were eighteen editions of Ptolemy containing maps printed in Italy between 1477 and 1600, and of these eleven were printed in Venice. Editions of Ptolemy printed in the sixteenth century contained recreations of Ptolemy's original twenty-seven maps, which included a world map and regional maps of the provinces of Asia, Africa, and Europe. These books often printed new and updated maps alongside the Ptolemaic maps; Girolamo Ruscelli's 1564 edition of Ptolemy's *Geography*, printed in Venice, included thirty-seven contemporary maps created for his edition. A single edition of Ptolemy's work might easily contain over fifty maps.

Other popular geographical books that appeared in the inventories include Ortelius's *Theatrum Orbis Terrarum*, Mercator's book with tables of maps, Benedetto Bordone's *Isolario*, and Münster's *Cosmographia*; each of these books contained dozens of maps.[79] Another popular genre was descriptions of voyages, such as "A voyage to Spain and France," "A voyage from Venice to Constantinople," and "A voyage to India," which may or may not have contained maps.[80] Books on navigation or descriptions of locations were also popular; Caterina Tilmans, who had an extensive collection of books, owned "Descriptions of the Mediterranean Sea in French with figures," an *Isolario*, and "Navigation of the Occidental Sea and the Oriental Sea."[81] If we conservatively estimate that each of these books contained ten maps, Venetians owned more maps in books than displayed on their walls. Books with maps were thus a major avenue for possessing cartographic prints.

MAP OWNERSHIP IN FLORENCE, 1464–1530

Florentine map owners shared many of the tastes of their Venetian neighbors. In Florence inventories were kept by the Office of Wards (*Ufficio dei Pupilli*); between 1464 and 1531 this office collected 1,001 inventories, including the two inventories of the Rosselli map shop. Those inventories contained 107 maps, of which fifty-eight were from the shop of Francesco Rosselli's son Alessandro. The remaining forty-nine maps were owned by Florentines. Of these images, eighteen were world maps; twelve were spheres, presumably globes; eight were called either *paese* or *terra*; six were regional or country maps, including islands; three were navigational charts; and one was of a city (fig. 15).

The most notable difference with Venice was the larger presence of globes, which were not found in the same numbers in the Venetian inventories. Those maps titled *spera* could be globes, circular maps, or even

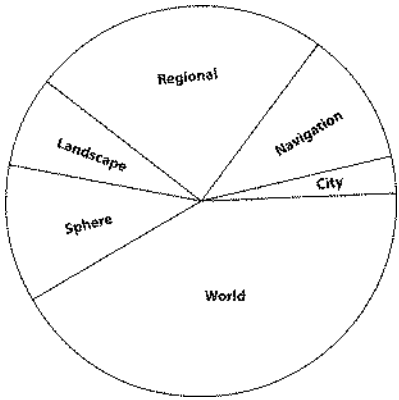

Fig. 15. Maps in Florentine inventories by type, 1464–1531

armillary spheres; unfortunately the terminology in the inventories was often vague. The "painted sphere in *quadro*" owned by Filippo dotto Sapiti was almost certainly an image of the world, as were the "image of a large sphere in cloth" in the home of a woman identified as La Pellegrina and Filippo di Giovanni Franceschi's "small image of a sphere."[82] The "gilded sphere" in the home of Lionardo de Buonacorsi could have been a decorated globe or some other sphere, and Lionardo di Tedaldo Redaldi's "large sphere of walnut" likewise may have been a globe or something else.[83] Of the thirteen spheres in the Florentine inventories, nine were either listed as "painted" or titled "*a quadro*," strongly indicating that the majority of the spheres were world maps or globes.

While there were some notable differences between the maps in the Florence and Venice inventories, attributable to the different time frames or to differences in taste between the two locations, overall a similar trend emerges: in Florence, as in Venice, world maps were the most popular images. Of the forty-nine maps owned by Florentines, thirty were of world maps and globes, accounting for over 60 percent of the total number of maps in the inventories, excluding the Rosselli shop. After world maps and spheres, landscapes were the next most prolific genre, with eight of the forty-nine maps. Only six regional maps and one city view were owned by inventoried Florentines. Landscapes were also less prominent in Florentine inventories, perhaps because, as the pattern in Venice indicated, there was less demand for landscapes in the earlier years of the sixteenth century. Navigational charts made up a small number of the maps, only three out of forty-nine, roughly the same percentage of navigational charts found in Venice.

The world maps were also described somewhat differently from those in Venice, which were often labeled "*un mapamondo*" or "*un quadro di un mapamondo*" for this time period. In Florence these world maps were described in various ways, including "an image in cloth depicting a small world map [*apomondo*]," "a world map [*apamondo*] in paper," "a world map in cloth," "a map on a tablet," and similar.[84] The variety of terminology likely indicates the relative rareness of such maps in the earliest years of the commercial sale of maps. One description in particular points to the ways that household maps were categorized like other images: the inventory of Filippo di Giovanni Franceschi's home listed "two painted images, one a world map and one of Saint John the Baptist."[85] The notary chose to assign the same terminology to both images in this list, implying that maps and religious images were seen as similar.

As in Venice, the inventories from Florence show a noted increase of households containing maps from 1464 to 1531. The first inventory that contained a map was from 1517, and forty-two of the forty-nine maps found in the Florentine inventories were recorded between 1527 and 1531. It is very possible that a significant number of the maps found in Florentine households had been purchased from the Rosselli shop. Two of the six regional maps in Florentine homes were of France; the Rosselli shop contained nineteen maps of France for sale in 1528. Falchone di Nichola Falchoni owned "*uno quadro de tela depinto la francia*," according to the 1530 inventory of his house; Bernardino di Matteo Bartoli also owned "*uno telaio dipinoto franzese*," according to an inventory recorded in 1524.[86] Similarly, the Rosselli inventory contained twenty-seven copies of four different world maps while eighteen world maps were found in the Florentine inventories. While the descriptions were too general for a conclusive identification, several of the descriptions are very similar. Benedetto di Bonaventura, a merchant, owned "*uno quadro di tela dipinto uno apamondo piccolo*"; the Rosselli shop sold "*20 appamondi picholi dipinti in tela*."[87]

A significant difference between the Florentine and Venetian evidence was the lack of a standard location where most maps were displayed in the Florentine homes. In Venice the majority of maps were displayed in the portico, the most public room in the house, usually termed in the inventories *portego*, *portegho*, or *portico,* as will be discussed in more detail in chapter 6. There was no such standard location for maps in the Florentine inventories. Maps were shown in the *sala*, the Florentine room most like a portico, usually referring to the great hall, but maps were also shown in rooms (*camera*), rooms on the ground floor (*terreno*), studies (*scritoio*), and, in one case, in the kitchen (*cucina*). The *sala* was most common with ten

out of the thirty-one maps listed by location displayed in there. This may in part be due to the earlier time period covered by the surveyed Florentine inventories. As the subsequent chapters will argue, maps became a critical part of a larger effort to shape one's identity through the display of material objects over the course of the sixteenth and early seventeenth centuries. Because maps were relatively new as an inexpensive consumer good during the years covered by the Florentine survey, it is possible that the later Venetian maps were concentrated in a single location more frequently because of the rise of a new context for displaying maps.

Overall, the Venetian and Florentine inventories present a similar picture about map ownership: it increased over the course of the sixteenth century; buyers were most interested in world maps; and there may have been a close connection between the local production and sale of maps in both cities.

MAPS AND IMAGES IN VENETIAN COLLECTIONS

We can glean a great deal from the inventories about the place of maps in the context of Renaissance collections of images. As indicated by the terminology applied to maps and other images, as well as the placement of maps, both in the inventories and in the homes themselves, sixteenth-century maps were treated like other visual images. Maps were only a fraction of the total number of images displayed in Venetian homes, and by situating them among a broader range of images we can learn about the place of maps in Venetian homes. Maps were part of a larger visual material culture, and the inventory evidence indicates that they were a notable segment of this culture.

A survey of all images in the Venetian inventories made between 1530 and 1553 and 1600 and 1611 will provide more information on the place of maps relative to other genres of images.[88] As this analysis indicates, early modern maps were largely treated by their owners as works of art, intended for contemplation and reflection. In the sixteenth century maps were much like any other image: displayed in the same locations, owned by the same people, and often purchased in the same stores. This context is vital for understanding the uses of maps by their Renaissance consumers.

The 282 Venetian inventories made between 1530 and 1553 contained 1,500 images, approximately 5.3 images per household on average. Between 1600 and 1611, 1,918 images were listed in 249 inventories, or 7.7 images per inventory. For the earlier period, no households contained more than fifty images, whereas in the later period six houses possessed more than fifty images, including one home which had ninety-one images. As we

would expect, the later period showed an increase in image ownership as well as an increase in large collections of images, a shift which was due both to the increase in consumer spending power and the increased availability of images for purchase.

The major collectors, defined for our purposes as those with more than fifty images, counted maps as a part of their collections. The lawyer Ludovico Usper owned sixty-three images, including two world maps. The merchant and *nobile di Ragusa* Marino Battitore had fifty-nine images; thirty of these were of cities and principalities, and one was a world map. The *sanser* Bernaba di Rizzi possessed a total of fifty-seven images, one of which was a map of Transylvania. Marco Bembo owned two world maps in his collection of ninety-one images, and Giovanni Capello's collection of fifty-six images contained an image of the creation of the world and one of the countryside of Flanders.[89] Of the six households containing more than fifty images, five owned maps, and the sole collector whose inventory did not list a map very likely did possess one; his house contained, according to the notary, twelve *quadri*, two *quadretti*, eight *quadri*, fifty-two *quadri*, and images of Solomon and the Madonna. Among these many images not described there very well could have been a map.[90]

Nearly all of these major collectors owned maps, implying that maps were seen as a necessary part of any large collection. Inventories which contained fewer than five images typically included only religious images, but when a collection grew past a certain size, maps were almost always present. A small number of inventories contained only maps—for example, that of Paulo Correr, whose only image was a design of Brescia, or another inventory that listed one navigational chart and no other images. Yet overwhelmingly the inventories show that maps were most frequently owned alongside other types of images.[91]

Maps were the most common genre of images in Venetian homes after religious images and figures. Categorizing these images based on type—religious images, unspecified subjects, maps, classical images, family portraits, figures, and other types of images—demonstrates the centrality of maps to Venetians owning images. Unspecified subjects were those labeled in the inventory as simply "*quadro*" or "*retratto*." Religious images would include devotional images, Madonnas, images of the last supper, the resurrection, saints, and the like, while maps would encompass all types of maps and landscapes. Classical images would include Greek and Roman gods and goddesses such as Venus, as well as Roman emperors and other antique figures like Cleopatra. Family portraits refer to depictions of the deceased's family members, while "figures" means those images of nudes; women;

contemporary rulers, usually listed as "the queen of France" or "the queen of Cyprus," including religious rulers; and various individuals such as Petrarch and Laura. The "other" category encompasses images of the seasons, drawings of houses, and images like the one simply titled "*musica*."

Overall, religious images were by far the most popular among Venetian homes, but maps were the next most popular genre. For the inventories made between 1530 and 1553, of the 1,500 images a total of 971 were of religious subjects, 388 were unspecified subjects, and forty-one were maps. Of the remaining images, thrity-six were figures, twenty were family portraits, twelve were classical, and nineteen were other types of images. As almost two out of every three images had religious themes, clearly this was a major segment of the market for images. While maps made up a relatively small percentage of the total, for this earlier period they ranked after religious images as the second most popular type of image described by genre in the inventories.

For the 1600–1611 inventories, of the 1,918 images a total of 597 were of religious subjects, 980 were unknown subjects, and seventy-four were maps. There were twenty classical images, forty-three portraits, eighty-four figures, and thirty other images, plus forty-six images of the seasons.[92] For this later period a smaller number of the total images were religious when compared with the earlier period, but there were significantly more images that were not identified by genre. This could perhaps indicate a change in the thoroughness of the notaries making these inventories; it might also be the result of the expanded number of inventories made per year in the early seventeenth century or of the increased number of images per household. For whatever reason, in the earlier period notaries were more likely to record the genre of images in their inventories.

These numbers provide a new perspective on the ownership of maps: first, maps were a substantial part of the collections of many Venetians. For the period from 1600 to 1611 maps were more popular than any other single genre except for the various figures and religious images, whereas for the earlier period they were more common than any genre aside from religious images. Even though maps made up a relatively small percentage of the total images in the inventories, they were an established and well-represented genre. Second, the fact that 40 percent of all images in both surveys were simply listed as "*quadro*" implies that the number of maps was likely much higher than it looks at first glance. The 1,368 images that were not described by genre certainly included some maps. Thus it is a near certainty that more—perhaps much more—than 10 percent of Venetian households contained maps, as the inventory records undercounted both

maps included in books as well as maps on display that were simply called "an image" by the notaries.

Finally, the fact that nearly every large collector owned maps implies that maps were seen as a necessary part of a collection. If a Venetian wanted to build a large collection of images, maps were nearly always included. This indicates that maps were seen as an important subgenre of art and in their display were treated much like other types of art. From this image analysis, maps were part of a larger visual material culture that encompassed religious images, family portraits, and depictions of famous rulers, poets, and scenes.

CONCLUSION: SIXTEENTH-CENTURY MAP OWNERSHIP

Based on the evidence from these inventories we can make some new claims about the demand for maps in sixteenth-century Italy. The two most popular types of maps among buyers in Florence and Venice were world maps and landscape maps. While world maps remained sought-after throughout the period, the term used to describe them changed from *mapamondo* or *napamondo* in the earlier sixteenth century to *cosmografia* or *carte del mundo* by the seventeenth century. This may partially reflect the shift away from medieval style *mappaemundi* that showed the three known continents, Europe, Africa, and Asia, surrounded by water, but it also likely indicates a change in naming conventions that may simply be due to the growing popularity of these maps or trends among cartographers.

Landscape maps were almost absent from the inventories before 1550, growing in popularity after 1575. Again, this likely indicates a change in tastes and display conventions. The majority of these landscapes that were linked with a location were tied to Flanders, indicating that they were either imported works or after the Flemish style of landscape painting. While these maps would seem less cartographic and more artistic to today's viewers, at the time maps and landscapes were treated quite similarly and many maps included landscapes, as, for example, in the background framing of many sixteenth-century city views.[93] Less popular but still appearing in large numbers were the city, regional, and national maps. In Venice, these maps were skewed toward images of Italy and, in particular, regions controlled by Venice. Such images highlight the geographical coherence of the republic's empire in the minds of Venetian residents, as well as their conception of Italy as a unified geographic figure in spite of its political fragmentation. Other cities and regions that seemed favored include the Low Countries and other regions with close trading ties to Venice.

These inventories show that maps made up a significant number of the images displayed in Italian homes. In Venice, maps were more popular than any other genre besides religious images and figures, and at least 10 percent of inventoried households in Venice contained maps. Venetians were not interested in displaying maps of Venice but instead chose to hang their walls with images of the world, landscapes, Venetian-controlled territories, and maps of Italy. Florentines preferred world maps and globes and likely benefited from access to the locally produced maps in the Rosselli shop.

Household inventories help fill in the grey area of map ownership, providing concrete information on the number of Italians who owned maps. These inventories also provide a great deal of information about the tastes of Renaissance Italian consumers. Maps were widespread consumer goods that appeared in a variety of genres and shared space on the walls with a number of other images. Simply counting the appearance of maps in the inventories provides a baseline of knowledge about Renaissance map consumption. The demand for maps was clearly present—and now we must turn to the motivations behind buying cartographic images. Italians filled their homes with maps for a variety of reasons that cannot be addressed simply by counting these maps. As the next three chapters will show, Italians were driven by diverse motives in choosing to purchase and display maps in their homes.

CHAPTER FOUR

A World Unknown to the Ancients: The Demand for Cartographic Novelty

A customer leafing through the maps in a sixteenth century Italian print shop could not avoid noticing a word that appeared at the top of nearly every map: "new." The word "*nuovo*" appeared on maps of regions around the globe, such as "A new design of Dalmatia and Croatia," "A New Description of Muscovy," or "A new and exact description of all of Germany."[1] A mapmaker might choose to title his map "New and true," "New and exact," or "New and copious."[2] Regardless of the geographical content, the most common opening on these sixteenth-century printed maps was "*Nova Descrittione*," a new description.

While the Italian Renaissance has often been defined by the imitation of the Greeks and Romans in multiple subjects, from rhetoric and language to anatomy, family, and government, in the realm of geography the classical authorities were being rejected as early as the late fifteenth century. Even as mapmakers increasingly relied on the technical methods of ancient geographers like Ptolemy, lining their maps with latitude and longitude, they simultaneously emphasized Ptolemy's lack of knowledge about the true "fabric of the world."[3] In contrast with men like Vesalius, who first saw horns on a dissected women's uterus because Galen had promised he would find them, sixteenth-century geographers chose to cast off reports from the classical authors in favor of the testimony of sailors and navigators.[4] While a number of fields in the sixteenth century began to question classical knowledge—as Vesalius did upon further dissections—exploration and the study of the contours of the world, in fact, provided the clearest grounds for challenging ancient authority in the sixteenth century.[5]

In the realm of geography and cartography, by the turn of the sixteenth century the vogue for classical authority was slowly being eclipsed by a demand for "the new." It was the novelty and originality of these maps that, in

part, made them desirable consumer products, as demonstrated both by the titles affixed to maps as well as in the choice to display certain types of maps in Italian homes. Geographical writers likewise sought to distinguish their works from classical predecessors by cataloguing the limits of ancient authorities like Ptolemy, who, they argued, had been surpassed by contemporary geographical discoveries. In the sixteenth century, maps were emblems, visual proof of the triumph of modernity over classical authority. Owning maps was a key way to demonstrate one's participation in a newly modern world.

MARKETING NEW MAPS

The titles affixed to maps served both as tools of attracting buyers as well as promoting the skills of the map's maker. As this section will demonstrate, mapmakers took care to promote their works as modern and detailed in the titles they chose for their works, which often contained adjectives like "new" and "accurate." For example, an anonymous map of Russia from 1562 was titled "A New Description of Muscovy,"[6] while a map of Germany made by Ferrando Bertelli in the same year was described as "All of Germany and its provinces . . . a new and exact description."[7] Mapmakers believed that their customers wanted up-to-date maps, assuming their clients clamored for the best maps regardless of the fact that many of their maps were recycled, reused, and woefully out of date, as noted in chapter 2.[8]

The relationship between map makers and consumers underwent a major transformation in this century. Previously, European maps were produced almost exclusively on a commission basis, but in the sixteenth century, beginning with Francesco Rosselli's print shop in Florence, customers could browse through stacks of maps and purchase prints of a variety of locations on the spot. The altered relationship between producer and buyer was a result of the sea change in cartographic production, as the new technology of printing was followed by a monumental increase in the number of maps in circulation. Between the eighth and fifteenth centuries, approximately 1,500 individual maps were produced in Europe, and by 1600 the rate of map production had put 1.3 million maps into circulation.[9] Mapmakers like Paolo Forlani, a mid-sixteenth-century engraver active in Venice, began producing maps on a previously unheard-of scale; Forlani alone created over one hundred different maps in barely a decade.[10]

These mapmakers, for the first time, had to attract buyers. Yet their products were commonly borrowed or updated, as with Forlani's 1562 world map, titled "A Universal Description of All the Hitherto Known Land," emphasizing that the map was current. Later editions of the same engraving in 1564

and 1576, with unaltered geographic content, still promised to show all the land that had been discovered.[11] Similarly, Francesco Rosselli's 1508 map of the world provided the geographical content for Venetian printer Benedetto Bordone's *Isolario* (1528) as well as Bartolomeo da li Sonetti's *Isolario* (1532), though Rosselli's depiction of the New World was clearly out of date.[12] Mapmakers also frequently altered the date on engraved plates to make maps look more current while saving the cost of updating the map's content.

Blatant self-promotion was a common response to this altered commercial atmosphere, most commonly in titles, in the hope that the title's bold letters might catch the eye of consumers. The text on the top of a map was a valuable tool in shaping reception. Such titles conspicuously praised the skill of the mapmaker, as with the map of Naples made in 1562 titled "A True Description of the Kingdom of Naples with new amendments, and enlarged."[13] Previous maps of Naples were out-of-date, according to this anonymous engraver, who hinted that buyers needed his 1562 edition to truly comprehend the territory. In his 1561 map of Italy, Forlani used similar tactics, titling his map "The true and final reformed description of Italy, in which many places are accurately recorded and enlarged."[14] Based on these repeated reminders that their maps were new and improved, mapmakers must have believed that consumer demand was predicated on up-to-date maps.

The emphasis on new maps was particularly apparent in the many editions of Ptolemy's *Geography* published in the sixteenth century. These volumes, printed across Europe but most frequently in Italy, nearly always included Ptolemaic maps of the Old World alongside updated maps of the same regions and additional maps of newly discovered territories.[15] Pietro Andrea Mattioli's 1548 Italian translation of the *Geography*, published in Venice, interspersed maps labeled "antiqua" and "moderna," marking all the modern maps with the title "new," as with "Italia Nova Tavola," "Della Terra Nuova," and "Della Nova Hispania."[16] The 1564 Venetian edition of *Geography* coupled all the ancient maps together, followed by the modern maps; in the 1574 reissue of the same text, the positions were reversed so that the new maps came first.[17] Sebastian Münster's map of the New World, in his 1540 Latin edition of Ptolemy's *Geography*, was called both the "new islands" and a "new map" in its brief title "Novae Insulae, Nova Tabula" (fig. 16). If viewers were not yet convinced of the map's newness, the depiction of North and South America was also labeled "novus orbis" (new world). Thus the world "new" appeared three times in rapid succession at the top of Münster's map. Combining classical and modern maps was a visual reminder of the strides made since Ptolemy's time, as multiple geographers were keen to point out.

Fig. 16. Sebastian Münster, "Novae Insulae, XVII. Nova tabula," 1540. Photo courtesy of the Newberry Library, Chicago.

Beyond their choice of titles, mapmakers emphasized that their techniques were modern, in contrast with the classical style of Ptolemy. Claudio Duchetti's 1571 map of Europe (fig. 17) proclaimed, "As for the form of the description, we have followed the site and the modern form of every place and every country everywhere we were able to imitate it." Duchetti underscored the modernity of his map by noting that "we have corrected the tables of Ptolemy as much as we have been able to with the help of the classical authorities [*auttori piu dotti*] and navigational charts."[18] While Duchetti was quick to highlight the "modern form" of his map and his correction of the errors in Ptolemy, his text also hinted at the use of other classical authorities, who, along with contemporary navigational information, would create a more accurate map. Even in his hedging, Duchetti was lauding the supremacy of contemporary mapmakers.

In maps of newly discovered lands, such as Bolognini Zaltieri's 1566

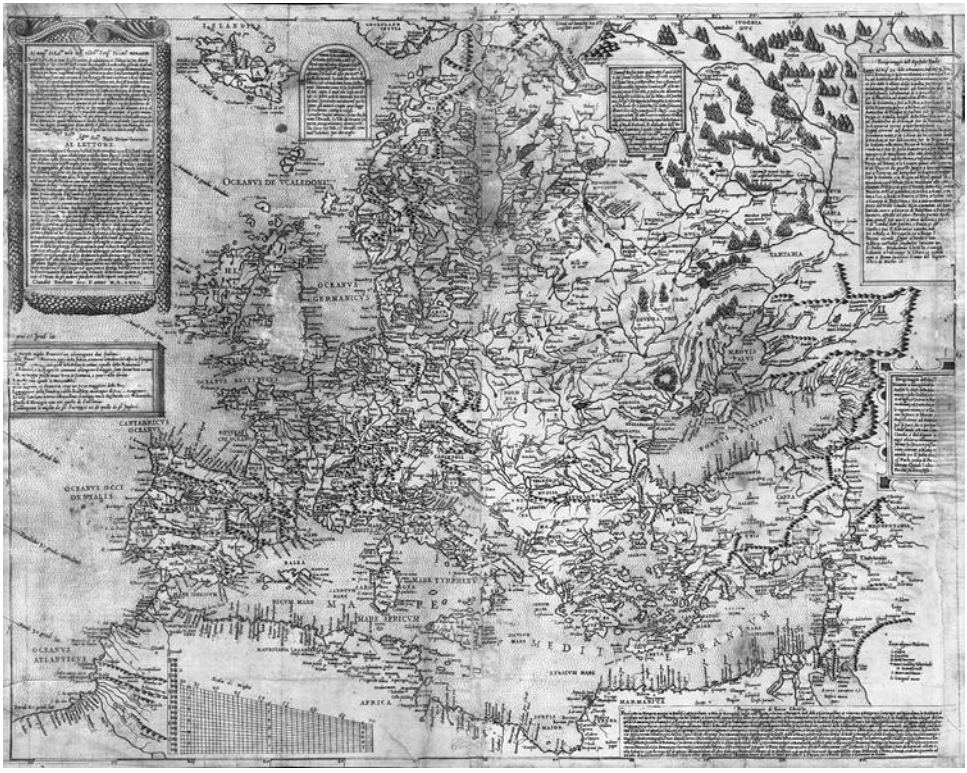

Fig. 17. Claudio Duchetti, untitled map of Europe, 1571. Photo courtesy of the Newberry Library, Chicago.

map of North America, mapmakers repeatedly reminded viewers that the territory had been found only recently. In a cartouche in the upper left corner of the map, Zaltieri called his map "a design of the discovery of New France," claiming with his title that the map captured the discovery of the land itself. Continuing in the same manner, he pointed out that these territories "had been lately found by the newest navigation of the French." He coupled these exhortations about the novelty of the map with promises that it showed "all of the islands, ports, capes, and places on the land which are there."[19] This introduction to the image framed it both in terms of its newness and its comprehensiveness, repeatedly reminding viewers that the lands were recent discoveries.

As their makers argued, maps were particularly suited for capturing the previously unknown parts of the globe, as, for example, Paolo Forlani promised on his 1570 map of North and South America. Tantalizing read-

ers, he told a story on the map of the transmission of new knowledge, first to the mapmaker and then to the consumer. Forlani explained that "Don Diego Hermando di Toledo, a gentleman of the most noble quality" had recently spent several months in Venice where he discoursed with several individuals on geography. "He kindly offered me as a gift a design, which is a particular description of all the navigation of the new world," Forlani explained, "beginning from the east at the Canary Islands, and Cape Verde, and ending from the West to the Straights of Anian, to the Molucca islands, and to New Guinea; from north to the land of Labrador, and of Bacaloas with all of New France; and to the south to the Straights of Magellan."[20] This design became the basis of Forlani's map, and he told his potential customers that it was particularly useful because it contained all the information currently known about the New World. "It shows not only all the seas, ports, islands, rocks, shallows, and every other particularity pertaining to the sea; but also all the cities, lands, rivers, and lakes on the land which are known at this time."[21] The map became a compendium of current knowledge, transmitting the most up-to-date information possible.

Sixteenth-century cartographers marketed their maps as new, improvements over earlier maps. Notably, mapmakers did not make mention of earlier medieval maps; when they referenced earlier geographers they compared their works favorably with classical authorities, a pattern that also held in sixteenth-century geographical texts, as we will see. By proclaiming, in very visible ways, that their works were new, mapmakers drew a distinct comparison with antique maps, as in editions of Ptolemy's *Geography* that updated classical knowledge. In doing so, mapmakers were responding to a change in the market for maps, attempting to anticipate consumer demand and highlighting the appealing elements of their work. From the mapmaker perspective, the greatest appeal was the fact that their works were modern and new.

ITALIAN CONSUMERS AND THE NEW USES FOR MAPS

Along with changes in the marketing of maps, Italian consumers were putting their maps to new uses in the sixteenth century. While mapmakers were certainly convinced that their customers wanted the most current geographical information possible, and chose to emphasize the supremacy of contemporary maps over their classical predecessors, it is more challenging to assess the reception of these maps. However, a convincing case for the value of newness can be made based on several examples that support the notion that Italian consumers wanted to own maps with the lat-

est geographical information. This represented a major change in the value of maps.

One indication that consumers desired new maps is the vast increase in maps sold in the sixteenth century mentioned previously—a thousandfold increase over map production in the preceding centuries.[22] This figure is almost certainly an underestimate, in part because it only accounts for printed maps, not for the smaller number of manuscript and mural maps produced in the same years, and only for known editions, excluding the unknown number of maps that have been lost. This stunning increase in the production of maps was matched by the largest expansion of map ownership in Europe's history. All of these maps were new—even those based on older designs—and as the previous section argued, many maps drew attention to this fact in the very titles affixed at the top. The public market for cartography was itself in its infancy in the sixteenth century, and thus novelty and originality were inherent in the objects.

Similarly, the rising popularity of map cycles in the sixteenth century speaks to the desire to possess new maps. Most famously, Florence's Cosimo I and Pope Gregory XIII commissioned maps for the Guardaroba Nuova in Cosimo's palace and for the Vatican.[23] In addition, several other rulers and wealthy individuals sought out professional cartographers to produce their own map cycles. The viceroy of Naples, Pope Pius IV, and Cardinal Alessandro Farnese all used maps as decorations, and both the Republic of Venice and the magistrates of Siena commissioned maps for public buildings.[24] This trend brought the most current geographical knowledge into the most powerful halls of Italy, depicting the world in colorful and exact detail.

Map buyers outside the halls of state also sought new maps. One novel fashion in the sixteenth century was displaying maps of the four parts of the world. A number of household inventories revealed that Italians decorated their homes with these four-part maps. Andrea Baretta, a wool-worker who lived in Venice's Dorsoduro, owned "four maps, of Asia, Africa, Europe, and Peru," while on the other side of Venice, near San Pietro di Castello, Daniele Fontana showed off his "four images of the four parts of the world."[25] The Venetian Vito Vidotto likewise had "four images of the four parts of the world," as did Lorenzo Gabriel.[26] The widow Isabetta Ravizza, in Mestre, also owned "four maps of the four parts of the world" worth a reported 4 *lire*.[27] Another Venetian, Elisabetta, described as the "widow of Gerolamo," had "a map of the world with the earth in four parts."[28] And alongside an impressive collection of maps and other images, Marietta Morosini also displayed "four images with the four parts of the world."[29]

These maps, which emphasized the four known continents, provided a

stark contrast to the earlier three-part medieval *mappaemundi* as well as to the ancient division of the world into three parts. The inclusion of the New World thus served as a visual emblem of the contemporary triumph over both medieval and classical knowledge about the world, demonstrating exactly how far modern geographical knowledge had come. It was likewise a demonstration of the owner's erudition and modernity. And while medieval and Ptolemaic maps were still displayed in some sixteenth-century Italian homes, these older maps were frequently paired with contemporary maps, including sets of the four parts of the world, dichotomizing the new and the old, as in sixteenth-century editions of Ptolemy's *Geography* that contrasted the antique and modern versions of the same territories.

As Fiorani argues, decorating both private and public buildings with maps became widespread during the early modern period in large part because of "the general interest in the new discoveries, the growing availability of printed maps, and the increased use of maps for such diverse activities as learning the classics, freight calculations of merchandise, reading the Bible, and administration of the state."[30] Each of these motivations captures a different facet of the demand for maps—their novelty, their diversity and availability, and the burgeoning uses for cartographic works—and all revolve around the map itself as a new object, used in original ways.

One of the novel uses for maps in the sixteenth century in particular points to the necessity of new maps—the reliance on maps, for the first time, to gain news about current events. This was particularly true for following foreign wars, a major concern to sixteenth-century Italians. As David Woodward has shown, single-sheet maps were produced to trace the advances of the Turks in their long struggle with European nations.[31] When the island of Malta came under Ottoman siege in 1565, the Italian engraver and mapmaker Niccolò Nelli sold a series of maps detailing the siege. Nelli's prints chronicled the slow advance of the Ottoman forces throughout the summer of 1565, as the Knights of Malta held out waiting for reinforcements.

In Nelli's first print, which circulated in July of 1565, the flag of the Knights of Malta flew high, holding strong in the face of a line of cannons pointed at the fort. One month later, a new print appeared with the date 4 August 1565, indicating to the Italian public that the situation in Malta was direr than ever. Nelli's updated print included an additional fleet of Ottoman ships arriving with reinforcements and filled the once-empty fields around the city with tents and still-firing cannons. These prints became so popular that Nelli included a blank space on his engraving to write in the date by hand so that his map could be updated every few days.[32] Nelli's maps chronicled the Turkish capture of the fort, represented in part by the pres-

ence, in a late-August update, of Ottoman ships filling the harbor. When the tides turned in Malta, the mapmaker engraved another new print in October of 1565 showing the Ottoman forces retreating into their galleys and sailing from Malta. While the map was approximately one month behind the action—Spanish-lead troops were able to retake the port on September 11, 1565—the series of maps was nevertheless the sixteenth-century equivalent of cutting-edge news.

Alongside Nelli's prints, this interest in current events appears in the maps and prints collected by sixteenth-century Venetians. Images of Turkish military strength appeared in several homes; Giovanni di Fermo owned "a large image with a Turkish battle."[33] In a 1587 inventory of the home of Lunardo Justinano, the notaries reported "two large images, one with a Turkish camp and the other an old Turk."[34] Ottoman sultans were also on display in Venice, in the homes of Giacomo dalla Vedova and Nicolò Padavino, both of whom had images of the "Gran Turcho."[35] This connection between maps and current events also appeared in older maps and geographic texts. These materials could be updated with new information to maintain their relevance, as with a 1511 copy of Ptolemy's *Geography* that contains a manuscript annotation about events in the 1560s. The owner wrote about the siege of Malta, noting that "on 18 May 1565 the Turkish armada arrived with 130 galleys and 12 ships but after having left over 20,000 men dead, left ignominiously."[36] An updated map of Malta was also bound into the back of the book, a common way to modernize older books.

Correlated with the increase in demand for new maps was an altered emphasis in the temporality of maps; sixteenth-century mapmakers were the first to claim that their works captured locations as they existed at the moment the map was drawn. This not only drew attention to the originality of the map but also distinguished this style of mapping from its medieval predecessors, which elided time and space in their images. While medieval maps frequently included biblical stories alongside contemporary cities, depicting space not as a captured moment in time but rather as atemporal, early modern cartographers transformed the relationship between space and time on maps. This shift from diachronic to synchronic maps represented a major change in cartography.[37]

Historians have hypothesized that these medieval maps, which were frequently displayed in churches, may have served as teaching tools to help laypeople remember stories from the Bible by physically placing them on the globe.[38] The map itself thus served as a type of chronicle, visually depicting scriptural history. Medieval *mappaemundi* frequently portrayed the Pope in Rome on the same map that contained Noah's ark or Adam and Eve

in the Earthly Paradise. These maps were compendiums of history that did not capture one moment in time but instead picked out multiple moments of significance to portray in the same space.

Sixteenth-century maps abandoned this portrayal of time and space, instead emphasizing repeatedly that their maps showed all known parts of the world as they existed when the map was produced. Forlani gave multiple world maps the same title: "Universal Description of All the Earth Hitherto Known," emphasizing the cutting-edge nature of the map.[39] The same sentiment was highlighted in Forlani's map of the Mediterranean made in 1569. Giving a hint to the long process of making a map, he wrote, "It is finished now, if I am not deceiving myself, and from part to part, and all together, the print gives the description of the earth as it is known to the present day, but which has still not been seen outside this description made after the manner of sailors."[40] In this text, the key word is *hoggi* [today]—the map shows the Mediterranean as it was known up to the day Forlani finished his engraving, it was as current as a map could possibly be. The mapmaker underscored this point by claiming that his version of the Mediterranean had never been seen except perhaps by the sailors who had mapped it, again stressing the new content in the map. While the singularity of the map was certainly exaggerated by the mapmaker, Forlani nevertheless wanted to portray his map as current, indicating the very different expectations of sixteenth-century maps compared to their medieval predecessors, which merged time and space on the map.

This shift toward maps representing a moment in time fit with several other changes in sixteenth-century cartography. Maps were valued in part for providing current, modern geographical knowledge, as demonstrated both in the naming of maps as well as in the desire to own modern maps like the four-part images of the world. The synchronic map could also serve different functions, such as capturing the advances of enemy armadas and informing buyers about the latest news in the Mediterranean. These uses for maps were directly tied to the representation of time and space in sixteenth-century maps, which was driven by the idea that maps should represent modern geographical knowledge.

QUESTIONING CLASSICAL WISDOM

The Renaissance preoccupation with the victories of contemporary geographical knowledge was much more than a tool of marketing. Texts on geography and exploration repeatedly emphasized this point, as authors stressed the many ways in which modern knowledge had triumphed over

classical authority. In editions of Ptolemy's *Geography*, volumes on the new discoveries, and tracts on the nature of the world, writers repeatedly extolled contemporary geographical information and catalogued the many limits of the classical authors. Tellingly, medieval geographical knowledge was never the target of sixteenth-century criticism; rather, it was the ancients who had been outshined, indicating that Renaissance geographers framed this as a struggle between classical and modern knowledge.

Unsurprisingly, these arguments most frequently appeared in discussions of the newly discovered hemisphere, known either as the "mondo nuovo," "New Spain," or simply "Peru" in the sixteenth century. Giuseppe Rosaccio's *Descrittione della Geografia universale*, printed in 1598 and bound with an Italian translation of Ptolemy's *Geography*, described in detail the limits to classical geographical knowledge. Rosaccio, a cartographer who also wrote travel narratives, drew attention to the differences between contemporary and classical knowledge of the world, noting, "Today all of the Earth is divided into four principal parts, the first being that which we call Europe, the next Africa, the third Asia, and the fourth America." Rosaccio then listed the regions unknown to his geographical predecessors: "This last part [America] was not known at all to the Ancients, nor either the part of Africa lying under the Equator, and today the northern parts of Europe have been restored, which were unknown to Ptolemy."[41]

With his focus squarely on classical authorities, particularly Ptolemy, Rosaccio continually highlighted the expansion of geographic knowledge in his own age. Underscoring this point, Rosaccio compared the number of maps of each region of the Old World in contemporary atlases with those traditionally mapped by Ptolemy: Ptolemy lists only ten maps of Europe while in Rosaccio's time there were twelve; sixteenth-century geographers had added four new maps of Africa to Ptolemy's older three; Asia covered fifteen maps rather than Ptolemy's twelve. In each section Rosaccio mentioned the "terra incognita" in Ptolemy's world that had been uncovered by contemporary mapmakers.[42] After detailing the limits of classical knowledge of the Old World, Rosaccio returned to the issue of America: "But America, as we have said, was not known at all to the Ancient Geographers, as it was discovered in the year 1492. Here, according to the opinion of the Modern Geographers, it is shown in nineteen maps, and in two main parts, consisting of two large peninsulas, one toward the north, and the other in the south, the first called New Spain, divided into twelve parts, and the second to the south called Peru, in seven maps." By the numbers, the modern geographers had added twenty-eight new maps, more than doubling the twenty-five regional maps produced by Ptolemy; Rosaccio's nineteen

maps of a completely new part of the world provided the ultimate proof that "Modern Geographers" had surpassed "Ancient Geographers." Rosaccio concluded with the definitive line, "These are the four parts of the world, which form the great universal machine of the Earth"—a world that had not been understood by the ancients.[43]

In the same year that Rosaccio's text was published, an Italian translation of the Latin commentaries on Ptolemy by Giovanni Antonio Magini was also published in Venice. The commentary, which Magini originally wrote for a 1596 Latin edition of the *Geography*, was translated into Italian by Leonardo Cernoti and included in the *Geografia Cioe Descrittione Universale della Terra* published in Venice in 1598 by the Galignani brothers. Magini's text likewise stressed the many parts of the world unknown to the ancients. The Ptolemaic world map included in the volume was visible proof that "the three principal parts of the world . . . which are Europe, Africa, and Asia, were the only known parts at the time of Ptolemy."[44]

In describing the newly discovered fourth part of the world Magini derided classical knowledge while simultaneously trumpeting contemporary achievements. "This large part of the world [America], across the most vast and cruel Atlantic Ocean . . . was not known to the ancients until the year 1492 when for the first time it was discovered by Christopher Columbus of Genoa, a man of great spirit, of the craftiest ingenuity, and not poorly instructed in the art of navigation."[45] While Italian authors were fond of reminding their readers that Columbus himself was from their peninsula, Magini's praise of the navigator also hinted at the exact skills which the classical authorities may have lacked. If the ancients never reached the shores of America, perhaps it was because of their skills in navigation or, worse, that they simply were not ingenious enough to conceive of the voyage.

Magini also included a long description of the difference between classical knowledge of the world and the strides made in contemporary times. The ancients had not known about many parts of the world, "such that it remains to us," Magini wrote, "that we rename the division of the whole world into its main parts." The importance of new discoveries was hammered repeatedly by Magini: "Our predecessors already divided the parts of the world which are inhabitable into three distinct and specific parts, namely in Europe, Africa, and Asia. The successors have however added a fourth part, which in the present is called America, found within the last one hundred years."[46] Although he finessed the dates slightly—Magini wrote in 1596, 104 years after the discovery of America—his goal of accentuating the newness of the recent voyages was transparent.

Yet perhaps the failure of the ancients was even greater than missing a quarter of the earth's surface. Magini also argued that the classical geographers knew only half of the world, as when he wrote that "some of the Modern people divide all of the world into two parts, the Old or the Ancient World, which was known to Ptolemy, and the New World, which is also known as the Atlantic world." He then called out the ancient geographers by name: "The ancient world is that which was known to Ptolemy, Strabo, Pliny, Mela, and the other Ancients: But the New World is that which in modern times was discovered by the Admirals of the Kings of Portugal, Spain, and France."[47] Notably, Magini makes no reference to medieval geographical knowledge, instead focusing on classical and contemporary individuals, contrasting the towering authorities of men like Ptolemy with the unnamed Admirals sailing for modern kings. The message was clear: the discoverers of modern times had shed light on territories unimagined by the ancients.

But according to Magini, geographical knowledge had not stopped with the discovery of the New World. Rather than dividing the world into three parts, as the classical authors had done, or into four parts, as the early sixteenth-century writers had done, Magini proudly notes that "at this very time we distribute all of the world, as much as we know and as much as we don't know, in a more convenient manner into seven principal parts."[48] These seven parts were Europe, Africa, and Asia—"the ancient part of the world"—followed by North America, South America, a Southern Land [*Terra Australe*] and the Arctic polar region. The final two were still not well known, as Magini admitted; "Terra Australe" was "recently discovered but not yet known" and consisted of the southern parts of South America, including Tierra del Fuego, the Straights of Magellan, and several islands, including "the province of Beac, which produces much gold, with the realms of Luac, and of Maletùr, near Java Major and Java Minor, and other unrecognized regions."[49] In fact, Australia itself was unknown to Europeans until 1606, yet the myth of a southern continent was centuries old. Roman geographers Pomponius Mela and Macrobius had both claimed the existence of a southern continent, a belief which was taken up by Marco Polo in the thirteenth century. Polo had named the territories at the far southern point of his voyages Beach, Lucach, and Maletur, lands which appeared not only in Magini's description of the southern continent but also in multiple sixteenth-century maps.[50]

The final part of the world in Magini's scheme was the Arctic Pole. "The last part is around the northern pole, smallest of all, and little known, covering four Islands which are arranged around the Arctic pole."[51] The polar

region, which some geographers treated as part of Europe, was frequently named by multiple writers as another area of the world unknown to the ancients. By framing the seven parts as encompassing the known and unknown world, Magini again implied another failing of the ancients: modern geographers were completely aware of the limits of their knowledge and planned to remedy the blank spots on the map.

Magini's seven-part world followed the writings of previous geographers who believed that the discovery of the New World was only the first of multiple new parts of the world that had been recognized in their time. In his 1571 book *Breve Trattato del Mondo, et delle sue parti*, Giasone de Nores explained how "the whole surface of the earth, it seems to me, at our time can be conveniently and easily divided into six parts." The first was "the most illustrious and well known, called Europe," followed by Asia and Africa, those parts of the world known by the ancients. The remaining parts "have been found and newly added by modern people." Those included "The West Indies, which were not known to the ancients, and is called America," as well as two parts, which he titled *Settentrionalissima* and *Australissima*, the most northern and the most southern parts of the world yet discovered. De Nores admitted that these polar regions were not well known and that the southern continent "at the present is unnamed"—perhaps because it had not yet been found.[52]

In another of his geographical writings, a short book titled *Il Mondo e sue parti*, published in 1595, a few years before he edited and annotated a translation of Ptolemy's *Geography*, Giuseppe Rosaccio also described a six-part world. In this work, Rosaccio explained how "today all of the earth is divided into four parts, according to the modern description," relating how the fourth "was not known to the ancients and is called America by modern people." He then added two additional parts around the North and South Poles, regions which like Magini, Rosaccio explained were still being explored in his time.[53]

A pirated version of Abraham Ortelius's *Theatrum Orbis Terrarum* invented another scheme for dividing the earth. The author, Pietro Maria Marchetti, paraphrased and added to Ortelius's text in his *Il Theatro del mondo di Abraamo Ortelio*, published in Brescia in 1598. Marchetti began his description like many other writers: the earth, Marchetti wrote, "was divided into three parts by the ancients: Europe, Asia, and Africa. Modern people have added a fourth part, that is America." Here Marchetti deviated from previous texts by noting that "others, even more recently, have added a fifth part, which they call Magellanna."[54] Each of these authors—Marchetti, Rosaccio, Magini and de Nores—used their modern divisions of the world to

draw attention simultaneously to the lack of knowledge held by classical geographers and to the triumphant discoveries of modern explorers.

In a similar vein, Girolamo Ruscelli's commentary on Ptolemy's maps, published in 1561, argued that Ptolemy's knowledge of the world was so limited that it was nearly useless in the sixteenth century. When describing the world maps in his book, Ruscelli points out that "in the ancient world maps, made after the description of Ptolemy and after the principles of many others, it is clear that at the time of Ptolemy not even a quarter of the entire world was known."[55] He went on to specify the newly discovered parts of the world; "In this age, after Ptolemy, we have found another large part of Africa, unknown to Ptolemy, below Ethiopia . . . adding to the other inferior quarter of the earth." The book's map of Africa repeated this claim, emphasizing that the majority of southern Africa was "an unknown country to Ptolemy, as he himself clearly stated."[56]

New meant better and improved, according to Ruscelli, who repeatedly labeled his map of Africa with this term. He describes the map, titled "Africa Nuova," as "the new map of Africa which because it was newly discovered, was called new."[57] Ruscelli's map of the New World also emphasized the limits to classical knowledge. "As explained elsewhere by me in this volume, and primarily through the universal maps of all of the world, Ptolemy did not know of the inhabitable world from the Equator to the 16th degree of latitude. Whereby all this . . . from those 16 degrees to the Equator across the southern part of the world, was discovered and found only in the modern period."[58]

Other authors took a similar stance to Ruscelli's, emphasizing the limited geographical expanse known by Ptolemy and other classical authorities on the world. In *Della Grandezza della Terra et dell'Acqua*, Alessandro Piccolomini declared precisely how much of the world's 360 degrees Ptolemy had known. "Of the four parts of the terrestrial globe, in the time of Ptolemy they had knowledge of hardly one of the two northern parts, or better to say, only part of one." Knowledge of the southern parts of the globe was even worse, as Piccolomini explained. "Ptolemy himself posited only seven climate zones, which stretched little more than 63 degrees in latitude from the equator to the North Pole, and hardly 100 degrees in longitude, calling the rest, past 153 degrees East, by the name *terra incognita*."[59]

Pietro Andrea Mattioli's 1548 edition of Ptolemy's *Geography* made similar claims. In the text on the edition's map of the world, engraved by the Venetian cartographer Giacomo Gastaldi, Mattioli divided the ancient world numerically, pointing out the limited knowledge possessed by authors like Ptolemy: "The universal sphere of the Earth was divided accord-

ing to the ancients into three parts: they are Europe, Asia, and Africa. These parts covered 180 degrees of longitude, the first degree beginning at the Canary Islands, and included 63 degrees of latitude across the Northern Hemisphere, beginning with the first degree at the Equator, and 10 degrees of the Southern Hemisphere."[60] If the point was not clear enough after this description, Mattioli drove it home in his next line: "All the rest of the 180 degrees of longitude that you see [in the map] were discovered by the Modern explorers, that is to say the West Indies, which in Italian are called the *mondo nuovo*, because this was not known by any of the ancients, who never mentioned it, because it is to the west, past the Canary Islands, and thus it is called new."[61]

The text was meant to elucidate the history contained within the map, distinguishing between the new and old parts of the world. Mattioli repeatedly included mentions of new discoveries and the accomplishments of modern geographers, noting that by combining the 180 degrees "discovered by the ancients" with the hemisphere "discovered by the moderns . . . we have all 360 degrees of the sphere."[62] Yet rather than giving antiquity credit for discovering half of the globe, Mattioli reminded readers that much of the eastern hemisphere was unknown in antiquity: "The part above the 63rd degree of north latitude, which is called Norway and Greenland, was discovered by the Moderns, with many other provinces. And these were also discovered by the moderns. Although Ariano and Pliny say that it was discovered by the ancients, they did not describe it in detail, as the moderns have done today."[63] As did Magini, Mattioli pointed to specific classical authorities to contradict their claims to knowledge about the world; Mattioli's objective was to intentionally argue that ancient geographical information was circumscribed as well as vague.

Exploration of the polar region was used by several other sixteenth-century writers, including Magini, to explain how contemporary discoveries had expanded knowledge of the world. For example, Giuseppe Rosaccio detailed the many voyages around the world, including those of Magellan and Drake, before explaining how Ptolemy's knowledge of the world, particularly in the Arctic Circle, was insufficient. "As for knowledge of the Earth toward the North Pole, Ptolemy does not go past the 63rd degree, also south of the Equator he does not go past the 16th degree." After noting the limits to Ptolemy's polar knowledge, Rosaccio related that classical geographers believed that "the countries there are not inhabited nor are able to be inhabited," which had been clearly disproven by modern exploration. Rosaccio concluded that "In our times we have certain knowledge, so that any who combine both the degrees and the continents together, will be able

with the experience of the truth, to see how much we have uncovered in a short time," drawing attention to how many new discoveries had been made in a matter of decades.[64]

Texts on travel and voyages also praised the new discoveries of contemporary travelers. In an Italian translation of Antonio Pigafetta's narration of his voyage with Magellan, published in 1536, Massimiliano Transilvano promised his readers that "In this book, most sympathetic reader, you will read about the voyages made by the Spanish around the world." He noted that this circumnavigation was "perhaps one of the greatest and most wonderful things that we have understood in our time, moreover in many of these things we surpass the ancients."[65] Transilvano's hyperbole drove home the argument that geographical knowledge was a field where modern accomplishments were demonstrably superior to their classical forebears.

For sixteenth-century authors, even the parts of the world which were known in classical times had been uncovered in much greater detail in their own age of exploration. Giovanni Battista Ramusio, who more than any other single person popularized travel narratives in the sixteenth century, emphasized this in his introduction to a description of the voyage of the Bolognese explorer Ludovico Varthema to India and the Spice Islands. Ramusio promised that Varthema would "narrate with great specificity all manner of things about India and the Spice Islands," noting that "none of the ancients who found it wrote so distinctly." For this reason, Ramusio concluded, "for many years it was read with many errors and incorrect information."[66] Thus even the parts of the world known to the ancients were not understood; rather, classical texts contained erroneous knowledge which had been superseded by that of modern writers.

The faulty information perpetuated by the ancients was, to Ramusio, a symptom of a larger failing. Greek and Roman voyagers simply did not possess the tools of navigation that allowed modern men to voyage across the seas. Ramusio pointed out that "in ancient times, before and after Pliny . . . no one knew the art of navigation with a compass or with a map," instead relying only on observing the stars and taking depths with a sounder.[67] In Ramusio's conception, the superiority of modern knowledge of the world was in part attributable to the advances in modern technology, demonstrating the victory of the sixteenth century over the past.

Classical geographical knowledge had become a consistent target for criticism among sixteenth-century writers. As Venetian mapmaker and author Benedetto Bordone argued in the introduction to his *Isolario*, the "many errors which the ancients have left to posterity" could only be corrected by contemporary knowledge.[68] While this theme signaled an altered

view of classical authorities among contemporary writers, it also underscored an important element of sixteenth-century geography and cartography: it was superior to anything that had come before.

CONCLUSION: MARKETING NEW MAPS

From both the point of view of production and consumption, the emphasis on novelty in sixteenth-century geography and cartography cannot be ignored. Writers on travel, geography, and cosmography repeatedly noted that classical knowledge about the world was limited and inaccurate but modern Europeans were expanding and correcting information about the world. These sixteenth-century writers debated whether the ancients had known about three-quarters of the world, half of the world, or perhaps only one-quarter of the world, but regardless of their chosen percentage, all agreed that modern knowledge was vastly superior. This success was attributed to the ingenuity and skill of modern navigators, as well as to geographers who carefully corrected classical errors.

The argument about classical versus modern knowledge was also marketed to appeal to consumers. Through multiple strategies, including the selection of titles that promoted these maps as new, current, and cutting edge, mapmakers were attempting to reach a particular audience. These consumers may have had experience with previous maps, as indicated by the effort to promote each year's new crop of maps as better, more accurate, and superior to their predecessors. The hyperbolic titles can be interpreted as a way to attract repeat customers by framing the maps as new and also hints that sellers faced a competitive market for maps where consumers could afford to be selective about which ones they chose to purchase.

Likewise, consumers purchased maps marketed as new in numbers never before seen in Europe. Italians sought maps of current events for information about military invasions and displayed maps of the four continents prominently in their homes. They read books that lauded contemporary advances over the most famous classical geographers, including Ptolemy, Strabo, Mela, and Pliny, marveling over the voyages of discovery that uncovered previously unknown parts of the world. The world itself no longer contained only three parts but perhaps as many as seven, again proving to Italian geographers and map buyers that their era was truly one of monumental achievements. The latest fashion pushed for more current geographical information, and for the first time in the sixteenth century, one of the most important characteristics of a map was its novelty and originality.

CHAPTER FIVE

The Power of Knowledge: Education and Curiosity in Cartographic Prints

According to Italian mapmakers, their work was in high demand. In the dedication of his 1570 world map, Paolo Forlani wrote that "I have twice engraved the print of this world map in the past few years; over the course of those years, the number of these prints has grown smaller." Forlani declared that his works had virtually sold out in order to argue that his previous maps were popular; this demand for his product motivated the mapmaker to create a new map, Forlani explained: "for the public good [*il commodo commune*] I have been compelled to have a new engraving made."[1] By stating that there was a broad demand for these maps, which drove his decision to create a new engraving, Forlani framed his contribution as valuable to the community. Forlani's skills thus served an important purpose—making maps available "for the public good."

The argument that maps served an important communal function was repeated in other cartographic works. In his 1562 map of Savoy, Forlani described the image as something rare and valuable, "a thing no longer seen in our parts," which he engraved "for the common good [*a commune utilità*] of all, for the honor and pleasure of all who are delighted by Geography."[2] An anonymous map of Rome made in 1564 was described as "A description of the territory of Rome, which was once called Latium . . . with all the lands, castles, villas, rivers, mountains, and forests . . . for the common utility [*a commune utilità*] of the study of Geography."[3] Leandro Alberti's *Isole appertenenti alla Italia* (Venice, 1567) also declared it was made "for the common use [*a commune utilità*] and satisfaction of Readers."[4] The text on a 1567 map of Iberia engraved by Forlani after a design by Ferrando Bertelli was used to advertise a forthcoming work that would benefit the public; in the text Forlani closes by addressing his readers and telling them

to "expect after this a map of Europe, which is now being engraved; it is the most exact, most beautiful, and most extensive, which will be given to you for the common utility [*a commune utilità*]."[5]

The sellers of maps and geographic books believed their wares served a useful function, a worthy goal of assisting in the comprehension of a valuable subject. After all, educated men in the Renaissance should know something about geography, and maps provided knowledge about the world that was necessary for an educated populous. But maps were not merely dry instruments of transmitting information; they also carried messages about the places and peoples depicted. This chapter will look at two of those messages—education and curiosity—in order to understand the appeal of sixteenth-century maps.

VIEWING THE MAP THROUGH RENAISSANCE EYES

The place of maps and the locations where Italians interacted with cartographic materials shaped their uses. The placement of maps in specific locations was often an intentional choice on the part of the map's owner, meant to convey particular information to viewers. Italians saw maps in multiple spaces—private homes, public halls of state, passed around in shops, and bound in books—and the sites of interaction with maps indicate how people "read" maps, what they looked for in maps, and the purpose behind these maps.

As the evidence from household inventories indicates, many maps were on display in Italian homes. Venetians, for instance, were most likely to place their maps in the *portego*, the entry room that was the most public space in the house.[6] Visitors might be given a tour of the collection, as was Federico da Porto in Marino Sanuto's home.[7] In the early sixteenth century, the two toured through the rooms and halls in Sanuto's house, discussing the contents—including a world map. One way to view maps was thus while walking; in the early modern period, strolling through halls, gardens, or *loggia* and viewing art was a common experience, and was often recommended to promote good health. As the seventeenth-century English physician Robert Burton argued in his *Anatomy of Melancholy*, a number of ailments could be healed by such perambulation.[8] Burton mused, "what [is] so full of content as to read, walk, and see maps, pictures, statues, jewels, [and] marbles?"[9] His prescription aided both the mind and the body.

Viewing maps in these semi-private spaces of the home was likely accompanied by a discussion on the map's content: the territory, its inhabi-

tants, culture, or history. Conversing about maps happened not only in private homes but also in more public settings. When Don Diego Hermano of Toledo visited Venice, he established an informal geographical society, according to mapmaker Paolo Forlani. Not only did he give Paolo Forlani the design for a map of the Americas, which Forlani engraved in 1570, but he also established himself as an authority on geography. As Forlani wrote in his dedication of the map, "many come to reason with [him] about a variety of things, especially Geography."[10] Similarly, in Venice, Tommaso Rangone, committed to scholarly pursuits, opened "a choice library for the use of scholars" around 1560 that contained printed books, manuscripts, paintings, and mathematical instruments, as well as globes and "geographical maps of learned authors," perhaps Ptolemy.[11] In the *studiolo* of Ulisse Aldrovandi, visitors could view a number of globes along with a geographical map of the world; we can imagine a number of the 1,579 visitors recorded in Aldrovandi's visitor's book stopping over the maps to discuss their contours.[12] These examples point to a community of individuals discussing maps and geography; one of the ways in which Italians interacted with maps and gained geographical knowledge was through informal conversation between interested people.

In public or private spaces, the arrangement of maps could create virtual walking tours of the world, as the eyes traveled from territory to territory on a route crafted by the owner. This was done most intentionally in painted map cycles, such as the Terza Loggia in the Vatican Palace, commissioned by Pope Pius IV and painted between 1560 and 1585. The cartographer, Etienne Dupérac, chose to arrange the maps according to Ptolemy's order, creating a physical manifestation of a Ptolemaic atlas.[13] In Florence, Cosimo I's Guardaroba Nuova was, according to Francesca Fiorani, intended as "an exploration of the cosmos accurately reduced to room-size dimensions."[14] The fifty-seven maps of the world, complete with depictions of native animals, flora, and fauna, portraits and busts of notable figures tied to the region, and topped on the ceiling with the Ptolemaic constellations, turned the walls into a miniature reflection of the world.[15]

The Galleria delle Carte Geografiche in the Vatican, begun in 1578 at the order of Pope Gregory XIII, also contained a purposeful design: the placement of maps depicting different regions in Italy was intended to mirror a journey from north to south along the ridge of the Apennine Mountains. An inscription on the northern portal made this clear to visitors: "Italy, the most noble region of the entire world: as it is divided by nature by the Apennines, similarly to this end the gallery is divided into two parts, on this

side the one bounded by the Alps and the Upper Sea, on this side the other bounded by the Lower Sea . . . the entirety [of Italy] is displayed in tables on both sides of the long hall."[16] Walking through the space thus replicated a small-scale imagined itinerary.

Maps were also frequently viewed in books, nearly always accompanied by text. Atlases such as the *Civitates Orbis Terrarum* did not contain just numerous maps but also inscriptions, descriptions, and sometimes lengthy material on the history, culture, commerce, and climate of the various places.[17] These texts served several functions: providing complementary knowledge to the visual information in the map, drawing attention to specific features on the map, and shaping how the viewer read the map. These texts thus provide a valuable perspective on how mapmakers framed the appeal of their products, as well as how they marketed and promoted their works. As such, these texts must be read through the lens of advertisement; as we have seen, mapmakers were particularly hyperbolic when it came to proclaiming the accuracy of their maps. Yet in spite of this, texts on maps provide a window into the market for maps.

Many sixteenth-century maps contained significant amounts of text; the language used in these texts indicates the intended market, the audience mapmakers were attempting to attract. Most of these texts were in Italian rather than Latin, particularly on maps of Italian regions. The choice to print these maps in the Italian language implies an effort to reach a broader reading audience that would be considered illiterate by standards that only ranked knowledge of Latin as literacy, which suggests a largely Italian viewership for these works. While some of these maps may have been made for export to non-Italian speaking regions, the majority of these maps were aimed at Italian consumers.

Out of a total of ninty-four maps engraved by Paolo Forlani between 1560 and 1571, twenty-four were engraved in Latin, sixty-nine in Italian. One map, of Crete, contained both an Italian title and a Latin description of the island. World maps were relatively evenly split between the two languages, with four in Latin and three in Italian. The largest gap was found on city maps; the eleven city maps engraved by Forlani were all in Italian. And while these city maps were most frequently of Italian cities, including Rome, Venice, Brescia, and Verona, Forlani also made maps of non-Italian cities like Tunis. Continental maps also skewed heavily toward Italian text, with seven maps of continents in Italian compared to one in Latin. The single continental map with Latin text was of Africa; Forlani engraved his map of the continent including Latin text the year after his Africa with Ital-

ian text appeared; perhaps the Latin version was intended for export.[18] Regional maps made up the largest category of Forlani's prints; forty-eight of these maps were in Italian compared with nineteen in Latin.

Nearly every map of an Italian region included text in Italian; this amounted to twenty maps of Italian city-states or regions, including maps of Italy as well as Italian holdings in the Mediterranean with Italian text. The single exception of an Italian region with Latin text was a map of Tuscany made in 1564. The choice to engrave Tuscany in Latin was possibly a nod to the region's large population of humanists; Florence was, after all, the location of the humanist scriptorium that had translated and distributed Ptolemy's *Geography* into Latin in the fifteenth century.[19]

The choice of language for engraved maps paints a picture of the market for these prints. They were not restricted to an elite Latin-literate population but reached a far broader scope of individuals, and most of these maps were likely not produced for export to non-Italian-speaking regions. Finally, the overwhelming number of maps of Italian regions and cities were in Italian, indicating that these maps were intended for local consumers. The fact that the majority of maps produced in Italy's print shops were in Italian indicates that mapmakers expected to sell most of their maps locally or regionally, rather than relying heavily on long-distance exports.

Mapmakers also shaped the way that viewers read a map in other ways. In the mid-sixteenth century, mapmakers began with increasing regularity to include keys to their maps, a list of locations that corresponded to numbers on the maps. This technique appeared frequently on city views, where the key highlighted the most important buildings, churches, and monuments, even including private palaces, in the city. Paolo Forlani's map of Venice, made in 1565, specifically drew attention to this key by informing readers that "I . . . marked with numbers those parts most noteworthy . . . they demonstrate all the details that man desires to know."[20] Both the key and the text point to the connection between information and desire, indicating that geography was in demand. The popularity of keys also reveals the consumer's wish to "read" the map for knowledge about the urban geography.

The place where viewers encountered maps, the visual look of a map, and the accompanying textual information all shaped how Renaissance Italians responded to maps. Though these viewers left behind little information on their reactions to maps, cartographic and geographic knowledge was often framed as a delightful amusement. As Ferrando Bertelli explained in the dedication of his 1566 map of the Atlantic, viewing a map was a pleasurable occasion. Bertelli knew that his patron Marco del Sole, to whom the

map was dedicated, "delights in matters of Geography."[21] The study of the world was seen as something delightful, a worthy and enjoyable pursuit. This combination of delight and knowledge was an important feature of sixteenth-century maps.

MAP AS COMPENDIUM, MAP AS *WUNDERKAMMERN*

One of the clearest explicit goals of maps was to educate the viewer about locations both distant and familiar. But cartographic enthusiasts often saw a map's reach as grander than geographical education, encompassing history, information on climates, crops, and trade, military information, and a range of other topics. Sixteenth-century maps broadly served two purposes—to educate the viewer about the world and to satiate their curiosity about the world, aims which were complementary and often explicitly linked. Maps thus served as a compendium of information, which could only be unpacked through careful study. This process was both educational and entertaining, as Giacomo Gastaldi implied on his 1544 map of Spain when he exhorted his readers to "look at it, read it, and live happy."[22] This information came in the form of text—place names, notations, dedications, and companion booklets—as well as images, depictions of dwellings, peoples, animals, and all sorts of other curiosities. It is thus not surprising that in his early seventeenth-century treatise on building a library, the French librarian and scholar Gabriel Naudé advised readers to decorate their libraries with "globes, world maps, and spheres," along with "other curiosities of Art and Nature."[23]

The placement of maps could drive this point home, as in the Guardaroba Nuova of Cosimo I of Florence, which fully integrated cartography and curiosities through the very arrangement of the room.[24] The "secluded cabinet of art and curiosity" was designed between 1563 and 1565 to house Cosimo's collection of books, paintings, scientific instruments, gems, and other valuable objects.[25] Giorgio Vasari, who played a major role in designing and building the room, explained that Cosimo wanted large cupboards to line the walls "in order to deposit in them the most important, precious, and beautiful things that he possesses." Cosimo's Guardaroba Nuova was a grand collection, a *studiolo* to rival any other in Italy, and the walls of this room were covered in maps. Vasari explained the arrangement:

> Over the doors of those cupboards, within their ornaments, Fra Egnazio has distributed fifty-seven pictures about two braccia high and wide in proportion, in which are painted in oils on the wood with the greatest

> diligence, after the manner of miniatures, the Tables of Ptolemy, all measured with perfect accuracy and corrected after the most recent authorities, with exact charts of navigation and their scales for measuring and degrees, done with supreme diligence; and with these are all the names, both ancient and modern.[26]

Cosimo stored his precious items behind images of the world, creating a wondrous inverse of the natural world by playing with the relationship between place and object. In the Guardaroba Nuova, these regional maps were meant to amaze the lucky visitors whom Cosimo might welcome into the room, who would be further astonished by the trick of opening a map to reveal the beautiful objects hidden within. The wonders of the world, laid bare in the arresting visual of the beautifully painted maps, concealed even greater marvels behind the map.

Maps themselves often included a number of curious and odd facts for interested viewers. A 1570 map of the island of Crete attributed to Forlani included the notation that "there are no harmful animals" on the island, and "the nobles drink a superior wine, which in the vulgar tongue is called Malvasia,"[27] intriguing information but facts that would be little use to the average viewer of the map. A map of Crete made in 1567 included information on the abundant deer population and the region's cloth made from goat wool.[28] A 1566 map of Elba described the island according to its material output and defenses: it "produces mineral mines, and being well-fortified and with a strong position, it withstands Turkish attacks."[29] In some cases the purpose of information included on the map is mysterious, for example in Paolo Forlani's map of Verona, which gives a highly detailed explanation of the fields of the region. "This territory has 1,442,378 fields in all, of which 1,223,112 are fertile and 220,266 are sterile; of these, every day some of this number is brought back to fertility thanks be to the Lord God, and to the public benefit."[30] It is unclear where Forlani obtained these very exact figures or why he felt it necessary to include them on his map. His larger point reinforced his pride in his hometown of Verona, as he emphasized the vast fertility of the lands, which he claimed was ever increasing as the infertile fields were being reinvigorated.

The images on maps, including representations of towns, ships, natural features, animals, plants, peoples, and sea monsters, furthered the impression of a compendium of curiosities. At first glance, the Arctic waters in Olaus Magnus's *Carta Marina* (Venice, 1539) appear teeming with terrifying and foreboding monsters, warning sailors away from the icy sea. A viewer's eye might be caught by the many European vessels dwarfed by monstrous

creatures rearing out of the water, colorful aquatic beasts battling against each other, or a serpent coiling its body around a helpless ship. Inland, elks battle wolves while reindeer pull sleds over frozen water. The map teems with astonishing depictions of the foreign Scandinavian lands. The same can be said of many other sixteenth-century maps. As Christian Jacob argued, the 1519 Miller Atlas served as "a catalog of *mirabilia*," visually displaying "a spectacle of the exuberant and exotic nature of the remote regions whose contours it traces."[31] These maps displayed the foreign, strange, and exotic to the viewer both visually and textually—and these oddities were not extraneous details but rather were directly related to the goals of educating and entertaining viewers.

These goals were not drastically different before the advent of printing and after, as medieval *mappaemundi* and portolan charts often contained drawings of camels and tents, of subhuman residents of the tropics or terrifying creatures. However, printing forever altered the reach of these maps, expanding the audience that might virtually witness the curiosities on a map. For example, Fra Mauro's fifteenth-century world map included lengthy notations on the history, geography, and culture of different parts of the world.[32] The content of Fra Mauro's map was by no means solely geographic in nature and included details such as the types of boats used by the Chinese; the changing condition of the trade routes near the Black Sea; historical information about Constantine, the Lombards, and the pyramids; and hundreds of other facts about the world.[33] One note pointed out an island where there are "many monkeys."[34] Taken as a whole, these inscriptions provide the viewer with a wealth of information about the world and the inhabitants of different regions. This map was intended as a teaching tool, a lesson in history for those who viewed it. Fra Mauro himself saw his project as an educational one—he justified his choice to use modern names, "because, to tell the truth, if I had done otherwise only a few learned men would have understood me."[35] The monk clearly hoped that a wider audience than "a few learned men" would find his map valuable—a somewhat ironic wish considering his map was over six feet in diameter and thus quite stationary.

Reading Fra Mauro's map for its intended use underscores the point that maps can always carry multiple messages. The map visually emphasized the place of Jerusalem and Christianity, marking the holy city with a star, while the text largely served an educational purpose, often not related to religion at all. Fra Mauro's map was intended to promote a certain style of mapmaking over a competing style, convincing the lay audience that Fra Mauro's methods were superior for multiple reasons. In this case, one map was spiritual, informative, and didactic.

Yet Fra Mauro's map reached a very different audience from the cartographic prints available commercially a century after the monk completed his work. The map was not circulated, though a single copy which no longer survives was sent to the King of Portugal in the year Fra Mauro died. In order to see the map, curious travelers had to take a boat to the island of Murano in the Venetian lagoon, where the map, likely displayed near the choir of the church of San Michele on Murano, would have been available for the public to inspect. And although the map itself was stationary, its presence was noted by visitors to Venice. In Felix Fabri's travel diary for 1483 he commented on Fra Mauro's monastery, explaining that "in that monastery there is a very fine painted mappemonde."[36] While the messages carried by sixteenth-century maps were in some ways similar, focusing on education and often including odd facts as Fra Mauro did, the medium and the audience had been completely transformed.

In order to see world maps, sixteenth-century Italians did not need to journey across great distances; instead they could purchase, at very low costs, maps of their own to peruse in the privacy of their homes. A single map engraved by Paolo Forlani might reach a hundred times as many eyes or more than Fra Mauro's made only a century earlier. Furthermore, the new pressure for maps to accurately represent the world created a different restriction on the makers of maps, who in many ways had less control over the message conveyed by their maps. Unlike Fra Mauro they could not place Jerusalem at the center of the world. This created a degree of ambiguity about the meaning of these maps, since mapmakers had less leeway in visually manipulating their portrayals. Of course, manipulation still occurred, for example in the ca. 1510 view of Florence that exaggerated the size of the Duomo and repositioned it within the geography of the city, but as a whole sixteenth-century mapmakers faced constraints that their predecessors had not.[37] Instead, in the sixteenth century map owners had a greater degree of latitude than ever before to shape the message of a map through its display. While much was left up to the viewer's interpretation, mapmakers did attempt to insert messages about the map's value and meaning through the text they included on the map; these texts indicate a wide variety of reasons to own a map, most centrally for the purpose of education and delight.

CARTOGRAPHIC CURIOSITY

Maps were seen as curiosities in part because of their scale. Just as a collection of *naturalia* might be framed as a microcosm of nature, a map was a wondrously small version of a much larger space.[38] Cosimo could create a

miniature version of the cosmos in his Guardaroba Nuova using maps. The ability to play with scale, transforming the unimaginably vast into an orderly image, made maps marvelous. Forlani emphasized this in his 1563 world map when he wrote that "the present picture, in which you see all the world reduced in size, is a better form than that of any other print."[39] Never missing a chance to emphasize the superiority of his engraving, Forlani derided previous works that fell short of his advanced methods. He also pointed to the appeal of viewing "tutto il mondo ridotto," all of the world shrunk onto a single page. This phrase hints at the curiosity of a single sheet of paper representing an entire planet, the wonder at seeing the world shrunk in size.

Similarly, Paolo Forlani's 1561 map of Lombardy, one of his earliest maps, plays with the idea of scale in his explanation for why he produced the map. He wrote that he engraved the map after "having seen that the world very much desires to see a distinct drawing of all of the region of Lombardy."[40] His choice of phrasing, claiming that "the world" wants to see one region, Lombardy, explored the notion of scale outside of the lines of the map. It also provided a simple explanation for Forlani's choice of subject: he believed there would be a large audience for his depiction of Lombardy.

The ability to reproduce three-dimensional spaces on paper was an intriguing skill. Giacomo Gastaldi's pamphlet on geography, *La universale descrittione del mondo* (Venice, 1565) captured the close relationship between cartography and curiosity. Gastaldi emphasized the wonder of seeing the globe represented on paper, writing that "although it seems difficult to all the Mathematicians, and to me it seems impossible, it is possible to reduce a perfect sphere into a flat form, which is likewise perfect."[41] Gastaldi amazed his readers with his claim that mapmakers were able to make "perfect" representations of the globe on paper, elevating the mapmaker's skill at a task that even mathematicians found challenging.

Because of their wondrous appearance and ability to transmit knowledge, maps were depicted by their sellers as desirable objects. The Latin text accompanying an anonymous map of Tuscany engraved in 1564 declared that the map contained all that could be desired from a map: it listed all the regions around Tuscany, including Umbria, Emilia, Lombardy, and Liguria, and vowed to "diligently describe" the mountains, rivers, lakes, ports, and shores of the Tuscan territory. This compendium of geographical information was as useful as a lengthy tome; the text concluded that "worthy readers" should "contemplate this small picture at leisure, should you desire to know an exact description of the real Tuscany."[42] Knowledge was desirable, and the information contained in a map could satiate the curiosity of any viewer. The anonymous writer of the text assumed that map owners would

return again and again to the map, viewing it attentively but also leisurely, depicting the map as a form of recreational education.

Cartography and geography were seen as an important part of a sound education. In his 1514 *De Copia*, Erasmus argued that maps were a necessary complement to learning about various things and people. The description of places must accompany this study, he wrote, "what the Greeks call topographies . . . in [which] the whole appearance of a place is described so that we can see it, a city, for example, a hill, a region, a river, a harbour, a country estate, gardens, a sports arena, a spring, a cave, a temple, a grove."[43] Gastaldi's *La universale descrittione del mondo* (1565) also sought to convey a great deal of knowledge. The text primarily focused on information about the world that could be used to "read" a map properly. Gastaldi's book also included a thorough education in Aristotelian physics along with a detailed description of the geography and climate of the world. He opened his text with a description of the elements according to Aristotle, explaining how earth and water were more dense and heavy, while fire and air were lighter, and thus the heavy nature of the element of earth accounted for why it naturally moved to the center of the world.[44] Just as Fra Mauro's 1459 world map contained a discussion of Aristotelian physics and cosmology, Gastaldi saw a clear connection between maps and natural philosophy.

Gaining knowledge was a pleasant activity that was one reward of owning or viewing maps. "Those that have knowledge will take much delight" in a 1562 map of Africa, claimed the map's maker, Forlani.[45] The map's education came in several different ways. The text often highlighted the value to the study of geography of the map, as well as the importance of cartography in understanding history. The dual goals of education and curiosity were the highlight of Forlani's introduction to his 1562 world map. He said, "behold, kind Readers, a new description of all the world, which is the most distinct, faithful, exact, and is consistent with the navigations and histories of all that has heretofore been seen by you."[46] Similarly to earlier references to the scope of the map, Forlani drew attention to the accuracy of the map, repeating his claim to its up-to-date information. Here, too, he added more details that provide clues toward what consumers wanted in their maps; not only was it faithful and exact but it also conformed to the information gained by sailors and from earlier histories of the world. He assumed his viewers were already educated—thus the map conforms to what they already know about world history—and that they wanted an accurate and faithful description of the world to supplement that education. The statement also pointed to two primary sources of information about the world: navigation and histories. This fit closely with another statement Forlani

made on this map: he said that "geography is the key in order to say things about history."[47] Thus in order to understand history, people must understand geography first through owning or viewing world maps like Forlani's.

Mapmakers promised their readers information on climates, peoples, crops, and other important facts about the region depicted. Alessandro Zorzi, in describing the transmission of a map of the New World from Bartolomè Columbus to his confessor, explained that "he gave this friar a map of the coasts of that land made with his own hand, upon which were also described the sites, the condition, nature, customs, and manners of those people." Zorzi continued, relating how the friar, named Hierònimo, "gave me that map, and he also gave me in writing an account of the condition and peoples of these countries, which I, Alessandro Zorzi will briefly relate."[48] Many maps included factual information about the areas depicted that was intended to educate viewers about the geography and history of the region, which sometimes took the form of short notations on different features of the map. Informative textual inserts abounded on the Contarini-Rosselli map of 1506. The notations, which are all in Latin, included detailed information about the lands portrayed and the history of different regions, much like the Fra Mauro map but less abundant. For instance, the map contained several references to Columbus and his discovery of the Caribbean—next to the Caribbean the map says "Here are the islands which lord Christopher Columbus discovered, with the backing of the most serene king of Spain."[49] The map also includes information about Japan, as well as a description of Ptolemy's *Geography*.

History and geography were closely related—as one of Forlani's maps stated, geography was seen as the key to history. Angelo Poliziano and Conrad Gessner similarly linked history and geography in their writings. In his *Panepistemon*, published in 1491, Poliziano termed "the history of places" a subsection of general history, also terming this geography.[50] Gessner similarly claimed that the line between geography and history was so fine that it was easy to miscategorize works, so that "some geographers have written as historians, . . . and some of the references that I classify as geography would probably be better placed in history."[51] It was not possible, in the Renaissance, to imagine a history completely divorced from place, and maps were well suited for conveying information about the past. For example, a 1570 map of Rhodes by Claudio Duchetti included historical information about the region—the map related how Rhodes was conquered in the year 664 and again in 1308 and how "at last, having expelled the Knights of Jerusalem who had made their homes here, Suleiman the Emperor of Turks took possession of the island in 1523."[52]

This historical information was meant to enlighten the reader's understanding of the region's past while showing the close connection between history and geography. In many cases, the geographical information imparted in the maps was highly detailed, giving the exact miles of the island of Britain in one case, or relating the names of each city in the Swiss confederacy.[53] In Bolognini Zaltieri's 1566 map of France, for instance, Zaltieri gave the number of miles between locations as well as the names of many regions. He added, "Because the location of all things worthy of description is not presented here, he who wishes to understand those splendid deeds of other times, the origin and events, should consult the histories."[54] Again, this informative text links maps, geography, and history by claiming that a map was in a sense an abbreviated version of information one could find in a history.

History was also the central focus of the text on Duchetti's 1570 map of the Peloponnesian Peninsula. The text informed readers about the lawgiver Lycurgus and went on to say that the region was in part destroyed by the Romans "for suspicion of rebellion." Relating the region's past, the text said, "At one time it was part of the dominion of the most illustrious Venetian lords; after that there was a horrible war, and with deceit it was taken by the infidels."[55] This map, made in Venice and likely sold in one of the city's several print shops specializing in cartography, linked the region depicted in the map directly with the city where the map was produced and marketed.

The consumers of maps were also intrigued by more current events, particularly military engagements. Military matters were a popular subject on maps; Bolognini Zaltieri's 1566 city view of Tunis, which gave a verbal description of the layout of the city beside the image, included information about the fruit-bearing hills to the right of the city and the uncultivated mountains to the left. Zaltieri also described the areas inhabited by both Christian and Arab soldiers and the location of the market and the port. The map showed the main city of Tunis as well as the port of Goletta across the lake from the city. Tunis, which was ostensibly still under Habsburg rule after the successful siege of the city in 1535, would return to Ottoman hands for less than a decade after Zaltieri's map was first engraved. The military instability of the city was hinted at in Zaltieri's text, as he wrote that "the tower behind Goletta is for the defense of the wells which hold water for the use of the city. The walls that surround the town are at the highest three *braccia*, and they are very weak."[56] Zaltieri's text focused on the weakness of the walls and the city's reliance on one water source, perhaps his way of explaining to readers how the army led by Charles V, which

was backed by the Genoese and the Papal States, was able to take the city. It could also be an effort to remind readers that the hold on the city was weak and unlikely to be sustained.

Directly after the Ottomans were turned back at the battle of Lepanto by a naval victory of the allied Christian states, a map of the eastern Mediterranean pointed to this victory as a reason for owning the map. Paolo Forlani dated the map December 22, 1571, just over three months after the historic battle. Although the map covered an enormous amount of territory, the text specifically pointed out the site of the battle, noting that "from these lines the principal locations are easily found, where the Christian armada is able to go out to destroy the Turks."[57] Further, Forlani praised God for the "great victory" granted to the Christian forces during "this happiest naval day against the Turks."[58] The map thus served as proof of the magnificent victory at Lepanto, publicizing the event for those who wished to celebrate the victory by recreating the battle in their minds.

The pride of victory was one reason to own a map, but civic pride also motivated the buyers and makers of maps. For example, on his map of Venice (1565), Paolo Forlani declared that "Venice is known and celebrated by all the universe for its reputation [*fama*]," which would be furthered by the purchase and circulation of Forlani's map.[59] Similarly, the earlier application to distribute Jacopo de'Barbari's view of Venice (1500) asserted that it was intended "principally for the glory [*fama*] of this illustrious city of Venice."[60] The dual project of glorifying the subject of the map while educating the viewer discloses a key purpose of maps—as simultaneously didactic and capable of evoking wonder and curiosity. The city itself was elevated through the purchase of these maps.

Maps were a way to spread the glorious name of a city far and wide, as Forlani understood. On his map of Verona, his hometown, Forlani explained to his patron Nicola Rambaldo, another native of Verona, that "as for our native land, like other places, it injures the city when a beautiful and rare place, as is the territory of Verona, has not been communicated to the world by way of printing."[61] Verona's beauty needed an audience, and the map could transmit the appropriate message about the city. Forlani continued, saying the lack of previous maps of Verona "ignited me with desire" to make his map. He goes on to say that Verona is "equal to any other territory, not only in Italy but in all of the world, and is celebrated for its fertility and abundance of all that is necessary for human life, and beyond that for its beauty."[62] The map of Verona would thus bring the recognition to the region that it deserved by depicting its fertility and beauty.

In these maps, desire, curiosity, and knowledge were often linked, as

maps explained to viewers about the history of regions and cartographers marveled over the ability to represent the globe on a sheet of paper. Several notable themes were missing in these maps—while travel was linked with cartography, none of these maps explicitly instructed viewers on using them as travel guides. These maps could be used for the armchair traveler, as the next section will examine, but were not intended for physical travel. The texts on these maps also included very little religious instruction or information, which was a key part of the medieval *mappaemundi*. Religion was not absent from these maps, but it rarely appeared in the text. These maps included very few imperialistic overtones; while several mentioned regions that had once belonged to the Venetian empire, for example, none explicitly advocated expanding the empire or spoke directly to the government. The unnamed reader was assumed to be educated, or at least desiring more education about the world, but the mapmaker's audience was not a ruler or government official; the mapmaker marketed his work to all who desired to know about the world.

A VIRTUAL VOYAGE TO THE NEW WORLD

Maps were also a way to imagine a journey to distant wondrous places, one reason that atlases of city views, like the *Civitates Orbis Terrarum* made by Georg Braun and Franz Hogenberg, were immensely popular. Many of the views in the *Civitates Orbis Terrarum*, which was printed in six volumes over a forty-five year span and contained 546 city maps, showed the city from the perspective of a traveler first arriving to town. In other atlases, such as the assembled-to-order atlases popular in later sixteenth-century Italy, the maps were hand selected by the buyer, who designed his own virtual itinerary.[63] These maps served a similar function to travel; in his early seventeenth-century "Istruzione per far viaggi," Vincenzo Giustiniani explained that one reason to travel long distances was to satisfy one's curiosity about the world.[64] Forlani argued that maps served a similar purpose in the dedication of his 1562 world map, where he addressed his patron, Girolamo Canossa, and related that "many times my signore has had an internal desire to have a universal description of all the heretofore known land of the world."[65] Canossa's desire to own a world map, likely driven in part by curiosity, was a much less expensive and dangerous way to see the world without leaving your home.

This brand of curiosity was particularly evident around maps of newly discovered lands; in maps of the Caribbean, as with other maps of the New World, mapmakers took care to note the importance of these foreign

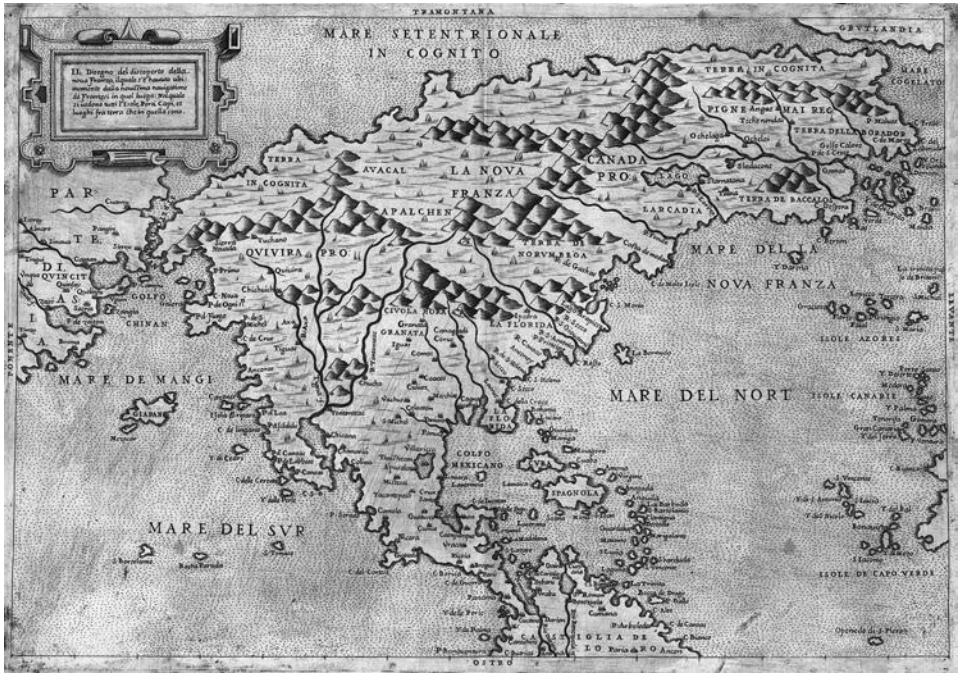

Fig. 18. Bolognini Zaltieri, "Il Disegno del discoperto della nova Franza," 1566. Photo courtesy of the Newberry Library, Chicago.

locations. Forlani's 1562 map of South America explained his decision to engrave "all of Peru" by relating that after Forlani "previously engraved America, with a large part of Florida, by all commonly called the New World," his patron wanted a map of South America.[66] Zaltieri's map of North America specifically linked the location with its discovery, titling the print "the picture of the discovery of New France, which has been lately discovered by the newest navigation of the French in that place, in which is shown all the islands, ports, capes, and places in the land that are there"[67] (fig. 18). All of North America thus became "New France," and the map of the land was literally termed a picture of the discovery of the location, a description that emphasized the newness of the region and knowledge about it.

Genoese cartographer Battista Agnese's map of the world also catered to the consumer interested in new discoveries and voyages by drawing attention to the route of Magellan's voyage that circumnavigated the earth. Agnese, who worked in Venice between 1534 and 1564, was known for his portolan charts; his world map was part of an atlas of portolan charts that was commissioned by Charles V. The world, reduced in size, was ringed by

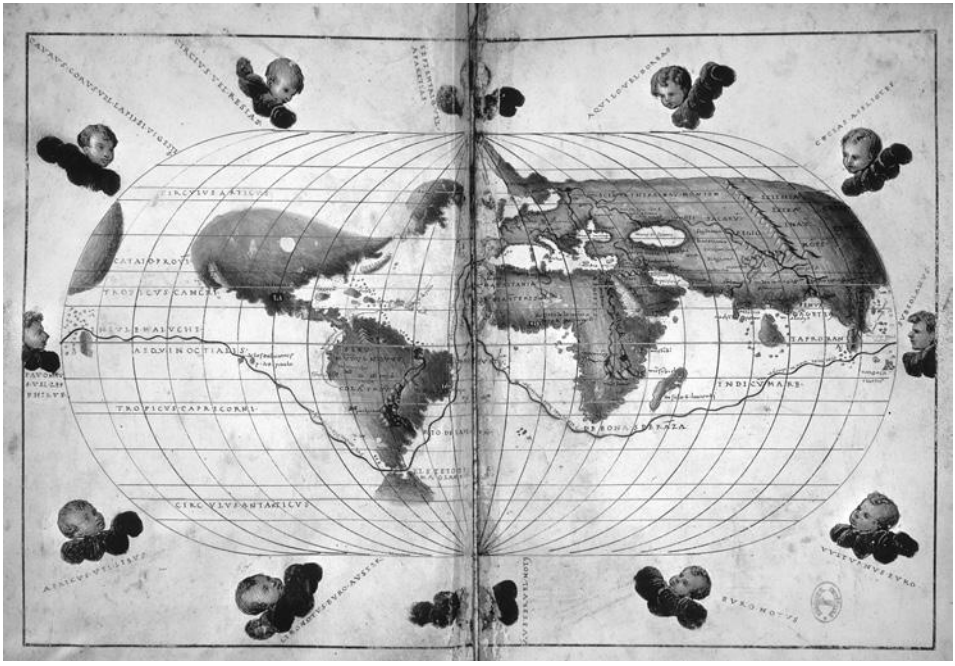

Fig. 19. Battista Agnese, world map showing Magellan's route, ca. 1543. Art Resource, NY.

a wavy line that could be traced around the globe (fig. 19). The map's viewer could thus both take in the scope of the world in a single glance while also marveling at Magellan's feat.

While maps were infrequently used on journeys, whether for a short trip to a nearby location or a longer voyage overseas, maps were indelibly connected with distant places. As Camocio related in his 1566 map of Asia Minor, maps might be used as a spur to memory upon returning from a voyage. Camocio explained that the map aspired "to elucidate history, and the memory of travelers in such areas."[68] While Camocio's map appealed directly to visitors to Asia Minor, it was intended for use specifically after their travels; the map was not seen as a tool while on a foreign journey but instead was meant for remembering distant places. Framed this way, a map was not meant to be taken or used when abroad but could remind a traveler of a past journey.

Even more frequently, maps were a way to imagine and construct places that the viewer would likely never see. The most adventurous place visited by armchair travelers was the New World. Only a small handful of sixteenth-century Italians would ever travel to the New World, but many

more could experience the wonders of the Columbian discoveries through maps of Hispaniola and Cuba made in the 1560s. These maps shaped the way consumers thought of the new lands, translating the unfamiliar into something simultaneously familiar and tantalizing. Paolo Forlani's 1564 map of Hispaniola, for instance, gave an alluring list of the plants grown on the island, including "cotton, mastic, aloe, cinnamon, ginger, and other spices."[69] Notably, each of these items was familiar to Forlani's European audience; thus they were able to appreciate the value of these crops. By examining three maps—an undated, unsigned map of Hispaniola, likely made by Ferrando Bertelli around 1560, and Paolo Forlani's 1564 maps of Hispaniola and Cuba—we can see how the New World was imagined in Italian maps.[70]

Bertelli and Forlani had a close working relationship, and there was a great deal of overlap in their cartographic production.[71] Bertelli's ca. 1560 map of Hispaniola may have served as the basis for Forlani's 1564 map, and two years after Forlani's engravings of Hispaniola and Cuba, Bertelli published nearly identical versions of both maps. Visually, the two sets of maps were virtually identical, as Bertelli borrowed freely from Forlani's earlier maps, which themselves mimicked a 1548 engraving of Hispaniola and Cuba made by Giacomo Gastaldi for an edition of Ptolemy's *Geography*. Bertelli's only major addition in the 1566 map of Hispaniola was three European-style boats with oars, as well as a single boat in his map of Cuba. The two mapmakers use slightly different styles of lettering, as well as for depicting trees, towns, and bodies of water, but these landmarks are placed in the same location. In the 1566 versions of these Caribbean maps, Bertelli copies Forlani's text, but his earlier map of Hispaniola contained much more text.

In all three depictions of Hispaniola—Bertelli in 1560 and 1566 and Forlani in 1564—the island was isolated from neighboring Caribbean territories, with only the smallest local islands appearing around the shoreline, and "Espanola," as it was labeled, was covered in mountain ranges (fig. 20). Trees, rivers, cities, and churches dot the landscape, marked with Spanish names. Both the 1564 and 1566 depictions of Cuba contained "part of the island of Hispaniola" in the bottom right corner, and Cuba was ringed by dozens of small, unmarked islands (fig. 21). As with the previous map, the labels for capes, cities, and churches were in Spanish. At the top of the map, a thick double line marked the Tropic of Cancer, situating the island spatially on the grid. Bertelli's 1560 depiction of Hispaniola also included a line for the Tropic of Cancer, unlike the later two maps of the island.

All three maps contain framed boxes of text. Forlani's Hispaniola contains eleven lines of text with his name signed at the bottom, while his

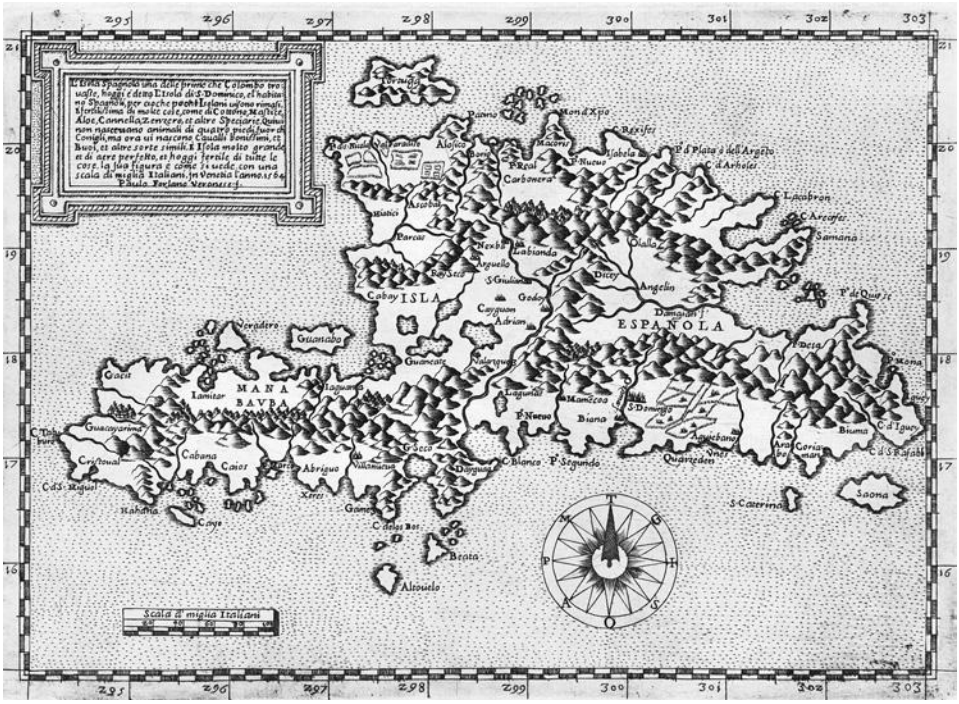

Fig. 20. Paolo Forlani, "L'Isola Spagnola," 1564. Photo courtesy of the Newberry Library, Chicago.

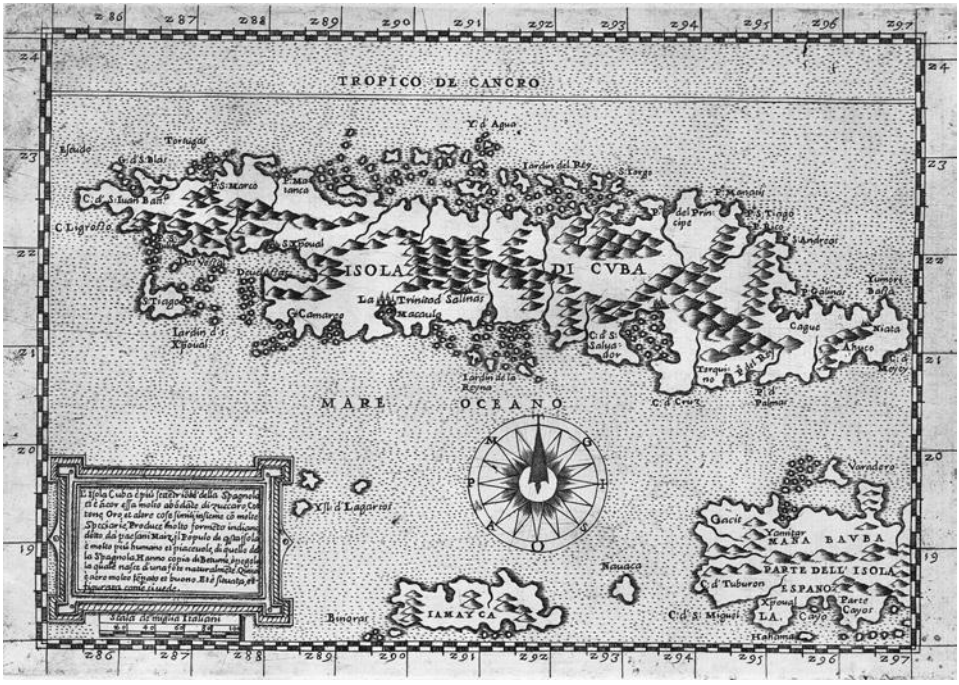

Fig. 21. Paolo Forlani, "L'Isola Cuba," 1564. Photo courtesy of the Newberry Library, Chicago.

map of Cuba contains ten lines of text, without the inclusion of Forlani's name. Bertelli fit several dozens of lines of text in his ca. 1560 map of Hispaniola. The provenance of these texts is unclear, though it is very unlikely that Forlani and Bertelli scripted them themselves. The texts were most likely a composite of multiple texts about the Caribbean and New World, and contained a great deal of similar material. Both mapmakers included a brief history of the region by relating the role of Columbus in the discovery of the Caribbean islands. Paolo Forlani's map of Hispaniola opened by informing viewers that "the island of Hispaniola was first discovered by Columbus, today it is called the Island of San Dominico, and is inhabited by the Spanish."[72] Bertelli's contemporary map of the same island gave more information, beginning with his attribution of the island's discovery to "Christopher Columbus, of Genoa." He then described the size of the island, its distance from other islands, and major cities and the geography of the island.

In these brief lines of text, Forlani and Bertelli picked out the most important information for a viewer of these maps, the facts that would convey the nature of locations that the mapmakers themselves had never seen. The texts on these maps framed the Caribbean as a paradise and attempted to satiate the curiosity of European audiences for information about the New World, but they also familiarized the exotic. The mapmakers described the native inhabitants as gentle and pleasant, in a state of nature, and praised the improvements brought by the new Spanish residents. In translating these new lands, mapmakers used descriptions, symbols, and visuals that were familiar to Italian viewers, making the exotic islands of the New World accessible to armchair travelers.

In these three maps, the Caribbean islands are represented as an earthly paradise, translating the unfamiliar new locations into language that was familiar to the European audience of the maps. This process of translation was completed by Bertelli and Forlani in two ways—first, they raved about the abundant fertility of the islands, making this a central focus of the map, and second, they portrayed the native peoples of the islands as existing in a state of nature. More than maps of any other region, those of the Caribbean portrayed the islands as an attainable fantasy.

The fertility of the Caribbean was lavishly praised in these maps, particularly with regards to plants and animals. Both Bertelli's and Forlani's maps of Hispaniola included blanket statements about the fertility of the island; Forlani wrote that "the island is very large and the air is perfect, and today fertile with all things."[73] Bertelli echoed this sentiment in very similar language, stating that "this Island is very fertile, and has rivers, and

lakes of sweet water."[74] Bertelli also used specific language, describing the "infinite fish" in the waters of Hispaniola and prompting viewers to salivate over the "sugar, pomegranates, lemons, oranges, and dates," once again all products familiar to Europeans.[75] The emphasis on air and water, along with the abundance of crops, made the island sound like a paradise to the maps' European audience; Bertelli linked the climate with the abundance of crops when he noted that "on this island the air is very good, the majority of the year the trees are green with flowers, and fruits."[76] These tales of trees that produced flowers and fruits throughout the year mirrored descriptions of a paradise on earth.

Forlani's illustration of Cuba likewise emphasized the fertility of the land, mentioning that "there is sweet cane which is very abundant with sugar, cotton, gold and other similar things, together with many spices."[77] The insertion of gold in Forlani's description of the crops of Cuba spotlighted two things—first, the enduring myth that the New World would be a source of unimaginable wealth to the lucky few who could harness it, and second, the fact that mapmakers often cribbed their information from popular stories, books, or other less reputable sources. Forlani also described the animal life on the island, noting that on the island "there are not born any animals with four legs, except rabbits, but now there are born the most beautiful horses, and oxen, and other similar sorts."[78] The mentioned lack of four-legged animals in a relatively short description of the island was an effort to point out the foreignness of the island but also an argument for the improvements brought by the Spaniards. European animals adapted and flourished in the new climate; the import of horses and oxen by the Spanish was a boon to the island and the animals themselves.

In their description of Caribbean crops, Forlani and Bertelli focused on those crops that would have been familiar to Europeans, in most cases those that are native to the Old World rather than the New, and drew attention to the cash crops that had the most potential for financial payoff, such as sugar cane, cotton, and the broad category of "spices," which, after all, motivated the Columbian expedition. The mapmakers also described one crop native to the New World: corn. Forlani wrote that the island "produces much Indian corn that the countrymen call Maiz."[79] In his description of corn, Bertelli relied on objects his audience would be familiar with. Bertelli described how the maize was prepared as Europeans would process millet or sorgum and drew an analogy between the shape of an ear of corn, unfamiliar to his audience, and the laurel leaves worn by Roman emperors.[80] He also listed the range of crops on the island, noting that "it has an abundance of cotton, and sugar, pomegranates, lemons, oranges, and many palms with

dates, there are horses, cows, sheep and other animals, like parrots."[81] This focus on familiar though in some cases exotic crops and animals made the Caribbean both tantalizing but real and believable.

Efforts to make the Caribbean accessible, which allow viewers to fit the new discoveries into a familiar framework, also appear when the mapmakers describe the peoples of the islands. While Forlani directly compared the natives with their Spanish lords, Bertelli described a split between "savage men" and "simple men," who both live off the land. The natives were imagined as potentially dangerous but also existing in a state of nature. On his map of Cuba Forlani wrote that "the people of this island are more gentle and pleasant than those of Spain."[82] As the debate over the theological status of the peoples of the New World raged in Europe, questioning whether the natives were without original sin or demons, Forlani's description sided with those who saw the New World as a state of nature where people were innocent and gentle. Forlani's statement also drew a direct comparison between the natives of Cuba and their Spanish rulers, seemingly to the detriment of the Spanish. Yet Forlani's maps both acknowledged Spanish dominion over the islanders, which could be interpreted as implying that the less gentle and pleasant nature of the Spanish gave them a military advantage.

Unlike Forlani, Bertelli does mention the faith and cultural practices of the islands' inhabitants. He relates how the people of Hispaniola, Cuba, and Jamaica all formerly worshipped the idol Satan, but "now they are all under the faith of Our Lord Jesus Christ." Symbolic of this transformation, "they clothe and cover their shameful parts with cotton cloth and the rest of the people go nude."[83] Bertelli implied a parallel between the biblical description of Eden and the fall of man, that after accepting Christianity the natives of Hispaniola felt shame at their nudity and covered themselves with clothes. His description of the inhabitants of Hispaniola emphasized that they live in a state of nature almost like animals. He wrote of "savage men" who lived in the mountains, explicitly comparing them to animals. "They run over the mountains swiftly like goats," he wrote; these wild men could not be domesticated, and according to Bertelli they ate only wild fruits. He also described the "simple men" who lived on other parts of the island, eating fruit year-round and living off the "infinite fish" in the waters. "Nature maintains them as animals," Bertelli related. "They don't work, nor do they sow crops."[84] This lifestyle was sustainable because of the climate of the island, as Bertelli related through his comments on the fertility of the trees and quality of the air.[85]

Much like Forlani's depiction of the Caribbean as a state of nature, Bertelli's text would instantly prompt his readers to picture a golden age where

nature provided for men without effort. Educated viewers of his map were likely reminded of the description of the Golden Age in Ovid's *Metamorphoses*, which described an everlasting springtime where fruits and berries nourished people year round, where "food unforced by labor" sprung from the uncultivated soil.[86] Bertelli's description of trees that kept their leaves all year and produced fruits and flowers even in the winter matched very closely with Ovid's description of a paradise on earth.

European viewers of these maps were visually confronted with a foreign place and culture, and one tool to understand these distant islands was the framing of the map in the text provided by the mapmakers. In the case of these maps, the texts attach familiar terms to foreign objects, as with the maize, or the depiction of life in the Caribbean in terms understandable to Europeans, framing it as an Edenesque paradise.[87] While the maps were not a face-to-face encounter, they were tools to mentally travel to foreign locations. However, it would be a mistake to interpret these maps solely through the lens of empire building and territorial control. While Bertelli's description of the inhabitants of Hispaniola did emphasize their acceptance of European religion and implied that their sense of shame over their nudity was part of a civilizing process, these maps did not contain the direct imperial claims that were included in other descriptions of the New World. None of the texts declared that the islands were under Spanish dominion, although Forlani described Hispaniola as "inhabited by the Spanish."[88] Neither mapmaker included royal insignia, and the boats on Bertelli's map bear no flags.

In part this is explained by the source of these maps—the Italian artisan mapmakers who drew and annotated these images did not have the same direct connection to the lands that Spanish men might have felt, nor did their intended audience of Italian viewers. While the Italians were careful to attribute the discovery of these islands to a Genoese sailor, and used Spanish names on the map, overall the texts on these maps read as less interested in claiming and more interested in exotic new locations. In particular, this curiosity focused on the fertility and perfection of the climate of these lands, depicting an earthly paradise where seasons never changed and food was plentiful. In this respect, Europeans were translating the somewhat unknown reality of Caribbean life onto an imagined European ideal.

These descriptions of the Caribbean, meant to shape the understanding of the location depicted on the map, were intended to educate and entertain viewers about these islands, their inhabitants, and their climate. This information was translated into a form the European audience could understand

by highlighting well-known crops, drawing analogies to familiar items like laurel leaves to explain the shape of an unfamiliar ear of corn, and fitting the native inhabitants into a cosmology of humanity where they were portrayed as inhabiting a state of nature. The maps themselves were both educational tools, to show viewers the new lands, as well as curiosities—places where the only four-legged animals were rabbits, where the sea was filled with infinite fish and the waters were always sweet. These fantastical explanations evoked images of a paradise out of reach to viewers in a dirty, disease-ridden continent who travelled in their minds to the wondrous Caribbean by viewing these maps.

CONCLUSION: THE APPEAL OF MAPS

Sixteenth-century producers and consumers of maps believed that works of geography and cartography fulfilled a variety of needs—a map could be an enjoyable diversion, a tool for learning, a compendium of facts, and a testament to civic pride, categories which often overlapped in the same map. With the addition of text, mapmakers created a frame around their products that described maps as appealing to consumers for many reasons, from showing the earthly paradise of the Caribbean to providing readers with detailed descriptions and statistics. While mapmakers certainly had an incentive to deem their products popular—the texts included on maps were frequently used to advertise and promote the sale of maps by claiming they were invaluable—these texts reveal a great deal about how mapmakers understood the demand for their maps. Maps could reveal the exotic and strange, promote a city, and remind viewers about strategic military victories, while simultaneously entertaining.

Consumers wanted to purchase maps for a range of reasons, from an interest in the history of a region to a desire to see the world, from curiosity about the unfamiliar to pride in one's home town. The audience for cartographic works was much larger than the number of Italians who owned maps; Italians also encountered maps in the homes of neighbors or rulers, in libraries or churches. Maps served a "common good," Paolo Forlani claimed, by showing the entire world shrunk onto a single sheet, and much of map viewing was likewise a communal event. The audience for maps was both curious and knowledgeable, two desirable and closely related qualities that mapmakers claimed could be gained through purchasing their product.

Although mapmakers had an incentive to overstate the appeal of their products, the texts on these maps largely square with the way that Italian

consumers were using their cartographic prints, as the next chapter will demonstrate. In order to understand how map buyers used their maps, the next chapter will return to Italian household inventories to reconstruct the consumption of maps. As this chapter will show, maps were appealing precisely because of their ambiguous meaning, which buyers could shape for their own purposes.

CHAPTER SIX

Making an Impression: The Display of Maps in Sixteenth-Century Italian Homes

When Federico da Porto walked into the house of Venice's prominent diarist Marino Sanuto, he was particularly struck by the contents of one specific room. Da Porto, a gentleman from Vicenza, described the experience in a Latin epigram he sent to Sanuto after the visit in the first decade of the sixteenth century. Reenacting the tour through Sanuto's home, da Porto recalled, "you ordered me to ascend the staircase of the palace; we moved upward little by little: at the top stood a spacious *portego*. And here we entered a sea of singular objects; nor can the wall be seen anywhere, not any part is empty. Here you could see the various races of mankind, their outward features described; here you could see a thousand new things."[1]

At the center of the *portego,* a long interior hall that served as the most public room in the house, was a world map. Viewing the map, da Porto explained in his letter, was a revealing, almost life-changing, experience. "The immense machine of the universe is opened up at last," he wrote. "I have seen what sustains the world, the seas, the heavens, the infernal regions, and those who live on the other side of the earth . . . Whoever wishes to understand the sea, the earth, and the vast world, should behold this house of yours, learned Marino."[2]

In da Porto's description, the map serves as a teaching tool that reveals the extent of the world, granting seemingly instant knowledge to the viewer. Da Porto's gaze alone opened up the secrets of the universe. Critically, Sanuto's home itself also became a site of discovery. Merely walking through the room inspecting the walls gave da Porto a new appreciation for the world through viewing "a thousand new things" in Sanuto's *portego*.[3] In da Porto's telling, the map is the ultimate tool for knowledge; it opens up the universe to the viewer and grants a singular level of understanding.[4] Not only that, it also reinforced Sanuto's persona as a learned man. The

room served as both proof of Sanuto's erudition and a device to educate and impress visitors such as da Porto to Sanuto's home.

Da Porto's hyperbolic reaction to viewing Sanuto's map is particularly useful because we have little direct testimony about how sixteenth-century Italians viewed and valued maps. We know a great deal about the production of maps in the sixteenth century, particularly in Venice, which produced more maps in the sixteenth century than any other European city.[5] But we know much less about the motives of people who purchased these maps and displayed them in their homes. Da Porto's story gives a tantalizing window into the private consumption of maps, hinting at the value and meaning sixteenth-century Italians attached to their cartographic works.

As previous chapters argued, it is difficult to forge a direct link between a specific map and its owner. Maps themselves can provide some clues, as when families stamped their coat of arms on a map.[6] Household inventories can also connect an owner and a map, though rarely to a specific edition or mapmaker. The information contained in maps also points to potential uses, as documents of education and curiosity or as evidence of the ascension of modern knowledge. Yet comprehending the meaning of these maps requires a further assessment of their place in sixteenth-century culture.

In order to further understand the demand for maps and the value placed on maps among sixteenth-century Italians this chapter will examine Italian advice manuals and the display of cartographic materials in sixteenth-century Venetian homes.[7] As this chapter will demonstrate, the value of the map was in its ability to construct a public identity for the owner. A detailed inspection of household inventories can provide a crucial measure of the private ownership and use of maps, as chapter 3 argued.[8] Through an analysis of household inventories, which list the location of maps in the home along with other artwork sharing the walls, this chapter will place these maps in their sixteenth-century context, revealing the meaning owners attached to their specific maps.

CARTOGRAPHIC INTERIORS

Household inventories which were organized according to room allow us to reconstruct the interior design of the homes of hundreds of Venetians. Though the maps are described in general terms, such as "an image of an old world map" or "an image of Italy," and the notaries rarely recorded if they

were printed, manuscripts, or framed, these inventories provide an unparalleled source on the value of maps.[9]

By exploring how Venetians displayed maps we can understand their value as consumer objects. Why did Venetians choose to decorate their interior spaces with maps? At the simplest level, maps were meant to transmit their owner's interest in the world, from the least expensive single-sheet maps to those displayed in halls of government.[10] In the same decades when the Ducal Palace in Venice was commissioning fresco maps of the regions of the world, Venetians were decorating the interiors of their homes with similar images. At a minimum, these maps shown in the halls of state and in domestic spaces were a visual link to the world outside Venice, particularly as images of *La Serenissima* were uncommon adornments in Venetian homes.[11]

However, the evidence from household inventories indicates that maps displayed in domestic spaces served a broader and more flexible role, becoming part of a larger process of crafting an identity using the home as a blank canvas. Owners selectively chose maps to emphasize desired traits—the majority were displayed in the most public rooms of the home, and advice manuals stressed that maps should be in these rooms, indicating that they were meant to be seen not just by the owner but, more importantly, by visitors like Federico da Porto, who was amazed by Marino Sanuto's map. Maps were most valuable as public objects, serving as visual proof of sophistication, and their display can thus be interpreted as a conscious attempt on the part of their owners to craft a cosmopolitan identity.

Measuring the amorphous value that owners attached to their maps poses unique challenges, for the worth of sixteenth-century maps was not merely financial or solely about the information contained in the map. As with other works of art, maps were vested with multiple meanings, a point made by Sara Matthews-Grieco in her discussion of demand and taste. She notes that "art objects were often invested with associations, over and above the quality of their materials or the excellence of their manufacture, that made them more desirable for certain categories of buyers."[12] This is worth keeping in mind with regards to maps—their value was not simply in the information they contained or in the cost of their purchase.

In order to understand the use of sixteenth-century maps within the home, I will approach the question of display from two directions: first through a survey of the recommendations offered in advice manuals and second by analyzing the inventories to determine how maps were selected and displayed in Venice. Both indicate that maps were frequently shown in

the central receiving room of the home; Venetians most commonly placed maps in the portico, called *portego* in the Venetian dialect. While a portico most frequently referred to a roofed outdoor space supported by a colonnade, the Venetian *portego* was the large reception hall spanning the inside of the home, most often on the second floor, or the *piano nobile*. As in da Porto's description of his visit to Sanuto's home, the *portego* was usually at the top of a staircase and was "the spine of the house" both literally in an architectural sense but also figuratively—it was the room that often connected other rooms in the home, an oversized and lavishly decorated hallway.[13]

The *portego* was the most public space in the house, and as Vincenzo Scamozzi wrote in his treatise on architecture, it was used "to receive relatives at the time of weddings, and to have banquets, and celebrations."[14] In day to day life it was the first room any visitor to the house would enter after ascending the staircase. Patricia Fortini Brown points out that the *portego* often ended with an open colonnaded room as seen on the front of many of the *palazzi* on the Grand Canal. Brown terms the *portego* "semi-public" because of this degree of visibility from the outside, noting that "the head of the house might receive business clients [in the *portego*] who would not be invited into the more private rooms."[15] In his book on Venice, sixteenth-century author Francesco Sansovino reinforced this interpretation in his statement that "the windows of the *sala* [the room at the end of the *portego*] are placed in the middle of the facade so that onlookers can easily recognize where the *sala* is located."[16] Sansovino's implication that outsiders should be able to recognize the *sala* and, through its location, the *portego*, reinforces the idea that the rooms were meant to be seen by the public.

As shown in Sebastian Serlio's sixteenth-century floor plan of a palace for a Venetian gentleman, the *portego* ran the length of the home, connecting the front and back of the house and opening onto several rooms that were only accessible through the *portego*.[17] In an image in his *Sesto libro d'architettura*, Serlio labeled the "portico" in the center (fig. 22). The *portego* was decorated with paintings and images intended to glorify the family, often including portraits of family members, religious figures, and maps. The decoration of this central space was thus a direct effort to shape how visitors to the home, both business and personal, saw the family and the head of the household. As Guido Ruggiero has concluded, "Renaissance perceptions and constructions of identity were highly social"; the *portego* was the most social space in the home. The *portego* was also the location where the majority of maps owned by Venetians were displayed. It was a room intended

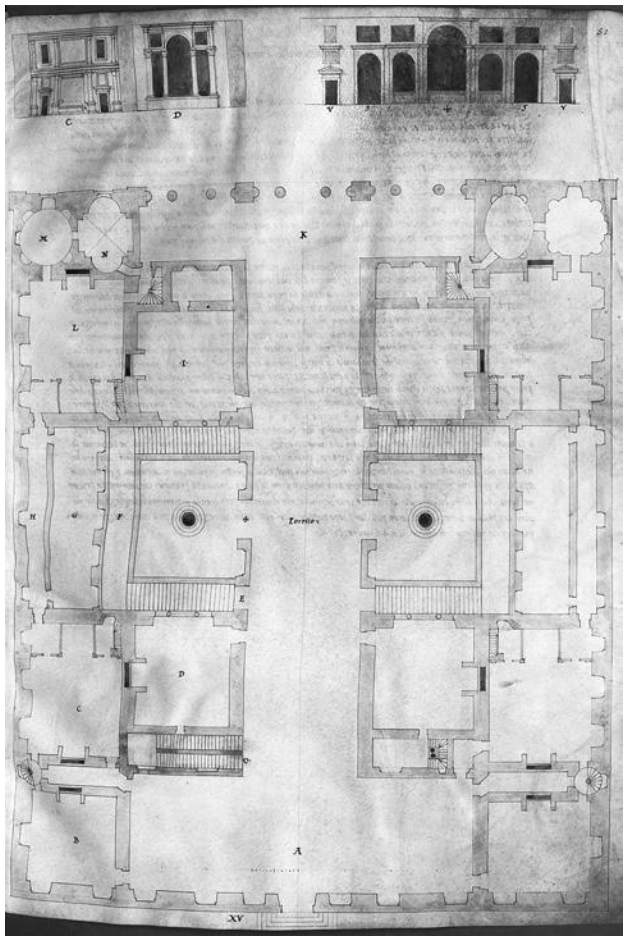

Fig. 22. Sebastian Serlio, floor plan of a palace for a Venetian gentleman, 1547–1550. Photo courtesy of the Baverrische Staatsbibliothek, Munich.

to be seen by visitors, and in the sixteenth century it became a tool of architectural self-fashioning through the display of art, objects, and maps.

ADVICE ON DISPLAYING MAPS

The Renaissance popularity of advice manuals is well known, and such manuals frequently spoke on art collecting and the interior decoration of the home.[18] As maps became a more common object of decoration in sixteenth-century homes, they were mentioned by several prominent authors. Even

da Porto's epigram about Sanuto's home, which praised Sanuto for his decorating acumen, stood as a recommendation for other readers on how to impress visitors.

Advice on how to properly display maps came from multiple sources, both contemporary and classical. The Sienese doctor Guilio Mancini wrote a manuscript on the collection of art in the early seventeenth century that also instructed collectors on the display of maps. Florentine Leon Battista Alberti's fifteenth-century treatise on building contains advice on the decoration of the interior of private homes. Venetian Marcantonio Michiel recorded the content of dozens of elite homes, commenting on the decorations. Even Baldassarre Castiglione's *The Courtier* has an assessment on the value of representational art, including maps. The predominant advice from these various sources focused on the importance of displaying maps in highly trafficked areas where visitors to the home would see the maps.

This is most clear in Giulio Mancini's work. In 1619 Mancini, a Sienese physician, wrote a manuscript on collecting and displaying paintings titled *Considerazioni sulla pittura*, which was an expansion of an earlier, shorter work titled *Discorso di pittura*, written in 1617. Mancini served as doctor to Pope Urban VIII and was familiar with the major art collectors in Rome. In his manuscripts Mancini gives a brief explanation of the history of art along with advice for collectors on a range of important information, from price and condition to authenticity and arrangement.[19] In his advice, he couples advice on displaying maps with that on other genres of art.

He advises collectors to arrange paintings in their homes according to subject matter. Mancini goes through a list of different types of art, from religious works to classical, from paintings of war to nude women, explaining where the collector should place such works in his home. The message in Mancini's manuscripts was that the display of art would shape how others view the collector. Mancini's reader should aim to "impress" visitors with the genres on his walls, making sure to choose these locations based on the function of each room. Religious art should go on the ground floor and in rooms where people sleep; depictions of war and other civil actions should be in the antechambers or halls along with images of popes, cardinals, emperors, and other princes so that visitors will be impressed; lascivious paintings of Venus, Mars, and nudes should be in galleries in the garden or in private rooms.[20] Mancini creates this public/private distinction because he argues that each type of image serves a different purpose. Some are intended for private contemplation, while others are meant to be viewed publicly.

Mancini also gives recommendations for displaying maps, writing, "for landscapes and cosmographies, place them in the galleries and places where

everyone can go."[21] Through his focus on placing maps in highly trafficked areas Mancini indicates that maps are meant to be viewed by guests, not merely the residents of the house; maps fall into the category of more public works of art. In his earlier manuscript Mancini made a very similar statement, arguing that "landscapes, pastorals, animals, seasons of the year and similar works should be placed in communal galleries and porticos and where everyone can frequent, this is also where perspectival scenes and cosmographies should be placed."[22]

According to Mancini's logic, maps—whether of landscapes or the world—must be placed in the most public spaces in the home, places where they will be seen and thus will reflect positively upon the owner. A similar sentiment was promoted by the Florentine architect and humanist Leon Battista Alberti nearly two centuries earlier. *On the Art of Building*, written around 1450 and the first book on architecture written since antiquity, dedicates book 9 to advice on the decoration of private homes. Alberti's recommendations are much like Mancini's. When discussing the ornamentation of porticos Alberti says, "it is surely most appropriate for a portico or a dining hall to be painted or sculpted with scenes of bravery by the citizens, portraits, and events worth of recollection." He goes on to say, "We are particularly delighted when we see paintings of pleasant landscapes or harbors, scenes of fishing, hunting, bathing, or country sports, and flowery and leafy views."[23]

As in Mancini's manuscript, Alberti's text stresses that certain types of images are most suited to the public spaces within a home; landscapes are one of these types. There is, however, a recognizable distinction between the ways that Alberti and Mancini describe map-like images, largely because of the dramatic increase in the number of maps circulating in Europe and the drastically changed visual look of maps between Alberti's time and Mancini's.[24] Alberti's hypothetical home designer would not have access to the many maps, both luxurious and inexpensive, made over the course of the sixteenth century, and likewise his audience would be more familiar with the artistic depictions of landscapes and harbors than the cosmographies mentioned by Mancini.

Italians also drew their decorating advice from the classics. Pliny's *Natural History*, read widely in fifteenth- and sixteenth-century Italy, provided a Roman model for the public display of geographic works. Pliny remarked that in the days of Augustus, the "delightful style" of decorating walls with "representations of villas, harbours, [and] landscape gardens" arose, providing a classical model to imitate.[25] Vitruvius likewise advised Romans, and thus also the Renaissance Italian reading public, to display

such landscapes.[26] These classical texts provided the impetus for Italians to imitate the Roman style, just as Ptolemy's text influenced mapmakers to adopt his style of mapping.

In both contemporary and classical sources, the display of maps was closely linked with other genres of art, and more generally with drawing. The ability to capture landscapes and views through drawing was lauded by Baldassarre Castiglione as one of the most important skills for a gentleman to possess. In *The Courtier*, Castiglione's Count says that

> The machine of the universe, which we can see in the vast spaces of heaven, so resplendent with their shining stars, in the earth at its center, surrounded by the seas, varied with mountains, valleys and rivers . . . can be said to be a noble and grand painting, composed by nature and the hand of God. And, in my opinion, whoever can imitate it deserves the highest praise.[27]

Castiglione's language echoes that of da Porto's epigram to Sanuto; just as da Porto claimed that a world map opened "the immeasurable machine of the universe" and made him "understand the sea, the earth, and the vast world," Castiglione posits that the purpose of painting is to capture the "machine of the universe."[28]

Castiglione argues that courtiers must be able to draw and paint. In fact, Castiglione advises his readers that drawing the world was a highly valued ability. This is partly for military reasons as "a knowledge of the art gives one the facility to sketch countries, sites, rivers, bridges, citadels, fortresses, and similar things," skills very similar to those needed by a mapmaker.[29] Castiglione also mentions one other purpose for collecting art—"a knowledge of painting is the source of very profound pleasure."[30] These dual purposes ascribed to painting, both representing the contours of the landscape and providing aesthetic pleasure, can, by extension, also apply to cartography. And although cartography was not Castiglione's direct topic, he was an appreciator of maps, owning a manuscript map produced by Diego Ribiero and given to Castiglione by the emperor Charles V.[31]

The home was an important site of display in the sixteenth century, and homeowners must take care when placing works of art in various locations. In Venice, it seems that the home became a protomuseum for displaying the family's collection, as indicated in the work of Marcantonio Michiel (1484–1552), who wrote the manuscript *Notizia d'opere del disegno* between 1520 and 1543. These notes, never published in Michiel's lifetime, represent his survey of the important art works in various cities

in northern Italy, including Padua, Cremona, Milan, and Pavia. Whereas for these cities he focuses on artwork in churches and public art, his section on Venice overwhelmingly focuses on the art displayed in private homes.[32] Michiel went from house to house, marking his notes with the exact date of his tour, listing the artworks in great detail and often including the location where the works were displayed. He recorded that Andrea di Oddoni displayed a crystal bowl engraved in the hand of Christophoro Roman in his studio, while M. Chabreil Vendramin owned "a chiaroscuro in ink, made by the hand of Rafael."[33] Alongside his "many images of saints" Cardinal Grimano possessed "many small tablets of landscapes for the most part in the hand of Alberto of Holland."[34]

Michiel's work reinforces the idea that Venetians cared what was in their neighbors' homes, and they wanted their neighbors to know what was in theirs. Touring each other's homes, as Michiel and da Porto did, was a social event that reflected well on the homeowner. In the early years of the sixteenth century when the collection of art and marvels was still in its early stages, these men turned their houses into galleries that they curated with a purpose—to demonstrate their knowledge and to reinforce their identities.[35] Maps were part of this effort and were particularly valued for their flexibility in conveying multiple messages.

THE DISPLAY OF MAPS IN VENETIAN HOMES

Shifting from advice manuals to the evidence from the inventories, we see that, overwhelmingly, Venetian maps were indeed shown in the home's most public space, the *portego*. In order to reconstruct the display of images in Venetian homes I compiled complete or partial (excluding movable furnishings) inventories of over fifty *porteghi* that contained maps.[36] An analysis of the images coupled with maps in the *portego* indicates that maps were valued for their ability to signify—from demonstrating that the owner was a cultured, cosmopolitan man educated about the world to reinforcing professional skills or trade connections, crafting a military persona, or glorifying the family name, maps were versatile objects that could serve multiple purposes.

This is particularly clear when we look at the images surrounding maps in the *porteghi* of several different Venetian households. Andrea Maioli, who was identified by the notaries inventorying his goods in 1571 as a *cavaliere*, promoted his military background on the walls of his home. His *portego* contained maps and images from the Netherlands, which may indicate his service in the ongoing revolt against Spanish rule. If Maioli did

participate, his household decorations hint that he was on the Spanish side; his *portego* contained an image of the duchy of Brabant, which was ruled by King Philip II of Spain, along with several cities with the imperial arms engraved in gold.[37] His second home contained pictures of Charles V and Joanna, Queen of Spain.[38]

Maioli's *portego* contained maps of Brabant, Gelderland, Holland, Amsterdam, Bruges, and Flanders.[39] These maps may have been used to track events in the first decade of what would become the Eighty Years' War; David Woodward has suggested this use for maps, as when Italians followed the Siege of Malta through printed maps in 1565. Over the course of the sixteenth century news stories were more and more frequently accompanied by maps and prints illustrating distant events. In the case of the Siege of Malta, a series of prints produced by Niccolò Nelli began circulating within a month of the siege and was updated several times between May and August of 1565, capitalizing on the desire for news of the Ottoman fleet among Italians.[40]

Maioli's collection likely served a similar purpose—placing the important locations in the war, while at the same time reinforcing Maioli's interest in and expertise with military matters to his guests and visitors. The decoration of Maioli's second home supports this impression; on these walls, Maioli coupled maps with images of armies. In this second *portego* he had "an image of diverse armies," another of two Flemish armies, and a map of Europe.[41] In a separate room he had images of the funeral of Emperor Charles V and a map of the city of Colonna.[42] The combined impression of multiple maps, images of armies, and portraits of European rulers certainly promoted Maioli's military interests.

Maioli's maps spoke to his military career, but maps could be used to strengthen other professional associations as well. The maps contained in the home of Gasparo Segezi, a miniaturist whose household was inventoried after his death in 1576, reveal a distinct classical bent. In one room Segezi paired pictures of an ancient Greek Madonna, a nude woman, and depictions of the Roman emperors Augustus and Hadrian with "an image of an old map."[43] The ambiguity of the map's description means it could either be an old map or a map of the classical world. In either case, the contents of the room speak to Segezi's interest in the classical past, and the map amplified this impression.[44]

This can also be seen in the art displayed in the *portego*, which included two additional antique Madonnas and another classical emperor, along with an image of Gasparo himself.[45] Through the choices he made in decorating his home, Segezi claimed that he was knowledgeable about the classical

past, familiar enough with such works to include an image of himself among them. This can be read not only as a form of self-fashioning but also as a means of bolstering his career. As an artist and miniaturist, Segezi would benefit from impressing his patrons with his well-versed knowledge of the classics, particularly when taking into consideration that these images were displayed in the room most frequently used for conducting business.[46] Crafting an image of himself as worldly and versed in antiquity would have been a strong business move for the miniaturist.

Another man whose household decoration became an advertisement for his services was Bernaba di Rizzi, a *sanser* who lived in San Felice and died in 1609. As a broker, likely of wholesale goods, di Rizzi's livelihood depended on his reputation for having many connections, both to aid his business and to keep him informed about the latest news. In his *portego* he hung portraits of several rulers, including the kings of Spain and France along with an image of the pope.[47] Alongside these powerful men he displayed a map of Transylvania, possibly a visual endorsement of his trading ties with the Ottoman-controlled East and the Hungarian Empire. The combined impression of his collection of powerful rulers and his map reinforced di Rizzi's professional claim to having many valuable ties abroad.

In other cases, the owner's aims were less related to profession, yet still closely tied with a family's reputation. For instance, maps were frequently coupled with religious images, as in the *porteghi* of Cornelia Bellon and Bernardin Serena. The only images listed in the 1538 inventory of the Bellon *portego* were a map of Italy next to images of Mary stamped with the family arms and an image of Christ.[48] In 1584 Bernardin Serena owned an image of Mary along with one of the Last Supper, displayed next to his two landscapes of Tuscany; his *portego* also contained a painting of Mary Magdalene and portraits of his father and mother.[49] In these two cases maps made up a significant part of a small group of images that were primarily religious. The meaning of these collections is ambiguous—religious images were nearly omnipresent in Venetian homes, so perhaps their placement alongside maps is coincidental.[50] For example, Alvise Bon placed his drawing of Padua next to an "ancient gilded old Madonna," the only images in his *portego*.[51] Two landscapes and an image of Madonna decorated the corridor in Alvise da Ponte's home.[52] Lorenzo Gabriel owned an image of Christ on the cross and a world map.[53] These couplings might not hold greater meaning than the decorating tastes of the owners.

However, we can also read the combination of a small number of religious images with a small number of maps as an intentional effort to highlight the family's devotion while revealing a family interest in the locations

depicted. For Serena, the display of portraits of his parents alongside images of Tuscany might indicate his family's place of origin, the maps providing a visual grounding for his family tree. For Bellon, the juxtaposition of images of Mary and Jesus with a map of Italy may have served as a testimonial on the holy devotion of the region, highlighting the peninsula's piety. In both cases, the small size of the collection amplifies the significance of the maps to these individuals.

The images in Marietta Morosini's house, as detailed in the 1623 inventory made of her late husband's possessions, are more difficult to categorize.[54] The inventory lists a series of images without delimiting their exact location in the house, but in spite of this limitation the collection is quite revealing. Of the sixty-seven images displayed in the house, twenty-five were of religious subjects, including thirteen Madonnas. The house contained several depictions of the three wise men, Christ, Mary Magdalene, and Saint Francis. Marietta also had two images of senators (possibly Roman or Venetian), one of the king of France, an unspecified prince, and a sketch of a general. She also had seven maps in her home.[55]

One of these maps is described as an "image of the Geography of all of the world." Alongside this map were four "images of the four parts of the world," a style which had grown in popularity during the sixteenth century. These four-part maps would show the four known continents—Europe, Asia, Africa, and America.[56] These maps spoke to contemporary advancements over classical knowledge while at the same time maintaining the continent-focused style of the earlier medieval *mappaemundi*. The Morosini household also displayed two maps of countrysides, which could possibly be landscapes made in the style recently popularized by the Flemish or might instead refer to depictions of specific regions. Along with these maps was a design of the city of Verona, where Morosini ancestors had served as *podestà* in the fifteenth and sixteenth centuries; the map could have served as a reminder of the family's power.

Overall, the Morosini inventory indicates both the diversity and flexibility of cartographic images. While the majority of images in the house contained religious subject matter, the assortment of political, classical, and military themes indicates a variety of interests. The maps themselves were an example of this variety; the walls displayed a world map, continental maps, landscapes, and a city view. Though the inventory's organization limits our ability to speculate about the pairing of specific genres in various rooms in the house, we can take away an overall impression of the collection. Rather than promoting one clear idea of the family's identity through

the display of images, the art in the home indicates a range of interests, what we might term a "Renaissance home."

While men like Maioli, Segezi, and di Rizzi focused their collections on their individual identities, others used maps to promote the power of their family name. The inventory of Marco Dandolo's home from 1631 is an excellent case study. When Dandolo's household was catalogued, his rooms revealed an interest in city maps. He displayed several maps of cities, including one of Buda and one of Rome. Next to these maps was "an old parchment with a description of other territories drawn in pen" and "a printed map with a description of Bergamo." He displayed "two printed maps in large folio one a description of Friuli and the other of the Duchy of Carniola," part of present-day Slovenia.[57] He also had a map unique among Venetian inventories—a "design in paper attached to cloth of Piran and the territory"; Piran had been a Venetian-controlled port on the Istrian Peninsula from 1282. Dandolo's display of this map could indicate his trading interests either with the town or with the region as a whole. And when combined with his maps of Rome and Buda his collection could be understood as signifiers of his (and Venice's) connections with the world. Dandolo came from a politically involved family that produced four doges and numerous regional governors in the *terrafirma;* thus, displaying maps of territories controlled by or aligned with Venice, as with his maps of Piran, Bergamo, and Padua, was a way to reinforce Venice's power along with the status of the Dandolo family.

This interpretation is reinforced by another image shown in Dandolo's house. He displayed "a design of a fortress in Bergamo painted with the arms of the Dandolo family."[58] While it was uncommon to affix family coats of arms to images of a territory, in this case there was a good reason to stamp Bergamo with the Dandolo arms. In 1437 Marco's ancestor and namesake Marco Dandolo served as Venetian ambassador to the Holy Roman Empire and stood as representative for the republic when the empire officially recognized the Venetian claim to Bergamo, along with Padua, Treviso, Brescia, and other parts of Venice's land territories. Another of Marco's ancestors, Giovanni Dandolo, served as *podestà* of Padua and commanded the Venetian navy; in fact, he was leading a naval assault on Istria when he learned he had been elected doge. Thus the Dandolo family had a strong basis for claiming close ties to the territory of Bergamo, the city of Padua, and the territory around Istria, which were all displayed on maps within Marco Dandolo's home. Visitors to Dandolo's rooms would be reminded of *La Serenissima*'s territorial reach and, more particularly, the glory and

greatness of the Dandolo name. These images not only highlighted the historical strength of the family but also fortified that reputation in the early seventeenth century.

Maps were not only connected with the place depicted, but also with a sense of history. The Dandolo home contained images of locations with great significance for the family history, in part because maps made that history tangible. The same can be said for Giustinian di Priuli, whose *portego* contained "a family tree of the Priuli" next to "two images, framed in walnut, with printed cities."[59] Though the cities were unnamed, it is very likely that they held a special significance for the family because of their placement with the family tree. As with the Dandolos, the visual juxtaposition of place and family history may have carried messages about the past to visitors in the Priuli home.

It was not uncommon for Venetians to promote their personal connections with provincial regions within their homes. Returning to the *portego* of Marino Sanuto, which contained the world map that Federico da Porto found so enlightening, we also find an image of Verona, where Sanuto held a minor administrative position and his uncle served as a captain.[60] In 1626 Marco Crasso, listed in his inventory as a "*cittadino veneto*," had portraits of himself, his brother Nicolo, who was a famous jurist, and another relative named Alvise Crasso in his home alongside a map of Rome and two world maps.[61] Coupling family portraits with maps hinted to visitors that the family was both knowledgable and powerful.

The power of maps to shape the identity of the map owner proved fruitful for centuries. In the later seventeenth century, Admiral Antonio Barbaro requested in his will of 1678 that the façade of the church of Santa Maria del Giglio be carved with maps of the six cities in which he had served: Padua, Crete, Zara, Rome, Spalato [Split, Croatia], and Corfu (fig. 23). These maps took the formerly private glorification of an individual through maps and turned it into a very public testament to the naval and political glory of the family.[62] Barbaro's actions harken back to those of governments that displayed maps prominently in their halls of state, and yet in Barbaro's case the publicly shown maps reflected on his family's reputation rather than that of the state.

The public and private display of maps carried multiple messages to viewers. Just as the images of Bergamo, Padua, and Piran in Dandolo's house would remind visitors of his family's power, Sanuto's maps were meant to evoke his many connections with the Venetian government. Sanuto clearly valued his maps; in his diary he recorded the visit of Alberto da Carpi "to see my study and the world map."[63] Here, we are reminded that another

Fig. 23. Relief map of Padua, Santa Maria del Giglio, Venice, ca. 1679–1683. Photo by Steve Carlton.

location where maps were frequently found was the *studio*, a room devoted to male intellectual endeavors.[64] Certain maps were expected to remind viewers of a personal or familial connection with the location portrayed, as with Marco Dandolo's maps and the Barbaro façade. Other maps, however, most commonly world maps such as Sanuto's image of the world or the Crasso world maps, were intended to impress by creating a more amorphous association between knowledge and the family.

What can we conclude about the demand for maps among sixteenth-century Venetians based on strategies of interior decoration? In these examples, maps were combined with other images in order to promote the reputation of the owner. Venetians were not interested in displaying maps of Venice itself, as indicated by the paucity of images of *La Serenissima* in the household inventories. But maps that reinforced Venice's territorial and commercial power were often displayed in the private homes of Venice's most powerful families, families that often had a direct hand in building Venice's empire.

By reading these maps in their original context we can understand the

value Venetians attached to maps as consumer objects. For the majority of these maps, the value was not purely monetary or based on practical information contained in the maps; rather, the value of the map was in the flexibility of its message. A map could promote the owner's trade connections, as with the broker Bernaba di Rizzi, or show that the owner was versed in the classics, in the case of miniaturist Gasparo Segezi. The map could link the owner with his past, as with *cavaliere* Andrea Maioli or Marco Dandolo, whose maps reinforced his family's status. The map could signal the owner's erudition, trade connections, classical knowledge, religious devotion, familial power, and social status.

In short, the value of the map was in its ability to craft a public identity for the owner. By bringing maps within the home and decorating their walls with maps, Venetians were not only showing a concern for the outside world but also using maps to reinforce their public reputations. This type of self-fashioning is typically linked with Renaissance portraits, which often framed the family in the most favorable terms, and yet Venetians displayed more maps in their homes than portraits.[65] The *portego* was treated like a public gallery curated by the homeowner in order to reinforce his or her persona, and maps were particularly valuable precisely because they could carry a multitude of messages.

CONCLUSION

Worldly Consumers and the Meaning of Maps

In sixteenth-century cartography, context was everything: the same map could transmit a variety of messages depending on who owned it and how the image was arranged. Map owners thus selected and displayed specific maps in order to reinforce desirable aspects of their identity and history. The Renaissance revolution in cartography changed the look of maps and brought them into the hands of new consumers; these consumers, through the practices of buying and displaying maps, created new uses for cartographic prints and shaped the meaning attached to them.

The relationship between cartographic production and consumption was complex. Mapmakers seeking new markets for their works had to guess at the tastes of their consumers, and it is unclear to what degree the makers of maps may have been intentionally pushing an ambiguous message in their works in order to allow consumers a greater degree of flexibility in the uses they attached to maps. The strategies developed by the producers of maps indicate that this was unintentional—throughout the sixteenth century, mapmakers experimented with new ways to vest their works with meaning, including the selection of color to highlight certain features, added texts to direct the reader's attention, and keys that proclaimed a region's most notable locations. These were all strategies to maintain symbolic meanings in maps during an era that expected likeness from cartographic images. Yet in spite of these efforts, Renaissance mapmakers could not completely control the meanings with which map owners imbued their maps. This is perhaps clearest in the case of religious messages in maps.

It is tempting to claim that these sixteenth-century maps, no longer centered on Jerusalem, demonstrate a secularizing impulse in European culture. Yet this would oversimplify an enormously complex cultural movement. Mapmakers and sellers were consciously fighting to keep a religious

message in their maps through techniques such as coloring sacred spaces in a city blue while all other buildings were red, or highlighting religiously significant locations in the map's key.[1] The texts on maps also invoked religion, as with the map of the naval victory at Lepanto that praised God for granting Christendom a victory over the Turks, or the map of Hispaniola that noted the natives' conversion to Christianity.[2] Map owners, in turn, often coupled their maps with religious images, as in the case of Cornelia Bellon, Bernardin Serena, Alvise Bon, Lorenzo Gabriel, and others.[3] Even if the content of the map had no direct religious intonation, owners could—and did—shape the reception of their maps through their display.

These strategies indicate some degree of anxiety over the lack of a clear religious message in maps that prioritized accuracy, akin to Fra Mauro's warning that abandoning the medieval *mappaemundi* in favor of Ptolemaic methods would "decenter" Jerusalem. At the same time these new accurate maps, particularly world maps, shifted the visual focus away from wonder at God's creation and the visible proof of Christianity in the world's contours, a theme that characterized medieval *mappaemundi*, toward a celebration of the ability of man to capture nature through his artifice. The marvelous perspectives developed by de'Barbari, Rosselli, and others, along with the level of detail captured in maps, put the mapmaker's ingenuity on display, and the wonder of looking at the world from God's very perspective, as in Rosselli's 1508 world map ringed by clouds, might even be seen as prideful.

The revised standards for an acceptable map, which stressed likeness above other considerations, certainly made it more difficult for mapmakers to visually direct the message of their works. In some ways, the new aesthetic became a testament to the map's quality, with mapmakers promoting their wares as up-to-date, reliable, and superior to previous maps. A map that was "a mirror, in which is represented the image of the world in its absence" could not show Christ's head, arms, and feet on the surface of the world or depict the Mediterranean as a single straight line.[4] Such depictions would no longer be categorized as maps by the new standards of measure.

These maps were thus ambiguous in their meaning, particularly in the first decades of the Renaissance revolution in cartography. Yet this very ambiguity gave buyers more flexibility to decide what a map meant through the ways they displayed cartographic works. Because there were no clear rules or expectations about what one was supposed to do with a map, consumers treated them similarly to other familiar objects such as works of art or invented new uses for maps, including promoting one's family or trade connections. This window of flexibility, during which a recently commercialized product had no clear intended use, allowed buyers a great deal of

creativity in how they used maps, in large part because these newly accurate maps were open to multiple readings.

It is not by chance that this consumer use of maps coincided with the move toward making maps more accurate. While printing was a necessary precondition for the widespread purchase of maps by non-elites because it made them affordable, the never-before-expected level of accuracy in maps of all types allowed consumers to attach their own meaning to their cartographic prints. If maps had remained visually static before and after the cartographic revolution it is unlikely that individuals like Marco Dandolo, Andrea Maioli, Gasparo Segezi, or Marietta Morosini would have decorated their homes with maps.

This is because the demand for accuracy in maps created a new relationship between the physical location shown on the map and its two-dimensional representation. The map was a mirror, reflecting what was physically real, and as such created a different cognitive relationship between the image and place. It was this synonymy that allowed map owners to use their maps as a stand-in for the location portrayed; displaying a map of a city or region thus showed one's intimate knowledge about the place. This relationship did not exist in the same way for medieval maps because there was not the same expectation that a map should reflect the world as it actually existed.

World maps had an even more ambiguous meaning when compared to city and regional maps. As discussed in chapter 5, these maps were valued in part for their ability to show the entire world shrunk onto a single page; this wondrous feat was itself a reason to own a map. But in the growing and newly global commercial culture of the sixteenth century, a world map also represented cosmopolitanism and an awareness of the expanded scope of the world. On this point, da Porto's words upon seeing Marino Sanuto's world map echo loudest: "The immense machine of the universe is opened up at last."[5] The map, because it was a mirror, granted a previously unattainable level of understanding to the viewer, while at the same time the map was visible proof of Sanuto's erudition. In this respect, an accurate map of the world taught the viewer a lesson that could not be gained through any other medium; the viewer could only grasp the world by seeing a direct representation of the entire globe.

Consumers integrated these maps into a larger culture of material display. Maps were placed alongside religious images, works of art, and family portraits on the walls of sixteenth-century homes, and advice manuals on decoration and the display of art included instructions on showing cartographic works. Grand Duke Cosimo de'Medici displayed his commissioned

maps in a cabinet of curiosities, covering the panels of his collection with images of Italy and all the regions of the world.[6] The same map could simultaneously be a tool of the educated armchair traveler and a curiosity meant to evoke wonder, depending on the whims of the viewer. The context in which these maps were shown was thus critical for understanding their meaning.

The cartographic world of sixteenth-century Italy was drastically different than anything that proceeded it. For the first time maps were inexpensive consumer goods that owners could use in a variety of ways because the accuracy of these maps made them ambiguous of meaning. The rise of accuracy did not, therefore, unseat the symbolic or contemplative function of maps but rather left the interpretation of maps in the hands of their new owners. This cartographic flexibility underscores the necessity of examining maps in their social and cultural context rather than reading maps solely for their political value, precisely because in the sixteenth century context was critical for understanding the meaning of maps. If we choose to focus only on the political power of maps we risk missing their immense cultural power—a map, in the right hands, was an avenue into the cosmopolitan, sophisticated, and global world of the sixteenth century.

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NOTES

INTRODUCTION

1. Richard A. Goldthwaite, *The Building of Renaissance Florence: An Economic and Social History* (Baltimore, Johns Hopkins University Press, 1980), 437. The conversion rate for Florence was 1 *lira* = 20 *soldi*. Goldthwaite has calculated that an unskilled worker in 1527 earned approximately 9 *soldi* per day. Skilled laborers earned roughly double this amount.

2. Archivio di Stato di Firenze, Magistrato dei pupilli avanti il Principato, b. 190, no. 52, 1527 (1528) Feb 14, fols. 388r–395v (hereafter ASF MdP). The inventory lists "la palla d'appamondo grande per insengna," referring to the sign outside the shop (fol. 393v).

3. David Woodward, "The Italian Map Trade, 1480–1650," in *The History of Cartography, Volume 3: Cartography in the European Renaissance*, ed. David Woodward (Chicago: University of Chicago Press, 2007), 794.

4. Catherine Delano-Smith, "The Map as Commodity," in *Plantejaments i objectius d'una historia universal de la cartografia*, ed. David Woodward (Barcelona: Institut Cartografic de Catalunya, 2001), 91–109.

5. Alonso de Chaves, *Espejo de Navegantes* [ca. 1527], 110, translated and cited in Alison Sandman, "Mirroring the World: Sea Charts, Navigation, and Territorial Claims in Sixteenth-Century Spain," in *Merchants and Marvels: Commerce, Science, and Art in Early Modern* Europe, ed. Pamela H. Smith and Paula Findlen (New York: Routledge, 2002), 92.

6. For this figure see the table in J. B. Harley and David Woodward, eds., *The History of Cartography, Volume 1: Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean* (Chicago: University of Chicago Press, 1987), 298n15; and Robert W. Karrow, "Intellectual Foundations of the Cartographic Revolution" (PhD diss., Loyala University of Chicago, 1999), 7.

7. This figure is based on a conservative estimate of 5,250 individual engravings produced between 1472 and 1600, at an average print run of 250 copies. This is likely a significant undercount of the actual maps in circulation, as it is based only on engravings known today and cannot account for those that have been lost. It also does not include

manuscript and fresco maps. See Robert W. Karrow, "Centers of Map Publishing in Europe, 1472–1600," in *The History of Cartography, Volume 3: Cartography in the European Renaissance*, ed. David Woodward (Chicago: University of Chicago Press, 2007), 621; and Karrow, "Intellectual Foundations of the Cartographic Revolution," 8–10.

8. Both Karrow and Harley give graphs showing production by city in the sixteenth century. See Karrow, "Centers of Map Publishing in Europe," 612–14; and Harley, "Cartobibliography and the Collector: Review Article," review of *The Mapping of the World: Early Printed World Maps, 1472–1700*, by Rodney W. Shirley, *Imago Mundi* 39 (1987): 108–9.

9. Sebastian Münster, "Aggiunta di Sebastiano Munstero," in *La geografia di Claudio Ptolemeo Alessandrino*, by Ptolemy, Giacomo Gastaldi, and Pietro Andrea Mattioli (Venice: Per Gioa[n]. Baptista Pedrezano, 1548), vi r: "cosi non solamente intendere la uera habitudine del luogo per la dipintura primamente ueduta, ma uederla quasi col senso dell'occhio."

10. The notion that images could transmit information differently than text was shared by many sixteenth-century intellectuals, including Leonhart Fuchs in botany and Andrea Vesalius in anatomy, as Sachiko Kusukawa explains in *Picturing the Book of Nature: Image, Text, and Argument in Sixteenth-Century Human Anatomy and Medical Botany* (Chicago: University of Chicago Press, 2012), 1–4. For more on early modern theories of vision, see Stuart Clark, *Vanities of the Eye: Vision in Early Modern European Culture* (Oxford: Oxford University Press, 2007), particularly 9–38. Clark argues that the "ocularcentrism" of the era was challenged by visual anomalies and paradigms that threatened to destroy the place of sight as first in the order of knowing (Clark, 9). Vision could, of course, be deceiving, and artists themselves were praised for the ability to obfuscate the line between reality and artifice; however, by and large the confidence in man's ability to extract knowledge through sight remained intact in the Renaissance.

11. See, for instance, D. Graham Burnett, *Masters of All They Surveyed: Exploration, Geography, and a British El Dorado* (Chicago: University of Chicago Press, 2000); Matthew H. Edney, *Mapping an Empire: The Geographical Construction of British India, 1765–1843* (Chicago: University of Chicago Press, 1997); and Charles W. J. Withers, *Placing the Enlightenment: Thinking Geographically about the Age of Reason* (Chicago: University of Chicago Press, 2007). Edney argues that in the 1830s imperial mapping became a substantially different enterprise than mapping within Europe; Burnett discusses the ambiguous authority of Europeans as imperial cartographers; Withers argues that the Enlightenment turned mapping into an orderly system of extending knowledge of the world. Each of these works is based on the assumption that cartography and imperialism go hand in hand—a belief that Edney has recently questioned in "What's 'Imperial' About Imperial Cartography . . . and What's 'Cartographic'?" (lecture, The Geographic Society of Chicago Lectures in Geography at the Newberry Library, Chicago. May 20, 2007), arguing that while the idea of empire was constructed cartographically, there is nothing inherently imperial in maps. Rather, it is the relationship between the reader and the map that determines its uses.

12. This move, lead by J. B. Harley's groundbreaking work, emerged as a reaction against the prior antiquarian emphasis among map collectors. Through the mid-twentieth century, historians of cartography largely attempted to locate works by particular map-

makers and speculate about the content of lost maps. For example, Roberto Almagia's extensive—and useful—work on Francesco Rosselli fits this pattern. Almagia lists various maps attributed to Rosselli, argues for the authorship of other unattributed maps, and includes a biography of Rosselli. (See Almagia, "On the Cartographic Work of Francesco Rosselli," *Imago Mundi* 8 [1951].) As J. H. Andrews has noted, "interest in maps and map history was on the wane" by the 1960s precisely because cartographic history carried an "allegedly uncritical concern for the differentiating and listing of material objects" (Andrews, "Meaning, Knowledge, and Power in the Map Philosophy of J. B. Harley," in *The New Nature of Maps: Essays in the History of Cartography*, ed. Paul Laxton [Baltimore: Johns Hopkins University Press, 2001], 4). Not only was cartographic history tied up in the chronicling of maps as artifacts but the field was dominated by cartographic positivism, examining the march of progress and accuracy in maps. A similar triumphalist, presentist narrative shaped the history of science in the same decades, as historians chronicled the achievements and advances leading to the modern period. This is encapsulated in the work of Herbert Butterfield, who proclaimed that the scientific revolution "reduces the Renaissance and Reformation to the rank of mere episodes . . . [It is] the real origin both of the modern world and of the modern mentality" (Butterfield, *The Origins of Modern Science, 1300–1800* [London: G. Bell, 1949], 8).

13. For more on Italian map printers, see Lillian Armstrong, "Benedetto Bordon, *Miniator*, and Cartography in Early Sixteenth Century Venice," *Imago Mundi* 48 (1996); Francesca Consagra, "The De Rossi Family Print Publishing Shop: A Study in the History of the Print Industry in Seventeenth-Century Rome" (PhD diss., Johns Hopkins University, 1992); Woodward, "The Italian Map Trade"; and David Woodward, "Paolo Forlani: Compiler, Engraver, Printer, or Publisher?" *Imago Mundi* 44 (1992). On Italian print culture more broadly see Leonardas Vytautas Gerulaitis, *Printing and Publishing in Fifteenth-Century Venice* (Chicago: American Library Association, 1976); Brian Richardson, *Printing, Writers and Readers in Renaissance Italy* (Cambridge: Cambridge University Press, 1999); and Christopher L. C. E. Witcombe, *Copyright in the Renaissance: Prints and the "Privilegio" in Sixteenth-Century Venice and Rome* (Boston: Brill, 2004).

14. J. B. Harley, *The New Nature of Maps: Essays in the History of Cartography*, ed. Paul Laxton (Baltimore: Johns Hopkins University Press, 2001), 53–55. This collection of essays written in the 1970s and 1980s was published after Harley's death in 1991. Also see Erwin Panofsky, *Studies in Iconology: Humanistic Themes in the Art of the Renaissance* (Oxford: Oxford University Press, 1939) and Michel Foucault, *Discipline and Punish: The Birth of the Prison* (New York: Pantheon Books, 1977).

15. Harley, *The New Nature of Maps*, 67. A similar trend in art history is best encapsulated by Randolph Starn and Loren W. Partridge, who look at the power inherent in works of art shown in halls of government in *Arts of Power: Three Halls of State in Italy, 1300–1600* (Berkeley: University of California Press, 1992).

16. David Turnbull, "Cartography and Science in Early Modern Europe: Mapping the Construction of Knowledge Spaces," *Imago Mundi* 48 (1996), 7, 19. Turnbull explored the ways in which maps structure knowledge spaces, adding an analysis of alternative ways of spatially assembling knowledge to ask how knowledge becomes universal.

17. Richard Helgerson, "The Land Speaks: Cartography, Chorography, and Subversion in Renaissance England," *Representations* 16 (1986): 56.

18. Ibid. Even this phrasing, "whatever side he may be on," implies that maps exist only in a political world where they serve as tools of competing factions.

19. There has recently been a move away from this approach even among historians of imperial cartography. Matthew Edney, for example, emphasized the multiple uses of maps depending on their context in a talk at the Newberry Library ("Imperial Cartography"). David Woodward has also proposed several theoretical approaches to the history of cartography in "'Theory' and the History of Cartography," in *Plantejaments I objectius d'una historia universal de la cartografia*, ed. David Woodward (Barcelona: Institut Cartograpfic de Catalunya, 2001).

20. Woodward, *Maps as Prints in the Italian Renaissance: Makers, Distributors, and Consumers* (London: British Library, 1996), 101.

21. For example, see Jerry Brotton, *Trading Territories: Mapping the Early Modern World* (Ithaca, NY: Cornell University Press, 1998); Sandman, "Mirroring the World"; and Sandman, "Spanish Nautical Cartography in the Renaissance," in *The History of Cartography, Volume 3: Cartography in the European Renaissance*, ed. David Woodward (Chicago: University of Chicago Press, 2007).

22. Brotton, *Trading Territories*, 23.

23. Similarily, Peter Barber and Tom Harper's recent work, *Magnificent Maps: Power, Propaganda and Art* (London: British Library, 2010), takes a spatial approach to the assessment of cartography, analyzing the maps shown in halls of government as well as merchant's homes, churches, and school rooms, and argues that the place and placement of maps reveals a great deal about their use.

24. Richard Kagan and Benjamin Schmidt, "Maps and the Early Modern State: Official Cartography," in *The History of Cartography, Volume 3: Cartography in the European Renaissance*, ed. David Woodward (Chicago: University of Chicago Press, 2007), 661. Kagan and Schmidt quote Alonso de Santa Cruz, who noted that the emperor Charles V "spent most days with me, Alonso de Santa Cruz, royal cosmographer, learning about matters of astrology, the earth, and the theory of planets, as well as sea charts and cosmographical globes, all of which gave him much pleasure and joy" (Alonso de Santa Cruz, *Cronica del emperador Carlos V*, ed. Francisco de Laiglesia, Madrid, 1920–25, 4:24).

25. Kagan and Schmidt, "Maps and the Early Modern State," 678.

26. See Sandman, "Mirroring the World," particularly 97–101.

27. As Raymond B. Craib points out in "Relocating Cartography," *Postcolonial Studies* 12, no. 4 (2009): 487, "this social turn in the history of cartography reminds us that, like most other histories, the history of cartography is empirically skewed and epistemologically constrained when viewed solely from the top down".

28. As calculated by Robert Karrow, there were roughly 1.3 million printed maps in circulation in 1600, a number that certainly dwarfed state-produced manuscript maps (Karrow, "Centers of Map Publishing in Europe," 621). One reason that "official" maps have been the focus of the history of cartography is because these maps were more likely to be preserved than the single-sheet inexpensive cartographic prints. As Catherine Delano-Smith points out, the so-called "low value" maps rarely survive unless preserved in books, where many single-sheet maps have been discovered only in the last century (Delano-Smith, "The Map as Commodity," 91–109). For an example of a recently discovered map stored in a sixteenth-century printed book, see Chet Van Duzer, "A Newly

Discovered Fourth Exemplar of Francesco Rosselli's Oval Planisphere of c. 1508," *Imago Mundi* 60, no. 2 (2008).

29. David Woodward, ed., preface to *The History of Cartography, Volume 3: Cartography in the European Renaissance* (Chicago: University of Chicago Press, 2007), xxxix. The emphasis on a multiplicity of cartographic cultures is a promising start, but the highly political focus of the geographic articles reveals the volume's indebtedness to older forms of treating maps. For examples of this, see Emanuela Casti, "State, Cartography, and Territory in Renaissance Veneto and Lombardy," 874–908; Massimo Quaini, "Cartographic Activities in the Republic of Genoa, Corsica, and Sardinia in the Renaissance," 854–73; and Leonardo Rombai, "Cartography in the Central Italian States from 1480 to 1680," 909–39.

30. He has also proposed several other theoretical approaches to analyzing individual maps, including viewing maps as physical artifacts and focusing on manufacture, as images or cognitive representations, or as vehicles for historical documentation and rhetoric. See Woodward, "'Theory' and The History of Cartography," 36.

31. Ibid.

32. Ibid., 75.Woodward pointed out that "it is curious that so little attention has been paid to both the economic and aesthetic issues involved in the historical consumption of maps as geographic prints"; in part, this lack of attention is a problem of sources.

33. Denis Cosgrove explores the ways in which historians of Italian cartography could build on Harley without overemphasizing imperial ambitions. Cosgrove lays out a three-pronged approach, by examining the socioeconomic and environmental context of Venetian mapmaking, the contributions to cartography made by Venetians, and the "broader cultural discourse with which Venetian mapping at this time was immersed." See Cosgrove, "Mapping New Worlds: Culture and Cartography in Sixteenth-Century Venice," *Imago Mundi* 44 (1992): 65.

34. For example, see Woodward, "'Theory' and The History of Cartography"; also see the discussion in *Imago Mundi* 48 (1996) on theory and the history of cartography, namely Catherine Delano-Smith, "Why Theory in the History of Cartography?" 198–203; Matthew H. Edney, "Theory and the History of Cartography," 185–91; and Christian Jacob, "Toward a Cultural History of Cartography," 191–98.

35. For political and administrative Italian maps, see Casti, "State, Cartography, and Territory in Renaissance Veneto and Lombardy"; Emanuela Casti, *Reality as Representation: The Semiotics of Cartography and the Generation of Meaning* (Bergamo: Bergamo University Press), especially 76–80; Emanuela Casti Moreschi, "Le carte del Principe: il caso di Venezia,"in *L'Europa delle carte: Dal XV al XIX secolo, autoritratti di un Continente*, ed. Marica Milanesi (Milan: Mazzotta, 1990); Rombai, "Cartography in the Central Italian States from 1480 to 1680"; and Quaini, "Cartographic Activities in the Republic of Genoa, Corsica, and Sardinia in the Renaissance."

36. Samuel Y. Edgerton has noted in "From Mental Matrix to Mappaemundi to Christian Empire: The Heritage of Ptolemaic Cartography in the Renaissance," in *Art and Cartography: Six Historical Essays*, ed. David Woodward (Chicago: University of Chicago Press, 1987), that the "mental matrix" created by Ptolemaic latitude and longitude created a new three-dimensional blankness of space, altering the way Europeans conceptualized the relationship between locations. This could, of course, have political

and imperial consequences, but I would argue that this was not on the minds of those men who purchased the early printed editions of Ptolemy, or Francesco Berlinghieri when he undertook a vernacular verse translation of *Geographia*.

37. See Benjamin Schmidt, *Innocence Abroad: The Dutch Imagination and the New World, 1570–1670* (Cambridge: University of Cambridge Press), 315–20; and "Mapping an Exotic World: The Global Project of Dutch Geography, circa 1700," in *The Global Eighteenth Century*, ed. Felicity Nussbaum (Baltimore: Johns Hopkins University Press, 2003), 21–37.

38. Brotton, *Trading Territories*, 176.

39. Goldthwaite, *The Building of Renaissance Florence*, 30.

40. Ibid., 54. See also Richard A. Goldthwaite, *Wealth and the Demand for Art in Italy, 1300–1600* (Baltimore: Johns Hopkins University Press, 1993); Goldthwaite, *Private Wealth in Renaissance Florence: A Study of Four Families* (Princeton: Princeton University Press, 1968); and Goldthwaite, *The Economy of Renaissance Florence* (Baltimore: Johns Hopkins University Press, 2009). Lisa Jardine has built on Goldthwaite's work to discuss the desire for "worldly goods" in Renaissance Europe more widely. Whereas Goldthwaite frames consumption as evidence of economic stability and security, Jardine sees consumption as the driving force of the entire cultural movement of the Renaissance, yet when Jardine assesses maps they are overwhelmingly political and state maps, particularly those maps that were utilized by states in clashes over economic rights, as in the case of the clash between Spain and Portugal over access to the Molucca Islands. See Jardine, *Worldly Goods: A New History of the Renaissance* (London: Macmillan, 1996).

41. On material culture, see Renata Ago, *Gusto for Things: A History of Objects in Seventeenth-Century Rome*, trans. Bradford Bouley, Corey Tazzara, and Paula Findlen (Chicago: University of Chicago Press, 2013); Paula Findlen, "Possessing the Past: The Material World of the Italian Renaissance," *American Historical Review* 103, no. 1 (1998); Paula Findlen, ed., *Early Modern Things: Objects and Their Histories, 1500–1800* (New York: Routledge, 2013); and Michelle O'Malley and Evelyn Welch, eds., *The Material Renaissance* (Manchester: Manchester University Press, 2010). For printing see Elizabeth L. Eisenstein, *The Printing Press as an Agent of Change: Communications and Cultural Transformations in Early Modern Europe* (Cambridge: Cambridge University Press, 1979); Adrian Johns, *The Nature of the Book: Print and Knowledge in the Making* (Chicago: University of Chicago Press, 1998); and Alain Boureau and Roger Chartier, *The Culture of Print: Power and the Uses of Print in Early Modern Europe* (Princeton: Princeton University Press, 1989).

42. For example, see Pamela H. Smith and Paula Findlen, eds., *Merchants and Marvels: Commerce, Science, and Art in Early Modern Europe* (New York: Routledge, 2002); Pamela H. Smith and Benjamin Schmidt, eds., *Making Knowledge in Early Modern Europe: Practices, Objects, and Texts, 1400–1800* (Chicago: University of Chicago Press, 2007); Lorraine Daston and Katharine Park, *Wonders and the Order of Nature, 1150–1750* (New York: Zone Books, 1998); and Pamela H. Smith, *The Body of the Artisan: Art and Experience in the Scientific Revolution* (Chicago: University of Chicago Press, 2004).

43. Findlen, *Possessing Nature: Museums, Collecting, and Scientific Culture in Early Modern Italy* (Berkeley: University of California Press, 1994), 2–3.

44. For more on Cosimo's Guardaroba Nuova, see Francesca Fiorani, *The Marvel of*

Maps: Art, Cartography, and Politics in Renaissance Italy (New Haven: Yale University Press, 2005), especially 17–32.

45. See, for example, Stephen Greenblatt, *Renaissance Self-Fashioning: From More to Shakespeare* (Chicago: University of Chicago Press, 1980); John Jeffries Martin, *Myths of Renaissance Individualism* (New York: Palgrave Macmillan, 2004); Guido Ruggiero, *Machiavelli in Love: Sex, Self, and Society in the Italian Renaissance* (Baltimore: Johns Hopkins University Press, 2007); and Joanna Woods-Marsden, *Renaissance Self-Portraiture: The Visual Construction of Identity and the Social Status of the Artist* (New Haven: Yale University Press, 1998).

46. This is almost certainly an undercount, as many inventories did not list images individually and did not always list books by title. The rate of 10 percent map ownership held steady across the 140-year period, while the raw number of inventories increased at a pace much faster than the population grew, implying that the number of Venetian households containing maps increased in these decades.

47. Archivio di Stato di Venezia; Cancelleria Inferior, Miscellanea Notai Diversi (hereafter ASV MND), b. 41, no. 46, 1571 Apr. 9, fol. 1v.

48. Archivio di Stato di Venezia; Giudici di Petizion (hereafter ASV GdP), b. 352/17, no. 99, 1631 Apr. 29, fol. 7v.

49. For example, see Catherine Delano-Smith, "Map Ownership in Sixteenth-Century Cambridge: The Evidence of Probate Inventories," *Imago Mundi* 47 (1995); John Kent Lydecker, "The Domestic Setting of the Arts in Renaissance Florence" (PhD diss., Johns Hopkins University, 1987); Federica Ambrosini, "Descrittioni del mondo nelle case venete dei secoli XVI e XVII," *Archivio Veneto* 117 (1981); Margaret A. Morse, "Creating Sacred Space: The Religious Visual Culture of the Renaissance Venetian *Casa*," *Renaissance Studies* 21, no. 2 (2007); and Guido Rebecchini, *Private Collectors in Mantua, 1500–1630* (Rome: Edizioni di Storia e Letteratura, 2002). For an overview of early modern European inventories, see Giorgio Riello, "'Things Seen and Unseen': The Material Culture of Early Modern Inventories and Their Representation of Domestic Interiors," in *Early Modern Things: Objects and Their Histories, 1500–1800*, ed. Paula Findlen (New York: Routledge, 2013), 125–50.

50. Lydecker, "*The Domestic Setting of the Arts in Renaissance Florence*," 7.

51. Ibid., 5.

52. Rebecchini, *Private Collectors in Mantua*, 20.

53. Morse, "Creating Sacred Space," 151.

54. Ibid., 158–59.

55. Ibid.,158.

56. Ibid., 177.

57. Isabella Palumbo-Fossati, "L'Interno della casa dell'artigiano e dell'artista nella Venezia del Cinquecento," *Studi Veneziani* 8 (1984): 116.

58. Delano-Smith, "Map Ownership in Sixteenth-Century Cambridge," 67. For Woodward, see in particular *Maps as Prints*.

59. Ibid., 71.

60. Ibid.

61. Ambrosini, "Descrittioni del mondo," 78–79.

62. Barber, "The Maps, Town-Views and Historical Prints in the Columbus Inven-

tory," in *The Print Collection of Ferdinand Columbus*, ed. Mark R. McDonald (London: British Museum, 2004), 254.

63. Ibid., 255.

64. Delano-Smith, "Map Ownership in Sixteenth-Century Cambridge," 74.

65. Ambrosini, "Descrittioni del mondo," 67–79.

66. Woodward, "The Italian Map Trade," 787.

67. Rebecchini, *Private Collectors in Mantua*, 20.

68. For more on these offices, see Dora Thornton, *The Scholar in His Study: Ownership and Experience in Renaissance Italy* (New Haven: Yale University Press, 1997), 15; and the introduction to Lydecker, "The Domestic Setting of the Arts in Renaissance Florence."

69. "Questo e l'inventario delli beni mobili della questi madonna Mariata fondana"; ASV MND b. 42, no. 63. For a longer introduction in both Latin and Italian see ASV MND b.41, no. 24, where the introduction is nearly a full page.

70. The lack of a terminological distinction between a cartographic and any other image on display provides further evidence that for sixteenth-century viewers there was not a substantial gulf between maps and what are regarded today as "works of art." For more on terminology, see Chriscinda Henry, "What Makes a Picture? Evidence from Sixteenth-Century Venetian Property Inventories," *Journal of the History of Collections* 23, no. 2 (2011): 253–55.

71. ASV MND b. 37, no. 1, 1543 15 Nov.–15 Dec., 5v.

72. For more on these limitations, see Thornton, *The Scholar in His Study*, 16–21; Henry, "What Makes a Picture?" 255–56; and Riello, "'Things Seen and Unseen,'" 125–40.

73. ASV GdP b. 341/6, no. 92, 1599 Nov. 29. For more, see Jack Hinton, "By Sale, By Gift: Aspects of the Resale and Bequest of Goods in Late-Sixteenth-Century Venice," *Journal of Design History* 15, no. 4 (2002).

74. ASV MND b. 43, no. 48, 1587 Apr. 7, fol. 3r.

75. The best source for the sixteenth century is the inventory of the shop of Francesco Rosselli, a Florentine mapmaker who sold maps and religious images in a shop that was handed down to his son Alessandro. This inventory, made in 1527, can be found in the ASF MdP b. 189, no. 105, and is discussed in detail in chapter 2.

76. Even a map described as "on cloth" could easily be a printed map, which were often printed on a linen-like material or attached to cloth. For example, Francesco Rosselli's map of France, made around 1500, is printed on a linen-like material.

77. A statistical survey of images in 531 inventories made between 1530 and 1553 and 1600 and 1611, drawn from ASV GdP and ASV MND, shows a total of 115 maps and 63 family portraits.

78. Giulio Mancini, *Considerazioni sulla pittura* (Rome: Accademia nazionale dei Lincei, 1956), 143: "per i paesaggi e cosmografie si metteranno nelle gallarie e dove puol andar ognuno."

79. Richard C. Trexler, *Public Life in Renaissance Florence* (New York: Academic Press, 1980), 85–86.

80. Ibid., 67. Trexler also explores the activation of images, as in the act of suppli-

cation when "a practical identity existed between Mary and image"; the relationship between viewer and image thus created an animated view of the image.

81. Lydecker, "The Domestic Setting of the Arts in Renaissance Florence," 62. This inventory was made at the death of Giovanni de'Medici in 1418.

82. Ibid., 109; the inventory was made after Pandolfini's death in 1503.

83. States also understood the power of maps as public objects, as indicated by the numerous mural maps commissioned during the sixteenth century. While these civic murals have usually been interpreted as evidence of the imperial, land-claiming nature of maps, they also point to the symbolic and cultural messages in maps. For examples, see Fiorani, *The Marvel of Maps*; and "Cycles of Painted Maps in the Renaissance," in *The History of Cartography, Volume 3: Cartography in the European Renaissance*, ed. David Woodward (Chicago: University of Chicago Press, 2007).

84. Fiorani, "Cycles of Painted Maps in the Renaissance," 804. In two works, *The Marvel of Maps* and "Cycles of Painted Maps in the Renaissance," Fiorani unravels the symbolic and practical uses of maps, which both allowed rulers to visualize their dominion and served administrative purposes.

85. Fiorani, "Cycles of Painted Maps in the Renaissance," 813.

86. John Dee's preface to Euclid's *Elements of Geometrie*, cited in Kagan and Schmidt, "Maps and the Early Modern State," 677–78.

87. Sir Thomas Elyot, *Book Named the Governor*, 35, cited in Kagan and Schmidt, "Maps and the Early Modern State," 678.

88. Giorgio Vasari, "Ragionamento quarto," in *Le opere di Giorgio Vasari*, ed. Gaetano Milanesi (Florence: Sansoni, 1878–1885), 8:174.

89. Ptolemy, *Ptolemy's Geography: An Annotated Translation of the Theoretical Chapters*, trans. J. Lennart Berggren and Alexander Jones (Princeton: Princeton University Press, 2000), 57, 59.

CHAPTER 1

1. For more on Ptolemy, see Germaine Aujac, "Continuità delle teorie tolemaiche nel medioevo e nel rinascimento," in *Cristoforo Colombo e l'apertura degli spazi: Mostra storico-cartografica*, ed. Guglielmo Cavallo (Rome: Istituto Poligrafico e Zecca dello Stato, Libreria dello Stato, 1992); Patrick Gautier Dalché, *La Géographie de Ptolémée en Occident (IVe-XVIe siècle)* (Turnhout, Belgium: Brepols, 2009); Patrick Gautier Dalché, "The Reception of Ptolemy's *Geography* (End of the Fourteen to Beginning of the Sixteenth Century)," in *The History of Cartography, Volume 3: Cartography in the European Renaissance*, ed. David Woodward (Chicago: University of Chicago Press, 2007); John F. Moffitt, "Medieval Mappaemundi and Ptolemy's Chorographia;" *Gesta* 32, no. 1(1993); and Ptolemy, *Ptolemy's Geography*. On printing, see Dario Del Puppo, "All the World is a Book: Italian Renaissance Printing in a Global Perspective," *Textual Cultures* 6, no. 2 (2011); Boureau and Chartier, *The Culture of Print*; Eisenstein, *The Printing Press as an Agent of Change*; Johns, *The Nature of the Book*; and Richardson, *Printing, Writers and Readers*. On cartography and printing, see David Woodward, *Five Centuries of Map Printing*; (Chicago: University of Chicago Press, 1975); Armstrong, "Benedetto Bordon"; Con-

sagra, "The De Rossi Family Print Publishing Shop"; David Landau and Peter W. Parshall, *The Renaissance Print: 1470–1550* (New Haven: Yale University Press, 1994); Rodney W. Shirley, *The Mapping of the World: Early Printed World Maps, 1472–1700* (London: Holland Press, 1983); Woodward, *Maps as Prints*; and Woodward, "Paolo Forlani: Compiler, Engraver, Printer, or Publisher?" Both Patrick Gautier Dalché and Nathalie Bouloux argue that elite understandings of geography and cartography were changing long before the later fifteenth century; Gautier Dalché notes that Ptolemy's *Geography* was not "rediscovered" in the fifteenth century as it was discussed by a number of major thinkers before this date, and Bouloux argues that the fourteenth century represented a turning point in humanist understandings of space and the world. See Gautier Dalché, *La Géographie de Ptolémée*, especially 7–10; and Bouloux, *Culture et savoirs géographiques en Italie au XIVe siècle* (Turnhout, Belgium: Brepols, 2002), especially 202–17.

2. On the translation and spread of Ptolemy's *Geography*, see Gautier Dalché, "The Reception of Ptolemy's *Geography*," 287–317; Gautier Dalché also includes an excellent appendix of printed editions as appendix 9.1, pages 361–64.

3. Karrow, "Centers of Map Publishing in Europe," 621.

4. As Felipe Fernandez-Armesto points out, "the connection between mapping and exploration is not nearly as close or direct as a mind informed by more recent practice might expect." This was in part because explorers rarely used maps and even less frequently made maps (Fernandez-Armesto, "Maps and Exploration in the Sixteenth and Early Seventeenth Centuries," in *The History of Cartography, Volume 3: Cartography in the European Renaissance*, ed. David Woodward [Chicago: University of Chicago Press, 2007], 738). For more on the technical side of exploration, see Carlo Maccagni, "Le matematiche, l'astronomia e le loro applicazioni all'epoca delle grandi scoperte," in *Cristoforo Colombo e l'apertura degli spazi: Mostra storico-cartografica*, ed. Guglielmo Cavallo (Rome: Istituto Poligrafico e Zecca dello Stato, Libreria dello Stato, 1992).

5. Numa Broc has suggested that Renaissance maps were a synthesis of pre-existing documents, namely cadastral, itinerary, and Ptolemaic maps. While Broc rightly emphasizes the high degree of continuity between medieval and Renaissance maps, the visual transformation of maps discussed in this chapter goes beyond synthesis to the creation of a dramatically different view of space. See Broc, *La géographie de la Renaissance (1420–1620)* (Paris: Bibliothèque Nationale, 1980), 121.

6. The teleological trend in the history of cartography has been abandoned by most historians, but for examples that tread into this territory, see Leo Bagrow, *History of Cartography*, trans. D. L. Paisey (Cambridge: Harvard University Press, 1964); and Chandra Mukerji, *From Graven Images: Patterns of Modern Materialism* (New York: Columbia University Press, 1983). For an argument for the decrease of symbolism, also see Juergen Schulz, "Jacopo de' Barbari's View of Venice: Map Making, City Views, and Moralized Geography Before the Year 1500," *Art Bulletin* 60, no. 3 (1978): 467–72.

7. As Gautier Dalché argues, Ptolemy's influence was felt long before the early fifteenth-century translation of his works into Latin; however, Ptolemy's reach certainly expanded in the fifteenth and sixteenth centuries. See Gautier Dalché, *La Géographie de Ptolémée*, especially 7–10.

8. Angelo Cattaneo, *Fra Mauro's Mappa Mundi and Fifteenth-Century Venice* (Turnhout, Belgium: Brepols, 2011), 69.

9. For example, John Goldsmith Phillips catalogued the stylistic resemblance between the landscape of a map of Florence and a print of the Assumption to argue that both works were produced by the same engraver, Francesco Rosselli. See Phillips, *Early Florentine Designers and Engravers: Maso Finiguerra, Antonio Pollaiuolo, Baccio Baldini, Sandro Botticelli, Francesco Rosselli.* (Cambridge: Harvard University Press, 1955), 72–73.

10. A letter from Aretino to the painter Francesco Salviati in August 1545 captures the wonder of admiring prints, as Aretino praised "the excellence of the novelty" in Salviati's *Conversion of St. Paul*, rendered by Enea Vico (Landau and Parshall, *The Renaissance Print*, 293–94). For further examples, see Maria Ruvoldt on the *studiolo* and the collection of "books, treasures and wonders" (644), in "Sacred to Secular, East to West: The Renaissance Study and Strategies of Display," *Renaissance Studies* 20, no. 5 (2006): 640–44; and Woodward on "the magic of capturing the world as a single ordered image," in *Maps as Prints*, 78. On the cognitive changes of this shift, see David R. Olson, *The World on Paper: The Conceptual Cognitive Implications of Writing and Reading* (Cambridge: Cambridge University Press, 1994), 195–233.

11. An excellent example is the *guardaroba nuova* kept by Cosimo I (1519–1574), where his prized material possessions were stored in cabinets covered with maps (Fiorani, *The Marvel of Maps*, 17–32). Paula Findlen also frames the Renaissance as "a world that measured social worth in terms of material objects and their display," making collecting a major avenue for social advancement (Findlen, *Possessing Nature*, 99). For an introduction to material culture and consumerism in the Italian Renaissance, see Findlen, "Possessing the Past," 83–114. For more on cabinets of curiosity, see Patricia Falguière, *Les chambres des merveilles* (Paris: Bayard, 2003).

12. Ago, *Gusto for Things*, 130.

13. See Woodward, *Maps as Prints*, especially 75–102.

14. For a brief discussion of the woodcut's authorship, see Schulz, "Jacopo de' Barbari's View of Venice," 425–26.

15. Ibid., 426.

16. Ibid., 427.

17. Brotton mentions the portrait as an example of interest in geometry and its connection with exploration; see Jerry Brotton, *The Renaissance Bazaar: From the Silk Road to Michelangelo* (Oxford: Oxford University Press, 2002), 190–92.

18. De'Barbari's association with Kolb may indicate that he was having trouble finding aristocratic patrons. His map, an enormous investment of time and money, had no certain payoff as it was produced not for a prepaid patron but for public sale.

19. Schulz reproduces the application in his appendix in Schulz, "Jacopo de' Barbari's View of Venice," 473: "senza datio et senza Impedimento."

20. James Akerman, Robert Karrow, and David Buisseret, *Two by Two: Twenty-Two Pairs of Maps from the Newberry Library Illustrating 500 Years of Western Cartographic History* (Chicago: The Newberry Library, 1993), 6; Schulz, "Jacopo de' Barbari's View of Venice," 425.

21. Armstrong, "Benedetto Bordon," 73; Phillips, *Early Florentine Designers and Engravers*, 68–75; Suzann Boorsch, "The Case for Francesco Rosselli as the Engraver of Berlinghieri's *Geographia*," *Imago Mundi* 56, no. 2 (2004): 152–66.

22. Giorgio Vasari, *The Lives of the Artists*, trans. George Bull (Baltimore: Penguin Books, 1965), 227.

23. Phillips, *Early Florentine Designers and Engravers*, 72–73.

24. For an overview, see Woodward, "The Italian Map Trade," 779–91.

25. Witcombe, *Copyright in the Renaissance*, 247.

26. Eugenia Bevilacqua, "Geografi e Cosmografi," in *Storia della cultura Veneta, Volume 3: Dal primo Quattrocento al Concilio di Trento*, ed. Girolamo Amaldi and Manlio Pastore Stocchi (Vicenza: Neri Pozza, 1980), 366–68; Kagan and Schmidt, "Maps and the Early Modern State," 666; Bagrow, *History of Cartography*, 137. For more on Gastaldi, see Bevilacqua, "Geografi e Cosmografi," 365–68.

27. Witcombe, *Copyright in the Renaissance*, 251.

28. ASV Senato Terra 46, 1567 Dec. 5, fol. 10, cited in Woodward, *Maps as Prints*, 68. Also mentioned in Bevilacqua, "Geografi e Cosmografi," 365.

29. Woodward, *Maps as Prints*, 67.

30. In fact, based on his sketches it seems da Vinci undertook a laborious process of pacing out the lengths of every block by foot. See Martin Kemp, *Leonardo da Vinci: The Marvellous Works of Nature and Man* (Oxford: Oxford University Press, 2007), 219–22.

31. Hilary Ballon and David Friedman, "Portraying the City in Early Modern Europe: Measurement, Representation, and Planning," in *The History of Cartography, Volume 3: Cartography in the European Renaissance*, ed. David Woodward (Chicago: University of Chicago Press, 2007), 683.

32. John Snyder, *Flattening the Earth: Two Thousand Years of Map Projections* (Chicago: University of Chicago Press, 1993), 40.

33. Leonardo was not the only artist who made maps. Albrecht Dürer produced several celestial maps, and Raphael described the technique of triangulation that would allow him to reconstruct a map of ancient Rome.

34. John T. Paoletti and Gary M. Radke, *Art in Renaissance Italy*, 3rd ed. (Upper Saddle River, NJ: Prentice Hall, 2006), 379.

35. Giacomo Gastaldi, *La universale descrittione del mondo* (Venice: Francesco di Salò, 1565), 2: "ville, fiumi, torrenti, rivoli, canali boschi, monti, valle fra monti, campagni, passi, et confini, Mari, Golfi, porti, capi, ponti, starie, sacche, scogli, seche, et altre particolarita."

36. Cited in Michael Baxandall, *Painting and Experience in Fifteenth-Century Italy: A Primer in the Social History of Pictorial Style* (Oxford: Oxford University Press, 1988), 17–18.

37. Ptolemy, *Ptolemy's Geography*, 57.

38. Ibid.

39. Ibid., 58.

40. "Questa descrittione in generale: cosi del Cielo, come della Terra et Mare; gli antiqui la chiamarono Cosmographia. Altri descrissero piu particolarmente le parti della terra, et Mare, con le divisioni delle Provincie Regni, Regioni, et descrissero le Citta, Castelli, Monti, Fiumi, Laghi, Mari, Golfi, Porti, Capi, et Isole, et tal descrittione la chiamarono Geographia." Gastaldi, *La universale descrittione del mondo*, 2.

41. "Altri poi hanno descritto piu minutamente le parti di essa terra, et mare, come e le carte dal navicare, et la descrittione particolar del territori delle citta, con le strade, cas-

telli, et ville, fiumi, torrenti, rivoli, canali boschi, monti, valle fra monti, campagni, passi, et confini, Mari, Golfi, porti, capi, ponti, starie, sacche, scogli, seche, et altre particolarita. Questa tal descrittione la chia- [3] marono Corographia. E la descrittione anchora piu particolare d'un sito, d'una fortezza, e la pianta di essa fortezza, et possessioni de particolari, e case, palazzi, et altre simil cose adimandarono Topographia." Ibid.

42. Ptolemy, *Ptolemy's Geography*, 92.

43. Ibid., 88.

44. "E benche sia cosa difficile a tutti i Mathematici, et a me impossibile, che si possi ridurre un corpo spherico perfetto, in una forma piana, che sia similmente perfetta." Gastaldi, *La universale descrittione del mondo*, 3.

45. De Chaves, *Espejo de Navegantes*, 110, translated and cited in Sandman, "Mirroring the World," 92.

46. Schulz, "Jacopo de' Barbari's View of Venice," 442.

47. Ibid., 441. Problematically, this definition implies that maps based on survey data or other nonimaginative sources were not works of art. Yet clearly Schulz felt it was necessary to justify examining this map as an art object. Schulz's goal of analyzing maps as images was an important historiographical shift and serves as a reminder that the cultural history of cartography is still a relatively new field.

48. Another theoretical approach to the problem of categorizing maps has been the materialist stance. Christian Jacob, for instance, proposed a map-centered analysis of cartography in *The Sovereign Map*, recommending "studying the map as an image" with the same techniques as "every other visual mechanism." He termed this an "aesthetic" approach to maps and advocated for a focus on the "phenomenology of cartographic perception" by examining how a map constructs and directs the viewer's gaze. This approach, while useful for broadening the application of maps as historical documents, can frame the maps as largely divorced from their historical context. Jacobs historicized his approach by treating the map as an object that draws on graphic codes shared by producers and viewers of cartographic images, but specific producers or viewers rarely enter the story. The uses of such maps are not Jacob's main concern; in his conception the map as an image controlled its viewers rather than the other way around—maps use codes to direct viewers on how to read them. Ownership of a map is not a public statement in Jacob's conception but rather a private discourse between viewer and image where the map directs the gaze. This object-centered approach means that Jacob does not focus on the relationship between the mapmaker and his audience, or even the mapmaker and his map. The focus is always on the map and its viewer. See Jacob, *The Sovereign Map: Theoretical Approaches in Cartography throughout History*, trans. Edward H. Dahl (Chicago: University of Chicago Press, 2006), 103–5.

49. For more, see Samuel Y. Edgerton, *The Renaissance Rediscovery of Linear Perspective* (New York: Basic Books, 1975); Martin Kemp, *The Science of Art: Optical Themes in Western Art from Brunelleschi to Seurat* (New Haven: Yale University Press, 1990); John F. Moffitt, *Painterly Perspective and Piety: Religious Uses of the Vanishing Point from the 15th to the 18th Century* (Jefferson, NC: McFarland, 2008); and Pamela H. Smith, "Art, Science, and Visual Culture in Early Modern Europe," *Isis* 91, no. 1 (2006).

50. Historians have begun to analyze the symbolic power of accurate maps. Two central examples are David Friedman's analysis of an early sixteenth-century view of

Florence and Deborah Howard's assessment of de'Barbari's map of Venice. In both cases, these authors demonstrate that accurate maps could, and did, hold multiple symbolic and political messages about the cities they portrayed. Friedman shows how the 1510 update of Francesco Rosselli's earlier map of Florence contains a subtle critique of Medici power, while Howard shows that minor distortions in de'Barbari's shape of Venice were intentional, meant to portray the city like a dolphin. See David Friedman, "'Fiorenza': Geography and Represention in a Fifteenth Century City View," *Zeitschrift fur Kunstgeschichte* 64, no. 1 (2001); and Deborah Howard, "Venice as a Dolphin: Further Investigations into Jacopo de' Barbari's View," *Artibus et Historiae* 18, no. 35 (1997).

51. For an overview of medieval maps, see Marcia Kupfer, "Medieval World Maps: Embedded Images, Interpretive Frames," *Word and Image* 10, no. 3 (1994); Victoria Morse, "The Role of Maps in Later Medieval Society, Twelfth to Fourteenth Centuries," in *The History of Cartography, Volume 3: Cartography in the European Renaissance*, ed. David Woodward (Chicago: University of Chicago Press, 2007); and David Woodward, "Medieval *Mappaemundi*," in *The History of Cartography, Volume 1: Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean*, ed. J. B. Harley and David Woodward (Chicago: University of Chicago Press, 1987).

52. Kupfer, "Medieval World Maps," 275–76. Also see Kupfer, "The Lost Wheel Map of Ambrogio Lorenzetti," *Art Bulletin* 78, no. 2 (1996): 301–3, where she discusses the placement of a world map in Siena's Palazzo Pubblico opposite Simone Martini's *Maestà*, exploring the implications of pairing religious and cartographic images.

53. For more, see Joseph Polzer, "Ambrogio Lorenzetti's 'War and Peace' Murals Revisited: Contributions to the meaning of the 'Good Government Allegory,'" *Artibus et Historiae* 23, no. 45 (2002). On Lorenzetti's other cartographic works, see Kupfer, "The Lost Wheel Map of Ambrogio Lorenzetti," 286–310.

54. See Evelyn Edson, *Mapping Time and Space: How Medieval Mapmakers Viewed Their World* (London: British Library, 1997), 138–39.

55. For an assessment of marine and sea charts in the thirteenth and fourteenth centuries, see Evelyn Edson, *The World Map, 1300–1492: The Persistence of Tradition and Transformation* (Baltimore: Johns Hopkins University Press, 2007), 33–89; and Tony Campbell, "Portolan Charts from the Late Thirteenth Century to 1500," in *The History of Cartography, Volume 1: Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean*, ed. J. B. Harley and David Woodward (Chicago: University of Chicago Press, 1987), 371–463. On the sixteenth-century production of nautical charts, see Corradino Astengo, "The Renaissance Chart Tradition in the Mediterranean," in *The History of Cartography, Volume 3: Cartography in the European Renaissance*, ed. David Woodward (Chicago: University of Chicago Press, 2007) 174–237.

56. Campbell, "Portolan Charts," 446.

57. Edward S. Casey, *Representing Place: Landscape Painting and Maps* (Minneapolis: University of Minnesota Press, 2002), 175–93.

58. On the Catalan Atlas, see Edson, *The World Map*, 74–88; and Jean Michel Massing, "Observations and Beliefs: The World of the Catalan Atlas," in *Circa 1492: Art in the Age of Exploration*, ed. Jay A. Levenson (New Haven: Yale University Press, 1991), 27–33. This style of map continued into the sixteenth century. For more, see Helen Wallis, "Sixteenth-Century Maritime Manuscript Atlases," in *Images of the World: The Atlas*

Through History, ed. John A. Wolter and Ronald E. Grim (Washington, DC: Library of Congress, 1997), 3–29.

59. Suzanne Lewis, *The Art of Matthew Paris in the Chronica Majora* (Berkeley: University of California Press, 1987), 326–32.

60. Morse, "The Role of Maps in Later Medieval Society," 44.

61. For an overview, see Naomi Miller, "Mapping the City: Ptolemy's *Geography* in the Renaissance," in *Envisioning the City: Six Studies in Urban Cartography*, ed. David Buisseret (Chicago: University of Chicago Press, 1998), 84–128.

62. Kupfer, "Medieval World Maps," 277–79.

63. While Gautier Dalché cautions that Ptolemy's theoretical views on geography were discussed by a number of important thinkers before the translation of *Geography* in the early fifteenth century, very few maps used Ptolemy's latitude and longitude before the fifteenth century, when they became increasingly common. See Gautier Dalché, *La Géographie de Ptolémée*, 7–10.

64. Edgerton, "From Mental Matrix to Mappaemundi," 36.

65. Miller, "Mapping the City," 39.

66. Edgerton, *The Renaissance Rediscovery of Linear Perspective*, 98.

67. Gautier Dalché, "The Reception of Ptolemy's *Geography*," 299, 309–19.

68. See appendix 9.1 in Gautier Dalché, "The Reception of Ptolemy's *Geography*," 361–64.

69. "HIERUSALEN è in mezo de la terra habitabile secondo la latitudine de la terra habitabile, benchè secondo la longetudine la sia più occidential, ma perchè la parte ch'è più occidental è più habitada per l'europa perhò l'è in mezo ancora secondo la longitudine, non considerando el spatio de la terra ma la moltitudine di habitanti." Piero Falchetta, *Fra Mauro's World Map: With a Commentary and Translations of the Inscriptions* (Turnhout, Belgium: Brepols, 2006), 381n1011. Translation is by Falchetta.

70. "Benchè io habi servato ogni diligencia in meter le staree de questo mar secondo la più iusta carta ho possudo, non dimen queli che sono experti non faça gran caso se io me discordo in qual cossa, perochè non è possibile meter tuto a ponto." Ibid., 413n1188.

71. Woodward, "Cartography and the Renaissance: Continuity and Change," in *The History of Cartography, Volume 3: Cartography in the European Renaissance*, ed. David Woodward (Chicago: University of Chicago Press, 2007), 13. See also Edgerton, "From Mental Matrix to Mappaemundi."

72. The earliest examples of conic and oval world maps were designed by Francesco Rosselli in 1506 and 1508, respectively. The cordiform projection was introduced by Johann Werner in 1514 and popularized by Peter Apianus's 1520 map. Ortelius's *Typus Orbis Terrarum* (1570) represents one of the earliest printed atlases and publicized the oval projection. Mercator introduced his mathematically-based projection in 1569; it remains to this day one of the most popular projections for world maps. For an overview of these sixteenth-century projections, see John Goss, *The Mapmaker's Art: A History of Cartography* (London: Studio Editions, 2003); Shirley, *The Mapping of the World*; and Peter Whitfield, *The Image of the World: 20 Centuries of World Maps* (London: British Museum, 1994).

73. Tom Conley argues in *The Self-Made Map: Cartographic Writing in Early Modern France* (Minneapolis: University of Minnesota Press, 1996), 124, that these bare-bottomed

figures, along with the partially bare women, are Cimerlino's attempt to sexualize the world, mirroring the curve of breast and buttock in the earth's shape.

74. Cattaneo, *Fra Mauro's Mappa Mundi*, 69. Also see Massimo Quaini, "L'eta dell'evidenza cartografica: Una nuova visione del mondo fra Cinquecento e Seicento," in *Cristoforo Colombo e l'apertura degli spazi: Mostra storico-cartografica*, ed. Guglielmo Cavallo (Rome: Istituto Poligrafico e Zecca dello Stato, Libreria dello Stato, 1992) on the mixture of medieval and Renaissance geography in the cartographic career of Christopher Columbus. Numa Broc has likewise emphasized this continuity, suggesting that Renaissance maps were a synthesis of pre-existing documents, namely cadastral, itinerary, and Ptolemaic maps. See Broc, *La géographie de la Renaissance*, 121.)

75. For an overview, see Ballon and Friedman, "Portraying the City," 680–705. Also see David Buisseret, ed., *Envisioning the City: Six Studies in Urban Cartography* (Chicago: University of Chicago Press, 1998); Thomas Frangenberg, "Chorographies of Florence: The Use of City Views and City Plans in the Sixteenth Century,"*Imago Mundi* 46 (1994); Friedman, "'Fiorenza'"; and Miller, *Mapping the City*, 3.

76. Friedman, "'Fiorenza,'" 58. Art historian Juergen Schulz saw more continuity between the profile and bird's-eye projections. He claimed that both the profile and the early bird's-eye maps were "'moralized' city views," which were "conceived as illustrations of topical events or abstract ideas." To Schulz, these maps served the same function, for both moralized space. It was not until the 1540s, according to Schulz, that prints "were published for no reason other than to represent a faithful likeness of the subject city." See Schulz, "Jacopo de' Barbari's View of Venice," 468.

77. Jacob, *The Sovereign Map*, 121.

78. Ibid., 103–87; Kemp, *The Science of Art*, 9–52; and Smith, "Art, Science, and Visual Culture," especially 85–89.

79. Schulz, for example, claims that de'Barbari may have used surveying techniques, while Howard, Ballon, and Friedman argue against. See Schulz, "Jacopo de' Barbari's View of Venice," 428; Howard, "Venice as a Dolphin," 103–6; and Ballon and Friedman, "Portraying the City," 688.

80. Bronwen Wilson, *The World in Venice: Print, the City, and Early Modern Identity* (Toronto: University of Toronto Press, 2005), 42.

81. For more on this map, see Frangenberg, "Chorographies of Florence"; Friedman, "'Fiorenza'"; and Miller, *Mapping the City*, 189–91.

82. As J. B. Harley argues, all maps are in some way a work of fiction, for all leave out information and highlight other information. See Harley, *The New Nature of Maps*, especially 84–107.

83. This subject has received a great deal of scholarly attention. For examples, see Baxandall, *Painting and Experience*; James Elkins and Robert Williams, *Renaissance Theory* (New York: Routledge, 2008); Rona Goffen, *Renaissance Rivals: Michelangelo, Leonardo, Raphael, Titian* (New Haven: Yale University Press, 2002); and Claudia Swan, "*Ad vivum, naer het Leven*, from the Life: Defining a Mode of Representation," *Word and Image* 11, no. 4 (1995).

84. Benvenuto Cellini, *The Autobiography of Benvenuto Cellini*, trans. George Bull (New York, Penguin Books, 1998), 320.

85. On this point, Jessica Maier has recently demonstrated the many connections

between portraits of cities and of individuals, noting that both demanded a blending of physical form with symbolic meaning. See Maier, "A 'True Likeness': The Renaissance City Portrait," *Renaissance Quarterly* 65, no. 3 (2012): 711–52.

86. Vincenzo Danti, *Trattato delle perfette proporzioni di tutte le cose che imitare e ritrarre si possano* (Florence, 1567). Also discussed in Swan, "*Ad vivum*," 355; and Maier, "A 'True Likeness,'" 713.

87. For example, see Swan "*Ad vivum*," 353–72; and Smith, "Art, Science, and Visual Culture," 83–100.

88. "Al nostro iudicio elegantissima et engeniosa, sebben troppo et fori della verita excede in laudarmi et perche il vulgar proverbio e: 'so che tu non dici il vero, pur mi piace.'" Bernardo Morsolin, *Giangiorgio Trissino: Monografia d'un gentiluomo letterato nel secolo XVI*, 2nd ed. (Florence: 1894), 392. Also cited in Maier, "A 'True Likeness,'" 714. Maier notes that the portrait in question was Trissino's *Ritratti* (Rome, 1524).

89. For more on Aldrovandi, see Findlen, *Possessing Nature*, 17–31.

90. Danti, *Trattato delle perfette proporzioni*, cited in Swan, "*Ad vivum*," 359.

91. Ballon and Friedman, "Portraying the City," 688.

92. Giuniano Maio, "On Majesty," in *Cambridge Translations of Renaissance Philosophical Texts*, ed. Jill Kraye, trans. Nicholas Webb (Cambridge: Cambridge University Press, 1997), 111.

93. Cited in Baxandall, *Painting and Experience*, 34.

94. Ballon and Friedman, "Portraying the City," 690.

95. "Io non credo derogar a Tolomeo se io non seguito la sua cosmographia, perché se havesse voluto observar i sui meridiani over paralleli over gradi era necessario quanto a la demonstration de le parte note de questa circumferentia lassar molte provincie de le qual Tolomeo non ne fa mention, ma per tuto maxime in latitudine çoè tra ostro e tramontana dice terra incognita, e questo perché al suo tempo non li era nota." Falchetta, *Fra Mauro's World Map*, 711n2892.

CHAPTER 2

1. Goldthwaite, *Wealth and the Demand for Art in Italy*, 1–8. The recent *The Material Renaissance*, edited by O'Malley and Welch, is dedicated to testing Goldthwaite's hypothesis, concluding that social relationships were central to Renaissance consumption.

2. "In laudem magistri Francisci florentini cosmographi / Orbem terrarum Francisci hoc rito Roselli / docta fluentini pinxit in orbe manus / lusitana recens inventaque ibera secutus / cosmographis que adhibens te Ptholomei notus." Anonymous engraving, 1530, Morelli, MS Catalogo dei manoscritti contariniani riservato della marciana, CXXXI, fol. 402: a collection of epigrams and Latin verses in the hand of Marino Sanuto (Venice, Biblioteca Nazionale Marciana, Sanuto MS XII, 210, f. 86.), cited in Armstrong, "Benedetto Bordon," 88n59.

3. Armstrong, "Benedetto Bordon," 73–74. Also see Phillips, *Early Florentine Designers and Engravers*, 68–75.

4. Boorsch, "The Case for Francesco Rosselli." For more on the significance of Berlinghieri's translation, see Sean Roberts, *Printing a Mediterranean World: Florence, Con-*

stantinople, and the Renaissance of Geography (Cambridge: Harvard University Press, 2013), especially 54–88.

5. Rosselli apparently illustrated a copy of Ptolemy's *Geography* for Corvinus, which included a portrait of Ptolemy. See Marica Milanesi, "Testi geografici antichi in manoscritti miniati del XV secolo," in *Relazioni di viaggio e conoscenza del mondo tra Medio Evo e Rinascimento* (Genova: Università di Genova, 1993), 344; and Ptolemy, *Ptolomei Alexandrini viri clarissimi geographiae* (Florence: Appresso Jacopo d'Angelo, 1475–80).

6. Landau and Parshall, *The Renaissance Print*, 73.

7. Ibid., 72–73.

8. Ibid., 73–75.

9. Almagia claims that Rosselli opened his shop at this point: "Before 1489 he returned to Florence and in his house at the Costa San Giorgio opened a workshop for the woodcutting and engraving of maps, mappemondes and various representations" (Almagia, "On the Cartographic Work of Francesco Rosselli," 27, citing Heinrich Brockhaus, "Die grosse alte Ansicht von Florenz," *Mitteilungen des Kunsthistorischen Institutes in Florenz* 1, no. 2, 61–65). Landau and Parshall also claim that at this point Rosselli "was able to buy a new house with a workshop" (*The Renaissance Print*, 73).

10. ASF MdP b. 190, no. 52, 1527 Feb. 14, fols. 394r–395v. Also reproduced in Phillips, *Early Florentine Designers and Engravers*, 73–74; Giuseppe Boffito and Attilio Mori, *Piante e vedute di Firenze: Studio storico topografico cartografico* (Rome: Multigrafica, 1973), 146–50. A description of the document can also be found in Sebastiano Gentile, *Firenze e la scoperta dell'America: Umanesimo e geografia nell'400 fiorentino* (Florence: Biblioteca Medicea Laurenziana, 1992–93), 247–50.

11. For more on this map, see Gentile, *Firenze e la scoperta dell'America*, 243–246.

12. As Numa Broc has argued, Renaissance maps were characterized by the fusion of the nautical style with the learned style adapted from classical traditions. Rosselli's blending of the Ptolemaic and portolan in his 1492 map is emblematic of this process. See Broc, *La géographie de la Renaissance*, 45.

13. In Latin, it reads "huc usque adul / tima(m) colupna(m) p(er)ue / neru(n)t nautes lusitani / 1488."

14. Almagia, "On the Cartographic Work of Francesco Rosselli," 32.

15. Arthur Davies, "Behaim, Martellus, and Columbus," *The Geographical Journal* 143, no. 3 (1977): 451.

16. Armstrong, "Benedetto Bordon," 76.

17. Almagia, "On the Cartographic Work of Francesco Rosselli," 115–16.

18. For more on Rosselli's various approaches to mapping the world, including his earlier 1492 map, see Ilaria Luzzana Caraci, "L'America e la cartografia: nascita di un continente," in *Cristoforo Colombo e l'apertura degli spazi: Mostra storico-cartografica*, ed. Guglielmo Cavallo (Rome: Istituto Poligrafico e Zecca dello Stato, Libreria dello Stato, 1992), 604–6.

19. On Contarini, see Armstrong, "Benedetto Bordon," 76.

20. Delano-Smith, "The Map as Commodity," 91–109.

21. Euclid, *Opera*, ed. Luca Pacioli (Venice: Paganinus de Paganinis, 1509), fol. 31, cited in Armstrong, "Benedetto Bordon," 74n62. Jacopo de'Barbari also knew Luca Pacioli, having painted a portrait of the mathematician with his tools some time around 1500.

22. Frank Lestringant, *Mapping the Renaissance World: The Geographical Imagination in the Age of Discovery* (Berkeley: University of California Press, 1994), 112.

23. Mario Biagioli, *Galileo, Courtier: The Practice of Science in the Culture of Absolutism* (Chicago: University of Chicago Press, 1993), 18.

24. National Maritime Museum, Greenwich (G.201: 1/5 A).

25. Ibid.; Biblioteca Nazionale Centrale, Florence (Landau Finaly, Carte Rosselli, c. 1); Ratsschulbibliothek, Zwickau (no identifying number); the final known copy is privately owned by Arthur Holzheimer. On the recently discovered Zwickau version, see Van Duzer, "A Newly Discovered Fourth Exemplar."

26. ASF MdP 190, no. 52, 14 Feb 1527, "20 appamondi picholi dipinti in tela." Although the maps are described as *dipinti*, or painted, it is possible that the notaries used the term also to mean printed, or that this group of maps was sold with color added.

27. William Mills Ivins, *Prints and Visual Communication* (Cambridge: Harvard University Press, 1953), 3.

28. Eisenstein, *The Printing Press as an Agent of Change*, 53. For a brief overview of approaches to printing and cartography see Woodward, "Cartography and the Renaissance," 20–22.

29. Johns, *The Nature of the Book*, 8–40.

30. Chandra Mukerji has also revised the assessment of the impact of printing on cartography. See Mukerji, "Printing, Cartography and Conceptions of Place in Renaissance Europe," *Media, Culture & Society* 28, no. 5 (2006), especially 651–55.

31. Paolo Forlani, "Universale Descrittione di Tutta la Terra Conosciuta Fin Qui," 1562 (Tooley 9, Woodward 9.01); 1564 (not in Tooley, Woodward 09.02); 1574 (Tooley 17, Woodward 9.03). Maps will be listed by maker, title, and date, followed by the assigned number in R. V. Tooley, "Maps in Italian Atlases of the Sixteenth Century, Being a Comparative List of the Italian Maps Issued by Lafreri, Forlani, Duchetti, Bertelli, and Others, Found in Atlases," *Imago Mundi* 3 (1939); and in David Woodward, *The Maps and Prints of Paolo Forlani: A Descriptive Bibliography* (Chicago: The Newberry Library, 1990).

32. Almagia, "On the Cartographic Work of Francesco Rosselli," 29.

33. Forlani, "Della Italia la uera, et ultima descriptione riformata, et in molti luogi diligentemente ricoretta, et ampliata," 1561 (Tooley 329, Woodward 6).

34. These maps are recorded as 35.01, 35.02, 35.03, and 35.04 in Woodward's *The Maps and Prints of Paolo Forlani*.

35. Ibid., 35.05, 35.06, and 35.07.

36. This example also hints at the life cycle of an engraved plate, which might be used for decades and change hands between different owners, who wanted the plate stamped with their names.

37. Benedetto Bordone, *Libro di Benedetto Bordone, nel qual si ragiona de tuttle l'Isole del mondo con li lor nomi antichi & moderni, historie, favole, & modi del loro vivere, & in qual parte del mare stanno, & in qual parallelo & clima giacciono* (Venice, 1528).

38. For example, the inventory lists "a colored navigation chart in vellum" and "Constantinople in cloth, colored and printed by the minor," presumably referring to Alessandro's son Lorenzo. See ASF MdP b. 190, no. 52, 1527 Feb. 14, fol. 393r.

39. The heaviest paint is on the copy at the National Maritime Museum, Greenwich (G.201: 1/5 A).

40. Woodward, "Techniques of Map Engraving," 610.

41. Fernandez-Armesto, "Maps and Exploration," 754–55.

42. Ibid, 756.

43. For more on mapmakers and exploration, see Fernandez-Armesto, "Maps and Exploration," 738–46.

44. David Woodward, "Techniques of Map Engraving, Printing, and Coloring in the European Renaissance," in *The History of Cartography, Volume 3: Cartography in the European Renaissance*, ed. David Woodward (Chicago: University of Chicago Press, 2007), 610.

45. For example, see Mukerji, "Printing, Cartography and Conceptions of Place," 651–54. As Mukerji notes, cartography was affected by printing differently than other fields; for instance, though Johns argued that copied scientific works could pollute by altering original text, the same was not true for maps: "copying was also at the heart of good cartography rather than bad science" (652).

46. Woodward, "Techniques of Map Engraving," 609.

47. Marco Spallanzani and Giovanna Gaeta Bertelà, *Libro d'inventario dei beni di Lorenzo il Magnifico* (Florence: Associazione Amici del Bargello, 1992), 120n12. In 1512, when the inventory of Lorenzo's possessions was made, one florin was worth 7 *lire*, a conversion which held steady from 1502–1530, according to Goldthwaite (*The Building of Renaissance Florence*, 430).

48. "uno quadro di legno dipintovi la Spagna [12 florins]." Woodward, *Maps as Prints*, 120n12.

49. Brotton, *Trading Territories*, 39.

50. Woodward estimates that in seventeenth-century Rome the cost of engraving a plate would be around 40 *scudi*, including rent, taxes, copper, and salary for the artist and engraver. The manufacturing cost for producing 500 impressions from a plate would be 15 *scudi*, for a total of 55 *scudi* for 500 sheets of maps. At the end of the sixteenth century one *scudo* was approximately equivalent to a Florentine florin. Woodward, *Maps as Prints*, 52.

51. Woodward, "The Italian Map Trade," 795.

52. For examples, see Woodward, "The Italian Map Trade," 773–75, 779–91.

53. The date for the opening of Francesco's shop is unknown, as is Francesco's date of death, when his son took over the family business. Almagia dates the opening of the shop to approximately 1489, while Landau and Parshall date the shop's opening to sometime in the late 1480s or early 1490s. See Almagia, "On the Cartographic Work of Francesco Rosselli," 27, citing Brockhaus, "Die grosse alte Ansicht von Florenz," 61–65; Landau and Parshall, *The Renaissance Print*, 73. Rosselli likely died around 1513.

54. Another comparable inventory of a cartographic shop is not available until the later sixteenth century; these inventories were often in the form of catalogues intended to sell maps and thus did not list the engravings on hand at a shop.

55. ASF MdP b. 190, no. 52, 1527 (1528 in the Gregorian calendar) Feb. 14, fol. 393v lists "la palla d'appamondo grande per insengna," referring to the sign outside the shop.

56. These two copies are ASF MdP b. 189, no. 105, 1527 Feb. 20; and ASF MdP b. 190, no. 52, 1527 Feb. 14.

57. ASF MdP b. 190, no. 52, 1527 Feb. 14, fol. 393r. The conversion rate for Florence is 1 *lira* = 20 *soldi* = 240 *denari*.

58. Goldthwaite, *The Building of Renaissance Florence*, 437.

59. There is one case where the price in the later inventory is different. For the 305 royal-sized images after a Raphael design, the price was adjusted from 5 *soldi* 6 *denari* to 10 *soldi*, almost doubling their price. Landau and Parshall speculate that the adjustment was done in order to provide higher wages for the uncle of Alessandro's orphaned children, who was taking over the shop. The uncle was financially responsible for Alessandro's son Lorenzo, and thus the increased price was meant to offset the costs of supporting the youth. See Landau and Parshall, *The Renaissance Print*, 296.

60. ASF MdP b. 190, no. 52, 1527 Feb. 14, fols. 394v-395r.

61. Francesco Rosselli, [Untitled Map of France], 1500, singular copy held by the British Library, London.

62. "uno Firenze di sei foli reali." ASF MdP b. 190, no. 52, 1527 Feb. 14, fol. 395v.

63. "appamondo, da l'altro banda una Italia h'un folio reale;" "una forma de l'appamondo grande nuovo, lavor da ogni banda, di rame." Ibid., fol. 394v.

64. Woodward, "Techniques of Map Engraving," 594. It is tempting to speculate that Rosselli's travels in Hungary may have gained him connections for copper ore, but there is no evidence to support this theory.

65. Woodward, "Techniques of Map Engraving," 608; Woodward, *Maps as Prints*, 52. This estimation is based on the costs of a seventeenth-century printer in Rome; while the price of paper did decrease from the early sixteenth century, the estimate is broadly applicable to Rosselli's case and is our best approximation for sixteenth-century prices.

66. The assumption that the plates were twenty years old is based on the likelihood that these plates were engraved by Francesco Rosselli before his death around 1513.

67. "20 apamondi picholi dipinti in tela"; "19 fogli stanpati in tela cioe France." ASF MdP b. 190, no. 52, 1527 Feb. 14, fol. 393r.

68. The application to sell de'Barbari's map for 3 ducats is reproduced in an appendix to Schulz, "Jacopo de' Barbari's View of Venice," 473–74. A Venetian ducat was worth 6.2 *lire* in 1500, according to H. George Fletcher, *New Aldine Studies: Documentary Essays on the Life and Work of Aldus Manutius* (San Francisco: B. M. Rosenthal, INC., 1988), 90.

69. ASV GdP b. 340/5, no. 11, 1590 Oct. 4, fol. 1r, "uno napamondo con il teller, L. 1"; ASV MND b. 44 no. 10, 1599 Nov. 19, fol. 4r, "un quadro de Comosgrafia, ducato 1 denari—"; ASV GdP b. 341/6 no. 90, 1599 Dec. 17, fol. 1r, "Un quadretto in carta de cosmografia L 2 d 10."

70. ASV GdP b. 342/7, no. 12, 1599 Dec. 22–31, fol. 3r (missing first page), "una cosmografia L 2 d 14"; ASV MND b. 37 no. 63, 1546 Nov. 18, fol. 18r, "Il desegno del Castel de Milan in charta bona soldi 12."

71. ASV MND b. 37, no. 63, 1546 Nov. 18, fol. 13r, "Geographia in charta"; fol. 13v, "Tholomi Geographi in tabulis"; fol. 33r, "uno mappamondo de charta"; fol. 11r, "Plinio de natural historia"; fol. 12v, "Vetruvio de Architectura."

72. ASV GdP b. 350/15, no. 23, 1626 June 6, fol. 10v, "Un quadro de carta con regno de Franza con tella de pezzo L 4"; fol. 13., "tre quadri con paesi L 6."

73. ASV GdP b. 352/17, no. 22, 1630 July 18, fol. 1v, "no. 4 quadri de le quatro parte del mondo con soaze nove perfilate doro uzade—L 4"; fol. 1v, "no. uno detto a guazo di un paese in ritrati di fade vechio"; 2v, "no. 3 quadri di paesi di fiandra," "un'altro quadro di paese di fiandra sopra il camin vechi."

74. "quadri no. 3 a paesi . . . Lira 15." ASV GdP b. 340/5, no. 78, 1593 May 20, fol. 7v.

75. Brian Pullan, "Wage-Earners and the Venetian Economy, 1550–1630," *Economic History Review* 16, no. 3 (1964): 415.

76. Robert C. Davis, *Shipbuilders of the Venetian Arsenal: Workers and Workplace in the Preindustrial City* (Baltimore: Johns Hopkins University Press, 1991), 29–30.

77. Lydecker, "The Domestic Setting of the Arts in Renaissance Florence," 62. The map was described simply as a "mappamondo bello."

78. Lorenzo's collection contained several maps, including "uno quadro dipintova una Italia [25 florins]"; "uno quadro di legno dipintovi la Spagna [12 florins]"; and, in his study, "una carta dipintavi Italia, un'altra carta dipintavi il chastel di Milano, una dipintavi el mappamondo, uno dipintavi l'apamondo, una carta dipintavi tre reami d'India, un'altra dipintovi l'apamondo, un'altra dipintovi Italia, una carta da navichare, un'altra dentrovi l'apamondo, una carta stretta e lungha dentrovi più paesi, una carta dentrovi Roma." The inventory is in the Archivio di Stato di Firenze, Mediceo Avanti Principato, Filza CLXV, and is reproduced in whole in Spallanzani and Bertelà, *Libro d'inventario*; and the inventory's cartographic items are excerpted in Woodward, *Maps as Prints*, 120–21n12.

79. "una spera grande [1 florin]"; "una charta dipinta [2 florins]"; "una charta dipinta [1 florin]"; "una charta dipinta [1 florin]"; "quattro charte dipinte [6 florins]." Lydecker, "The Domestic Setting of the Arts in Renaissance Florence," 130.

80. Ibid., 106n54.

81. Ibid., 68.

82. "la spera pichola vendor Domenico dipinto per L 1 s 1." ASF MdP b. 188, no. 165, 1528 Mar. 24, fol. 380r.

83. "16 innocenti di stanpa di Baccio di Michelangelo [Bandinelli] in dua fogli [16 lire]"; "19 fogli in tela reali fra bianchi e dipinti."ASF MdP b. 190, no. 52, 1527 Feb. 14, fol. 393r.

84. "6 quaderni da disegni di Rafaelo da Urbino in foli reali, e di più 17 fogli"; "18 quaderna e 17 fogli di disegni picholo di Rafaelo da Urbino." Ibid. The price for the larger print was increased from 5 *soldi* 6 *denari* to 10 *soldi* in the later inventory; see note 59, this chapter.

85. "libre 9 di più istorie rotte e strachiate che non si stimano nulla." Ibid., fol. 393v.

86. 7 lisime di fogli stanpati in sonetti e in chomedie." Ibid.

87. "52 lisime 1/2 di lavoro instanpato in lengno di più chose fra buoni e chativi, stampa del pupillo, e altre stampe." Ibid.

88. "14 quaderna di disegni in foli comuni stanpa del pupilo"; "35 quaderna 1/2 di foli reali stanpati in rame." Ibid.

89. Ibid., fols. 394r–395v.

90. Richardson, *Printing, Writers and Readers*, 115.

91. For a number of articles on the cost of various material goods, see O'Malley and Welch, eds., *The Material Renaissance*.

92. Richardson, *Printing, Writers and Readers*, 116. De Maddis sold 150 copies of

Niccolo Perotti's *Latin Grammar* and 248 of Guarino's grammar, likely to university students.

93. Fletcher, *New Aldine Studies*, 90.

94. Ibid., 91. A single volume of Aristotle cost between 1 ducat 3 *lire* and 4 ducats; all five volumes cost 12 ducats 6 *lire*, or approximately 78 *lire*.

95. Ibid., 90.

96. Arthur Mayger Hind, *Early Italian Engraving: A Critical Catalogue with Complete Reproduction of All the Prints Described* (Nendeln, Liechtenstein: Kraus Reprint, 1970), 305.

97. Richardson, *Printing, Writers and Readers*, 115–16.

98. Ibid., 115.

99. O'Malley and Welch, eds., *The Material Renaissance*, 3.

CHAPTER 3

1. Woodward, *The Maps and Prints of Paolo Forlani*. For more on Forlani, see Woodward, "Paolo Forlani: Compiler, Engraver, Printer, or Publisher?"

2. For more on Venetian map publishing, see Armstrong, "Benedetto Bordon"; Bevilacqua, "Geografi e Cosmografi"; Peter H. Meurer and Paul Haas, *The Strabo Illustratus Atlas: A Unique Sixteenth Century Composite Atlas from the House of Bertelli in Venice* (Paris: Librairie D. Le Bail & Weissert, 2004); Mukerji, "Printing, Cartography and Conceptions of Place"; Woodward, "The Italian Map Trade"; and Woodward, "Paolo Forlani: Compiler, Engraver, Printer, or Publisher?" Woodward's "Italian Map Trade" provides a map of Venetian print shops that sold maps (780).

3. David Woodward, "Italian Composite Atlases of the Sixteenth Century," in *Images of the World: The Atlas Through History*, ed. John A. Wolter and Ronald E. Grim (Washington, DC: Library of Congress, 1997), 56. Woodward compiled his data from Tooley, "Maps in Italian Atlases of the Sixteenth Century."

4. Henry, "What Makes a Picture?" 253–54.

5. I have divided regional (specific countries or geographical regions such as Lombardy or the Mediterranean) from city maps largely for the purposes of analysis.

6. For Florio's dictionary, see John Florio, *Florio's 1611 Italian/English Dictionary: Queen Anna's New World of Words* (London: 1611), http://www.pbm.com/~lindahl/flori01598/275.html.

7. "il quale [Maiz] gli indiani di questo paese ne uiuono anchora in questa regione si touva oro gli homini uanno uestiti con certe camise senza le maniche." Ptolemy, Giacomo Gastaldi, and Pietro Andrea Mattioli, *La geografia di Claudio Ptolemeo Alessandrino* (Venice: Per Gioa[n]. Baptista Pedrezano, 1548), map 54: "Della Terra Nvova."

8. "Con Tauole di Geographia, che dimostrano il sito di diuerse Isole, Città, & Paesi." Giovanni Battista Ramusio, *Terzo volvme delle navigationi et viaggi nel qvale si contengono le nauigationi al mondo nuovo* (Venice: Appresso gli heredi di Lvcantonio Civnti, 1556), title page.

9. "i paesi di Bresiglia, di Tisnada, di Caribana, di Paguana, di Peruuia, e gli altri. La stesa è la terra australe scoperta di fresco, ma non ancora conosciuta, nella quale è il paese de'Papagalli." Giovanni Antonio Magini, *La Seconda Parte della Geografia di Cl.*

Tolomeo, la quale, oltra l'Antiche Tauole d'esso Tolomeo, contiene le Moderne ancora, che mostrano la faccia du tutta la Terra, infino à questa nostra età conosciuta. In *Geografia, cioè, Descrittione uniuersale della terra: partita in due volumi, nel primo de'quali si contengono gli otto libri della Geografia di Cl. Tolomeo*, ed. Ptolemy, Giovanni Antonio Magini, and Leonardo Cernoti (Venice: Appresso Gio. Battista & Giorgio Galignani Fratelli, 1598), 22r.

10. "Dove per fare che il mio disegno venisse piu appunto, e comprendesse tutto quello che era in quel paese, tenni questo modo per aiutare con l'arte dove ancora mi mancava la natura . . . ho ridotto quel che tiene venti miglia di paese in sei braccia di luogo misurato." Giorgio Vasari, *Le opere, con nuove annotazzoni a commenti di Gaetano Milanesi* (Florence, 1906), viii, 173–75. Translated and cited in Lucia Nuti, "The Perspective Plan in the Sixteenth Century: The Invention of a Representation Language," *Art Bulletin* 76, no. 1 (1994): 115–16.

11. Ryan Gregg, "Panorama, Power, and History: Vasari and Stradano's City Views in the Palazzo Vecchio" (PhD diss., Johns Hopkins University, 2009), 132–33; Christopher S. Wood, *Albrecht Altdorfer and the Origins of Landscape* (Chicago: University of Chicago Press, 1993), 42, 53.

12. "uno disegno del paese di Siena." Cosimo Conti, *La prima reggio di Cosimo I de Medici nel palazzo già della Signoria di Firenze: coll'appogio d'un Inventario inedito del 1553 e coll'aggiunta di molti altri documenti* (Florence: Giuseppe Pellas, 1893), 97. "tutto il paese di Pisa col piano e le colline; la città ed ogni cosa ho ritratto al naturale." Vasari, *Le opere, con nuove annotazzoni*, 8:216. Also cited in Gregg, "Panorama, Power, and History," 133.

13. Ptolemy, *Ptolemy's Geography*, 57–58.

14. "per i paesaggi e cosmografie si metteranno nelle gallarie e dove puol andar ognuno." Mancini, *Considerazioni sulla pittura*, 143.

15. A total of 233 households contained maps or books with maps, at an average of five maps per household that owned maps, out of a total of 2,350 inventories made between 1497 and 1631.

16. The number of inventories recorded in Venice by quarter-century is as follows: from 1497 to 1524, 11; from 1525 to 1549, 327; from 1550 to 1574, 272; from 1575 to 1599, 571; from 1600 to 1624, 774; from 1625 to 1631, 395.

17. See, for example, the charts showing European map production by decade in Karrow, "Centers of Map Publishing in Europe," 612–20. For Rome and Venice in particular see Woodward, *Maps as Prints*, 4, which most clearly shows the high number of cartographic plates produced in Venice during the 1560s. The 1560s also represent a drop in the number of inventories at the same time that the raw number of households with maps increased.

18. Of the twenty-seven continent views found in the inventories, twenty-four were part of a set of the four continents. The remaining three maps were views of Europe.

19. For more on these atlases, see Woodward, "Italian Composite Atlases," 51–70.

20. "uno quadro de tholomeo." ASV MND b. 38, no. 66, 1552 Apr. 20, fol. 9v.

21. ASV GdP b. 346/11, no. 8, 1615 July, fol. 1r, "un quadro grando con le soaze d'albeo con pitura del mondo"; ASV GdP b. 339/4, no. 47, 1587 May 22–June 18, fol. 7r, "cinque quadri chiamati napamondi."

22. ASV MND b. 37, no. 1, 1543 Nov. 15–Dec. 15, fol. 5v, "do balle del napamondi"; ASV MND b. 36, no. 16, 1535 May 1, fol. 1v; ASV MND b. 43, no. 16, 1590 Feb. 8, fol. 2r.

23. "Doi balli, una terrestre, e l'altra celeste de sfero," "uno napamondo seu sfera." ASV GdP b. 342/7, no. 26, 1601 Feb. 25, fol. 19r, fol. 11r.

24. ASV GdP b. 349/14, no. 76, 1625 Nov. 24, fol. 2r, "un quadro di carta della descricion del mondo"; ASV GdP b. 344/9, no. 5, 1609 July 28, fol. 2r.

25. ASV GdP b. 345/10, no. 91, 1614 Feb. 27, fol. 2v.

26. "Quadri de retrati diversi grandi e piccoli no. dieci, un napamondi et un. S. Gier. mo." ASV GdP b. 350/15, no. 31, 1626 Aug. 18, fol. 1r.

27. "v. quadri di vene, et a figure de fiandra, et uno de uno apamondo." ASV MND b. 39, no. 10, 1556, Dec. 23, fol. 2v.

28. "un quadro del nostro signor con il mondo in man soazado de noghera." ASV MND b. 40, no. 44, 1560 Aug. 12–25, fol. 8v.

29. ASV MND b. 38, no. 36, 1547 Jan. 1, fol. 1r; ASV MND b. 39, no. 55, 1553 Oct. 17, fol. 7v; ASV MND b. 40, no. 73, 1560 Apr. 14–May 7, fol. 14r; ASV MND b. 40, no. 44, 1560 Aug. 12–25, fol. 8v; ASV MND b. 42, no. 45, 1573 Apr. 9, fol. 3r; ASV GdP b. 339/4, no. 5, 1585 Apr. 15, fol. 3v (contains two); ASV MND b. 43, no. 51, 1589 Nov. 26, fol. 5r; ASV MND b. 45, no. 2, 1620 Dec. 10, fol. 1r.

30. "un quadro della creation del Mondo." ASV GdP b. 344/9, no. 64, 1611 Aug. 18, fol. 10v.

31. Morse, "Creating Sacred Space," 158–59.

32. ASV MND b. 36, no. 27, 1535 Sept. 16, fol. 3r, "un quadreto de un desegno da Padoa"; ASV MND b. 40, no. 42, 1562 Dec. 29, fol. 20r, "un desegno in quadro de Verona."

33. ASV MND b. 44, no. 4, 1593 June 4, fol. 4v, "uno quadro dove e dipinta la città di Messana"; ASV GdP b. 350/15, no. 16, 1626 Apr. 27, fol. 2v, "un quadro con Roma depinta."

34. "carta della descritione di Roma; una carta stampata con la descritione del Bergamo." ASV GdP b. 352/17, no. 99, 1631 Apr. 29, fol. 7v.

35. ASV GdP b. 344/9, no. 5, 1609 July 28, fol. 1v, "quadreti de diverse sorte de citta, et principi in tutto no. 30"; ASV MND b. 37, no. 1, 1543 Nov. 15–Dec. 15, fol. 5v, "un quadretto con un desegno di una citta."

36. ASV GdP b. 350/15, no. 87, 1627 July 17, fol. 1r.

37. ASV MND b. 41, no. 50, 1571 Nov. 30, fol. 7v; ASV MND b. 43, no. 50, 1583 Oct. 4, fol. 2v.

38. Barber, "Maps, Town-Views and Historical Prints," 255.

39. ASV GdP b. 349/14, no. 72, 1625 Nov., fol. 1r, "Un altro di Venecia con retratti del Doge vechio"; ASV GdP b. 348/13, no. 20, 1622 June 6, fol. 12r, "un quadro grande con la citta di Venetia."

40. Schulz, "Jacopo de' Barbari's View of Venice," 472.

41. "principalmente ad fama de questa ex[cel]sa cita de venetia." Ibid., 473.

42. "molte cosse ale altre opere se fano asei extracto." Ibid. Kolb's fears demonstrate that the growing print culture often involved lifting geographical information from other sources. In fact, this is true of many maps produced in early sixteenth-century Italy, as discussed in chapter 2. For example, world maps borrowed liberally from Ptolemy, manuscript maps, and other printed maps. Francesco Rosselli's 1493 printed world map bears

a striking resemblance to Henricus Martellus's manuscript map of the previous year, a trend that only accelerated in the sixteenth century. The threat posed by mapmakers borrowing from de'Barbari's map should come as no surprise in the burgeoning map trade of his time. Printers saw a market for geographic prints, which they fed by creating cheap copies of earlier maps. Kolb's worries were thus well founded.

43. Schulz provides a copy of Kolb's application, recorded by the government and by Sanuto, in the appendix of his article (Ibid.). ". . . si p[er] la material dificilissima et fu Credibele poterne fare vero desgno si p[er] la grandeza sua et dela Carta ch[e] mai simele no fu facta, Si anchora p[er] la nova arte de stampar forme di tal grandeza: et p[er] la dificulta dele co[m]positio[ni] tute in seme, le qual cosse fusse non essendo p[er] suo valor stimate dale zente: nela sutilleza del Intellecto le forme stampando possano supplir ch[e] p[er] mancho de cercha a tre fiorini una opera se posse revedere p[er] tanto universalmente non spiera rechavarne la messa faculta . . . conceduto ch[e] dicta opera senza datio et senza Impedimento . . . ."

44. "Antonio Colb, merchadante todesco, fato con gran spexa far stampar Veniexia, qual si vende ducati 3 l'una, che possi trarle di questa cità, et portarle senza pagar dacio." Marino Sanuto, *I diarii di Marino Sanuto*, ed. Rinaldo Fulin, Federico Stefani, Nicolò Barozzi, Guglielmo Berchet, and Marco Allegri, vol. 3, col. 1006, 31 Oct. 1500.

45. Federica Ambrosini argued that Venetians in the seventeenth century displayed world maps in their home as a way to assert their connection to world events in the face of fading Venetian power. See Ambrosini, "Descrittioni del mondo," 78–79.

46. ASV MND b. 39, no. 41, 1558 Aug. 26–30, fol. 17r, "un'altro quadro grando con una bataglia turchescha fornido de noghera"; ASV GdP b. 339/4, no. 47, 1587 22 May–18 June, fol. 1r, "do quadri grandi uno con un campo turchese et l'altro del turcho vecchio."

47. ASV GdP b. 347/13, no. 112, 1621 Nov. 11, fol. 6v, "un dissegno dall territorio de Vincenza"; ASV GdP b. 348/12, no. 35, 1622 Nov., fol. 3v, "il dissegno del territorio Bergamasco."

48. "quadri decedotto de Persia piu diversi." ASV GdP b. 348/13, no. 20, 1622 June 6, fol. 4r.

49. "molti quadri di paesi, et parte del Mondo in tutto no. 19." ASV GdP b. 347/12, no. 37, 1619 Apr. 27, fol. 5v.

50. ASV MND b. 40, no. 42, 1562 Dec. 29, fol. 15v, "un desegno delle lagune"; ASV MND b. 37, no. 12, 1543 Sept. 3–5, fol. 6v, "uno quadreto del Arcipielago in carta ut supra."

51. ASV GdP b. 349/14, no. 25, 1624 Sept. 12, fol. 3v, "Geografia d'Italia"; ASV MND b. 37, no. 12, 1543, Sept. 3–5, fol. 6v, "uno quadreto de carta in colado in tella de la Italia"; ASV MND b. 34, no. 14, 1528 May 4–8, fol. 2r, "uno quadro de tella depenta la italia."

52. "do designi un de franza e un de Ingliterra," "un desegno della Italia." ASV MND b. 40, no. 42, 1562 Dec. 29, fol. 15v.

53. ASV GdP b. 347/12, no. 53, 1619 Sept. 7, fol. 1v, "un quadretto de Italia piccolo con soaze negre"; Archivio di Stato, Venezia, Avogaria di Comune, Inventari (Hereafter ASV ACI), b. 3001/1, no. 4, 1559 Feb. 5, 4r, "una Italia dipinta."

54. "un altro quadro simile dela Terra de Brugia con l'istesso teller," "un altro quadro de carta depenta dela Terra d'Amstradam con il suo teler de nogara schieto," "un altro

quadro in carta depenta del paese de gelderlant," and "un altro quadro simile de tuto el paese de fiandra." ASV MND b. 41, no. 46, 1571 Apr. 9, fol. 1v.

55. ASV GdP b. 349/14, no. 51, 1624 Feb. 3, fol. 4v. For more on Isolarii, see George Tolias, "*Isolarii*, Fifteenth to Seventeenth Century," in *The History of Cartography, Volume 3: Cartography in the European Renaissance*, ed. David Woodward (Chicago: University of Chicago Press, 2007), 263–84.

56. ASV MND b. 45, no. 26, 1629 Nov. 20, fol. 12r, "Isolario a rame"; ASV GdP b. 345/10, no. 17, 1612 Sept. 24, fol. 2v, "un libro d'isole da Mar"; ASV GdP b. 338/3, no. 44, 1584 Apr. 28, fol. 11r, "Isolario del Bordon in foglio."

57. For more on Bordone, see Armstrong, "Benedetto Bordon."

58. "una carta antiqua de navega." ASV GdP b. 340/5, no. 60, 1592 Mar. 13, fol. 2v. Mazzochi's inventory was not delimited by room, making it impossible to determine where the map was kept or whether it was displayed with other images.

59. ASV MND b. 38, no. 57, 1551 Aug. 11–13, fol. 1v. The object is described as "1 carta da navigar in carta bona con li sui compassi," indicating that "carta da navigar" did not mean navigation papers but that "carta" and "charta" were used interchangeably to mean charts.

60. ASV MND b. 42, no. 55, 1580 Mar. 24, fol. 4r; ASV GdP b. 345/10, no. 29, 1612 Dec. 10, fol. 3r; ASV GdP b. 352/17, no. 47, 1630 Oct. 26, fol. 3v.

61. ASV MND b. 43, no. 6, 1589 Nov. 19–21, 5r, fol. 1v.

62. Woodward, *Maps as Prints*, 93–99.

63. "carta picola da navegar," listed as "in studio da basso appresso la bottega." ASV GdP b. 345/10, no. 91, 1614 Feb. 27, fol. 7v.

64. Svetlana Alpers, "The Mapping Impulse in Dutch Art," in *Art and Cartography: Six Historical Essays*, ed. David Woodward (Chicago: University of Chicago Press, 1987), 54.

65. For example, see ASV GdP b. 342/7, no. 43, 1602 Oct. 27, fol. 4v, "doi paesi"; ASV GdP b. 351/16, no. 117, 1629 Jan., fol. 3v, "doi paese"; ASV GdP b. 347/12, no. 124, 1621 Dec. 18, fol. 3v, "quattro paesi a stampa."

66. ASV GdP b. 350/15, no. 96, 1627 Sept. 15, fol. 4r. "un quadro con paese"; ASV GdP b. 339/4, no. 66, 1588 Sept. 23, fol. 1v, "uno quadro grande a paese"; ASV GdP b. 342/7, no. 32, 1602 June 10, fol. 1r, "doi quadri de paesi vechi"; ASV MND b. 43, no. 5, 1590 Mar. 27, fol. 1r, "doi quadriti picoli di Paesi."

67. ASV MND b. 43, no. 4, 1587 Aug. 20, fol. 10v, "doi altri quadri a paesi"; ASV GdP b. 342/7, no. 43, 1602 Oct. 27, fol. 4v, "doi paesi."

68. "doi quadri de paesi de Tuscana." ASV GdP b. 338/3, no. 58, 1584 Sept. 19, fol. 7v.

69. See, for example, ASV MND b. 44, no. 9, 1592 Nov. 1, fol. 2v, "quadri de paesi di fiandra no. 7"; ASV MND b. 41, no. 6, 1567 Sept. 19, fol. 24v, "un quadro grando de paesi alla fiamenga in tella"; ASV MND b. 37, no. 12, 1543 Sept. 3–5, fol. 5v, "uno quadro in tella alla fiamenga de diverse paese e figure."

70. ASV MND b. 44, no. 12, 1598 Sept. 4, fol. 12v, "sei quadri à paesi con figure de diverse sorte con fornimenti lavoradi"; ASV MND b. 37, no. 12, 1543 Sept. 3–5, fol. 6v, "uno quadro in tella alla fiamenga de diverse paese e figure."

71. ASV GdP b. 337/2, no. 71, 1582 July 9, fol. 7r, "un'altro quadreto a paese con diversi animali"; ASV GdP b. 339/4, no. 22, 1585 Oct. 29, fol. 1r, "un quadreto picolo

con diverse figurine et paessi"; ASV GdP b. 338/,3 no. 30, 1583 Dec. 27, fol. 2v, "un'altro quadro . . . a paesi con diverse figurine picole."

72. "uno quadro grande a paese con anemali et persone depenti con il teller dorado et negro." ASV GdP b. 339/4, no. 66, 1588 Sept. 23, fol. 1v.

73. For maps in bibles, see Catherine Delano-Smith and Elizabeth Morley Ingram, *Maps in Bibles, 1500–1600: An Illustrated Catalogue* (Geneva: Librairie Droz, 1991).

74. Delano-Smith, "The Map as Commodity," 97.

75. For example, a previously unknown copy of Francesco Rosselli's oval map was recently discovered inserted into a sixteenth-century printed book. See Van Duzer, "A Newly Discovered Fourth Exemplar."

76. ASV GdP b. 338/3, no. 44, 1584 Apr. 28, fol. 20r; ASV GdP b.338/3 no. 61, 1584 Nov. 3, fol. 15r. Bonfaudini's book shop also contained "1 Fabrica del Mondo in foglio" [9v], "4 Fabrica del Mondo in foglio" [10r], "Isolario del Bordon in foglio" [11r], and "30 Discorso di Cosmographia" [8r].

77. ASV GdP b. 342/7, no. 26, 1601 Feb. 25, fol. 15v; ASV GdP b. 349/14, no. 25, 1624 Sept. 12, fol. 5r.

78. ASV MND b. 37, no.63, 1546 Nov. 18, fols. 13v, 13r.

79. See, for example, ASV MND b.45, no. 26, 1629 Nov. 20, "Inventari de i libri"; ASV GdP b. 338/3, no. 61, 1584 Nov. 3, fol. 11r; ASV GdP b. 342/7, no. 26, 1601 Feb. 25, fol. 13v.

80. ASV MND b. 45 no. 26, 1629 Nov. 20, fols. 9v, 8v, "Il viaggio di Spagna, e Francia del Navagier," "Viaggio da Venetia a Constantinopoli del Rosaccio"; ASV GdP b. 342/7, no. 26, 1601 Feb. 25, fol. 13v, "Viaggio del India de Gasparo Balbi."

81. "Descrittioni del Mar Mediterraneo in lingua francese con figure," "Isolario a rame," and "La navigationi del mar Occidental, et Oriental in Cinque Francese, stampa d'Anuera con le figure." ASV MND b. 45, no. 26, 1629 Nov. 20, fol. 5r, fol. 12r.

82. ASF MdP b. 188, no. 269, 1530 Dec. 23, fol. 602v, "la spera inn quadro dipinto"; ASF MdP b. 188 no. 262, 1530 Dec. 10, fol. 590v, "la spera inn quadro grandi tela"; ASF MdP b. 188, no. 303, 1530 Feb. 3, fol. 681v, "la spera inn quadro picholo."

83. ASF MdP b. 188, no. 261, 1530 Dec. 10, fol. 589r, "la spera dorata"; ASF MdP b. 188, no. 249, 1530 Nov. 15, fol. 564r, "la spera di noce."

84. ASF MdP b. 191, no. 31, 1530 Nov. 29, fol. 279r, "uno quadro di tela dipinto uno apomondo piccolo"; ASF MdP b. 191, no. 129, 1531 Oct. 2, fol. 867r, "uno apamondo in charta"; ASF MdP b. 189, no. 97, 1527 June 12, fol. 698v, "una apamondo in tella"; ASF MdP b. 189, no. 91, 1526 Aug. 30, fol. 663r, "la tavola napamondo."

85. "2 quadri dipinti uno apamondo e uno San Giovanni decholoto" [likely a variant of decollato, signifying the death of John the Baptist by beheading]. ASF MdP b. 188, no. 306, 1530 Feb. 7, fol. 689v.

86. ASF MdP b. 191, no. 42, 1530 Jan. 1, fol. 348v; ASF MdP b. 189, no. 40, 1524 Apr. 1, fol. 271v. The Rosselli inventory lists "19 fogli stanpati in tela cioe france" (ASF MdP b. 190, no. 52, 1527 Feb. 14, fol. 383r).

87. ASF MdP b. 191, no. 31, 1530 Nov. 29, 279r; ASF MdP b. 190, no. 52, 1527 Feb. 14, fol. 383r.

88. The inventories surveyed for 1530–53 come from ASV MND b. 35–38; the inventories for 1600–11 are from ASV GdP b. 342/7–344/9. In a handful of instances the

inventories refer to "some" images or "diverse" images; in order to estimate the numbers I used three for *alcuni* and eight for *diversi.*

89. ASV GdP b. 342/7, no. 26, 1601 Feb. 25; ASV GdP b. 344/9, no. 5, 1609 July 28; ASV GdP b. 344/9, no. 10, 1609 Oct. 6–13; ASV GdP b. 344/9, no. 46, 1610 Dec. 30–Jan. 24; ASV GdP b. 344/9, no. 64, 1611 Aug. 18.

90. ASV GdP b. 344/9, no. 23, 1610 Apr. 19.

91. ASV GdP b. 343/8, no. 101, 1608 Jan. 19; ASV GdP b. 343/8, no. 79, no date.

92. For comparison, there were only four images of the seasons in the 1530–53 images, indicating the growth in popularity of the genre.

93. See, for example, Roselli's view of Florence," ca. 1510, where the countryside of Florence surrounds the city and the artist in the foreground sketches the scene, discussed in chapter 1 (fig. 8).

CHAPTER 4

1. Giovanni Francesco Camocio, "Novo Dissegno della Dalmatia et Crovatia," 1563 (Tooley 189, Woodward 19.01); Anonymous, "Noua Descriptione de la Moscouia," 1562 (not in Tooley, Woodward 16); Ferrando Bertelli, "Germaniae Omiumque eius prouinciarum . . . noua et exacta descriptio," 1562 (Tooley 249, Woodward 13).

2. Ferrando Bertelli, "Ancona," 1565 (Woodward 39.01); Giovanni Francesco Camocio, "Friesland," 1566 (Woodward 52); Paolo Forlani, "Egypt," 1566 (Woodward 49).

3. As Caraci has argued, the discovery of the New World prompted a reassessment of classical knowledge and spurred a movement to reconcile Ptolemaic technique with a modern vision of the world. See Caraci, "L'America e la cartografia," especially 603–4.

4. Londa L. Schiebinger, *The Mind Has No Sex? Women in the Origins of Modern Science* (Cambridge: Harvard University Press, 1991), 178. Vesalius did eventually reverse this position.

5. Other sixteenth-century fields that were modifying classical knowledge, such as anatomy and botany, did so in small steps rather than large leaps. As Kusukawa points out, scholars like Fuchs and Vesalius cited ancient authority on the importance of eyewitness experience [autopsia] to advocate for their own anatomical and botanical investigations. See Kusukawa, *Picturing the Book of Nature*, 21. Similarly, even though geographers proclaimed ancient geography flawed, they still relied on Ptolemy more than any other source.

6. Anonymous, "Noua Descriptione de la Moscouia," 1562 (not in Tooley, Woodward 16).

7. Bertelli, "Germaniae Omniumque eius prouinciarum . . . noua et exacta descriptio."

8. As David Woodward has pointed out in reference to Antonio Lafreri's atlases, "the marketing strategy was now clearly to provide the reader with new and purportedly accurate maps. Thus, the use of the world 'modern' in Lafreri's title page, and the frequent use of adjectives such as 'new,' 'recent,' 'true,' 'exact,' 'copious,' and 'latest' in many of the maps is no accident." Woodward, "Italian Composite Atlases," 55.

9. Karrow, "Intellectual Foundations of the Cartographic Revolution," 7–10; Karrow, "Centers of Map Publishing in Europe," 621. This figure is based on a conservative estimate of 5,250 individual engravings produced between 1472 and 1600, at an average

print run of 250 copies, and almost certainly underestimates the number of maps in circulation.

10. See Woodward, *The Maps and Prints of Paolo Forlani*, 1–60.

11. Forlani, "Universale Descrittione di Tutta la Terra Conosciuta Fin Qui," 1562; 1564 (not in Tooley, Woodward 09.02); 1574 (Tooley 17, Woodward 09.03).

12. Almagia, "On the Cartographic Work of Francesco Rosselli," 29.

13. Anonymous, "La Vera Descrittione del regno de napoli di nouo emendata, et ampliata," 1562 (Tooley 407, Woodward 15.01).

14. Forlani, "Della Italia la uera."

15. See Gautier Dalché, "The Reception of Ptolemy's *Geography*," particularly the appendix, 361–64.

16. Ptolemy, Gastaldi, and Mattioli, *La geografia di Claudio Ptolemeo Alessandrino.* These are maps 13, 54, and 55 respectively in the volume.

17. Ptolemy, Girolamo Ruscelli, and Giuseppe Moleti, *La geografia di Claudio Tolomeo Alessandrino* (Venice: Appresso Giordano Ziletti, 1564); Ptolemy, Giovanni Malombra, Giuseppe Moleti, and Girolamo Ruscelli, *La geografia di Claudio Tolomeo Alessandrino* (Venice: Appresso Giordano Ziletti, 1574).

18. "Qua[n]to alla forma della descrittione noi habbia[mo] seguito il sito e la facia moderna d'ogni luogho ed'ogni paese douu[n]q[ue] habbia[mo] potuto imitarla Et nel rimane[n]te habbia[mo] corretto le tauole di Tolomeo quanto se p[er] noi potuto co[n] l'aiuto de gli auttori piu dotti e delle tauole nauigatorie." Claudio Duchetti, [Untitled Map of Europe], 1571 (Tooley 39, Woodward 94).

19. "Il Disegno del discoperto della noua Franza, il quale s'è hauuto ultimamente dalle nouissima nauigatione de' Franzesi in quel luogo: Nel quale si uedono tutti l'Isole, Porti, Capi, et luoghi fra terra che in quella sono." Bolognini Zaltieri, "Il Disegno del discoperto della noua Franza," 1566 (Tooley 81, Woodward 37.01). Woodward attributes the first, anonymous impression of this map to Paolo Forlani; subsequent editions bear Zaltieri's name.

20. "Trouai i passati mesi in Venetia un Don Diego Hermano di Toledo, gentil'huomo di nobilissima qualità: co[n] cui uenuto a ragioname[n]to di molte cose, e specialime[n]te della Geografia, egli mi offerse in dono corteseme[n]te un disegno, ouero una particolar descrittione di tutte le nauigationi del Mondo nuouo, cominciando da Leua[n]te all'jsole Canarie, et a Capo Verde; e termina[n]do da Ponente allo stretto d'Anian, all'jsole Maluche, et alla nuoua Guinea; da Tramontana alla terra ferma del Laborador, et di Bacalaos co[n] tutta la nuoua Francia; et da Mezo giorno allo stretto di Magallanes." Paolo Forlani, [Untitled Map of North and South America], 1570 (not in Tooley, Woodward 83).

21. "doue si ueggono non sol tutte le marine, porti, jsole, scogli, secche, et ogni altra cosi fatta particolarità appartinen[n]te ad esse marine; ma ancor fra terra tutte le città, terre, fiumi, et laghi, che fin' hora son conosciuti." Ibid.

22. As mentioned earlier, this figure is based on estimates in Karrow's "Centers of Map Publishing in Europe" and a table in *The History of Cartography, Volume 1*. Karrow estimates that between the eighth and fifteenth centuries there were a total of approximately 1,500 maps produced in Europe. With the advent of printing this number increased dramatically; from 1472 to 1600, approximately 5,250 individual engravings were made, at an average print run of 250 copies, for a total of 1.3 million maps in circu-

lation. This is likely a significant undercount of the actual maps in circulation, as it is based only on engravings known today and cannot account for those that have been lost. Additionally, many print runs included more than 250 copies. See Karrow, "Centers of Map Publishing in Europe," 621; Karrow, "Intellectual Foundations of the Cartographic Revolution," 7–10; and Harley and Woodward, eds., *The History of Cartography, Volume 1*, 298n115.

23. Fiorani, *The Marvel of Maps*, 9–11. See also Fiorani, "Cycles of Painted Maps in the Renaissance," 807–12.

24. See Fiorani, "Cycles of Painted Maps in the Renaissance," 810, 813–16.

25. ASV MND b. 43, no. 48, 1587 Apr. 7, fol. 3r, "quattro [quadri], cioe Asia, Africha, et Europa, et Perù"; ASV GdP b. 345/10, no. 59, 1614 Mar. 5, fol. 2r, "Quadri no. quatro de le 4 parte del mondo."

26. ASV MND b. 45, no. 15, 1605 Sept. 19, fol. 3r, "Quatro quadri dilli quatro parti del mondo senza fornimenti"; ASV GdP b. 346/11, no. 22, 1615, Sept. 24, fol. 9r, "quattro quadri figurato le quattro parti del mondo vechissimi—no.4."

27. ASV GdP b. 352/17, no. 22, 1630 July 18, fol. 1v, "no. 4 quadri de le quatro parte del mondo."

28. ASV MND b. 44, no. 30, 1597 May 19, fol. 7v, "una carta del mondo terra quadretti."

29. ASV GdP b. 348/13, no. 65, 1623 June 12, fol. 4v, "quadri con le quattro parte del mondo—no.4."

30. Fiorani, "Cycles of Painted Maps in the Renaissance," 804.

31. For more, see Woodward, *Maps as Prints*, 93–99.

32. Ibid., 96. As Woodward notes, only two versions of the manuscript-date maps are known, listed as 5 August and 12 August, the first coming only one day after the 4 August 1565 map.

33. "un'altro quadro grando con una bataglia turchescha fornido de noghera." ASV MND b. 39, no. 41, 1558 Aug. 26–30, fol. 17r.

34. "do quadri grandi uno con un campo turchese et l'altro del turcho vecchio." ASV GdP b. 339/4, no. 47, 1587 May 22-June 18, fol. 1r.

35. ASV MND b. 37, no. 1, 1543 Nov. 15–Dec. 15, fol. 5v, "un quadro con el retracto dil Gran Turcho"; ASV MND b. 44, n. 8, 1594 Apr. 3, fol. 2v, "un quadro del gran Turco."

36. Woodward, *Maps as Prints*, 94. The annotation can be found in the 1511 Venetian edition of Ptolemy's *Geography* on the "Secunda Africae Tabula," Amsterdam, University Library, Map Room.

37. Victoria Morse explains how "world maps were intended to describe time as well as space" in "The Role of Maps in Later Medieval Society," 30. Also see David Woodward, "Reality, Symbolism, Time, and Space in Medieval World Maps," *Annals of the Association of American Geographers* 75, no. 4 (1985), 510–21; and Evelyn Edson, who argues that many "medieval maps . . . were designed to encompass concepts of time as well as space" in *Mapping Time and Space*, viii.

38. See, for example, Kupfer, "Medieval World Maps," 262–88.

39. For example, Forlani, "Universale Descrittione di Tutta la Terra Conosciuta Fin Qui," 1562; Paolo Forlani, "Universale Descrittione di Tutta la Terra Conosciuta Fin Qui," 1565 (Woodward 35.01).

40. "Si è fin hora, s'io no[n] m'ingano, et à parte à parte, et insieme tutta, data alle sta[m]pe la descrittione della terra fin hoggi conosciuta; no[n] p[er]o si è ueduto a[n]cora fuori la discrittione di quella seco[n]do l'uso de nauiga[n]ti." Forlani, [Untitled Chart of the Mediterranean and Northwest Europe], 1569 (Tooley 34, Woodward 81.01).

41. "Hora tutta la Terra si diuide in quattro parti principali, la prima delle quali è nominata Europa, l'altra Africa, la terza Asia, & la quarta America. Questa vltima non fu conosciuta punto da Antichi, ne quello, che soggiace sotto all'Equinottio dell'Africa, e restorno anco incognite le parti Settentrionali dell'Europa à Tolomeo." Rosaccio, *Descrittione della Geografia universale . . . con discorsi fatti da Gioseppe Rosaccio, sopra di ciascuna Tauola, in Geografia di Claudio Tolomeo Alessandrino*, ed. Ptolemy, Girolamo Ruscelli, and Giuseppe Rosaccio (Venice: Appresso gli heredi di Melchior Sessa, 1598), fol. 5v.

42. "e perciò egli mette solo dieci Tauole in detta Europa; ma hora noi ne poniamo dodici, che sono le due incognite; cosi facciamo nel'Africa di quattro, ch'egli far distintione, noi ce ne aggiongiamo tre, di maniera, che tutte sumano sette, le quali à suo luoco faranno da noi accennate, l'Asia che è l'vltima di Tolomeo, & hora terza parte della Terra, fu dal detto in dodici Tauole diuisa; ma hora in quinidic la compartiamo, per hauersi scoperto i suoi vltimi confini Orientali, da Cattigara in là, doue Tolomeo pone terra incognita." Ibid.

43. "Ma l'America, come habbiamo detto, non fu ne poco ne nulla in cognitione de i Geografi Antichi, la quale essendosi scoperta dall'Anno 1492. in quà, è secondo il parere de i più intendenti Geografi Moderni distinta in dicinoue Tauole, & in due parti principali, cioè due gran Penisole, vna verso Settentrione, & l'altra verso Austro volta, la prima detta Nuoua Spagna, diuisa in dodici parti, & la seconda volta all'Austro, chiamata Perù, in sette Tauole, o Regioni partita, le quali à suo luoco saranno poste. Queste sono le quattro parti, che formano la gran machina vniuersale della Terra." Ibid.

44. "Le trè parti principali del Mondo sono in questa Vniuersal Tauola descritte, cioè, l'Europa, l'Africa, e l'Asia, che al tempo di Tolomeo furono sole conosciute." Magini, *La Seconda Parte della Geografia*, fol. 2v.

45. "Questa gran parte del mondo sparsa nel vastissimo, e crudelissimo Atlantico, ò Occidentale Oceano durò non conosciuta da gli Antichi sin' all'anno 1492, nel quale fù la prima volta scoperta da Christoforo Colombo Genouese huomo di grande animo, d'accortissimo ignegno, e non mediocremente istrutto nell'arte del nauigare." Ibid., fol. 202v.

46. "Tal che solo ci resta, che rechiamo la diuisione di tutto'l mondo nelle sua parti principali. I nostri predecessori già diuerso la portione di tutto'l mondo habitabile, in tre distinte, e precipue parti, cioè in europa, africa, & asia. I posteri nondimeno loro aggiunsero una quarta parte, che viene di presente nominata america, trouata entro cent'anni." Ibid., fol 21v.

47. "Alcuni de'Moderni secano tutto'l Mondo in due parti, in vecchio ò antico mondo, che addimandano terra di Tolomeo, & in nvovo mondo, che dicono terra d'Atlante. L'antico mondo è quello, che fù conosciuto da Tolomeo, da Strabone, da Plinio, da Mela, e da altri Antichi: ma il Nuouo è quello, che a'moderni tempi fù scoperto da'Nocchieri de'Re di Portogallo, di Spagna, e di Francia." Ibid., fols. 21v.–22r.

48. "Noi mò con più conueniente forma distribiumo esso Vniuerso tanto conosciuto, quanto non conosciuto, in sette parti principali." Ibid., fol. 22r.

49. "La stesa è la terra australe scoperta di fresco, ma non ancora conosciuta, nella quale è il paese de'Papagalli, la terra del Fuego all'incontro dello stretto Megellanico, la prouicia Beac producitrice dell'oro, con li Reami di Luac, e di Maletùr posti frà la Giaua maggiore, e la minore, & altri incognite Regioni." Ibid.

50. R. V. Tooley, *The Mapping of Australia and Antarctica*, 2nd. rev. ed., Holland Press Cartographica (London: Holland Press, 1985), xx.

51. "L'vltima è introno al polo Boreale, minima di tutte, e per poco che sconosciuta, distribuita in quattro Isole, che sono disposte circa esso polo Artico." Magini, *La Seconda Parte della Geografia*, 22r.

52. "Tutta questa superficie della Terra mi pare, che a' tempi nostri si possa conueneuolmente, & commodamente diuider in sei parti principalissime, per essere quasi dalla natura istessa a questa maniera distribuita. La prima piu illustre, & piu conosciuta di tutte queste è detta Europa. La Seconda è detta Asia. La Terza è detta Africa co' le prouincie, & Isole a ciascuna uicine, & pertinenti cosi con quelle, che sono state da gli antichi conosciute, come con quelle altre, che sono state ritrouate, & aggiunte nouamente da moderni. La Quarta delle Indie Occidentali non conosciuta da gli antichi è detta America. La Quinta parte Settentrionalissima scoperta; ma anchora non ben conosciuta la possiamo da una sua Isola, ouero prouincia chiamare Grutlandia. La sesta parte Au- [43r] stralissima scoperta, ma non conosciuta, è innominata fin al presente." Giasone De Nores, *Breve trattato del mondo* (Venice: Appresso A Muschio, 1571), fols. 42v-43r.

53. "hora tutta la terra si diuide in quattro parti, secondo la descrittione de moderni. La prima delle quali è nominata Europa, l'altra Africa, la terza Asia, & l'vltima non conosciuta da gli antichi è detta da moderni America. Et vi si potrebbe aggiungere ancora due altre parti, cioè le Polari, & con ragioni dire che fossero sei; una delle quali sarebbe la Grothlandia, terra Settentrionale, à gradi ottanta del Polo Artico; nella qual parte vi è la Citta di San Tommaso, & altri luoghi non conosciuti, se non di [24] vista, i quali luoghi con detta Grothlandia sono separati dal nostro continente, dal mare Oceano." Giuseppe Rosaccio and Francesco Tosi, *Il mondo e sve parti, cioe Evropa, Affrica, Asia, et America: nel quale, oltre alle tauole in disegno, si discorre delle sue prouincie, regni, regioni, città, catelli, villel, monti, fiumi, laghi, mari, porti, golfi, isole, populationi, leggi, riti e costumi* (Florence: Appresso Francesco Tosi, 1595), 23–24.

54. "Sopra di questa carta, che in se contiene tutto il mondo, non si estenderemo molto, poiche riseruiamo di ragonar delle cose principali in essa contenute, nelle espositioni delle particoari descrittioni delle parti di esso. Fù diuiso dalli antichi in tre parti, Europa, Asia, & Africa; gli Moderni v'hanno aggionta la quarta parte, cioè l'America; & altri più moderni la quinta ancora, da loro chiamata Magellanna." Abraham Ortelius and Pietro Maria Marchetti, *Il theatro del mondo di Abraamo Ortelio . . . Ridotto dalla forma grande in qvesta piccola, per maggior commodita di ogniuno* (Brescia: Appresso la Compagnia Bresciana, 1598), 2

55. "Nella Tauola vniuersale antica, fatta secondo la descrittione di Tolomeo, & posta à dietro nel principio di tutte l'altre, s'è veduto come non essendo à tempi di esso Tolomeo conosciuta se non vna quarta sola di tutto il mondo." Girolamo Ruscelli, *Esposi-*

tioni et introduttioni universali . . . con più altre cose intorno alla Cosmografia, così per mare, come per terra, in *La geografia di Claudio Tolomeo Alessandrino*, edited by Ptolemy, Girolamo Ruscelli, and Giuseppe Moleti (Venice: Appresso Vincenzo Valgrisi, 1561), in section "Tavola Vniversal Nvova, con la descrittione di tutto il mondo."

56. Ibid., "Et essendosi doppo Tolomeo in queste età nostre ritrouata un'altra buona parte dell'Africa, incognita à Toloemo, sotto l'Ethiopia interiore di là dall'Equinottial verso l'Austro, poteua anco questa ageuolmente vedersi, & collocarsi nella stessa forma piana, aggiungendole l'altra sua quarta inferiore"; in "Africa Nuoua," map XXII, "paese incognito à Tolomeo, com'egli stesso chiaramente afferma."

57. "fatta questa nuoua Tauola dell'Africa, che per esser nuouamente ritrouata, han chiamata nuoua." Ibid., in "Africa Nuoua," map XXII.

58. "S'e detto altroue da me in questo volume, & principalmente sopra le carte vniuersali di tutto il mondo, come Tolomeo non hebbe cognitione della Terra abitabile de là dall'Equinottiale, se non fino à 16 gradi. Onde tutto quello, che si ha ora più oltre, cioè da i detti 16 gradi di là dall'Equinottiale verso Mezogiorno, è stato discoperto, & ritrouato modernamente." Ibid., in map XXIX.

59. "Percioche ne i tempi di Tolomeo delle quattro quarte del globo terrestre, a pena d'una delle due parte settentrionali, ò, per dire meglio, d'una sola parte di quella fu hauuta notitia: poscia che Tolomeo stesso solamente di sette climati, che oltra poco piu di LXIII. gradi dall'equinottiale uerso 'l nostro polo non si stendeuano, hebbe in larghezza notitia: & a pena per cento gradi nella lunghezza, denominando il resto fino a CLXXX. gradi uerso Leuante, sotto nome di terra incognita." Alessando Piccolomini, *Della grandezza della terra et dell'acqva* (Venice: Appresso G. Ziletti, 1558), fol. 9r.

60. "L'Uniuersale orbe della Terra fu diuiso secondo gli antique in tre parti, Cioe Europa, Aphrica, & Asia. Le quali parti hanno di longitudine gradi .180. principando alle isole canarie, il primo grado & e di latitudine uerso Tramontana gradi .63. cominciando il primo grado dalla Equinoctiale, & uerso mezzo giorno gradi .10." Ptolemy, Gastaldi, and Mattioli, *La geografia di Claudio Ptolemeo Alessandrino*, map 59, "Dell'Universale nuovo."

61. "Tutto il resto che si uede di longitudine, che sono altri gradi .180. e stato discoperto da moderni, cioe, le Indie occidentali che il uulgo chiama mondo nuouo, perche non si ha mai inteso da niuno antiquo, che ne facesse mentione pero le chiamano nuouo, il quale e uerso occidente, alle sopradette Isole Canarie." Ibid.

62. "Pero formando questi gradi .180. uerso oriente discoperti da gli antiqui, con li gradi .180. uerso ponente, discoperti da moderni fanno gradi .360. che e tutto il circulo dello Equinoctiale nella Sphera." Ibid.

63. "Et la parte di sopra li gradi .63. di latitudine settentrionale e stata discoperta da Moderni, Cioe la Nouegia & Grutlandia, con molte altre prouincie. E stata anchora discoperta da moderni. Benche Ariano & Plinio dicono che fu discoperta da gli antiqui, ma non si troua particular dascrittione, come hauemo hoggi da moderni." Ibid.

64. "Quanto alla cognitione della Terra verso a Polo Artico, non passò il detto Tolomeo 63. gradi, ma sotto l'Equinottio non armmò à 16. se bene come habbiamo detto, Plinio, & altri scrissero molto più, nulladimeno non si troua distintione di Tauola alcuna, ne discorso di certezza, che tai paesi sussero nè habitati nè da potersi habitare, si come à nostri tempi habbiamo certa cognitione, la onde chi accozzerà i gradi de ambi, i conti-

nenti insieme, potrà con l'esperienza della verità vedere quanto i nostri habbino scoperto in breue tempo." Rosaccio, *Descrittione della Geografia universale*, fol. 5v.

65. "In'questo libro lettore humanissimo tu leggerai il viaggio fatto per gli Spagniuoli atorno il mondo, il quale è forse una delle piu grandi, & marauigliose cose, che si sia intesa alli tempi nostri, & anchor che in molte di loro superiamo gli antichi, pur questa passa di gran lungha tutte le altre insino à questo di trouate." Massimiliano Transiluano, *Il Viaggio fatto da gli Spagniuoli atorno al mondo* (Venice, 1536), A ii r.

66. "Questa itinerario di Lodouico Barthema bolognese, nelqual tanto particularmente si narrano le cose dell'India & Isole delle speciarie, che da niun de gli antichi si trouan scritte cosi minutamente, è stato molti anni letto con infiniti errori & incorrettioni." Giovanni Battista Ramusio, *Primo volvme delle navigationi et viaggi nel qval si contiene la descrittione dell'Africa* (Venice: Appresso gli heredi di Lvcantonio Givnti, 1550), 158v. For more on Ramusio, see Bevilacqua, "Geografi e Cosmografi," 371–72.

67. "Et se alcun dubitando dicesse, come è possibile, che ne tempi antichi, auanti & doppo Plinio, che non si sapeua l'arte del nauigar col bossolo, & con la carta, bastasse l'animo à gli huomini, col guardar solo delle stelle, & con lo scandaglio, mettersi à fare vn parizzo." Ramusio, *Primo volvme delle navigationi et viaggi*, 399r.

68. Bordone, *Libro di Benedetto Bordone*, ii r. "de molti errori che gl'antichi a posteri lasciati haueuano."

CHAPTER 5

1. "Questi Anni adrietto da me è stato intaligato due uolte le stampe di questo Mappamondo, et per il corso di quello le stampe sono uenuti quasi almeno, la doue per il commodo comune io son stato astretto di douerlo intagliare di nuouo." Forlani, "Universale Descrittione di Tutta la Terra Conosciuta Fin Qui," 1562.

2. "[C]osa non più ueduta in queste n[ost]re parti . . . a commune utilità di color tutti, ch' della honorata, et dileteuole, Geografia si dilettano, con ogni mia diligenza intagliarlo, et darlo fuori." Paolo Forlani, "Descrittione del Ducato di Savoia," 1562 (not in Tooley, Woodward 17.01).

3. "La Descrittione della campagna di roma, detta dagli antichi lativm . . . con tutte le sue Terre, Castella, Ville, Fiumi, Monti, et Selue . . . à commune utilità de' studiosi della Geografia." Anonymous, "La Descrittione della campagna di roma," 1564 (Tooley 481, Woodward 33.01).

4. "a commune utilità, & sodisfattione de i Lettori." Leandro Alberti, *Isole appertenenti alla Italia* (Venetia: Appresso Lodovico Avanzi, 1567), frontispiece.

5. "aspettando appresso una Europa, che ora si sta intagliando, iustissima, bellissima, et copiosissima la quale pure à commune utilità sarà data da noi." Paolo Forlani, [Untitled Map of Spain and Portugal], 1567 (Tooley 531, Woodward 68).

6. For more on the portego see Patricia Fortini Brown, *Private Lives in Renaissance Venice: Art, Architecture, and the Family* (New Haven: Yale University Press, 2004), 71–75.

7. Biblioteca Marciana [Hereafter BM] It. cl. XII, cod. 211, cited in Rinaldo Fulin, "Diarii e diaristi veneziani," *Archivio Veneto* 22, no. 1 (1881): xix-xx. Also mentioned in Ambrosini, "Descrittioni del mondo," 67–68; and Brown, *Private Lives in Renaissance Venice*, 222–23.

8. For more, see Frances Gage, "Exercise for Mind and Body: Giulio Mancini, Collecting, and the Beholding of Landscape Painting in the Seventeenth Century," *Renaissance Quarterly* 61, no. 4 (2008): 1167–1207.

9. Robert Burton, *The Anatomy of Melancholy*, ed. Holbrook Jackson (New York: New York Review of Books, 2001), 86; also cited in Gage, "Exercise for Mind and Body," 1171.

10. "Trouai i passati mesi in Venetia un Don Diego Hermano di Toledo, gentil'huomo di nobilissima qualità: co[n] cui uenuto a ragioname[n]to di molte cose, e specialime[n] te della Geografia." Forlani, [Untitled Map of North and South America]. It is certainly possible that Forlani was crafting an imaginary provenance for his map through the story of Don Diego Hermano, and yet even if falsified it must have been a believable possibility for viewers to accept Forlani's story.

11. Giovanni Astegiano, "Su la vita e le opere di Tommaso da Ravenna," *Bollettino del Museo Civico di Padova* 18 (1925), 49–70, 23–60, cited in Woodward, *Maps as Prints*, 91.

12. Cristiana Scappini, Maria Pia Torricelli, and Sandra Tugnoli Pattaro, eds. *Lo studio Aldrovandi in Palazzo Pubblico (1617–1742)* (Bologna: Editrice CLEUB, 1993), cited in Woodward, *Maps as Prints*, 91–92.

13. For more, see Fiorani, "Cycles of Painted Maps in the Renaissance," 816–18.

14. Ibid., 819.

15. Although the original plan called for fifty-seven maps, only fifty-four were eventually produced, and this process took over twenty years. See Fiorani, *Marvel of Maps*, 25.

16. Transcribed and translated in Fiorani, "Cycles of Painted Maps in the Renaissance," 822–23n54.

17. For example, the city maps in the first volume of *Civitates Orbis Terrarum*. Georg Braun and Franz Hogenberg, *Civitates Orbis Terrarum*, vol. 1 (Cologne, 1572) v. 1.

18. Paolo Forlani, [Untitled Map of Africa, Italian], 1562 (Tooley 67, Woodward 10.01); Paolo Forlani, [Untitled Map of Africa, Latin],1563 (Tooley 70, Woodward 18.01).

19. Edgerton, *The Renaissance Rediscovery of Linear Perspective*, 98.

20. "Io . . . segnate con numeri Le parti piu notabili . . . dimonstrano tutte le particolarita, che l'huomo disidera di sapere." Paolo Forlani, [Untitled Plan of Venice], 1565 (not in Tooley, Woodward 42.01).

21. "sape[n]do quanto. V. S. si diletta delle cose di Geografia." Ferrando Bertelli, [Untitled Map of the North Atlantic], 1566 (Tooley 78, Woodward 43).

22. "Voi vedetela, leggitela, et vivete felici." Giacomo Gastaldi, "La Spaña," 1544. Also mentioned in Woodward, "Italian Composite Atlases," 66.

23. "il conseillera de mettre, au lieu de dorures et de parements, 'les instruments de Mathématiques, Globes, Mappemonde, Sphères, Peintures, animaux, pierres & autres curiositez tant de l'Art que de la Nature.'" Gabriel Naudé, *Advis pour dresser une bibliothèque* (Paris, 1627), 111; cited in Giuseppe Olmi, "Théâtres du monde, les collections européennes des XVIe e XVIIe siècles," in *Tous les savoirs du monde: Encyclopédies et bibliothèques de Sumer au XXIème siècle* (Paris: Bibliothèque Nationale de France-Flammarion, 1996), 276. As Olmi argues, the discovery of the New World, along with other voyages of exploration, brought an increasing number of new and marvelous objects to Europe; interest in these distant areas was likewise satiated by maps (Olmi, "Théâtres

du monde," 273). For more on cabinets of curiosity, see Falguières, *Les chambres des merveilles*.

24. For more on the Guardaroba Nuova, see Fiorani, *The Marvel of Maps*, 17–32.

25. Ibid., 22–23.

26. Vasari, *The Lives of the Painters, Sculptors, and Architects*, vol. 2, trans. Gaston du C. de Vere (New York: Alfred Knopf, 1996), 891; cited in Fiorani, *The Marvel of Maps*, 23.

27. "Nullum in ea noxium est animal. vino optimo (quod uulgo Maluasia uocatur) nobilis vale." Anonymous, [Untitled Map of Crete], 1570 (not in Tooley, Woodward 87).

28. Anonymous, "Isola di Cipro," 1567 (Tooley 187, Woodward 76).

29. "nascuntur minerales metalli, bene munita, et forti situ impetui turcarum resistit." Anonymous, "Ilba," 1566 (Tooley 196, Woodward 50).

30. "Questo territorio ha 1442378 campi in tutto de quali i fertili sono 1223112, i sterili, 220266; de' quali ogni giorni sene ua riducendo alcuno à fertilità à laude del Sig:or Dio, et à beneficio publico." Forlani, [Untitled Map of the Territory of Verona], 1574 (not in Tooley, Woodward 97).

31. Jacob, *The Sovereign Map*, 176.

32. A high-resolution image of the map can be seen at http://www.mapsorama.com/maps/world/FraMauroDetailedMap.jpg

33. Falchetta, *Fra Mauro's World Map*, 335n799, 509n1742, 713n2894, and 365n917. Falchetta's book transcribes the nearly 3,000 notations on Fra Mauro's map.

34. Ibid., 245n301.

35. Ibid., 577n2202.

36. Felix Fabri, *Evagatorium Fratris Felicis in Terrae sanctae*, 31 May 1483, in *Les errances de Frère Felix, pèlerin en Terre sainte, en Arabie et en Egypte (1480–1483)*, ed. Jean Meyers and Nicole Chareyron (Montpellier: Publications du Cercam, 2000), cited in Falchetta, *Fra Mauro's World Map*, 24.

37. On the manipulations to the view of Florence, see Friedman, "'Fiorenza,'" 62–64.

38. On collecting naturalia, see Findlen, *Possessing Nature*, 17–47; Daston and Park, *Wonders and the Order of Nature*, 146–59.

39. "[L]a presente tauola ne la qual si uede tutto il mondo ridotto ne la miglior forma che fin hora sia stata da alcun altro stampata." Forlani, "Universale Descrittione di Tutta La Terra Conosciuta Fin Qui," 1563 (Tooley 10, Woodward 35.02).

40. "H[a]uendo jo ueduto chel mondo sta con tanto dessiderio di ueder un particolar dissegno di tutta la descrition e region di lombardia." Forlani, [Untitled Map of Lombardy], 1561 (Tooley 350, Woodward 7).

41. "E benche sia cosa difficile a tutti i Mathematici, et a me impossibile, che si possi ridurre un corpo spherico perfetto, in una forma piana, che sia similmente perfetta." Gastaldi, *La universale descrittione del mondo*, 3.

42. "Non Vos pigeat igitur optimi Lectores hanc Tabellam paulum ociose contemplare si germani et exactum Tusciae descriptionem intelligere desideratis." Anonymous, [Untitled Map of Tuscany], 1564 (Tooley 568, Woodward 34).

43. Erasmus, "De copia," in *The Collected Works of Erasmus*, vol. 24, ed. Craig R. Thompson (Toronto: University of Toronto Press, 1978), cited in Catherine Delano-Smith, "Maps and Map Literacy II: Different Users, Different Maps," in *Plantejaments*

i objectius d'una historia universal de la cartografia, ed. David Woodward (Barcelona: Institut Cartografic de Catalunya, 2001), 255.

44. Gastaldi, *La universale descrittione del mondo*, 1.

45. "[C]he di quelle hanno cognitione, et di esse si dilettano molto." Forlani, [Untitled Map of Africa], 1562 (Tooley 67, Woodward 10.01).

46. "Eccoui benigni Lettori una nuoua descrittione di tutto il mondo, la quale è la piu particuolare, fidele, giusta, et conformi alle nauigationi et historie di quanti fin qui sene sono uedute da uoi." Forlani, "Universale Descrittione di Tutta la Terra Conosciuta Fin Qui," 1562.

47. "et essendo la geographia la chiaue per dir cosi delle historie." Ibid.

48. Geoffrey Symcox, *Italian Reports on America, 1493–1522: Accounts by Contemporary Observers*, vol. 12, trans. Theodore J. Cachey Jr. and John C. McLucas (Turnhout, Belgium: Brepols, 2002), 110.

49. "Hec sunt insule quas domino Christophorus Columbus ad instantiam serenissimi hispanie regis invenit." Giovanni Matteo Contarini and Francesco Rosselli, [Untitled Conic World Map], 1506.

50. Angelo Poliziano, *Panepistemon*, vol. 1, in *Opera, quae quidem extiterunt hactenus, omnia*. (Basel, 1583; repr., Torino: Bottega d'Erasmo, 1971), 463; cited in Jean-Marc Mandioso, "L'histoire dans les classifications des sciences et des arts à la Renaissance," *Corpus* 28 (1995): 46.

51. Conrad Gessner, *Pandectarum Sive Partitionum Univeralium Libri XXI*, 1, fol. 109v; cited in Mandioso, "L'histoire," 47.

52. "Postremo a Solimano Turcar. Imp. 1523. capta ex pulsis qui suas hic sed[e]s tenuera[n]t militibus Hierosolimitanis." Claudio Duchetti, "Rhodus," 1570. (Tooley 465, Woodward 91).

53. Sebastian de Re, "L'Isola d'Inghilterra," 1560 (Tooley 276, not in Woodward); Paolo Forlani, [Untitled Map of Switzerland], 1567 (Tooley 539, Woodward 71).

54. "Sed quia hic non datur locus multa enarrandi, historicos consulat, qui originem ac res, diuersis in ea temporibus præclare gestas scire desiderat." Paolo Forlani, "Totius Galliae Exactissima Descriptio," 1566 (Tooley 211, Woodward 51).

55. "[L]a qual parte fu destrutta da Romani p[er] suspetto de rebelione, parte un te[m] po signoregiata dalli ill.^{mi} S.^{ri} Veneti.^{ni}; Dapoi co[n] horribili guerre, e con ingan[n]I, è da infideli posseduta." Claudio Duchetti, "Peloponnesus," 1570 (Tooley 400, Woodward 90).

56. "La Torre appresso la Goletta è per la difesa de' pozzi da quali si ha l'acqua per uso della città: Le Mura che abbracciano i borghi sono di altezza di tre braccia, et debolissimi." Bolognini Zaltieri, [Untitled Map of Tunis and Goletta], 1566/63 (Tooley 558, Woodward 63).

57. "Da queste linee si trouano facilmente i luoghi principali, doue possa andar l'armata Christiana a danno de' Turchi." Paolo Forlani, [Untitled Map of the Eastern Mediterranean], 1571 (Tooley 38; Woodward 95).

58. "gra[nde] uittoria," "mostrato in questa felicci.a giornata nauale co[n]tra i Turchi." Ibid.

59. "venetia Città maravigliosa . . . da tutto l'vniuerso per fama conosciuta, & celebrata." Forlani, [Untitled Plan of Venice].

60. "Cum sit ch[e] lui principalmente ad fama de questa ex[cel]sa cita de venetia." Schulz, "Jacopo de' Barbari's View of Venice," 473.

61. "cosi della n[ost]ra patria, come di altri luoghi, dolersi che una cosa si bella e rara, quale è il territorio Veronese, no[n] sia stata communicata, al mo[n]do per uia di stampa." Forlani, [Untitled Map of the Territory of Verona].

62. "ogne q[ue]sto territoria al pari di qualu[m]q[ue] altro, no[n] sol d'Italia, ma di tutto il mo[n]do, e celebrato per la fertilità, et a[n]bo[n]daza sua di tutto quello, ch'è necessario alla uita humana, oltra ch[e] la sua uaghezza." Ibid.

63. For more, see Woodward, "Italian Composite Atlases," 51–70.

64. "per acquistar l'esperienza che sia sufficiente alla prudenza,—afferma—sarà necessaria la peregrinazione per mare e per terra, secondo varie e diverse regioni, per mera elezione, però non per necessità, e con tale osservazione di tutte le cose importanti che occorrono, che si possa sodisfare alla curiosità del peregrino." Vincenzo Giustiniani, *Discorsi sulle arti e sui mestieri*, ed. Anna Banti (Florence: Sansoni, 1981), 104. Also cited in Gage, "Exercise for Mind and Body," 1201.

65. "Molto tempo è ille sig^{or} mio ch' ho un interno desiderio di dare al mondo una Vniversale descrittione di tutta la terra conosciuta fin qui." Forlani, "Universale Descrittione di Tutta la Terra Conosciuta Fin Qui," 1562.

66. "hauendo io questi di addietro intagliata l'America, con un gran parte della Florida, da tutti communamente detto il Mondo nuouo, ho uoluto farla andar fuori sotto l'honorato nome di V. M." Forlani, "La Descrittione di Tutto il Peru," ca. 1562 (Tooley 93, Woodward 11).

67. "Il Disegno del discoperto della noua Franza, il quale s'è hauuto ultimamente dalle nouissima nauigatione de' Franzesi in quel luogo: Nel quale si uedono tutti l'Isole, Porti, Capi, et luoghi fra terra che in quella sono." Bolognini Zaltieri, [Untitled Map of North America], 1566 (Tooley 81, Woodward 37.01). David Woodward argues that Forlani, rather than Zaltieri, engraved this map; see "The Forlani Map of North America," *Imago Mundi* 46 (1994): 29–40.

68. "à lucidatione delle jstorie, et à memoria de uiandanti in tal parte." Giovanni Francesco Camocio, [Untitled Map of Asia Minor], 1566 (Tooley 65, Woodward 44).

69. "Cottone, Mastice, Aloe, Cannella, Zanzero, et altre Speciarie." Paolo Forlani, "L'Isola Spagnola," 1564 (Tooley 84, Woodward 30).

70. These specific maps have been chosen from a number of very similar sixteenth-century maps of the Caribbean because all three include unique text accompanying the map.

71. For more on this relationship, see Woodward, "Paolo Forlani: Compiler, Engraver, Printer, or Publisher?" especially 58–59.

72. "L'Isola Spagnola una delle prime che Colombo trouasse, hoggi è detta L'Isola di S. Dominico, e l'habitano Spagnoli." Forlani, "L'Isola Spagnola."

73. "È Isola molto grande et di aere perfetto, et hoggi fertile di tutte le cose." Ibid.

74. "Quest'Isola e molto fertile, et ha fiumi, et laghi de acqua dolce." Ferrando Bertelli, "Spagnola," 1560 (Tooley 87, not in Woodward).

75. "e abundante de Bombaco, e zuccari, pomi granati, limoni, naranze, et molte palme con datoli." Ibid.

76. "In quest'Isola l'aere e molto buono, la maggior parte dell'anno gli arbori stanno verdi con fiori, e frutti." Ibid.

77. "è ácor essa molto abo[n]da[n]te di zuccaro, Cottone, Oro et altre cosi simili,

insieme co[n] molte Speciarie." Paolo Forlani, "L'Isola Cuba," 1564 (Tooley 90, Woodward 29.01).

78. "E fertilissima di molte cose, come di Cottone, Mastice, Aloe, Cannella, Zanzero, et altre Speciarie, Quiui non nasceuano animali di quatro piedi, fuor ch Conigli, ma ora ui nascono Caualli bonissimi, et Buoi, et altre sorte simili." Forlani, "L'Isola Spagnola."

79. "Produce molto forme[n]to indiano detto dà paesani Maiz." Forlani, "L'Isola Cuba."

80. "Il pan loro e il Maiz, che nasce al modo della melega, o voi dire Sorgo. Et il gram suo e grosso come grani di Cesare attaccati intorno la sua spiga." Bertelli, "Spagnola."

81. "E abundante de Bombaco, e zuccari, pomi granati, limoni, naranze, et molte palme con datoli, vi sono Cavalli, Vache, Peccore, et altri animali, come Papagalli." Ibid.

82. "jl Populo di q[ue]sta jsola è molto piu humano et piaceuole, di quello della Spagnola." Forlani, "L'Isola Spagnola."

83. "Il popolo dell'Isola gia vivevano come quelli de l'Isola Cuba, e Iamaica con l'adoratione, dell'Idolo Diavolo, hora sono tutti sotto alla fede del Signore Nostro Iesu Christo, il vestire loro e cuoprirsi le parti vergognose con panni di Bonbace et il resto della persona vanno nudi." Bertelli, "Spagnola."

84. "La natura li mantiene come fa gli animali, che non lavorano, ne meno semisnano [sp]." Ibid.

85. "In quest'Isola l'aere e molto buono, la maggior parte dell'anno gli arbori stanno verdi con fiori, e frutti." Ibid

86. Ovid, *Metamorphoses*, trans. Stanley Lombardo (Indianapolis: Hackett Publishing, 2010), 8. Ovid's description of ages of gold, silver and iron also appears in Canto XIV of Dante's *Inferno*.

87. This tactic supports Anthony Pagden's theory that Europeans used the principle of attachment to understand their encounters with new cultures. Pagden's *European Encounters with the New World: From Renaissance to Romanticism* (New Haven: Yale University Press, 1993) defines the principle of attachment as the process which Europeans used to understand foreign ideas; by drawing on their own cultural knowledge, Europeans sought to categorize alien actions within a familiar framework. Pagden, however, argues (pp. 21, 26–27) that an uneven power relationship existed between the Europeans and the New World inhabitants they encountered, and that the act of recognition could lead to the detachment of the foreign action from its original context, which ultimately becomes an act of possession.

88. "L'Isola Spagnola una delle prime che Colombo trouasse, hoggi è detta L'Isola di S. Dominico, e l'habitano Spagnoli." Forlani, "L'Isola Spagnola."

CHAPTER 6

1. "Inde jubes scalam paulatim ascendere sursum / Tendimus: in summo porticus ampla patet. / Hicque novum intramus rerum mare; cernitur usquam / Nec paries: quavis parte nihil vacuum. / Hic poteris varias hominum spectare figuras, / Deformes facies; hic nova mille vides." BM It. cl. XII, cod. 211, cited in Fulin, "Diarii e diaristi veneziani," xx. Also mentioned in Ambrosini, "Descrittioni del mondo," 67–68, and Brown, *Private Lives in Renaissance Venice*, 222–23. Though da Porto's description is largely in the present tense, I have opted for past tense in my translation for clarity.

2. "Immensi tandem reseratur machina mundi . . . Vidi quae continet orbis, / Quae mare, quae caelum, tartara et antipodes . . . Qui mare, qui terram et vastum vult cernere mundum, / Ille domum aspiciat, docte Marine, tuam." BM It. cl. XII, cod. 211, cited in Fulin, "Diarii e diaristi veneziani," xx, xix.

3. Frances Gage makes a similar point particularly for walks through seventeenth-century gardens in "Exercise for Mind and Body."

4. It is also worth noting that da Porto knew how to read a map, an acquired skill that was likely shared by most educated Italians in the sixteenth century. Maps were not obscure objects and were likely encountered by Venetians on a regular basis, as demonstrated by the fact that a minimum of 10 percent of Venetian households in the sixteenth century contained maps.

5. On map publishing in Venice, see Woodward, "The Italian Map Trade"; Cosgrove, "Mapping New Worlds"; Armstrong, "Benedetto Bordon"; Meurer and Haas, *The Strabo Illustratus Atlas*; and Mukerji, "Printing, Cartography and Conceptions of Place."

6. While maps frequently included coats of arms for rulers of different regions—for example, Olaus Magnus's "Carta Marina" (Venice, 1539)—personally owned maps also included these heraldic marks. Florentine Tadeo di Daniello d'Azi owned "three images of the earth in tables with arms," ("3 quadretti de terra da tavola col'arma," ASF MdP b. 191, no. 57, 1530 Mar. 2, fol. 432r), and Marco Dandolo owned "a design of a fortress in Bergamo colored with the Dandolo arms" ("un dissegno della fortezza di Bergamo colorito con l'arma Dandola," ASV GdP b. 352/17, no. 99, 1631 Apr. 29, fol. 31r).

7. For more on map collecting and display, see Barber and Harper, *Magnificent Maps*; George Tolias, "Maps in Renaissance Libraries and Collections," in *The History of Cartography, Volume 3: Cartography in the European Renaissance,* ed. David Woodward (Chicago: University of Chicago Press, 2007), in particular 652–54; and Woodward, *Maps as Prints*, particularly chapter 3 on the consumers of maps. On the display of maps by states see Fiorani, *The Marvel of Maps* and "Cycles of Painted Maps in the Renaissance." On collecting in Italy more broadly, see Christopher Baker, Caroline Elam, and Genevieve Warwick, eds., *Collecting Prints and Drawings in Europe, c. 1500–1700* (Burlington, VT: Ashgate, 2003); Findlen, *Possessing Nature*; and Krysztof Pomian, *Collectors and Curiosities: Paris and Venice, 1500–1800* (Cambridge, UK: Polity Press, 1990).

8. For example, on the history of cartography see Delano-Smith, "Map Ownership in Sixteenth-Century Cambridge" and Ambrosini, "Descrittioni del mondo"; on noncartographic studies see Morse, "Creating Sacred Space;" Rebecchini, *Private Collectors in Mantua*; and Lydecker, "The Domestic Setting of the Arts in Renaissance Florence."

9. Maps, along with other images, were most frequently described as "un quadro di," *quadro* being used loosely to mean a picture or image. It is telling that the terminology used to describe maps in the inventories is identical to that used to describe religious images, paintings, or other artworks, and provides further evidence that for sixteenth-century viewers there was no gulf between maps and works of art.

10. As mentioned previously, Renaissance Italian governments commissioned numerous mural map cycles in the sixteenth century. As Francesca Fiorani has argued, these map cycles were particularly valuable for their ability to transmit symbolic and cultural messages. On the use of maps by Italian states, see Fiorani, *The Marvel of Maps* and "Cycles of Painted Maps in the Renaissance."

11. As noted in chapter 3, in a survey of over 2,200 inventories from Venetian households I found only two maps of Venice, one of which was owned by a Genoese merchant. The inventories listing the maps of Venice can be found in ASV GdP b. 349/14 no. 72, 1625 Nov., fol. 1r; and ASV GdP b. 348/13, no. 20, 1622 June 6, fol. 12r. The absence of local views is also noted by Woodward, who additionally points out the noticeable lack of images of Saint Mark, the patron saint of Venice, in *Maps as Prints*, 83.

12. Sara F. Matthews-Grieco, "The Buyers' End of the Market: Demand, Taste and Consumption in Renaissance and Counter-Reformation Italy," in *The Art Market in Italy: 15th-17th Centuries*, ed. Louisa Matthew, Sara F. Matthews-Grieco, and Marcello Fantoni (Modena: F. C. Panini, 2003), 19.

13. For more on the *portego* see Brown, *Private Lives in Renaissance Venice*, 71–75.

14. "per potere ricevere i parentadi nel tempo delle nozze, e far conviti, e feste." Vincenzo Scamozzi, *L'idea della architettura universale* (Venice: Expensis Auctoris, 1615), 243; also cited in Brown, *Private Lives in Renaissance Venice*, 71.

15. Brown, *Private Lives in Renaissance Venice*, 74–75.

16. "si mettono le finestre della Sala nel mezzo della facciata, onde si comprende con facilità da i riguardanti, dove sia posta la Sala." Francesco Sansovino, *Venetia citta nobilissima* (Farnborough: Gregg, 1968), 1:384.

17. Sebastian Serlio, *Sesto libro d'architettura. Delle habitationi fuori e dentro delle città* (Lyon: 1547–1550), fol. 52r. Andrea Foschi, a Venetian engraver, actually owned a copy of Serlio's book on architecture. See ASV MND b. 42, no. 53, 1582 Apr. 24, 3v, "un libro di architettura di Sebatian Serlio in foglio." Also mentioned in Palumbo-Fossati, "L'Interno della casa dell'artigiano e dell'artista," 134.

18. The topics of these advice books ranged greatly, from advice on how to rule or serve a ruler—for instance, Machiavelli's *The Prince* and Castiglione's *The Book of the Courtier*—to tips on raising children, finding spouses, and attracting the opposite sex—such as Alberti's *On the Family* and Barbaro's "On Wifely Duties"—or simply on good manners, as in Della Casa's *Galateo*. The genre was so popular that it even attracted satires, such as Aretino's *Dialogo* (1536), which gave advice on prostitutes and brothels. For an overview, specifically related to matters of family and children, see Rudolph Bell, *How to Do It: Guides to Good Living for Renaissance Italians* (Chicago: University of Chicago Press, 2000), 5–16. On dining and culinary matters, see Ken Albala, *Eating Right in the Renaissance* (Berkeley: University of California Press, 2002), 25–46.

19. For more on Mancini, see Gage, "Exercise for Mind and Body;" Lydecker, "The Domestic Setting of the Arts in Renaissance Florence," 234–35; and Michael Bury, "Giulio Mancini and the Organization of a Print Collection in Early Seventeenth-Century Italy," in *Collecting Prints and Drawings in Europe, c. 1500–1750*, ed. Christopher Baker, Caroline Elam, and Genevieve Warwick (Burlington, VT: Ashgate, 2003), 79–84.

20. Mancini, *Considerazioni sulla pittura*, 143–44.

21. "per i paesaggi e cosmografie si metteranno nelle gallarie e dove puol andar ognuno." Ibid., 143. Cosmography was a common term for world maps, as seen in Giacomo Gastaldi, *La universale descrittione del mondo* E,2: "Questa descrittione in generale: cosi del Cielo, come della Terra et Mare; gli antiqui la chiamarono Cosmographia."

22. "paesacci, pastori, animali, stagion d'anno e simili si metteranno nell gallerie co-

muni e portici e dove ognuno possa praticare, dove ancor si possin mettere le prospettive, cosmografie." Mancini, *Considerazioni sulla pittura*, 331.

23. Leon Battista Alberti, *On the Art of Building in Ten Books* (Cambridge: MIT Press, 1988), book 9.4, p. 299.

24. Robert Karrow estimates that there were perhaps 60,000 individual maps in circulation in the year 1500, a figure that rose to approximately 1.3 million by 1600, causing "a sea change in European consciousness of the possibilities of maps." See Karrow, "Centers of Map Publishing in Europe," 621.

25. Pliny the Elder, *Natural History*, ed. and trans. H. Rackham, D. E. Eichholz, and W. H. S. Jones, Loeb Classical Library (Cambridge: Harvard University Press, 1938–1963), 9:347 (bk. 35, 115–17); cited in Kagan and Schmidt, "Maps and the Early Modern State," 677.

26. Pollio, *Ten Books on Architecture*, bk. 2; cited in Kagan and Schimdt, "Maps and the Early Modern State," 977n69.

27. "Chè la machina del mondo, che noi veggiamo coll'amplo cielo di chiare stelle tanto splendido, e nel mezzo la terra dai mari cienta, di monti, valli e fiumi variata, e di si diversi alberi e vaghi fiori e d'erbe ornata, dir si può che una nobile e grand pittura sia, per man della natura e di Dio composta; la qual chi può imitare, parmi esser di gran laude degno." Baldassarre Castiglione, *Il Cortegiano* (Florence: F. Le Monnier, 1854), 65.

28. BM It. cl. XII, cod. 211, cited by Fulin, "Diarii e diaristi veneziani," xx, xix. Da Porto uses the Latin phrase "machina mondi" while Castiglione uses an identical phrase in Italian, "machina del mondo," to represent the universe's complexity.

29. "della [arte], oltra che in sè nobilissima e degna sia, si traggon molte utilità, e massimamente nella guerra, per disegnar paesi, siti, fiumi, ponti, ròcche, fortezze, e tai cose." Castiglione, *Il Cortegiano*, 65.

30. "Vedete adunque come lo aver cognizione della pittura sia causa di grandissimo piacere." Ibid., 68.

31. Mentioned in Barber and Harper, *Magnificent Maps*, 119–20, and Rebecchini, *Private Collectors in Mantua*, 119.

32. See Marcantonio Michiel, *Notizia d'opere del disegno*, ed. Cristina de Benedictis (Florence: Edifir Edizioni Firenze, 2000).

33. Ibid., 52, 58.

34. Ibid., 56. The identity of Alberto of Holland is unknown.

35. This was a common practice among collectors of all stripes in the sixteenth century, as Paula Findlen has shown. See Findlen, *Possessing Nature*, especially 17–47.

36. The following case studies were selected using several criteria—first, I largely selected examples where I could collect supplemental information about the individual or family represented in the inventory. In some cases, the only information I could use was the inventory's description of the individual's profession, while in other cases, such as the Dandolo and Morosini inventories, much is known about the history of the family. This choice skews results towards the wealthier map owners but provides a much richer picture of the map's role in shaping identity. The second criterion was selecting inventories that contained a high number of maps along with other images, again in order to provide a richer and more complex reading of the map's place in the *portego*.

37. ASV MND b. 41, no. 46, 1571 Apr. 9, fol. 1v.

38. Ibid., fol. 7v.

39. While the specific identity of these maps cannot be determined, based on the date and descriptions it is highly likely these were maps printed by Paolo Forlani. Forlani produced maps of Brabant (1566), Holland (1563), and Flanders (1567). It is quite possible that the maps of Gelderland, Bruges, and Amsterdam were also produced locally in Venice, which produced more maps in the sixteenth century than any other European city.

40. Woodward, *Maps as Prints*, 93–99.

41. ASV MND b. 41, no. 46, 1571 Apr. 9, fol. 7v.

42. This map was most likely of Cologne but may have also been an image of the city of Colonna in Lazio, near Rome.

43. ASV MND b. 42, no. 32, 1576 May 15, fol. 1v. The text reads "un quadro di napamondo vecchio."

44. For more on Segezi's inventory see Palumbo-Fossati, "L'Interno della casa dell'artigiano e dell'artista," 138–49, especially 147–49 on his map.

45. ASV MND b. 42, no. 32, 1576 May 15, fol. 1r.

46. Brown, *Private Lives in Renaissance Venice*, 74–75.

47. ASV GdP b. 344/9, no. 10, 1609 Oct. 6–13, fol. 11r. Rizzi also displayed a group of four images, one for each season of the year. These "quadri delle stagioni del anno" were very popular among Venetian households in the sixteenth and early seventeenth centuries.

48. ASV MND b. 34, no. 51, 1538 May 4–8, fol. 2r.

49. ASV GdP b. 338/3, no. 58, 1584 Sept. 19, fol. 7v.

50. Morse, "Creating Sacred Space," 158–59.

51. "una madonna dorada vecchia antiga, un quadreto de un desegno da Padoa." ASV MND b. 36, no. 27, 1535 Sept. 16, fol. 3r.

52. "un quadro de nostra donna soazado d'oro alla grecha, doi quadreti de paesi." ASV GdP b. 345/10, no. 47, 1613 Aug. 21, fol. 1v.

53. "nostro signore in croce . . . una cosmografia." ASV GdP b. 346/11, no. 18, 1615, fol. 1r.

54. ASV GdP b. 348/13, no. 65, 1623 June 12. The inventory gives two different last names for Marietta. The first page, dated April 1623, lists her as Marietta Morosini and says that she commissioned the inventory of the house of Piero Morosini. The outside of the inventory, dated in June 1623, names her Marietta Pisani. Marietta therefore may have remarried between the making of the inventory and its filing with the state, or, less likely, Pisani was her maiden name. It is unclear if Marietta gained possession of the goods in Piero's home; children are not mentioned in the inventory records.

55. ASV GdP b. 348/13, no. 65, 1623 June 12, fol. 4r.

56. For more, see Ambrosini, "Descrittioni del mondo," 74.

57. ASV GdP b. 352/17, no. 99, 1631 Apr. 29, fol. 7v. Carniola is part of present-day Slovenia and was part of the Austrian Empire at the time.

58. ASV GdP b. 352/17, no. 99, 1631 Apr. 29, fol. 31r.

59. "un'albore della famiglia Priuli, doi quadreti soazete nogera con città à stampa." ASV GdP b. 348/13, no. 102, 1623 Jan. 29, fol. 2v.

60. BM Ital. cl. IX, cod. 364, cited in Fulin, "Diarii e diaristi veneziani," xxi.

61. ASV GdP b. 350/15, no. 16, 1626 Apr. 27, fol. 2r.

62. For more, see Deborah Howard and Sarah Quill, *The Architectural History of Venice* (New Haven: Yale University Press, 2002), 229–31.

63. "Da poi disnar, noto, el signor Alberto da Carpi vene a veder il mio studio e il mapamondo insieme con tre savii ai ordeni sier Alvise Bembo, sier Mafio Lio, sier Daniel Barbarigo." Sanuto, *I diarii di Marino Sanuto*, vol. 13, col. 293, 5 Dec. 1511.

64. See Thornton, *The Scholar in His Study* and Tolias, "Maps in Renaissance Libraries and Collections."

65. A statistical survey of images in 531 inventories made between 1530 and 1553 and 1600 and 1611, drawn from ASV GdP and ASV MND, show a total of 115 maps and 63 family portraits.

CONCLUSION

1. For examples, see Braun and Hogenberg's *Civitates Orbis Terrarum*, an atlas of city views published in six volumes between 1572 and 1620. The map of Venice included in volume 1 (plate 43) shows the use of both a key to highlight sacred places and selective coloration to emphasize religious locations.

2. Forlani, [Untitled Map of the Eastern Mediterranean]; Bertelli, "Spagnola."

3. ASV MND b. 34, no. 51, 1538 May 4–8, fol. 2r; ASV GdP b. 338/3, no. 58, 1584 Sept. 19, fol. 7v; ASV MND b. 36, no. 27, 1535 Sept. 16, fol. 3r; ASV GdP b. 346/11, no. 18, 1615, fol. 1r.

4. De Chaves, *Espejo de Navegantes*, 110; translated and cited in Sandman, "Mirroring the World," 92.

5. BM It. cl. XII, cod. 211, cited in Fulin, "Diarii e diaristi veneziani," xx, xix.

6. Fiorani, *The Marvel of Maps*, 17–32.

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INDEX