



*From Circle  
to Sphere:  
Historic  
Maps  
Since  
Columbus*

*From Circle to Sphere: Historic Maps Since Columbus*

A Catalog of an Exhibition

◆  
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◆

Main Exhibition Gallery

by  
John Delaney

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The cover image is a copy of the double-portrait of Gerard Mercator and Jodocus Hondius prefaceing vol. 1 of *Atlas or A Geographie Description of the Regions, Countries and Kingdomeys of the World*, translated by Henry Hexham, 2 vols., Amsterdam, 1636.

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## Introduction

The quincentenary (1492-1992) of Columbus' first voyage to America provides us with a unique vantage point from which to examine some of the maps that have traced the expansion of Western knowledge of the world. In the midst of today's satellite photography and computer graphics, when good maps are as common as gas stations, it is almost impossible to imagine a time when more of the world was unknown than known—as it was when Columbus lived, approximately 200,000 days ago.

But the maps from that period remain. And they are powerful images—when viewed chronologically—of the cascading force of discovery. The waves of maps that followed in the wake of the explorers washed away, finally and triumphantly, all medieval misconceptions of the world. Corrected and projected upon the cartographer's maps, the world became larger and more diverse than anyone had imagined.

This is an exhibition of cartographers' triumphs (and errors) that, shown here together, guide us back from the dark *terra incognita* of Columbus' day. Naturally, the older maps are what intrigue us, for they are full of empty spaces that contemporary artist-engravers were compelled to fill with informative and/or imaginative (always decorative) touches—hence, the elaborate cartouches, exotic fauna, and vignettes of national life. They are represented here in abundance, drawn from the “golden age of mapmaking,” roughly the 17th century. Included are some of the rarest maps in the world.



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### **Introduction**

Yet there is something even more magnetic about old maps than their art that attracts us to them. Probably, there will never be anything like them again—even as we begin to explore distant planets in the universe—for our methods have become too sophisticated and scientific, and the results too instantaneous. At the speed of light, images of Venus came back to us last year from cameras mounted on the *Magellan* spacecraft. No more, the hearsay of sailors, the imaginative fabrications of cartographers, the clumsy measurements of inexact instruments. Princeton astronomers also made news last year discussing the Digital Sky Survey, which will create the world's largest and most detailed three-dimensional map of the universe. No more, the political placement of territory within papal-established zones. Cartographically, science is already moving on beyond the earth.

But the earth, of course, is where we live and what is dear to us, and any man-made images of it from the past become romanticized in our eyes. As time travelers, we will always prefer, I believe, to go backward rather than forward, to experience an earlier history, such as is possible with these maps, than indulge the fantasies of science fiction. (Biographies are perennial bestsellers.) How else explain the current fascination with Columbus and every detail of his first voyage? What did he look like? Where exactly did he and his crew first set foot? We are interested in real adventure stories and real heroes, and early maps and charts are a perfect medium for storytelling. And no story is larger and more universal, no theme more enduring, than man's evolving concept of his world.

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One cannot separate the maps, then, from their historical background, and thus it may be useful to note some of the explorers and explorations that were their sources:

Columbus' voyage to the New World	1492	Raleigh's expedition to Virginia	1585
John Cabot to Labrador	1497	Discovery of Australia	1605
Amerigo Vespucci to the New World	1497	Virginia Company founded	1606
Vasco da Gama to India	1498	Henry Hudson to Canada	1608
Cabral to Brazil	1500	Sailing of the Mayflower	1620
Balboa sights the Pacific	1513	Dutch settle Manhattan (New Amsterdam)	1625
Ponce de Léon discovers Florida	1513	New Zealand and Tasmania discovered	1642
Cortes' conquest of Mexico	1519	Greenwich Observatory founded	1675
Magellan's circumnavigation	1519-1522	Harrison's 1st marine chronometer	1736
Verrazano to North America (East Coast)	1524	Cook's voyages	1770-1779
Pizarro's conquest of Peru	1526	Lewis and Clark expedition	1804-1806
Cartier to Canada	1534-1541	Fremont expeditions	1842-1845
De Soto crosses Mississippi River	1541	Sir John Franklin to Canada	1845
Drake's circumnavigation	1577-1580	Amundsen traverses Northwest Passage	1903-1906



## Introduction

The explorers are not the heroes of this exhibition, though, for without cartographers to record what was discovered and to translate it into a visual form anyone could understand, there would be little real discovery. As the London geographer and mapmaker Herman Moll said in 1701:

The Art of making Maps and Sea-Charts, is an Invention of such vast use to Mankind, that perhaps there is nothing for which the World is more indebted to the studious Labours of Ingenious Men. For by the help of them Geography (a Science so universally useful that no Man pretending to knowledge, of whatever faculty he be, can with any excuse be ignorant of it) is made plain and easy, the Mariners are directed in fetching us the Commodities of the most distant Parts. And by the help of them, we may at home, with pleasure, Survey the several Countries of the World, and be inform'd of the situation, distance, provinces, Cities and remarkable places of every Nation. To do this with Exactness, was an Art (to be sure) not easily attain'd; it was not one Man, nor one Generation of Men, that could bring it to any reasonable Perfection....<sup>1</sup>

To those generations of mapmakers, this exhibition is dedicated.

## Acknowledgments

I would like to express my gratitude to William Joyce, Associate University Librarian for Rare Books and Special Collections, for giving me the green light for this project, understanding (I hope!) the amount of time it demanded and detracted from other departmental business. Alfred Bush, Curator of Western Americana and Historic Maps, made some helpful suggestions and opened wide the resources of his unit for my examination and enjoyment.

The maps that illustrate this catalog were photographed by Don Breza of Photographic Services and John Blazejewski of the Index to Christian Art. Their work is identified by the following page numbers: Don Breza—cover (color), 19, 21, 47 (color), 55, 59, 61, 65, 71, 93; John Blazejewski—5 (both), 7, 13, 33, 39, 43, 79, 84, 87, 103. I appreciate the professional manner with which they accommodated my wishes and met my deadlines. Thanks, also, to Nora Lin for the computer clip art of the compass rose (page 76) which she gratefully fashioned for my purposes.

Created with WordPerfect 5.1 software, this catalog was placed via diskette into the capable hands of the University's Printing Services Department. I would like to thank particularly the three muses on its staff—Terri, Ann, and Marion—who worked with me from the beginning, offering ideas to keep down costs and to enhance the design. Thanks are also due to my staff for keeping safely (!) out of my way as best they could, and to my family, who saw very little of me during this past holiday season, for their great patience.



## Exhibition Notes

- The organization of the exhibition is essentially chronological within each section: The World, The New World, and the individual parts of North America. The alcoves on the right side of the gallery are devoted to special subjects: the prime meridian, California as an island, the Northwest Passage, and globes.
- Because some maps are loose and others are bound in atlases, a strictly chronological order could not be maintained for their display; hence, items in the exhibition are numbered to provide for a chronological route and to make for easy reference in this catalog.
- Names in **bold** are the ones credited for the maps: they may be cartographers, engravers, or publishers—or all three.
- Dates supplied for maps [in brackets] have been taken from the best available sources. Since so many of the plates for maps were re-used in later issues and/or bought and re-printed by other publishers, it is often very difficult to know which version one has, particularly when the map has been removed from an atlas.

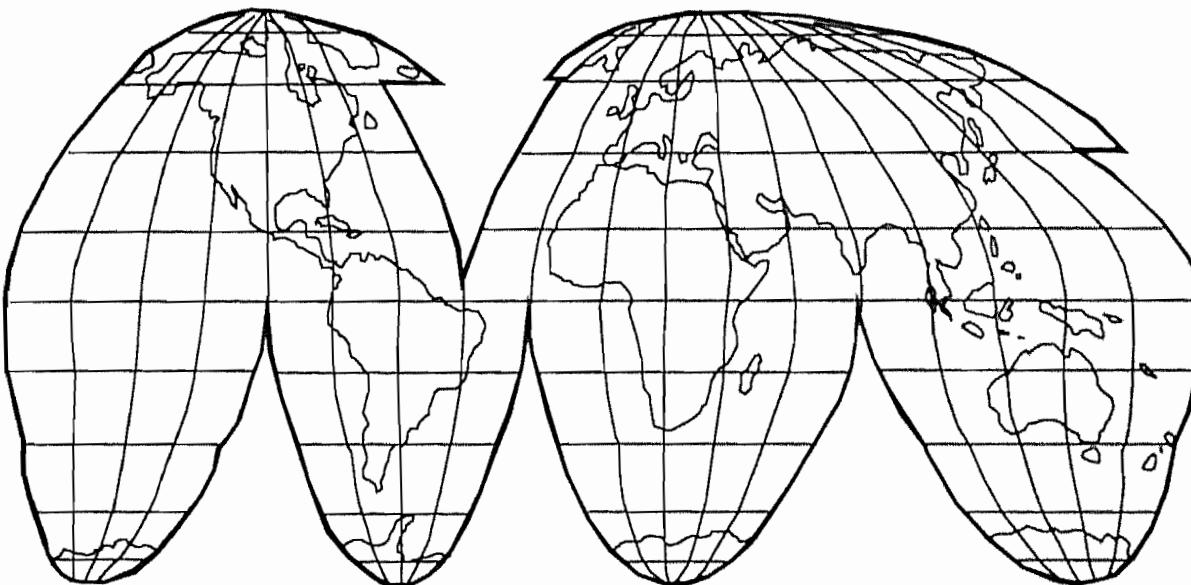


## Title Case

- 1652 **Visscher, Claes Janszoon (1587-1652).** "Orbis Terrarum Typus de Integro Multis in Locis Emendatus." Modern cloth reproduction of his handcolored copperplate map. [Lent by John Delaney]

The Visschers were an important 'family dynasty' of Dutch cartographers and publishers that flourished in Amsterdam for nearly a century during the golden age of Dutch mapmaking, the 17th century. This world map, by the founder of the business, first appeared in 1638 and was based cartographically on the 1630 world map by Henricus Hondius [see this map, item 22]. The decoration, though, is totally different. Two celestial spheres—one showing the arctic sky, the other the antarctic—occupy the central spaces above and below the map's hemispheres. Twelve outer panels [*cartes à figures*, see item 24] show pairs of figures from representative areas of the world in their native dress, while eight other scenes symbolize the four seasons and the four elements. The map, itself, continues the myth of California as an island.

Beyond tracing the historical development of accurate world and regional maps, this exhibition examines the contributions of other mapmaking families, explores other cartographic myths and fallacies, shows how different cartographers used different formats of map projection, and illustrates the rise (and fall) of map decoration. All of this begins 500 years ago . . .



The world in 1992, shown on Goode's projection in which non-critical areas (oceans) absorb the most distortion

### Christopher Columbus (1451-1506)

- 1493 1. Columbus, Christopher. "The Columbus Letter": *Epistola Christofori Colom...* (Rome: Eucharius Argenteus [or Silber], 1493). First dated edition. About ten copies are known. [Grenville Kane Collection]

When Columbus returned from his first voyage in 1493, the news of the discovery of another world in the western ocean was made public in a Latin translation from the Spanish of his letter describing what he had found. This was in the form of a news sheet, consisting of a single sheet of paper folded twice, to make a small pamphlet of eight pages.... The letter of Columbus was printed first in Spanish, at Barcelona; the Latin editions at Rome, Basel, Paris and Antwerp; and the Italian paraphrase in verse, by Giuliano Dati, at Rome and Florence. The German translation appeared in 1497.<sup>2</sup>

The exhibited letter, addressed by Columbus to Gabriel Sanchez, treasurer to King Ferdinand of Spain, is dated March 14, 1493, from Lisbon. The letter begins as follows [translated]:

Letter of Christopher Columbus, to whom our age owes much, concerning the islands of India beyond the Ganges, recently discovered.... Having now accomplished the undertaking upon which I set out, I know that it will be agreeable to you to be informed



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of all I have discovered in my voyage. On the 33rd day after I left Cadiz I reached the Indian Ocean where I found many islands peopled by innumerable inhabitants; of all which I took possession without resistance.... These people practice no kind of idolatry; on the contrary they firmly believe that all strength and power, and in fact all good things are in heaven, and that I had come down from thence with these ships and sailors; and with this belief I was received there after they had put aside fear....<sup>1</sup>

- 1671 2. "Christofel Colonus." Portrait of Columbus in Arnoldus Montanus, *De Nieuwe en onbekende wereld* (Amsterdam: Jacob Meurs, 1671). [Rare Books Collection, gift of Edward Duff Balken, Class of 1897]

This is one of more than 80 likenesses of Columbus that were created posthumously.

- [1893] 3. Photograph of the anchor supposed to have been on the *Santa Maria* caravel of Columbus, which was wrecked in the Bay of Cape Haitien on the 24th of December, 1492. The anchor was obtained by Frederick A. Ober (1849-1913) in Haiti for the World's Columbian Exposition of 1893. Considering that the *Santa Maria* was the flagship (*i.e.*, the larger of the three ships), one gets a keen sense of the frailty of the caravels from this photograph. [Archives of Charles Scribner's Sons]



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### The World

- 1472 4. **Isidore, of Seville, Saint (d. 636).** Woodcut world map, in his *Etymologiae* (Augsburg: Günther Zainer, 19 November 1472). Very rare work, from the first Augsburg press. [Grenville Kane Collection]

Though printing began in the 1450s with Gutenberg's 42-line Bible, [this is the first printed map](#), also from a German press. Isodore's *Etymologies*, an encyclopedic cosmography based extensively on classical authors, was written at the beginning of the 7th century when he was Seville's archbishop. His manuscript diagram of the world, copied throughout the Middle Ages, appears here in print almost 900 years later. More of a symbol than a guide useful for locating places on the earth's surface, this crude woodcut,

with its lines of type superimposed across a few sketchy rules, was the timid herald of a technological revolution that before long would enable maps of reliable and unvarying quality to be produced in undreamed of quantities.<sup>4</sup>

In his map, oriented with east at the top, Isodore identifies Noah's three sons with the three known continents, as described in Genesis: Japhet with Europe, Shem with Asia, and Ham with Africa.



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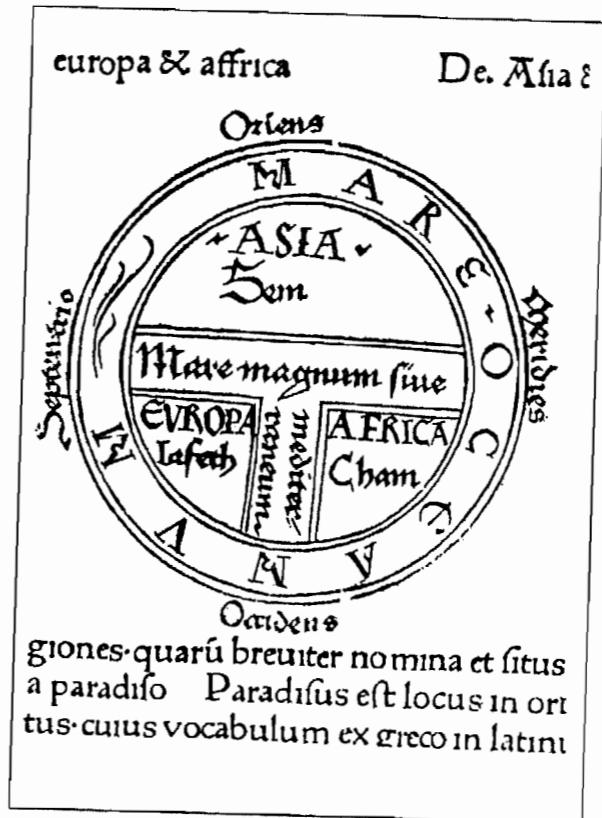
### The World

- 1493 5. Lilius, Zacharius. Woodcut world map, in his *Orbis breviarum* (Florence: Antonio di Bartolommeo Miscomini, 5 June 1493). Very rare first edition of a work published in the year Columbus' discovery was announced. [Grenville Kane Collection]

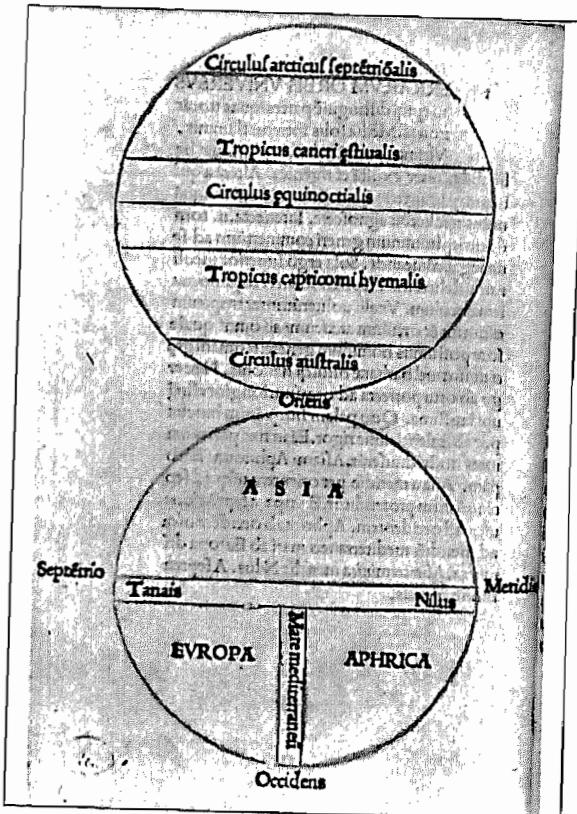
Exhibited is another example of this early, diagrammatic type of world map known as a 'T-O' map: a circular ocean (the letter *O*) surrounds three continents (Europe, Asia, Africa) that are separated by the arms of a *T* representing the Mediterranean, the river Nile (*Nilus*), and the river Don (*Tanais*). Maps of this sort, depicting a flat world, rejected scientific thought and speculation in favor of religious fanaticism, and put Jerusalem at the center. Above the T-O map is a simple climatic diagram of the world.

The object of this curious and learned geographical work...seems to have been to post up into one little book all the knowledge and all the ignorance respecting our globe that could be collected from the ancients, as well as mediaeval writers, so as to start fair with the new light to be let in by Columbus. It is a sort of alphabetical dictionary of Geography, with a good index.<sup>5</sup>

Lilius was a clergyman in Vicenza and later became titular Bishop of Sebastian, Armenia.



Saint Isidore: First printed map (1472)



Zacharius Lilius: T-O world map (1493)



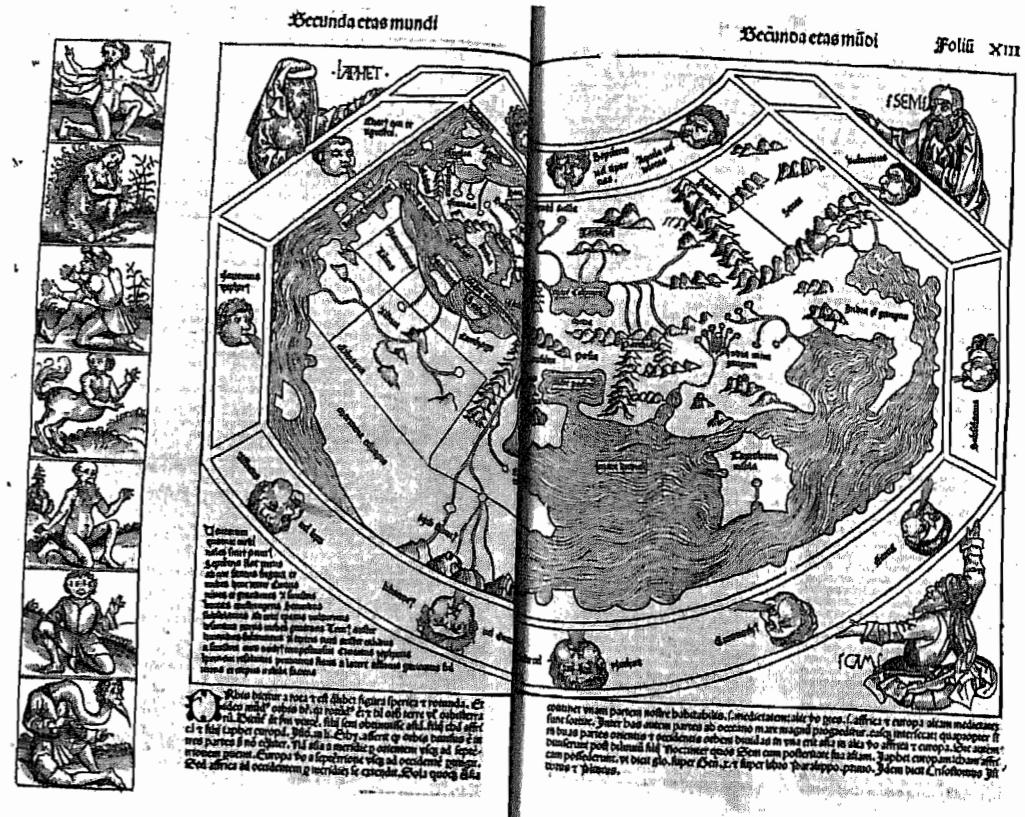
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Though news of Columbus' discovery traveled very quickly from Spain to Italy (three Roman editions of the Columbus letter were printed in 1493), word was very slow to reach Northern Europe. Nothing of Columbus' voyage is mentioned in the following famous work.

- 1493 6. Schedel, Hartmann (1440-1514), editor. Woodeut world map from the *Liber chronicarum* [known as the *Nuremberg Chronicle*] (Nuremberg: Anton Koberger, 12 July 1493). First edition. [Rare Books Collection, gift of Junius S. Morgan, Class of 1888]

Issued nine "months after Columbus landed in the New World, the Chronicle presents us with a 'last' view of the known medieval world as seen by the peoples of Western Europe."<sup>10</sup> This pre-Columbian view of the world is, indeed, a curious map. Supporting the outdated Ptolemaic world in the corners are Noah's sons—Japhet, Shem, and Ham—who were responsible for re-colonizing the world after the flood, while twelve dour windheads border the view. The bizarre figures outside the map on the panel to the left represent humanoid creatures which had been described by classical authors and in the imaginative tales of medieval travelers: a six-armed man, a furry woman, a six-fingered man, a centaur, a bald but bearded lady, a four-eyed man, and a bird man. Twelve other figures are portrayed on the previous page. The Latin text below the map begins [translated]: "The world is said to be round and spherical in shape...."



## *Nuremberg Chronicle*: Woodcut map of the world (1493)



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Claudius Ptolemy, 2nd century

The first world atlas was Claudius Ptolemy's *Geographia*, a Greek manual on the construction and drawing of maps, which was written in Alexandria around 160 A.D. Not to be confused with Egyptian kings of the same name, Ptolemy lived from about 90-168 A.D. and wrote on such subjects as astronomy, astrology, music, optics, history, and geography. His *Geographia* was compiled from the works of Marinus of Tyre and other early geographers, as well as from travelers' accounts. What happened to the work for the next thousand years is not known, but fortunately copies of it survived in Greek manuscripts, dating between the 12th and 14th centuries and brought to Italy around the year 1400 on the collapse of the Byzantine Empire. These manuscripts were divided into eight books and contained mapmaking instructions with the first fully worked out map projections, tables of towns and physical features with their latitude and longitude coordinates, and (in Book VIII) 27 maps: one world map, ten maps of Europe, four of Africa, and twelve of Asia.

The discovery of the *Geographia* and its subsequent distribution, made possible by the invention of printing, greatly influenced geographical thought throughout Western Europe until the end of the 16th century. Thirty-one Latin or Italian editions with maps appeared before 1600, and three important early cartographers—Waldseemüller, Münster, and Mercator—created maps for specific editions. To humanists and cosmographers, the ancient work



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continued to speak with authority, even after the voyages of Columbus expanded their world view.

The expansion of the Ptolemaic world by the discovery of America and of the sea route to India did not destroy the *Geographia*'s credit among geographers. They grafted their new knowledge on to the stock of Ptolemy; and the hemispheric division of the globe, into the 'old world' of Ptolemy and the 'new world' to the west, dates from the early 16th century. To the nucleus of 27 ancient maps, much revised, were added modern maps.... The growth of the 'modern' section in these editions culminated naturally in the atlas of wholly modern maps, the idea of which, conceived by Italian map-makers, was triumphantly realised by [Abraham] Ortelius in 1570.<sup>7</sup>

The debt of cartography to Ptolemy is not widely known. Several features of maps that we take for granted come directly from the *Geographia*: the convention of placing north at the top of the map, the grid of latitude and longitude lines, and the use of mathematical projections.

The following editions<sup>8</sup> of Ptolemy's *Geographia* illustrate the development of cartographic technique in world maps:

- 1475 7. Vicenza edition of 1475. Printed by Hermanus Levilapis, i.e., Herman Liechenstein of Cologne. First



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printed edition of Ptolemy. No maps. The text, translated into Latin from the original Greek by Jacobus Angelus of Scarparia around 1409 and dedicated to Pope Alexander V, was edited for printing by Angelus Vadius and Barnabus Picardus of Vicenza. [Grenville Kane Collection]

Built on a solid mathematical foundation, the book presents the general principles of mapmaking, including two types of projection, and provides tables of latitude and longitude for important places of the known world. Following the principles and using the tables, a reader could make his own maps.

- 1482 8. Ulm edition of 1482. Printed by Lienhart Holle. 32 woodcut maps. First Ptolemy edition printed in Germany and first woodcut version. The translation of Jacobus Angelus, edited by Donnus Nicolaus Germanus, who also re-drew, corrected, and improved the maps, and added five new 'modern' ones including the first printed representation of Greenland. [Grenville Kane Collection]

The world map is the earliest map signed by an engraver (Johann Schnitzer of Armsheim). Drawn on a spherical projection, the map shows the Ptolemaic world with a rudimentary Scandinavia, covering 180° of longitude and 87° of latitude (and an unspecified northern extension). While the sources of the Nile are quite accurately shown as lakes fed by the Mountains of the Moon, the Indian Ocean is landlocked. *Tropicus*

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*Cancri* is repeated for the Tropic of Capricorn. Looking at this map 500 years ago, how did one explain the missing 180°?

- 1507 9. Rome edition of 1507. Printed by Bernardinus Venetus de Vitalibus. 33 copperplate maps (with the rare 1507 Ruysch map added). A new edition of the Jacobus Angelus translation, revised and edited by Marcus Beneventanus and Joannes Cota of Verona. [Grenville Kane Collection]

The world map of Johannes Ruysch is the first map in an edition of Ptolemy to show the discoveries in the New World. Based on a fan-shaped, conical projection, it shows what Vasco da Gama proved: ships could reach the East Indies by sailing around Africa. This copy is the only one known in the first state: the island called *Canibali* becomes *La Dominica* in subsequent states. (There are other differences as well.) Newfoundland appears for the first time, called *Terra Nova*, and Greenland (*Gruenlanta*) is shown attached to North America, which is itself depicted as part of a boreal continent. Also, the South American continent is named *Mundus Novus* for the first time and carries an inscription telling that Portuguese have followed the coastline down as far as 50° south. Japan is completely omitted by Ruysch, believing that *Spagnola* (now Haiti/Dominican Republic) must be the island Marco Polo called *Sipangu*.





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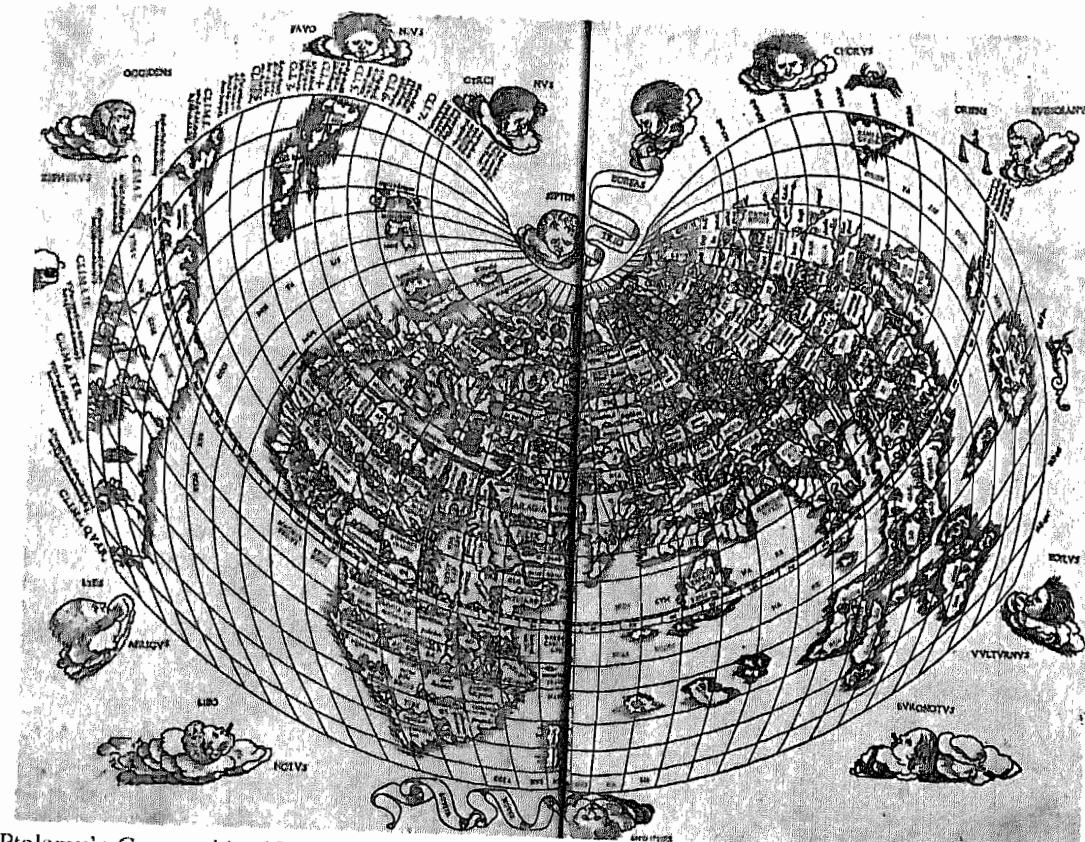
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Very little is known of cartographer Ruysest: he was born in Antwerp of German parents, lived in Cologne, and died in 1533. He is reputed to have sailed in the North Sea and may have accompanied Cabot on his or another New World expedition--so his map may be the first to reflect firsthand knowledge of the area.

- 1511** 10. Venice edition of 1511. Printed by Jacobus Pentius de Leucho. 28 woodcut maps. First Venice edition The Jacobus Angelus translation, edited and remodelled by Benardus Sylvani of Eboli, a prominent geographer of the time. [Grenville Kane Collection]

Ringed by twelve windheads, this heart-shaped world map is the first in an edition of Ptolemy to show part of North America, called *Regalis Domus*. It is no longer portrayed as an extension of eastern Asia, as in the Ruysch map. The map is also the first to show Labrador (*terra laboratorum*).

The maps were printed from fresh woodblocks, with the letterings type-printed in red and black, making the atlas the first to be published in two colors, *i.e.*, exhibiting the first use of true color on a map. But, while the names of mountains and regions are given more significance with the red ink, there is little room left for place-names—hence, the weakness of the map. And though Sylvanus states in his introduction that he wants to take account of modern discoveries, he provides less detail than Ruysch did earlier.



Ptolemy's *Geographia* (1511): First Ptolemy world map to show part of North America, *Regalis Domus*



## The World

- 1513 11. Strassburg edition of 1513. Printed by Joannes Schott. 47 woodcut maps, including 20 new maps. Considered now as the most important of all the Ptolemy editions, it was begun by Martin Waldseemüller possibly as early as 1505, and, after much delay, finally edited and published by Jacobus Eszler and Georgius Ubelin in 1513. Twenty new modern maps in a supplement first appear here. [Grenville Kane Collection]

An ambiguous passage in the Supplement's preface attributes this world map to a mariner's chart based on the observations of a certain admiral of the Portuguese King Ferdinand; hence, the map is known as "The Admiral's Map". The evident mistake (Ferdinand was, of course, the Spanish king) renders the reference uncertain, but it has been generally applied to Columbus. While the depiction of Greenland and Southern Asia seems out of date, the map adds the 'newly' discovered islands of Cuba (*Isabella*) and Santo Domingo (*Spagnolla*). Detail of the north coast of South America derives from the voyages of Cabral. Like many marine charts, the map is crisscrossed by directional lines.

1520 [See item 35]

1522 [See item 34]



## The World

- 1540 12. Basle edition of 1540. Printed by Henricus Petri. 48 woodcut maps. First edition of the work edited and revised by Sebastian Münster, who redesigned the maps and added a geographical appendix. [Grenville Kane Collection]

This is the first printed map to name the Pacific Ocean (*Mare pacificum*). It was the standard world map until the publication of the Ortelius atlas in 1570 [see item 17]. Forceful windheads and billowing clouds surround the oval projection. Only the barest of details is provided: names of continents, major regions, and islands. The letterings were printed in movable type and set in rectangular inserts so that they could be changed at will; in other words, while sharing the same woodcut maps, notes could be printed in German, French, or Italian, instead of remaining in Latin. North America, almost completely severed, reflects, no doubt, information from the explorations of Verrazano (1522-1524), who mistook the Chesapeake Bay for the Indian Ocean, and Cartier (1534-1535), who sought a Northwest Passage up the St. Lawrence River. In Africa, the twin sources of the Nile are emphasized.

- 1548 13. Venice edition of 1548. Printed by Nicolo Bascarini. 60 copperplate maps. First edition of Ptolemy in Italian. Translated by Pietro Andrea Mattioli of Siena; maps designed by Giacomo Gastaldi, mostly after those of Münster. [Grenville Kane Collection]



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This volume is the first atlas printed in a handy size, i.e., the first 'pocket' atlas. The world map is one of the earliest to use the oval format of projection which equalized the distance distortion north and south of a center line, the equator; i.e., this is the first world map format with an equator drawn across the center.

- 1584 14. Cologne edition of 1584. Printed by Godefridus Kempen. 28 copperplate maps. The text is the Latin version of Bilibald Pirckheymer, edited by Arnoldus Mylius. This is the first edition of Ptolemy to contain Gerard Mercator's maps, which are dated 1578. [Grenville Kane Collection]

Through his own engravings, Mercator sought to reproduce, as nearly as possible, the maps of Ptolemy's *Geographia* in their original form, adhering scrupulously to their original lists of coordinates. Hence, there are no 'New World' maps in this edition. The maps of this 'scholarly edition' are considered the finest ever prepared for this work and were reprinted for over 150 years.

Editions of Ptolemy's *Geographia* continued to appear throughout the 17th century. But it is fitting that the last, published in Amsterdam in 1730, contained the same 28 Mercator maps—only the borders of the plates had been extensively reworked. In 1828, Abbé Halma published a French translation of the Greek text of Ptolemy. Its introduction and appendices make it one of the best handbooks to the study of Ptolemy's work.



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#### Portolan Charts

We have only the scantiest knowledge of navigational methods prior to the invention of the compass, which began to be used in the Mediterranean during the thirteenth century. The compass was decisive in the development of sea charts, first called *portolan charts* after the word *portolano*, which was an Italian pilot book or seaman's guide containing sailing directions, descriptions of harbors and sea coasts, and identifications of prominent coastal landmarks and navigational hazards. Before the invention of printing, chart-making was an active industry around the Mediterranean, particularly in places like Venice, Genoa, and Majorca. Because of the very nature of their use, only a very small number of portolan charts have survived; also, the fact that most of them were drawn on vellum, that hardy animal skin, worked against them, for, once a chart was out of date, the vellum was often put to other uses.

The earliest known chart dates from around 1300, and manuscript portolans were still being used in the sixteenth century because they provided the most accurate navigational information. The first printed atlas of European charts was *Spieghel der zeevaerd*t, published in Leyden in 1584 by the experienced Dutch seaman and pilot Lucas Janszoon Wagenaer. His charts became so popular that the anglicized version of their name, *Waggoner*, came into use as the English generic term for sea charts of all kinds. [For printed sea charts, see items 64 and 65.]



## From Circle to Sphere: Historic Maps Since Columbus

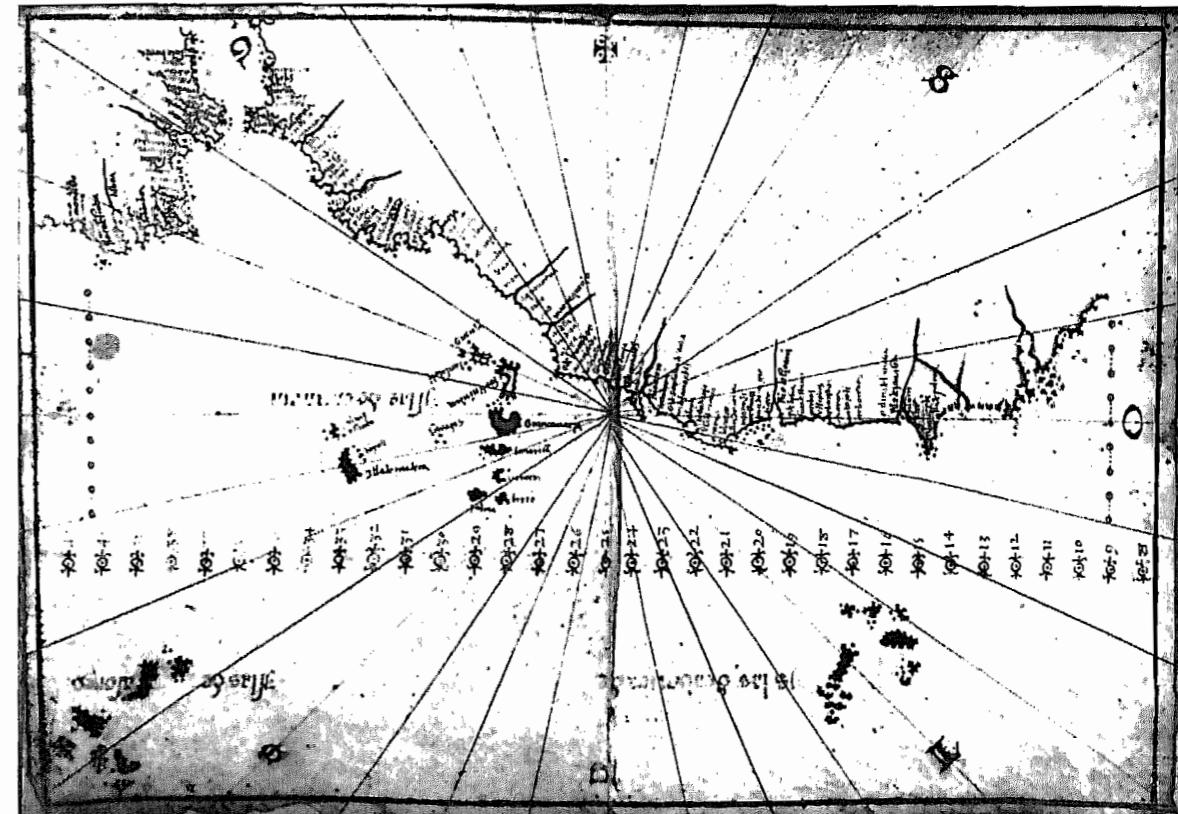
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- [1550?] 15. Olives, Jaume. Portolan atlas attributed to Olives, a member of a well-known chart-making family of southern Italy and Sicily. Four double-page manuscript maps on vellum, decorated in gold, red, and green. [Grenville Kane Collection]

The first three maps in the atlas cover the Eastern Mediterranean, the Western Mediterranean, and Western Europe. This fourth shows the coast of West Africa, from Gibraltar to Senegambia, and includes the Cape Verde Islands, the Azores, and the Canaries. As was typical of these charts, place-names are written on the landward side at right angles to the coastline, prominent ports and safe harbors are identified in red, and direction-finding or *rhumb* lines (32 for the points of the mariner's compass) extend over the whole surface, allowing navigators to plot their courses. Latitude markers are also provided ( $8^{\circ}$  to  $41^{\circ}$  on this map). When Columbus set sail from Gomera (the small red island nearest the  $28^{\circ}$  latitude mark) in the Canary Islands on September 6, 1492, he headed directly west. It is interesting to think that he may have carried a similar portolan chart aboard.

- 1648 16. Briet, Philippe (1601-1668). "Ventorum Accurata Tabula." Illustration from his *Parallela geographiae veteris et novae* (Paris: Sebastiani et Gabrielis Chamoisy, 1648). [Goertz Collection]

This composite wind rose shows the evolution of the 32-point compass from Homer's four winds.



Jaume Olives: Portolan map (ca. 1550) of coast of West Africa and Atlantic Ocean islands [north is to the left]



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Abraham Ortelius (1527-1598)

Born in Antwerp, Ortelius studied Greek, Latin, and mathematics as a youth and later established a bookselling business with his sister, while he also colored maps. As his business prospered, he traveled to many of the great book fairs and established contacts with literati in many countries. He collected maps and was regarded as an authority on historical cartography. His first map, a world map in eight sheets, was published in 1564; only one copy is known. At the suggestion of a friend, he compiled a collection of maps from contacts among European cartographers and had them engraved in a uniform size (most of the maps were elegantly engraved by Frans Hogenberg). Two other features distinguished it from previous books of maps: on the verso of each map was a description of the area as well as a list of the authors of the original maps which Ortelius had copied (*i.e.*, his sources). Issued in 1570, this atlas of 53 maps, *Theatrum orbis terrarum*, was the first collection of uniformly-sized maps depicting all the countries of the world—the first real atlas. It was the most successful cartographic work to date—and was issued for over 40 years in as many editions with text in seven languages. With its advent, the Netherlands became the center of European cartography, which they were to dominate for over 100 years.

- 1570 17. Ortelius, Abraham (1527-1598). "Typus Orbis Terrarum." Copperplate map, in his *Theatrum orbis terrarum* (Antwerp: Egidius Coppens Diesth, 1570). [Grenville Kane Collection]



Abraham Ortelius: "Typus Orbis Terrarum" (1570), world map from the first real atlas



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This world map, a simplified and reduced version of Mercator's large world map of the previous year, presents a 'common denominator' view of the world for the late sixteenth century. Clearly, a Northwest Passage across the top of North America (and Asia as well!) is assumed. In a caption off the coast of New Guinea, Ortelius voices contemporary doubts: is it an island or part of Australia (meaning the southern landmass)? No one is sure. South America has a western bulge that is not removed until the 1587 edition.

Displayed prominently on the bottom textual panel is a quotation from Cicero's *Tusculanar disputationes* (*Tuscan Disputations*)<sup>9</sup> [translated]: "For what would seem important in human affairs to one who has experienced all of eternity and knows the vastness of the universe?". Reportedly written at a time of general gloom and depression for himself and the Roman state in general (45 B.C.), Cicero attempts "to prove by philosophy and the examples of eminent men that, in spite of all doubts and uncertainties of human experience, a calm and contented life is possible."<sup>10</sup> While caught up in the 'age of discovery', Ortelius still tempers his marvelous display of the expanding human world with this humbling thought.

- 1579 18. Handcolored portrait of Abraham Ortelius at age 50 engraved by Philip Galle (1537-1612), a member of a famous Dutch family of engravers—in this (1579) and all subsequent editions of *Theatrum orbis terrarum*. [Rare Books Collection]

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#### Gerard Mercator (1512-1594)

Born in Rupelmonde in Flanders, Mercator studied under Gemma Frisius, the Dutch writer and astronomer, in Louvain, where he established himself as a cartographer and instrument and globe-maker. Though his work brought him the patronage of Charles V, persecution by Lutheran protestants influenced his move to Duisberg in 1552, where he lived the rest of his life producing the maps, globes, and instruments that made him the supreme cartographer of his age.

His name has become synonymous with the form of map projection he made famous by first applying it to navigational charts so that compass bearings could be plotted in straight lines. This helped to solve the age-old problem of sea navigation, for it flattened the world and squared the angles between longitude and latitude lines (*i.e.*, made them perpendicular to each other). One can best visualize how this is done by imagining puncturing an inflated globe, cutting completely across a north-south line to spread the map out, and then scissoring along the longitude lines from the poles toward the equator, thereby opening out the globe almost into separate gores. To fill in the spaces created by the scissors, one would have to 'increase' land distances in proportion to their distances from the equator. In effect, this is why landmasses on Mercator-projection maps swell as they approach the poles.



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The *Theatrum* of his friend Ortelius had already seen 20 editions before Mercator issued the first volume of his *Atlas* in 1585. He had chosen the word *atlas* to honor the mythical figure of Atlas, who, as punishment for his part in the revolt of the Titans, was forced to support the heavens with his head and hands. (This was the first time the word had been associated with a collection of maps.) Mercator died before the third and final volume was finished, published by his son Rumold in 1595. In 1604, Jodocus Hondius (1563-1612), one of the most notable engravers of the time, purchased the plates; the enlarged editions published with his sons, Jodocus II and Henricus, dominated the map market for several decades. The atlases were issued under Mercator's name but with Hondius listed as publisher. These atlases form what is known as the Mercator/Hondius series. Jan Jansson (1588-1664), the son-in-law of Jodocus Hondius, teamed up with his brother-in-law, Henricus, around 1630 and expanded the series, now Mercator/Hondius/Jansson, even further.

- 1587 19. **Mercator, Rumold (ca. 1545-1599).** "Orbis Terrae Compendiosa Descriptio." Handcolored copperplate map, in the English edition of the Mercator/Hondius/Jansson atlas, *Atlas or A Geographike Description of the Regions, Countries and Kingdomes of the World*, translated by Henry Hexham [Amsterdam: Henry Hondius and John Johnson, n.d.]. [Rare Books Collection, gift of Mrs. Stanley Bright]

This map by Rumold Mercator is a condensation of his father's great world map of 1569. It is the first map



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of the double-hemisphere type in a 'modern' atlas—and really established the use of this projection for world maps. The advantage of the format, beyond the artistic opportunities presented by the open spaces, is that it reduces the east-west inaccuracies of the oval projection. Also, it neatly contrasts the New World with the Old. Rumold's map, bordered by elegant strapwork, contains an armillary sphere and a compass rose. South America retains the prominent southwest bulge depicted in his father's map.

- 1602 20. **Hondius, Jodocus (1563-1612).** "Orbis Terrae Novissima Descriptio." Handcolored copperplate map. [Historic Maps Collection]

Based on the previous map, Hondius engraved this world view for the Parisian publisher Jean le Clerc. Among the few cartographic changes is the breaking up into islands of the eastern coast of New Guinea. More striking, however, is the artistic skill that has created a distinctive decorative border, balanced in the corners with four spheres containing wind names in Dutch and Italian and diagrams of moon phases and climate zones. A celestial sphere and compass rose occupy the spaces between the double hemispheres. In the panel along the bottom of the map, Hondius has chosen one of his favorite quotations from the Psalms [translated]: "The earth and its abundance is the Lord's, the world and all who live within it. He founded it upon the seas, etc."



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- 1636** 21. Handcolored, engraved double portrait of Gerard Mercator and Jodocus Hondius, from the English edition of the Mercator/Hondius/Jansson atlas, *Atlas or A Geographicke Description of the Regions, Countries and Kingdomes of the World*, translated by Henry Hexham (Amsterdam: Henry Hondius and John Johnson [i.e., Henricus Hondius and Jan Jansson], 1636). [Historic Maps Collection]

The pair symbolizes one of the most successful and profitable family alliances in the history of Dutch mapmaking.

- 1626** 22. Speed, John (1552-1629). "A New and Accurat Map of the World." Handcolored copperplate map, from the first world atlas produced in England, *A Prospect of the Most Famous Parts of the World*, published from 1627 to 1676. [Historic Maps Collection]

Speed was a tailor until age fifty, although he had tinkered in maps from an early age. An allowance from Sir Fulke Greville allowed him to devote himself entirely to his cartographic research, and Queen Elizabeth granted him the use of a room in the Custom House where he could continue his efforts. His name is synonymous with the beautiful early county maps of Great Britain, which he compiled for his *Theatre of the Empire of Great Britaine* (1611). The plates for this work were engraved in Amsterdam by Jodocus Hondius



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and returned to London for printing.

"Drawne according to ye truest Descriptions latest Discoveries & best Observations yet have beene made by English or Strangers," this is the earliest obtainable world map to show California as an island. Although it lacks the delicate artistry of Dutch engravings of the period, the map is one of the most sought-after. Surrounding the map are symbolic representations of the four elements (Earth, Air, Fire, and Water), celestial charts, diagrams of an armillary sphere, eclipses, and the planetary system. Included are miniature portraits of the famous world circumnavigators: Ferdinand Magellan (Portuguese, first), Sir Francis Drake (English, second), Thomas Cavendish (English, third), and Oliverus van der Noort (Dutch, fourth).

On the verso of the map, in his "General Description of the World," Speed recounts the history of the world from a biblical point of view, in the course of which he gives thanks to him who discovered the virtue of the loadstone and to the explorers that have "done their parts to joyne a new world to the olde." He continues: "To us it may be well called a new world: for it comprehends in it two Continents, either of them larger then two parts of the other are. The one is that Western Hemisphere that beares the name *America* from *Americus Vesputius....*" This is the earliest example of the use of the term *Western Hemisphere* in English geographical literature.



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- 1630 23. **Hondius, Henricus (1587-1638).** "Nova Totius Terrarum Orbis Geographica ac Hydrographica Tabula." Handcolored copperplate map, in Gerard Mercator and Jodocus Hondius, *Atlas or A Geographicke Description of the Regions, Countries and Kingdomes of the World, Through Europe, Asia, Africa, and America, Represented by New & Exact Maps*, translated into English by Henry Hexham (Amsterdam: Henry Hondius and John Johnson, 1636). [Rare Books Collection, gift of Stanley Bright, Class of 1902]

This voluptuous map was the Hondius/Jansson revision of the world map that had continued virtually unchanged in the Mercator/Hondius atlas for almost 35 years. The four corners carry portraits of Caesar, Ptolemy, the author's father, and his mentor (Mercator); between them are representations of the four elements. Following Speed and his contemporaries, Hondius portrays California as an island. New features include Baffin Island (*Queen Anne's forland*) completely encircled by water and an extension of the northern Australian coastline towards (into?) New Guinea.

This atlas was the major source of geographical knowledge for 17th-century English writers; Milton was known to use it extensively.

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#### Willem Janszoon Blaeu (1571-1638)

Trained in astronomy and the sciences by the celebrated Danish astronomer Tycho Brahe, Blaeu began his globe and instrument-making business in Amsterdam in 1599. At that time, the city was one of the wealthiest trading centers in Europe, and the Dutch East India Company, founded in 1602, was based there. Blaeu's business was successful and included topographical works, separate sheet maps, and collections of sea charts which went through many editions. Though he planned a major atlas of the whole known world (*Atlas novus*), he was able to publish only the first two volumes (1635). He became hydrographer to the East India Company around the same time. Following his death in 1638, sons Joan and Cornelis carried on the business, expanding their father's ambitious plans. Cornelis died in 1642, but Joan pushed on, finally completing the whole series of six volumes in 1655. Immediately, he began an even larger work, the *Atlas maior*, which was published in 1662 in 11 volumes. It contained almost 600 double-page maps and 3,000 pages of text! The work was the epitome of fine engraving and coloring, elaborate cartouches and pictorial detail, and beautiful calligraphy—it is, indeed, the most magnificent work of its type ever produced. In 1672, a devastating fire destroyed Blaeu's printing house; the following year Joan died, and the firm's stocks of surviving plates were gradually dispersed.

[1635?] 24. **Blaeu, Willem Janszoon (1571-1638).** "Nova Totius Terrarum Orbis Geographica ac Hydrographica





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Tabula." Handcolored copperplate map, in *Le theatre du monde ou nouvel atlas* (Amsterdam: Johannem Guiljelmi F. Blaeu, 1643). [Rare Books Collection, gift of J. Monroe Thorington, Class of 1915]

Considered one of the masterpieces of Dutch cartographic engraving, this map was first published as a single sheet in 1606, reduced from Blaeu's large world map of 1605. (It is signed by the engraver Josua van den Ende.) World maps of this type, known as *cartes à figures*, were popular during the 17th century. Most common in folio size, either published as separate sheets or bound in atlases, they contain side panels showing full-length portraits of the inhabitants of the areas on the map, and top and lower borders provide panoramas and plans of the areas' cities and ports or other features of interest [see also Blaeu's map of the Western Hemisphere, item 41]. Here, vignettes of the seven known 'planets' (sun and moon included) at the top balance the seven known wonders of the ancient world at the bottom. At the sides, symbolic representations of the four elements face the four seasons. This regular, formal, panelled border was often trimmed to fit into smaller volumes; hence, nice copies of these maps are rare. This Blaeu map was widely copied and remained in circulation for 50 years.

- 1694 25. **Sanson, Nicolas (1600-1667).** "Orbis Vetus." Handcolored copperplate map. [Historic Maps Collection, gift of Robert A. McCabe, Class of 1956]



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Most would agree that the great age of French cartography began with Sanson. He studied history as a young man and turned, it is said, to mapmaking only as a means of illustrating his historical work. Nevertheless, his beautifully drawn maps caught the attention of King Louis XIII; in time, he became the king's tutor in geography. Of the approximately 300 maps he produced, several were particularly influential, including "Amerique Septentrionale" [see item 70], the first map to show all the Great Lakes.

This map of the ancient (*vetus*) world is an Italian derivative, published in Padua, of his 1657 map. Though the double-hemisphere format of the map gives a 'modern' look to it, the eastern hemisphere contains only classical nomenclature, and the western carries only a few mythical names (*Atlantis Insula*, for example). And yet California is an island here, which is a much more modern myth [see items 68-73].

- 1719 26. **Moll, Herman (fl. 1678-1732).** "A New & Correct Map of the Whole World...." Handcolored copperplate map. [Historic Maps Collection, gift of estate of Noel B. Fox, Class of 1899]

A Dutch émigré who lived in London after 1680, Moll was a prolific engraver of maps who became the foremost English map publisher after 1700. His work enjoyed a high reputation: some of his North American maps were used by the British government in boundary disputes with France after the War of the



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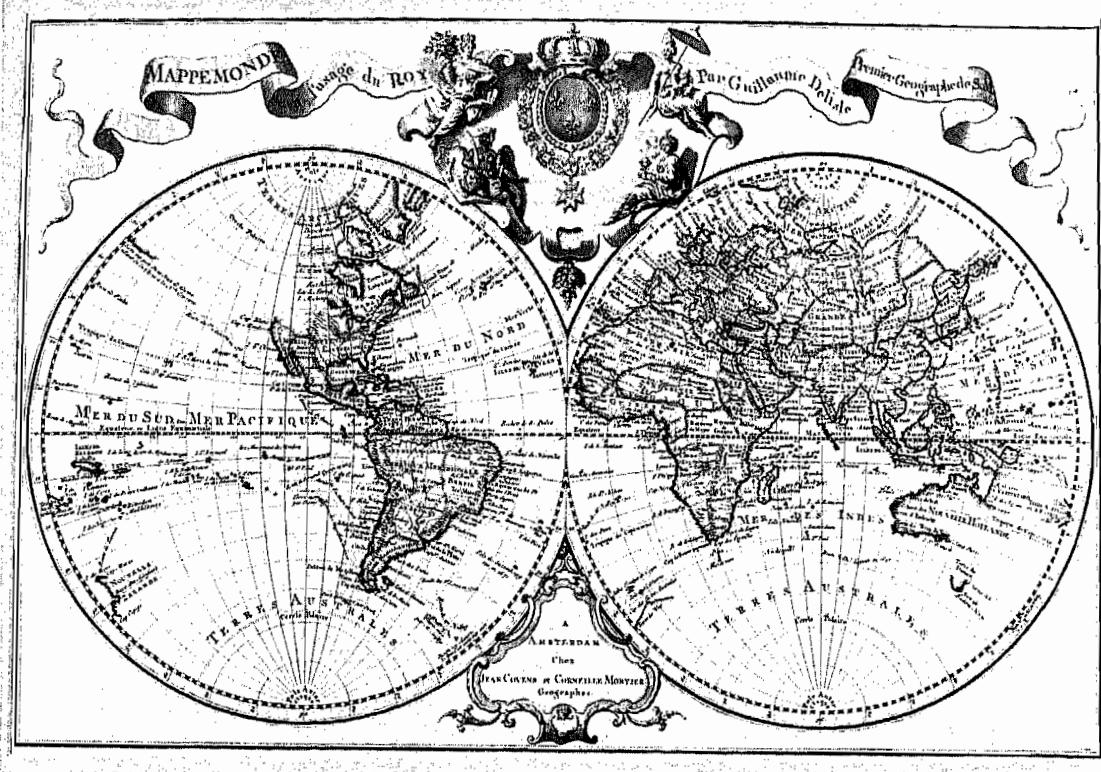
Spanish Succession (Queen Anne's War), 1702-1713. This map, shown on Mercator's projection, was one of the largest world maps to appear in an atlas during the 18th century.

- 1719 27. **Jaillot, Alexis Hubert (ca. 1632-1712).** "Mappe-Monde Geo-Hydrographique...." Handcolored copperplate map. [Historic Maps Collection]

French mapmaker Jaillot began his career as a sculptor. Influenced by his father-in-law, who was a map colorist, he joined the mapmaking profession and became geographer to the king within six years of signing his first map (1667). Jaillot is credited with continuing and improving the Sanson family tradition; he revised and re-engraved Sanson plates in a larger size.

- [1733] 28. **L'Isle, Guillaume de (1675-1726).** "Mappemonde a l'Usage du Roy." Handcolored copperplate map. [Historic Maps Collection, gift of Robert A. McCabe, Class of 1956]

Said to have drawn his first map at the age of nine, the French cartographer Delisle, as he is often called, ultimately earned the highest honor as "Premier Géographe du Roi." His training in mathematics and astronomy gained him early recognition as the first 'scientific cartographer'. He was regarded as the



Guillaume de l'Isle: "Mappemonde a l'Usage du Roy" (1733), world map by the first 'scientific cartographer'



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foremost geographer of his age. This world map reflects his concern for accuracy: where information is lacking, the map is blank (the Pacific Northwest, for example). Compare with a so-called French ‘theoretical’ map, item 76.

- [1730?] 29. **Seutter, Georg Matthäus (1678-1756).** “Diversi Globi Terr-Aquei Statione Variante et Visu Intercedent....” Handcolored copperplate map. [Historic Maps Collection, gift of estate of Noel B. Fox, Class of 1899]

German mapmaker Seutter set up his own business in Augsburg after completing an apprenticeship with J. B. Homann, the successful Nuremberg map publisher. Not surprisingly, he soon became a chief rival to his old employer, and his maps often looked very similar. Typical of the densely detailed German maps of the period, this planisphere is more impressive than useful, for its view of the world has not been upgraded to reflect the geographical information available at the time. Compare it, for example, with the previous two maps: notice how close the Solomon Islands are to South America.

- 1782 30. **Lotter, Matthäus Albrecht (1741-1810).** “Mappemonde ou Carte Générale de L’Univers.” Handcolored copperplate map, added to Tobias Conrad Lotter, *Atlas géographique* (n.p., n.d., maps dated from 1774 to

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1784)]. [Rare Books Collection, gift of Elroy Curtis, Class of 1900]

Lotter was the grandson of Georg Matthäus Seutter; his father, Tobias Conrad Lotter (1717-1777) engraved many of Seutter’s maps, succeeding to his business in 1756. Like so many other sons of mapmakers, Matthäus carried on the business after his father’s death. This world map, illustrating the voyages of Captain Cook, is a work wholly his own. By this time, all of the subpolar continents were fairly well-defined.

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Certainly by 1800 the general shape of the world was well-known, as well as many of its particulars. As a result, world maps tended to become multi-faceted or more topical—as shown in this 19th-century representative.

- 1847 31. **Phelps, Humphrey.** “World at One View.” Handcolored lithograph map. [Historic Maps Collection]

Here, the world map seems a mere background decoration to the statistics and tables that summarize and compare various geographical and social elements of the earth and its inhabitants. The display of “Female Costumes of the Different Parts of the World” is most prominent, and deservedly so. The comment at the top plugs the transcontinental railroad: “Once Built, [it] would become the Great Highway of Nations.”





## The New World: Western Hemisphere

### Martin Waldseemüller (ca. 1470-1518)

Waldseemüller is best known as the man who named America and placed the name on a map for the first time [item 33] and for his maps in the 1513 edition of Ptolemy's *Geographia* [item 11], which was the most authoritative work of its kind till Münster's *Geographia* (1540) and *Cosmographia* (1544). He grew up in Radolfzell, a village on what is now the Swiss shore of Lake Constance, and studied for the church at Freiburg. Eventually, he became a professor of cosmography in St. Dié at the court of the Duke of Lorraine, a noted patron of the arts. In that rich community of scholars, he devoted his life to a study of cartography and cosmography.

- 1507 32. **Waldseemüller, Martin (ca. 1470-1518).** *Cosmographiae introductio ...* (St. Dié [Lorraine]: Gualtherus Lud., 29 August 1507). 2nd issue (the first appeared on April 25). [Scheide Library]

This is the book that named the New World *America*. It is in two parts:

...the first, an essay on cosmography designed to accompany the engraved wall map issued simultaneously with it; and the second, an account of the four voyages made by Vespuccius. It is in the first part, on the verso of leaf xv, that Waldseemüller made the

## The New World: Western Hemisphere

suggestion which in translation reads: 'But now that these parts have been more extensively examined, and another fourth part [after Europe, Asia, and Africa] has been discovered by Americus Vespuccius (as will be seen in the sequel) I do not see why we should rightly refuse to name it America, namely the land of Amerigen or America, after its discoverer Americus, a man of sagacious mind, since both Europe and Asia took their names from Women.'<sup>11</sup>

Later, Waldseemüller tried to withdraw the name *America* [see item 35], realizing that Vespucci should not be credited with discovering the New World. But, because of the rapid spread of his idea from this book, it was too late.

- [1507] 33. **Waldseemüller, Martin (ca. 1470-1518).** "Universalis Cosmographia Secundum Ptholomaei Traditionem et Americi Vespucci Aliorūque Lustrationes" [A Universal Cosmography According to the Tradition of Ptolemy and the Voyages of Amerigo Vespucci and Others]. Wooden jigsaw puzzle. England, 1991. [Lent by John Delaney]

Printed from 12 separate woodblocks, the only known surviving copy of Waldseemüller's large (52" x 93")





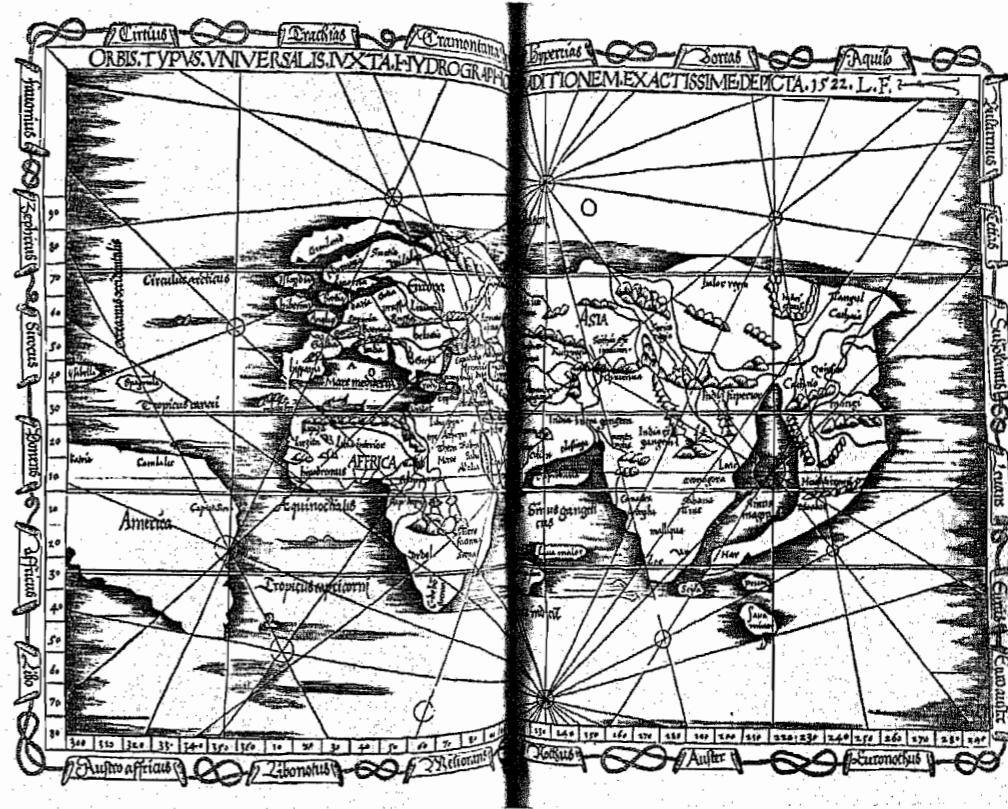
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### The New World: Western Hemisphere

world map is in the Schloss Wolfegg in Württemberg, Germany, where it was found in 1901 in a large folio volume that once belonged to Johannes Schöner (1477-1547), a famous astronomer and globe-maker from Nuremberg. It is known from other evidence that 1,000 copies of the map were printed.

This is the first printed map to carry the name *America*. The map is based on the modified conical projection of Ptolemy and is distinctive for the many legends it contains (from both classical and modern sources) and the number of foreign rulers identified by flags, coats of arms, and other symbols. The arms of Spain (Castille), for example, are shown planted in the New World, the flag of Portugal around the coasts of Africa, and crescents across much of Asia. Columbus is mentioned in the top left panel, Vespucci in the lower left. Geographical information from their voyages and others' has been integrated with Ptolemaic sources to form a marvelous cartographic whole, recognized at the time as a masterpiece.

The twin portraits at the top honor Ptolemy and Vespucci, one the great geographer of the Old World, the other the discoverer, according to Waldseemüller, of the New. In a letter (1504) describing his third voyage which had been circulated throughout Europe as a tract called *Mundus novus* ("The New World"), Vespucci proposed that the new lands should be called a 'new world' because "none of those countries were known to our ancestors...." No doubt Waldseemüller was greatly influenced by this letter.



Laurent Fries: First world map in Ptolemy's *Geographia* (1522) to bear the name *America*



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### The New World: Western Hemisphere

The two inset maps established the convention of showing the new and old worlds in two hemispheres. Curiously, the inset map shows North and South America linked, while the large one does not. The large map becomes more of an enigma when one examines the depiction of the *terra incognita* of North America. How did Waldseemüller know about its mountainous west coast and an ocean beyond that stretching to Asia? Magellan's great Pacific voyage was still 15 years ahead!

- 1522 34. **Fries, Laurent.** "Orbis Typus Universalis Iuxta Hydrographorum Traditionem Exactissime Depicta." Woodcut map from his edition of Ptolemy's *Geographia* (Strassburg: Joannes Grüninger, 1522). The 50 woodcut maps are re-engraved on a smaller scale from the 1513 edition, and three new ones are added. [Grenville Kane Collection]

The exhibited world map is the first one in a Ptolemy edition to bear the name *America*. The outer frame, consisting of banners of wind names linked by rope, offers a nice decorative touch. The map, however, seems even more distorted than earlier ones, with India represented as a double peninsula. England and Scotland revert to separate islands. The surviving ship of Magellan's circumnavigation expedition did not return to Europe till the early fall of 1522, some months after this publication.

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### The New World: Western Hemisphere

- 1520 35. **Waldseemüller, Martin (ca. 1470-1518).** "Tabula Terre Nove." Woodcut map from the second Strassburg edition of Ptolemy's *Geographia* (Strassburg: Johannes Schott, 1520). [Grenville Kane Collection]

First issued in the 1513 Strassburg edition of Ptolemy, this map is the first to concentrate on the coastlines and islands discovered by Columbus on his first three voyages. Here, Waldseemüller reverses his comments of 1507 [see item 32] regarding their true discoverer. He states [translated]: "This land with the adjacent islands was discovered by Columbus the Genoese by order of the Kings of Castille." Because of this acknowledgment, the map often shares the common title of 'The Admiral's Map' with item 11. The land is no longer called *America*; now it is simply *terra incognita*.

#### Sebastian Münster (1489-1552)

The names of three cartographers dominate the sixteenth century: Mercator, Ortelius, and Münster. Of the three, Münster probably had more influence in disseminating geographical knowledge throughout Europe during the middle decades of that century. He was a professor of Hebrew at Heidelberg and later at Basel, where he settled in 1529. He called upon German scholars in 1528 to send him descriptions and maps of their towns, villages, and



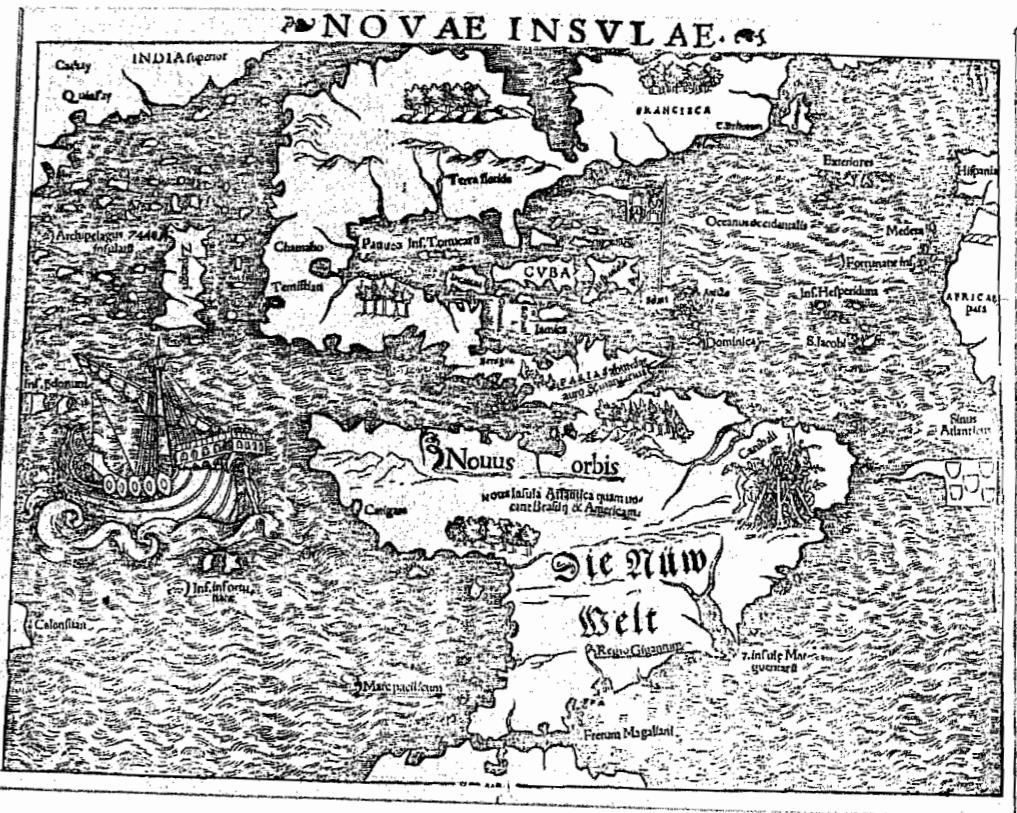
## *From Circle to Sphere: Historic Maps Since Columbus*

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trades, and received such a response by foreigners as well as Germans that he was able, over time, to include much up-to-date information in the various editions of his atlases. His two major works were editions of the *Geographia* of Ptolemy [see item 12] and his own *Cosmographia universalis*, which was printed by his stepson, Henricus Petri. The latter work, full of woodcut portraits, scenes, town plans, and panoramas, saw over 35 editions published in six languages, from 1544 to 1628. Among the cartographic achievements of Münster are the first group of separate maps for each of the four then known continents (Europe, Africa, Asia, America) and the first separately printed map of England.

[1544?] 36. Münster, Sebastian (1489-1552). "Novae Insulae." Woodcut map from his *Cosmographia universalis*. [Historic Maps Collection]

Appearing first in Münster's 1540 edition of Ptolemy, this is the earliest separate map of the Western Hemisphere and the first map to show North and South America joined together. It is also considered the quaintest map of America of the 16th century! Magellan's flagship *Victoria* is shown sailing in the Pacific, and Japan is identified (*Zipangri*) off the west coast of North America surrounded by Marco Polo's 7,448 spice islands. North America is practically split at the Carolinas by the fabled 'Sea of Verrazano'. (In 1524, reaching the Outer Banks of North Carolina, Verrazano mistook Pamlico Sound for the Pacific Ocean.) The



Sebastian Münster: "Nova Insulae" (1544?), earliest map to show North and South America joined together



## From Circle to Sphere: Historic Maps Since Columbus

### The New World: Western Hemisphere

flag of Spain sprouts in the West Indies; that of Portugal waves off the coast of Africa.

- [1588?] 37. **Münster, Sebastian (1489-1552).** "Americae sive Novi Orbis, Nova Descriptio." Handcolored woodcut map from a Sebastian Petri edition of Münster's *Cosmographia universalis*. [Historic Maps Collection]

When Henricus Petri died in 1579, his son, Sebastian, who was named after his famous step-grandfather, inherited the business. He thought it was time to revise the maps of the *Cosmographia* and hired a cartographer, still unknown to us, to recut the woodcut maps and bring them up to date. Consequently, all the maps were redrawn, most showing the influence of maps from Ortelius' *Theatrum*, and gothic German lettering was employed. All subsequent editions of Münster's work, from 1588-1628, bore these maps in which he had no part.

This map makes a nice contrast to the previous one: both show the New World and come from the same work, but the fifty-plus years separating them tell a great deal about the development of geographical knowledge (and cartographic technique) that took place during the sixteenth century.

## From Circle to Sphere: Historic Maps Since Columbus

### The New World: Western Hemisphere

- 1598 38. **Wytfleet, Cornelis (fl. 1597).** "Granata Nova et California." Copperplate map, in his *Descriptionis Ptolemaicae augmentum* (Louvain: Gerardi Riuij, 1598). Second edition. [Rare Books Collection]

Little is known about Wytfleet whose only atlas is the first one devoted entirely to maps of the Western Hemisphere. The first part of the book is a general history of the early voyages and discoveries in America, while the second part contains maps with explanatory text. A double-hemispherical world map precedes the regional ones. The exhibited map is the first to concentrate on the Baja and any part of California. Sir Francis Drake passed this coast on his circumnavigation 18 years before.

- 1624 39. **Bertius, Petrus (1565-1629).** "Carte de L'Amerique." Handcolored copperplate map. [Historic Maps Collection]

Bertius was a professor of mathematics and librarian at Leyden University. A prolific writer, he is known as a cartographer for his editions (1618-1619) of Ptolemy's *Geographia* and for a miniature atlas (1600), *Tabularum geographicarum contractarum*. In 1618 he moved to Paris and became official cosmographer to Louis XIII. He was the brother-in-law of Jodocus Hondius. This map has an interesting but less formal style of decoration. Note the cannibals in Brazil and the sea monsters.



## From Circle to Sphere: Historic Maps Since Columbus

### The New World: Western Hemisphere

- 1626 40. Speed, John (1552-1629). "America." Handcolored first edition of this famous copperplate map. [Historic Maps Collection]

This is the first English map of the Americas; it was engraved by a noted Amsterdam engraver, Abraham Goos, employed by the Hondius family. The most significant cartographical differences between this *carte à figure* map and the following one by Blaeu [item 41] lie in their depictions of the two coasts of North America. This map has obviously been influenced by the Briggs map of California as an island [see item 68] published in England in the previous year. New England, however, has more place-names and better definition here. The costumed figures on the sides have been copied from illustrations published by De Bry and others.

- [1635] 41. Blaeu, Willem Janszoon (1571-1638). "Americae Nova Tabula." Handcolored copperplate map, in his *Le theatre du monde, ou nouvel atlas...* (Amsterdam: Joan Blaeu, 1644). [Rare Books Collection, gift of J. Monroe Thorington, Class of 1917]

Issued as a separate map in 1617 which was a reduced version of a 1608 wall map, this sumptuous map reflects the golden age of Dutch mapmaking [see also his world map, item 24] even though its geography is



Willem Janszoon Blaeu: "Americae Nova Tabula" (1635), an example of the finest Dutch mapmaking



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### The New World: Western Hemisphere

outdated. Full-length portraits of native Americans grace the sides, while the panelled border at top contains oval views of nine major New World cities and ports (the ‘hot spots’ of the 17th century!): Havana, Santo Domingo, Cartagena, Mexico, Cuzco, Potosí, Mocha Island (off Chile), Rio de Janeiro, and Olinda. Not surprisingly, only a few remain major cities today; most additions to the list would be North American.

- [1730] 42. **Seutter, Georg Matthäus (1678-1756).** “Novus Orbis sive America Meridionalis et Septentrionalis....” Handcolored copperplate map. [Historic Maps Collection]

This map is interesting as a late adherent to the ‘California as an island’ theory. Much attention is given to the Sargasso Sea and two related ‘seas’, and the tracks of the early explorers of the Pacific are shown. The native scenes depicted in the cartouche—harvesting sugar cane, gathering firewood, sleeping in hammocks, shading the tribal chief—seem to be deliberately contrasted to the more spiritual scene portrayed above, in which natives appear to be learning Christianity from the Europeans.

## From Circle to Sphere: Historic Maps Since Columbus

### The New World: Western Hemisphere

- 1755 43. **Palairet, Jean (1697-1774).** “A Map of the Whole Continent of America.” Handcolored copperplate map, in his *Atlas méthodique* (London: J. Nourse & P. Vaillant, 1755). [Rare Books Collection, gift of Mrs. Andrew F. Derr]

French teacher to George II’s children, Palairet provides, in the clean, factual style that was to dominate maps by the end of the 18th century, an educational summary of European colonial possessions in the Western Hemisphere. The colonies of the English, French, Spanish, Dutch, and Portuguese are identified visually by the use of different colors (and different from the colors specified in the key on the left!). Instead of filling open space with decoration, the map uses the space for textual descriptions and historical notes. Interesting cartographic features of the map include a prime meridian that passes through Ferro, one of the Canary Islands, and the line of demarcation fixed by Pope Alexander VI to divide the New World between the Spanish and Portuguese. Papal confirmation of colonial possessions was usual in the late 15th and early 16th centuries. In 1493, Alexander issued a papal bull establishing a line 100 leagues west of the Azores; by the Treaty of Tordesillas of 1494, the line was moved another 270 leagues west, giving Brazil and everything east to the Portuguese and Columbus’ discoveries and everything west to the Spanish. As one could imagine, a cartographer’s placement of newly-discovered territory was very important. Spain and Portugal wrangled over this line, particularly its location in the other hemisphere, till 1529.





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### North America (and Parts)

- 1720 44. **Moll, Herman (fl. 1678-1732).** "A New Map of the North Parts of America Claimed by France...." Handcolored copperplate map. [Historic Maps Collection, gift of estate of Noel B. Fox, Class of 1899]

Moll's map is decidedly political, as he states in the title box: "The French Divisions are inserted on purpose, that those Noblemen, Gentlemen, Merchants &c. who are interested in our Plantations in those Parts, may observe whether they agree with their Proprieties, or do not justly deserve ye Name of Incroachments...." Though he does not name the cartographer whose "French Map Published at Paris in 1718" he has copied, the reference is clearly to Guillaume de l'Isle and his famous map of Louisiana and the Mississippi River [see item 58]. Moll created another map to reflect the English point of view [see item 72].

One interesting feature of this map is its 'proportional' scale of English miles shown in the lower right. It illustrates a major characteristic of maps based on the Mercator projection: as one moves further north, the scale of measurement grows. In other words, one mile at a latitude of  $45^{\circ}$  appears larger on the map than one mile at  $35^{\circ}$ .

- 1779 45. **Jefferys, Thomas (ca. 1695-1771).** "A New and Correct Map of North America, with the West India

## From Circle to Sphere: Historic Maps Since Columbus

### North America (and Parts)

- Islands." Copperplate map, with outline color, in his *The American Atlas: Or, A Geographical Description of the Whole Continent of America...* (London: Sayer and Bennett, 1778). [Rare Books Collection, gift of Richard Stockton, Class of 1779]

Jefferys entered the map business as an engraver. His success in the early 1750s with maps and charts of North America led to an appointment as geographer to the Prince of Wales in 1757; when the latter became King George III in 1760, Jefferys rose to be geographer to the king. Though he was regarded as an outstanding cartographer and produced some of the finest maps of North America and the West Indies, the royal position did not guarantee material success. Most of his important works were published after his death by Sayer and Bennett (Sayer had purchased much of his stock), or by his business partner, William Faden.

This was the best known atlas of its time for the North American continent, and it contains very detailed charts of the St. Lawrence River. As one might expect, it proved to be a very useful cartographic source for both sides during the American Revolution. The exhibited map shows how the provinces and colonies were divided up by the Treaty of Paris (1763) that ended the French and Indian War between France and Great Britain: France ceded all of her territory west to the Mississippi River as well as her colonial empire



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in the St. Lawrence Valley. Pertinent articles of the treaty are printed verbatim on the map.

This atlas has an appropriate association: it was given to the Library of Nassau Hall by Richard Stockton in 1805. Son of a “signer” of the Declaration of Independence, Stockton graduated from Princeton in the midst of the Revolutionary War. Perhaps this volume from his personal library was a graduation gift to him from his father.

#### Virginia

- 1587 46. **Hakluyt, Richard (1552?-1616).** “Novus Orbis.” Copperplate map, in his edition of Peter Martyr’s *Decades, De orbe novo Petri Martyris Anglerii Mediolanensis...* (Paris: Guillelmum Avvray, 1587), a history of the West Indies covering eight decades. Extremely rare map, one of only two copies known. [Rare Books Collection, gift of Mrs. Marshall L. Brown from the library of Cyrus H. McCormick, Class of 1879]

This is the first map to bear the name *Virginia (Virginea)*.

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Hakluyt, the English geographer, studied at Oxford to become a clergyman and took his holy orders at an early age. He issued the exhibited work while in Paris as the chaplain of the English ambassador, Sir Edward Stafford. The work is dedicated to his friend Sir Walter Raleigh. While abroad, he took the opportunity of collecting information about French and Spanish voyages. He returned to England in 1588 and published the next year the first edition of a work that, greatly expanded and released ten years later in three volumes, made his reputation, *The Principall Navigations, Voages, and Discoveries of the English Nation*. He left behind at his death a collection of manuscripts sufficient to have formed a fourth volume; some of these manuscripts were acquired by Samuel Purchas, an English clergyman, and integrated into his famous *Hakluytus Posthumus, or Purchas His Pilgrimes* [see item 68].

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In the spring of 1607, Captain John Smith and his party landed at Jamestown, Virginia, to establish the first British settlement in North America. Part of their instructions was to find the passage to the East Indian Sea, for the prevalent belief at the time was that the western ocean was near at hand [see the Münster map, item 36]. As a result, the exploration of the area began immediately, and various parties explored and mapped the eastern part of the Chesapeake Bay and the rivers emptying into it. Smith returned to England in the late fall of 1609, where he prepared a draft of his map to illustrate a pamphlet that he wrote, *A Map of Virginia....* The pamphlet was issued



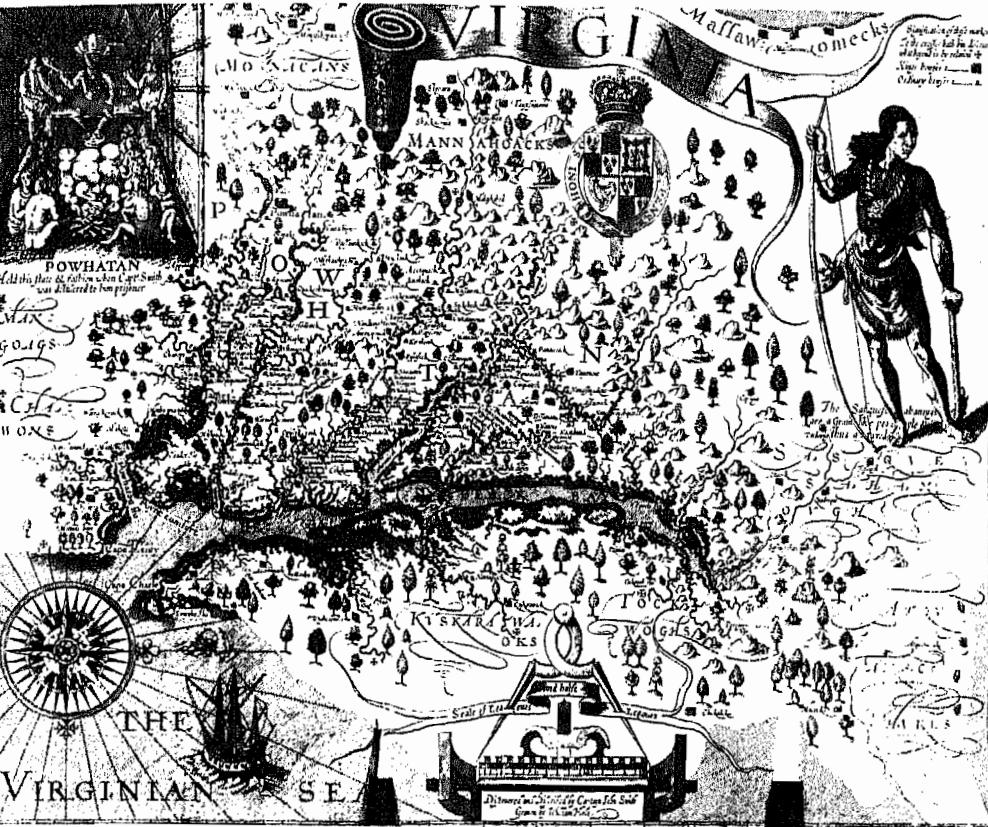
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in 1612, but the map appears to have been in circulation before that. It was not used again until Smith published his *Generall Historie of Virginia, New-England, and the Summer Isles* in 1624.

- [1612] 47. Smith, John (1580-1631). "Virginia." Handcolored copperplate map, included in William Strachey, *The Historie of Travell into Virginia Britania...* (1612). This manuscript account of the discovery and settlement of the Virginia colony, compiled by Strachey, first secretary of the colony (1610-1611), after his return to England, is one of three known extant copies. Though it is in the hand of a professional scribe, the work contains alterations and corrections apparently in Strachey's hand, and the dedication to Henry Percy, Earl of Northumberland, is signed by Strachey. (Northumberland at the time was a prisoner in the Tower along with his friend Sir Walter Raleigh.) The manuscript is extra-illustrated with a copy of John Smith's 1612 map of Virginia (in the first state) and 27 of De Bry's 1590 engravings of John White's Virginia drawings. [Manuscripts Division, gift of Cyrus H. McCormick, Class of 1879]

This is the first printed map of the Chesapeake Bay. It is remarkably accurate in terms of the bay's shape, proportion, and orientation. Of the four major rivers Smith named, only the name Potomac (*Patawomeck*) has survived. The little crosses on rivers, mountains, and other places mark the extent of actual explorations; the rest of the map's information was gathered from the Indians and set down according to their instructions.



Captain John Smith: "Virginia" (1612), first state of the first printed map of the Chesapeake Bay



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The map identifies ten Indian tribes and 166 Indian villages.

Beyond having geographical significance, the map is also a beautiful example of the engraver's art. The upper left corner contains an illustration of Powhatan inside his hut as he appeared when Captain Smith was delivered to him as a prisoner in 1607. Balancing on the right is a large standing figure of an Indian warrior holding a bow in one hand with a pig slung at his hip—a drawing copied from De Bry's engravings. A decorative banner cartouche, a replica of the Royal Arms, a large compass rose, a ship with sails furled, and various species of trees are some of the other decorative features of this widely copied map.

- [1658] 48. **Blaeu, Willem Janszoon (1571-1638).** "Nova Virginiae Tabula." Handcolored copperplate map. [Historic Maps Collection, gift of estate of Noel B. Fox, Class of 1899]

This popular derivative of the Smith map was originally made by Jodocus Hondius, Jr., in 1618. Blaeu bought the plate in 1629 when Hondius died. It appeared in numerous editions of Blaeu atlases from 1630 on. Of all the published versions of the Smith map, this Hondius/Blaeu version was the one most responsible for the diffusion of Smith's geographical data.

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#### New England

- [1635?] 49. **Blaeu, Willem Janszoon (1571-1638).** "Nova Belgica et Anglia Nova." Handcolored copperplate map. [Historic Maps Collection, gift of estate of Noel B. Fox, Class of 1899]

This is the first printed map to concentrate on the New England area and the first to show Indian canoes and several types of North American fauna, such as turkeys, beaver, and otters. (North is to the right of the sheet.) The false placement of Lake Champlain (*Lacus Irocoisiensis*) in New England follows Samuel de Champlain's map of 1613. The palisaded Indian villages are reminiscent of Hochelaga, a fortified Iroquois village in Canada (modern Montréal), that was shown over 200 years earlier on maps published by Giovanni Battista Ramusio. First issued in 1635, this map was influential for many years.

- 1677 50. **Foster, John.** "A Map of New-England" (known as the "White Hills Map"). Woodcut map, in William Hubbard, *A Narrative of the Troubles with the Indians in New-England...* (Boston: John Foster, 1677). [Sinclair Hamilton Collection]

This is the first map of any kind to be printed in North America. Like the preceding Blaeu map, this one is



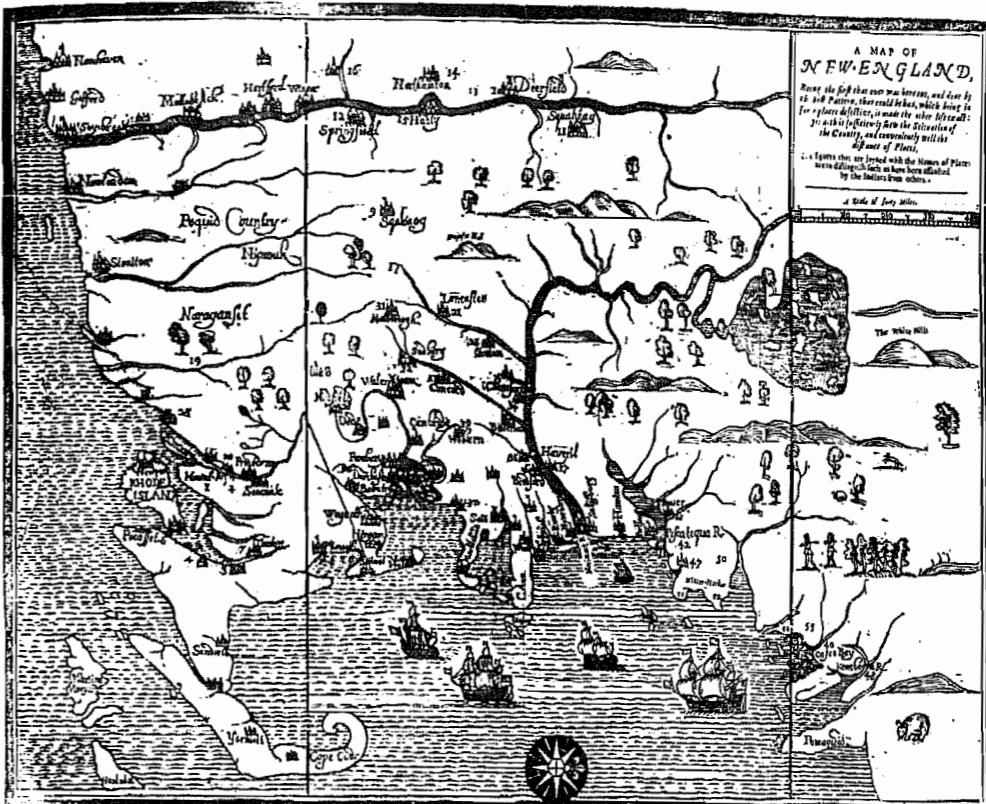
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oriented with north to the right. (Among other errors, the London edition of the map, published in the same year, changed "White Hills" to "Wine Hills"—hence, the significance of the trade name.) Foster was a Boston printer; Hubbard was one of the first presidents of Harvard University. Because of its date, the map provides a time-capsule kind of roll call of the most important New England towns of the 17th century, 100 years before the Revolutionary War. Notice that Rhode Island is an island on this map.

The following four maps form part of a series commonly referred to as the Jansson-Visscher map of New England.<sup>12</sup> (The first map in the series was issued by Jan Jansson in 1651.) The series is an interesting one because of the numerous cartographers represented in it and for the rapid historical developments in the area that their maps reflect. Some of the important dates to remember in this context are: 1664 (New Amsterdam taken by the English and re-named *New York*, the region between the Hudson and Delaware rivers named *New Jersey*), 1673 (Dutch re-capture New York), 1674 (English retake New York), 1682 (Philadelphia laid out). Only a few English settlements are shown, and one of the most notable omissions is Boston, the largest city of the British colonies.

- [1655] 51. Visscher, Nicolas (1618-1679). "Novi Belgii." Copperplate map. [Historic Maps Collection, gift of estate of Noel B. Fox, Class of 1899]



John Foster: "Map of New England" (1677), first map of any kind printed in North America



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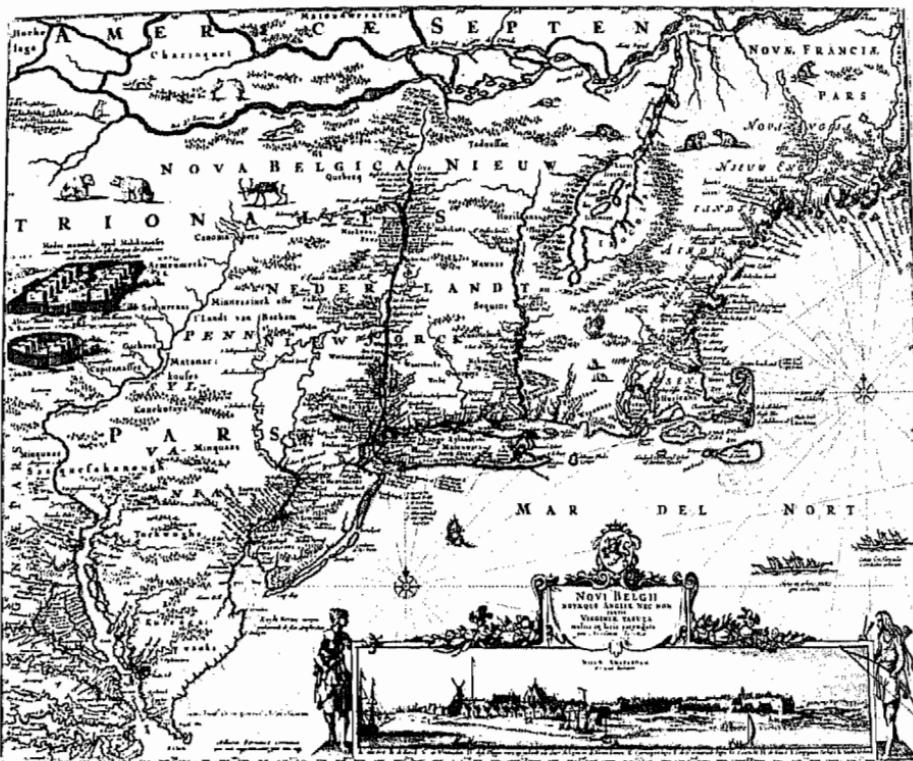
This version of the Jansson-Visscher New England map contains the first appearance of Visscher's view of New York, entitled "Nieuw Amsterdam op t Eylant Manhattans." It is the third known engraved view of the city. In addition, the map shows the provinces of Pennsylvania and New York marked.

- [1655] 52. **Danckerts, Justus (1635-1701).** "Novi Belgii." Handcolored copperplate map. [Historic Maps Collection, gift of estate of Noel B. Fox, Class of 1899]

In this version, the Delaware River has been re-drawn, New Jersey and its bounds are shown, and Maryland is named. The title of the Visscher view has been changed to "Nieuw Yorck, eertys Genaemt Nieuw Amsterdam op't Eylant Manhattans."

- [1714?] 53. **Aa, Pieter van der (1659-1733).** "Nouvelle Holland, (à présent Nouvelle-York), Nouvell-Angleterre, et une Partie de la Virginie." Handcolored copperplate map. [Historic Maps Collection]

While only two-thirds the size of the others in the series and not usually considered as part of it, the plate is closely copied from the Visscher and represents an important link between the Visscher and later versions. A completely new cartouche showing settlers has been added; in addition, the map is the first



Nicolas Visscher: "Novi Belgii" (1655), with one of the earliest known engraved views of New York City



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in the series to give Canada the modern name and to show Providence (R.I.), first settled in 1636.

- [1730] 54. **Seutter, Georg Matthäus (1678-1756).** "Novi Belgii." Handcolored copperplate map. [Historic Maps Collection, gift of estate of Noel B. Fox, Class of 1899]

The cartouche has been replaced with a new one depicting natives and gods presenting tribute to a seated English monarch, probably George II. The view of New York is now called "Neu Jorck sive Neu Amsterdam" and has a Latin key; the change in the city from Visscher is dramatic. This is the first map in the series to show by means of printed lines the boundaries of Massachusetts, New England, New York, New Jersey, and Pennsylvania.

#### **Middle Atlantic**

- [1654?] 55. **Colom, Arnold (ca. 1624-1668).** "Nieu Nederlandt." Handcolored copperplate sea chart. [Historic Maps Collection]

The success of the chart books published by father and son, Jacob and Arnold Colom, forced the Blaeus, who

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had held a virtual monopoly in Amsterdam, to revise and enlarge their own competing works. Colom charts were popular with seamen for many years and were issued in great quantities, though few have survived. [For other printed sea charts and notes on their characteristics, see items 64 and 65.]

- [1720?] 56. **Homann, Johann Baptist (1663-1724).** "Virginia Marylandia et Carolina." Handcolored copperplate map. [Historic Maps Collection, gift of estate of Noel B. Fox, Class of 1899]

Following the long period of Dutch domination, Homann founded the most important German map-publishing house in Nuremberg in 1702. After his death, the firm remained under his son till 1730 when it was bequeathed to his heirs. The business continued into the next century under the name *Homannische Erben* (Homann Heirs). Homann was one of the first to color his maps at origin, although he usually left his cartouches and scrolls plain. The exhibited map contrasts an elaborate cartouche, showing colonial traders and Indian natives amidst the bounty of the country, with a simplified, essentially coastal, representation of the Middle Atlantic states. The plan of Philadelphia is shown; New Jersey, a royal province since 1702, is still divided into East and West Jerseys; and an exaggerated lake called *Apalache* is depicted just beyond the Carolina boundary (probably today's Lake Marion, South Carolina).





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- [1748?] 57. **Lotter, Tobias Conrad** (1717-1777). "Pennsylvania, Nova Jersey et Nova York." Handcolored copperplate map. [Historic Maps Collection]

Lotter was the son-in-law of Matthäus Seutter, engraved many of his maps, and inherited the business after Seutter's death in 1756. He became one of the better-known German cartographers of the 18th century. This map's key exhibits some of the conventional map symbols that were prevalent at the time: church spires or towers for towns, small circles for country communities, tepees for Indian villages. The stylized mountain forms used on the western portion of the map give the area a strange, moon-like appearance.

### The Mississippi River (and Basin)

- 1718 58. **L'Isle, Guillaume de** (1675-1726). "Carte de la Louisiane et du Cours de Mississippi." Copperplate map, with faint outline color, in his *Atlas de géographie* [Paris: n.d., maps dated 1701-1731]. [Rare Books Collection]

This is the first printed map to show in detail the Mississippi River system and the routes of its explorers (De Soto and others); also, it represents the first time the name Texas is used. (The *Mission de los Tejas* was



Guillaume de l'Isle: "Carte de la Louisiane et du Cours de Mississippi" (1718), first map to use the name *Texas*



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established in 1716.) The location of New Orleans, founded in 1718, is shown fairly accurately, but fictitious mountains are depicted across the Michigan peninsula.

The map also had political implications. Outlined in yellow, the English coastal colonies were reduced in extent, while French claims were expanded to cover most of North America west of the Appalachians as well as Carolina (area bordered by green)! The map's first appearance naturally outraged the English.

Widely copied, the map was the most influential—for the area—of its time.

- 1775 59. Ross, John. "Course of the River Mississippi, from the Balise to Fort Chartres; Taken on an Expedition to the Illinois, in the Latter End of the Year 1765." Copperplate map, with faint outline color, in Thomas Kitchin, *A General Atlas, Describing the Whole Universe...* (London: Printed for Robert Sayer, n.d., maps dated 1775-1790). [Rare Books Collection, gift of Stanley Bright, Class of 1902]

At a scale of about one inch to fourteen miles, this map represents the most detailed British military survey of the Mississippi River. Fort Chartres, passed over to the British under terms of the 1763 Treaty, was the main center of French administration in the Illinois region.



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#### East of the Mississippi

- 1715 60. Moll, Herman (fl. 1678-1732). "A New and Exact Map of the Dominions of the King of Great Britain on ye Continent of North America." Handcolored copperplate map. [Historic Maps Collection, gift of estate of Noel B. Fox, Class of 1899]

Known as the 'Beaver Map' for obvious reasons, this map with its luxury of scale provides a great deal of detail lacking in other maps of the period. The color pink outlines British territory, while blue encircles French. Much of the popularity (past and present) of Moll's maps, however, lies in their non-map features. [See item 72, for example, where a vignette illustrates Newfoundland's cod industry.] Here, besides a scene of Niagara Falls and crudely drawn beaver, Moll provides informational notes on French fishing rights (the Treaty of Utrecht, 1713, allows them to dry their fish catches on the northern end of Newfoundland) and the North American postal schedule: "The Western Post setts out from Philadelphia every Fryday leaving Letters at Burlington and Perth Amboy and arrives at New York on Sunday night...." (Our postal service is still trying to equal this feat!) The map shows the route.



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#### West of the Mississippi

The United States began to mount major government-sponsored explorations of the West after its purchase of Louisiana (defined as that great tract of land lying between the Mississippi River and the Rocky Mountains) from France in 1803. The most famous of these was the expedition led by army captains Meriwether Lewis and William Clark. Clark had been an Indian fighter and explorer and had served together with Lewis in 1795 under Anthony Wayne. Lewis, a Virginia neighbor and friend of Thomas Jefferson, became his private, presidential secretary in 1801. Jefferson had long thought of pursuing a land route to the Pacific Ocean; Lewis had long cherished leading such an expedition. Now, they believed, the time was right, and an expedition was organized, financed by Congress. Lewis chose Clark as his companion officer. Mustering their men, the two leaders joined forces at St. Charles, Missouri, in the spring of 1804. From there, the expedition ascended the Missouri River, crossed the Rocky Mountains, and reached the Pacific, returning to St. Louis essentially the way they had come and arriving on September 23, 1806.

- 1814 61. **Lewis, Meriwether (1774-1809), and William Clark (1770-1838).** "A Map of Lewis and Clark's Track Across the Western Portion of North America from the Mississippi to the Pacific Ocean; By Order of the Executive of the United States in 1804 5 & 6." Copperplate map, in their *History of the Expedition Under*



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*the Command of Captains Lewis and Clark, to the Sources of the Missouri, Thence Across the Rocky Mountains and Down the River Columbia to the Pacific Ocean. Performed During the Years 1804-5-6. By Order of the Government of the United States* (Philadelphia: Bradford and Inskeep, 1814). Rare first edition. [Rare Books Collection, gift of Mrs. Marshall L. Brown from the library of Cyrus H. McCormick, Class of 1879]

"Copied by Samuel Lewis from the Original Drawing of William Clark," this map represents a milestone in Western exploration. The expedition of Lewis and Clark achieved and proved many things; perhaps the most important discovery was the great width of the continent—so much wider than anyone had supposed. Their exploration and description of the Oregon Country was largely responsible for the successful claim to this region made by the United States. The Columbia River, previously believed to be a minor outlet to the Pacific Ocean, became a majestic river in its own right, serving a vast watershed. Information gathered from Indians permitted them to estimate the number of 'souls' in each tribe. All of this and more is shown.

This was a great map, a milestone of mapping in its time, and countless placenames it gave to the face of America remain today as an ineradicable cultural heritage.<sup>13</sup>



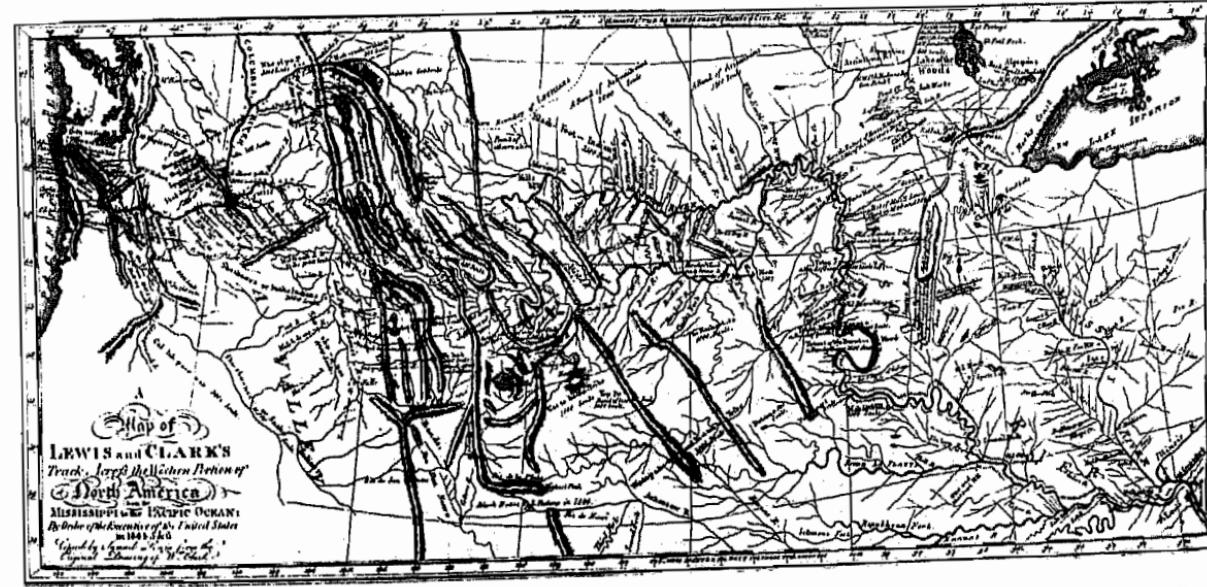
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### **North America (and Parts)**

After the success of the expedition, Jefferson appointed Lewis as governor of Louisiana, the territory covering all of the province north of the present state; Clark became superintendent of Indian affairs. Lewis always intended to be the editor of his own travels, and when government matters called Lewis to Washington in the late summer of 1809 he brought his notes, journals, and other records with him; on his way, while staying at an inn in Tennessee, Lewis died. In his introduction to the exhibited work, Jefferson assumes Lewis committed suicide; however, more evidence suggests murder—no money was found on his body and his watch was later recovered in New Orleans. In early 1810, Clark requested the help of Nicholas Biddle, the prominent Philadelphia scholar and financier, to write a narrative of the expedition, using Lewis' notes and journals and Clark's own oral accounts. His first draft was finished in the spring of 1813, when other pursuits forced Biddle to relinquish the editorship to Paul Allen, a journalist and minor poet, who saw the book to press the next year.

On February 20, 1814, 1,417 copies of this first edition went on sale for six dollars per copy.

Thus it was that the definitive account of the most important exploration of the North American continent finally appeared in print nearly eight years after the journey's completion.<sup>14</sup>



William Clark: "A Map of Lewis and Clark's Track Across the Western Portion of North America..." (1814)



## From Circle to Sphere: Historic Maps Since Columbus

### North America (and Parts)

On January 24, 1848, gold was discovered at Sutter's Mill, a sawmill on the South Fork of the American River in Coloma, California. News of this discovery set off a mass migration of get-rich settlers from the eastern states. This stampede for gold, known as the "California Gold Rush of 1849," created a tremendous demand for guidebooks, maps, and descriptions of the West. From 1848 to 1850, the population of California tripled; San Francisco, as the gateway to the gold region, grew from a town to a city overnight.

- 1849 62. Jefferson, T. H. "Map of the Emigrant Road from Independence Mo. to St. Francisco California." Lithograph map. (New York: published by the author, 1849). Very rare map, one of only three or four known copies. [Philip Ashton Rollins Collection]

The case for the map contains this interesting promotional text:

This map is original and drawn upon a large scale (in four parts) from the regular survey of the Author who travelled over the entire route in company with a party of Emigrants with waggons and oxen. All the streams of water and springs are delineated as well as the daily courses, distances and camps made by the party. With



## From Circle to Sphere: Historic Maps Since Columbus

### North America (and Parts)

this map for his guide the emigrant or traveller can start upon the journey and pilot himself through. It is accompanied by a description of the modes of outfit for the journey.

As an accompaniment to the map, Jefferson supplied an 11-page guidebook of "Brief Practical Advice [Addressed] to the Emigrant or Traveller." "The journey is not entirely a pleasure trip," he says. "It is attended with some hardships and privation—nothing, however, but that can be overcome by those of stout heart and good constitution. A small party (10 or 20) of the *proper* persons *properly* outfitted might make a pleasure trip of the journey." One has the choice of using packing horses or wagons pulled by oxen; the former might take up to three months, the latter six. "No dependence can be placed upon game"—so Jefferson proceeds to identify the provisions packers and wagoners should carry. Other sections of the guidebook include "Articles that may be taken," "Arms and Ammunition," "Various useful articles," "Wearing apparel," "Animals," "Goods in demand among Indians," and "Cost of outfit." He gives a description of Independence, Missouri, and recommends the names of several merchants whose rates are reasonable, and then provides a brief narrative of the trail itself. At the end he exhorts, "We want a good wagon trail across this continent, and we must have one.... Why don't the government do something immediately that will be of practical utility to the emigrant or traveller across our own territory?"



## *From Circle to Sphere: Historic Maps Since Columbus*



### **North America (and Parts)**

Nothing is known of Jefferson except what is revealed by the map and the guidebook; he identifies himself only as "one of a party of emigrants who travelled the road with wagons in 1846." Yet something of his own trip is revealed in his concluding comments: "Upon this journey the bad passions of men are apt to show themselves. Avoid all partnership if possible. Provide your own outfit, and expect to take care of yourself." The creed of the West!

---

Texas cattle drives after the Civil War moved millions of Texas Longhorns from overstocked ranges in the southern part of the state to Kansas railheads, for shipping to feedlots and packing plants in the Midwest. The Chisholm Trail, extending from San Antonio, Texas, to Abilene, Kansas, was the major route north through the Indian Territory (Oklahoma). Named for Jesse Chisholm, an Indian trader who traveled the route by wagon in 1866, the trail declined in use after 1871 as settlement moved west and other towns, like Dodge City and Ellsworth, became the primary shipping centers.

- 1875** 63. **Kansas Pacific Railway Co.** "The Best and Shortest Cattle Trail from Texas." Lithograph map, with accompanying guide book, published for "Gratuitous Distribution" (n.p., 1875).

## *From Circle to Sphere: Historic Maps Since Columbus*



### **North America (and Parts)**

In an attempt to attract Texas cattlemen with their cattle to its own railheads, the Kansas Pacific Railway Co. freely distributed this map and accompanying guide. The table in the guide shows distances, describes significant aspects of the route—identifying streams, crossings, best camping grounds, availability of wood and water—and names trading posts. Drovers who followed the guide's suggestions as to daily distances and camping locations could expect their herds to cover the 321 miles from the Red River Station in Texas to Ellsworth, Kansas, in five weeks. Here is the description in the guide for the one day's route (11 miles) shown by the arrow on the map:

Trail from head of Pond Creek bears a little west of north to Cox's Crossing of Bluff Creek, about a quarter of a mile west of mouth of north fork. This is the best crossing on Bluff Creek, and is the only place where wagons can cross for several miles up and down the creek. C. H. Stone's store is located here, where drovers' supplies can be obtained. Good camping grounds on north and south side of creek; plenty of wood and water. Take wood here for five or six days' use.

The widespread use of barbed wire, first patented by Illinois farmer Joseph Glidden in 1874, ended the era of the open range that made trails like these possible.



## *From Circle to Sphere: Historic Maps Since Columbus*

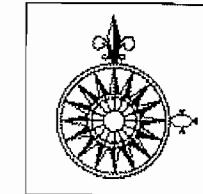
### **North America (and Parts)**

#### **Atlantic Ocean**

The following two charts of the Atlantic Ocean illustrate typical features of printed marine or sea charts that evolved from the manuscript portolanos [see item 15, an early portolano chart]. Each contains a center compass rose (wind rose) of 32 points, from which loxodromes or rhumb lines radiate to a circle of points, each of which also becomes a wind rose extending direction-finding lines. (The *fleur-de-lis*—or “Prince of Wales’ feathers” as sailors used to call it—that points north on these center compass roses first appeared on 16th-century Italian charts. No one knows for certain what it means. It is possible that Flemish mariners adopted it when they began using Frankish names for winds because the emblem had been associated with Frankish kings.) Ports and coastal cities are identified at right angles to the shorelines, and little or nothing of the interior parts of the countries is shown. Most charts were printed on thicker paper to prolong their working life.

[1693] 64. **Mortier, Pierre (1661-1711).** “Ocean Atlantique, ou Mer du Nord.” Handcolored copperplate chart.  
[Historic Maps Collection]

Mortier was a French cartographer who established a publishing house in Amsterdam around 1685. His



Compass rose



## *From Circle to Sphere: Historic Maps Since Columbus*

### **North America (and Parts)**

successful business included French, English, and Dutch works, books as well as atlases. After his death, his widow and, later, his son, Cornelis, carried on the business. In 1721 Cornelis formed a partnership with his brother-in-law, Johannes Covens (1697-1774), creating the famous firm of Covens and Mortier, which became one of the most important Dutch map publishers during the 18th century.

This marine chart, drawn on Mercator’s projection, was a useful guide for east-west navigating between Europe/Africa and the New World.

[1740?] 65. **Ottens, Reiner (1698-1750) and Joshua (1704-1765).** “Terra Neuf....” Handcolored copperplate chart.  
[Historic Maps Collection]

Once one recognizes that north is to the left on this map, the confusion disappears. In contrast to the previous item, the chart was a useful north-south guide between the two continents of the New World. Only latitude is indicated.

The Ottens brothers, carrying on the family print and map-selling business founded by their father, Joachim, produced great collections of maps between 1720 and 1750, made up to order and beautifully colored. They



## *From Circle to Sphere: Historic Maps Since Columbus*

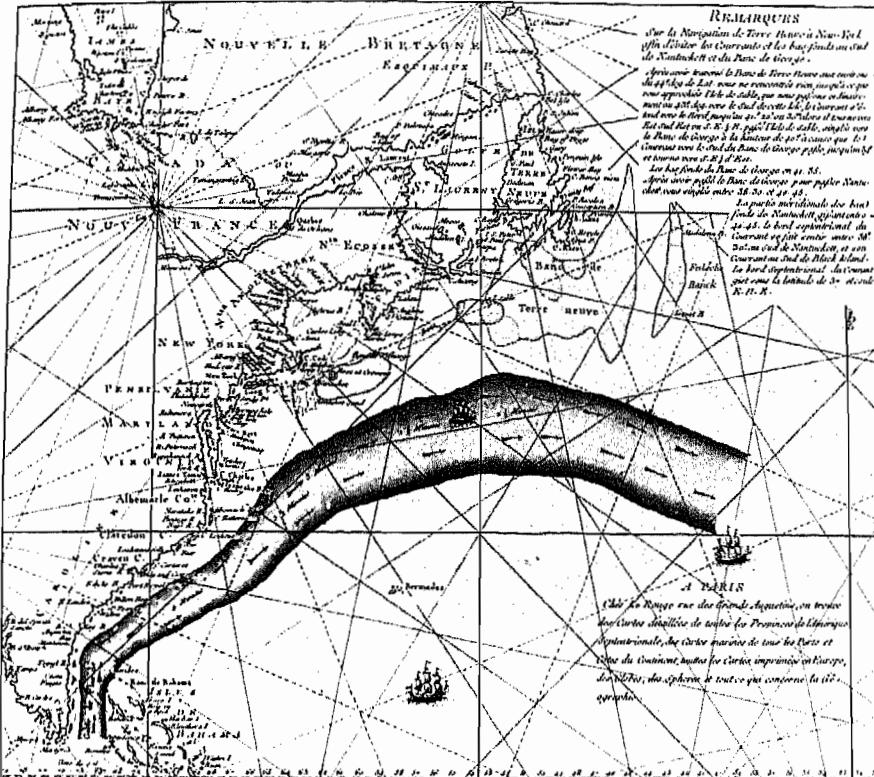
## **North America (and Parts)**

could provide copies of almost any maps that were available at the time.

Ponce de Léon was the first explorer to take notice of the swiftly flowing current off the eastern coast of Florida when he sailed north from Puerto Rico in 1513 in search of Bimini, the island on which the fabled Fountain of Youth was said to be located. By the end of the sixteenth century, Spanish navigators were well aware of the 'rotary' nature of the winds and currents of the Atlantic Ocean and took advantage of them in their frequent crossings. Inexplicably, it took 250 years before a chart was printed that showed the most identifiable element, the Gulf Stream.

- [1778] 66. Franklin, Benjamin (1706-1790). "Remarques sur la Navigation de Terre-Neuve à New-York afin d'Éviter les Courrants et les Bas-Fonds au sud de Nantucket et du Banc de George" (called the "Franklin-Folger Chart" or the "Gulf Stream Chart"). Rare copperplate chart. [Historic Maps Collection]

In a lengthy letter to Sir John Pringle in 1762 [see the letter, item 75], Franklin first uses the term *Gulph Stream*. While his real purpose in writing is to discuss the Northwest Passage, his letter ranges widely over other maritime observations, including his ‘variable sea level’ theory of the current:



Benjamin Franklin: "Gulf Stream Chart" (1778), French version of the earliest printed Gulf Stream map



### North America (and Parts)

The Trade Wind blowing over the Atlantic Ocean constantly from the East, between the Tropics, carries a Current to the American Coast, and raises the Water there above its natural Level. From thence it flows off thro' the Gulf of Mexico, and all along the North American Coast to & beyond the Banks of Newfoundland in a strong Current, called by Seamen *the Gulph Stream....* [And] so long & so strong a Current... can only be accounted for, by its having a considerable Descent, and moving from Parts where the Water is higher, to Parts where it is lower.

When he was Deputy Postmaster-General for the American colonies in 1768, Franklin had a purely practical interest in the Stream: mail packets from Falmouth (England) to New York were taking two weeks longer than those from London to Rhode Island. The explanation, of course, was the Gulf Stream, and the fact was confirmed by Franklin's cousin, Timothy Folger, a Nantucket mariner. Eager to make English packet captains aware of what American whale hunters had long known, Franklin asked Folger to add a depiction of the Gulf Stream to an available chart, including details of the Stream's dimensions and swiftness. No copies of this 1769 chart were known till two were found in Paris in 1978! The exhibited map, thought now to have been printed in Paris in 1778, is, therefore, the French version of the earliest printed map of the Gulf Stream.



### The Prime ( $0^\circ$ ) Meridian

Latitude and longitude provide cartographers a means of 'addressing' geographical entities. Though both are artificial constructs, the former derives from a natural line: the equator. The rotation of the earth on its axis creates two poles, and it is easy to visualize a middle line circling halfway between these poles of the spinning sphere, dividing north and south. By using an astrolabe (or quadrant or cross-staff or sextant—as the instrument evolved) to measure the height (*i.e.*, angle) of the sun at noon, a navigator could always estimate his latitude, the number of degrees north or south of the equator.

But longitude, the number of degrees east or west, requires a starting point or prime meridian, and there is none that is natural. Hundreds of years ago, the simplest way to measure longitude was to observe an astronomical event, such as an eclipse, from two different locations; the difference in local times would provide their longitudinal difference [see item 73]. Yet if  $360^\circ$  divided by 24 hours meant each hour equaled  $15^\circ$  difference in longitude, then even a half-hour error could mean more than a  $7^\circ$  error in longitude. Needless to say, time and longitude have long been interrelated.

Unfortunately, navigators lacked accurate, portable timepieces till the English clockmaker John Harrison tested his first successful marine chronometer in 1736. The British Board of Longitude had offered a prize of £20,000 for a clock that would keep accurate enough time that navigators could calculate within 30 miles a ship's east-west



### The Prime (0°) Meridian

position by comparing the time on the clock (Greenwich time) with noon where the ship lay. Harrison kept perfecting his chronometer, but was not awarded the full prize till 1776! Captain Cook carried the fourth version of the chronometer on his voyage of 1772.

Ptolemy set his prime meridian at the Fortunate Islands (Canary Islands), which were then the western limit of the known world. Jerusalem was customarily regarded as the center of the earth during the Middle Ages; hence, maps of that period (T-O maps [see items 4 and 5]) centered on that city. Later cartographers reverted to Ptolemy's precedent, but varied between the Canaries, the Azores, or the Cape Verde Islands for their starting point. [See item 46, where Hakluyt sends the prime meridian through Toledo, Spain, on his 1587 world map. The problem is further discussed in detail by William Leybourn in his 17th century work on globes, item 82.]

Nationalism was rampant during the eighteenth and nineteenth centuries, and most cartographers adopted the meridian of their own capital city from which to number their degrees.<sup>15</sup>

On maps from that period, one can find London, Paris, Lisbon, Madrid, Philadelphia, and Washington as prime meridians. The triangulation and surveying conducted by the British Ordnance Survey, established in 1791, used a prime meridian based on the Greenwich Observatory near London. Gradually, other countries adopted this line. In



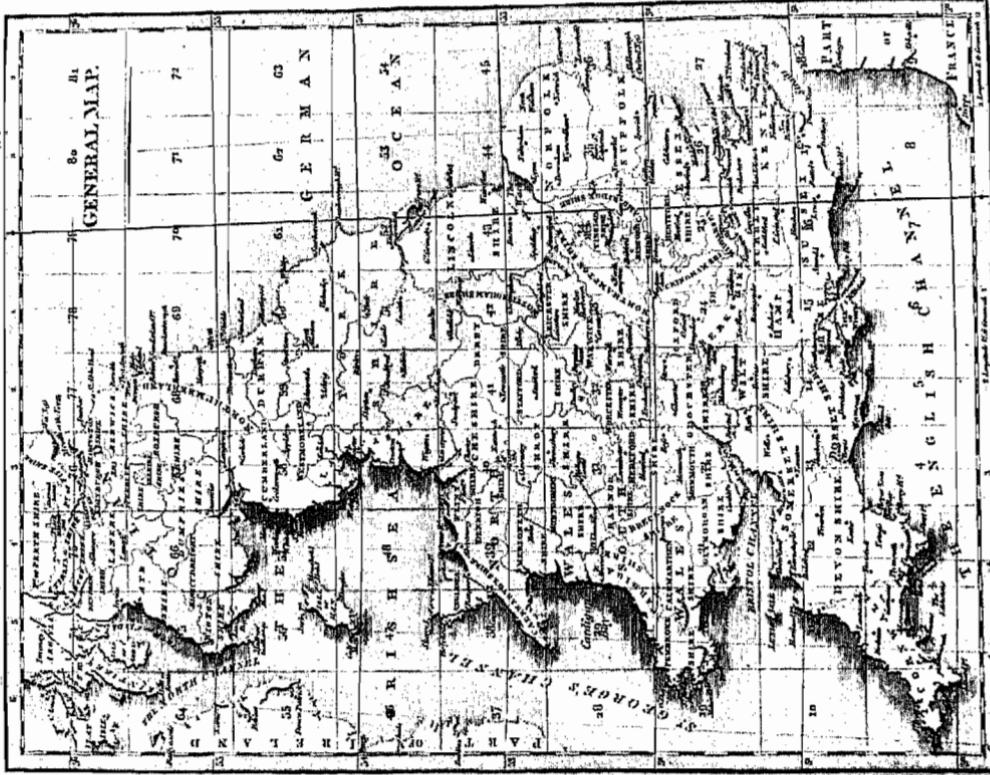
### The Prime (0°) Meridian

1884, under international agreement, it was recognized as the standard 0° longitude line, and Greenwich Mean Time (GMT)—the time at the prime meridian—became the base time for all other time zones around the world.

- 1794 67. Cary, John (ca. 1754-1835). "General Map." Handcolored copperplate map, in his *Cary's New Map of England and Wales, with Part of Scotland* (London: J. Cary, 1794). [Rare Books Collection, gift of Mrs. Agnes Pyne McLean]

This is the first map to use the Greenwich prime meridian.

Regarded as one of the finest English cartographers, Cary used the most recent geographical information in his maps [see his note to the globes offered in his 1818 catalog, item 85], which were finely engraved and attractively lettered. His work covered the whole gamut of geographical and astronomical products, from road maps, canal and town plans, county maps, sea charts, world atlases, and terrestrial and celestial globes, to instruments, planetariums, and accessories, such as magic lanterns.



John Cary: "A General Map" (1794), first printed map to use the Greenwich Meridian ( $0^\circ$ ) [north is to the left]

## *From Circle to Sphere: Historic Maps Since Columbus*



California as an Island

The earliest printed maps of North America consistently show an unbroken western coastline [see, for example, the Hondius map of 1602, item 20], yet in the seventeenth century a geographical misconception developed that greatly influenced cartographers' maps for over 100 years.

The idea of California as an island is supposed to have originated with a Carmelite Friar, Father Antonio Ascension, possibly on a misconception of the reports of the Spanish navigators Juan de la Fuca 1592 and Martin d'Aguilar 1602, one of whom reported a great opening in the west coast and the other a vast inland sea north of Cape Mendocin.<sup>16</sup>

Father Ascension sent a map of California as an island to Spain on a ship around 1620, but the ship was captured by the Dutch and the map was taken to Amsterdam. However, it was in England that the idea was first popularized.

- 1625 68. **Briggs, Henry.** "America Septentrionalis." Copperplate map, included in Samuel Purchas' compilation of travel reports, *Purchas His Pilgrimes* (London: William Stansby, 1625). [Rare Books Collection, gift of Mrs. Wilton Lloyd-Smith in memory of Wilton Lloyd-Smith, Class of 1916]

Exhibited is the first printed map to show California as an island, the first map to name Hudson's Bay, and



## *From Circle to Sphere: Historic Maps Since Columbus*

## **California as an Island**

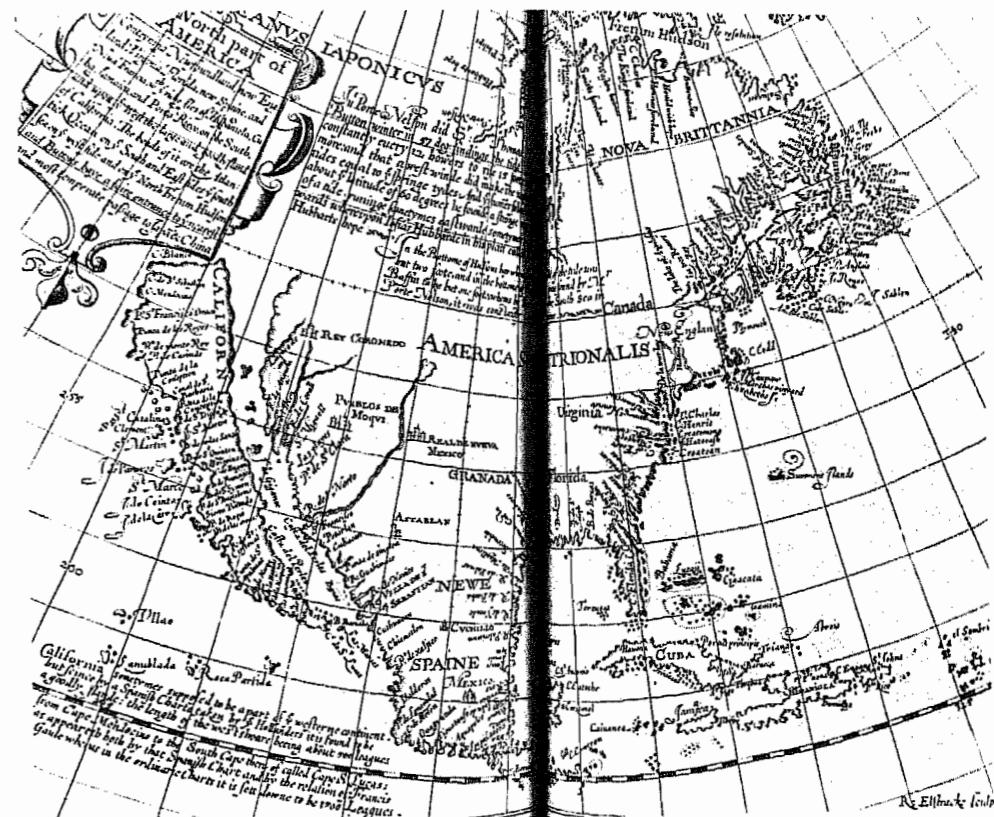
the first map of North America in English. In the bottom left legend, Briggs states: "California sometymes supposed to be a part of ye westerne continent, but scince by a Spanish Chartē taken by ye Hollanders it is found to be a goodly Ilande...." Ironically, the purpose of the map was to emphasize the possibility of another geographical misconception, a Northwest Passage.

- [1638] 69. Jansson, Jan (1588-1664). "America Septentrionalis." Handcolored copperplate map. [Historic Maps Collection]

This is the first Dutch map of California as an island to appear in an atlas. It follows the Briggs model with a flat northern coast. The St. Lawrence is still shown as flowing from one Great Lake. Vignette views of native animals and birds add to the map's appeal.

- 1669** 70. **Sanson, Nicolas (1600-1667).** "Amerique Septentrionale." Handcolored copperplate engraved map. [Historic Maps Collection]

The 1650 version of this map was the first to show the existence and location of the five Great Lakes. California's northern coastline is now indented, and two names, *Talago* and *R de Eslite*, have been added.



Henry Briggs: "America Septentrionalis" (1625), first printed map to show California as an island



## California as an Island

In addition, Sanson places Santa Fe (*S. Fé*) as the capital of *Nouveau Mexique* and uses the word *Navajo* for the first time.

- [1700] 71. **Allard, Carel (1648-1709).** "Recentissima Novi Orbis, sive Americae Septentrionalis et Meridionalis Tabula." Handcolored copperplate map. [Historic Maps Collection, gift of estate of Noel B. Fox, Class of 1899]

Here, the depiction of California as an island follows the 'indented northern coastline' model, with a large mass of land, *Terra Esonis*, stretching northwesterly above it. Many Pacific islands are shown, including an inset map of New Zealand. The title vignette portrays natives, local fauna, and sugar cane.

- [1720] 72. **Moll, Herman (fl. 1678-1732).** "To the Right Honourable John Lord Sommers... This map of North America According to ye Newest and Most Exact Observations Is Most Humbly Dedicated." Handcolored copperplate map. [Historic Maps Collection]

California is shown as an island based on the Sanson shape, but several new names and towns have been added. (Moll was strongly attached to the myth and once claimed to have had in his office mariners who had



## California as an Island

sailed around the island.) In his map, Moll provides the English reaction to the 1718 Guillaume de l'Isle map (item 58) that showed French claims to most of North America west of the Appalachians. Here, French Louisiana is reduced to south of the Ohio River, and the English name *New Britain* has been given to Labrador. The title vignette show Indians and Inuit paying homage to Lord Sommers, President of the Privy Council; an inset illustrates the cod industry of Newfoundland.

- 1742 73. **Homann, Johann Baptist (1663-1724).** "Basis Geographiae Recentris Astronomica." Handcolored copperplate map. [Historic Maps Collection, gift of Robert A. McCabe, Class of 1956]

This map comes from the major German celestial atlas of the 18th century, *Atlas novus coelestis*, a work by Johann Gabriel Doppelmayr (1671-1750) that was published by Homann's Heirs in 1742. While the point of the map is to provide an astronomical foundation for world geography by listing latitude and longitude coordinates for observed lunar eclipses around the world, it is also an important (and late) representation of the myth of California as an island. Phases of eclipses are shown in the skies above the world map, while below vignettes depict observers in action.

In 1747, King Ferdinand VI of Spain decreed that California was not an island.



## The Northwest Passage

During the 18th century, pursuit of a Northwest Passage was given impetus by an account of a 1640 voyage by Bartholomew de Fonte. His voyage was first described in the form of a letter in a London magazine, *Monthly Miscellany or Memoirs for the Curious*, in April and June 1708: "A Letter from Admiral Bartholomew De Fonte, then Admiral of New Spain and Peru, and now Prince of Chili; giving an Account of the most material Transactions in a Journal of his from the lalo of Lima in Peru, on his Discoveries to find out if there was any Northwest Passage from the Atlantic Ocean into the South and Tartarian Sea." In his letter, de Fonte told of his voyage to the northwest coast in 1640 and claimed to have discovered a passage from the Pacific to the Atlantic. Though he did not sail all the way through, he went far enough to meet two Boston ships coming the other way, and was able to obtain charts from their commander.

It was all a hoax: Bartholomew de Fonte was a fictional explorer. James Petiver (1663-1718), owner and editor of the London periodical, is now generally believed to have authored the de Fonte letter. Two hundred years ago, however, it greatly influenced geographical and cartographical circles.

- 1744 74. **Dobbs, Arthur (1689-1765).** *An Account of the Countries Adjoining to Hudson's Bay, in the Northwest Part of America... The Whole Intended to Shew the Great Probability of a North-West Passage...* (London: Printed for J. Robinson, 1744). [Western Americana Collection]

## The Northwest Passage

Appointed surveyor-general in Ireland by Sir Robert Walpole in 1730, Dobbs later became governor of North Carolina in the British colonies (1754-1765). In the intervening years, he took a very active part in promoting a search for a northwest passage to India and China, and was able to induce the Admiralty to send two expeditions (1741 and 1746) to find one. He felt that the Hudson's Bay Company, through its heavy-handed dealing with the Indians, had thrown the fur trade to the French in Canada. In his book, he argues for settling colonists near Hudson's Bay to increase British influence and to deprive the French of much of their fur traffic, and he seizes upon the de Fonte tale to help support his own argument for a Northwest Passage that would greatly benefit British commerce.

The book revived the dormant de Fonte story.

- 1762 75. **Franklin, Benjamin (1706-1790).** Signed autograph letter to Sir John Pringle (1707-1782), dated 27 May 1762. Dr. Pringle, who became physician to King George III in 1774, attained a position of great influence in scientific circles and was elected president of the Royal Society in 1772. [Andre de Coppet Collection, gift of Andre de Coppet, Class of 1915]

Franklin's letter is a detailed examination of de Fonte's "Letter":





## From Circle to Sphere: Historic Maps Since Columbus

### The Northwest Passage

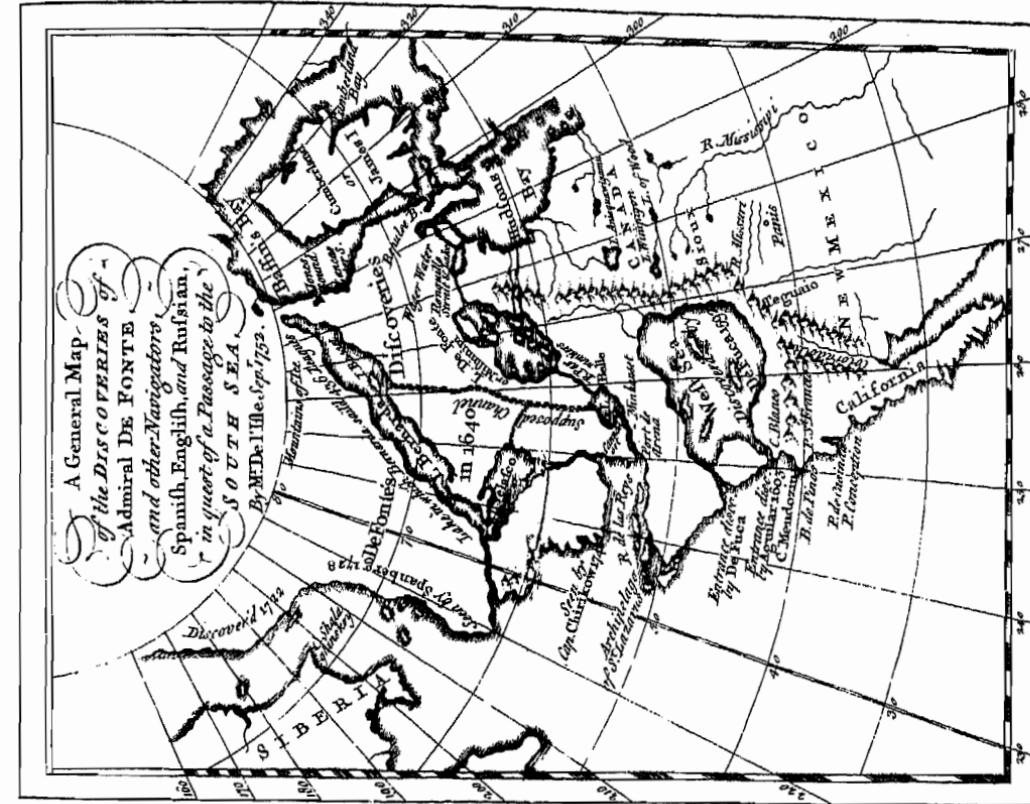
In Compliance with your request, I sit down to give you my Reasons for believing as I do, that De Fonte's voyage is genuine... [I]t has none of the Features of Fiction.

After thirteen pages of analysis, Franklin summarizes his view in a postscript:

My Opinion on the whole is this, That though there may probably be no practical Passage for Ships, there is nevertheless such a Passage for Boats as De Fonte found & has described; & That the Country upon that Passage is for the most part habitable, & would produce all the Necessaries of Life.

He appends to his letter a 1752 Guillaume de L'Isle map that illustrates the discoveries of de Fonte, but indicates with red ink where he believes it errs in its cartography: two lines joining Hudson's Bay to Lake Superior are added where Franklin believes a passage exists.

- 1762 76. Janvier, Jean (fl. 1746-1776). "L'Amerique Septentrionale Divisée en les Principaux Etats." Handcolored copperplate map. [Historic Maps Collection]



Guillaume de l'Isle: "Discoveries of Admiral De Fonte" (1752), with Franklin's correction [north is to the left]



## The Northwest Passage

This is a prime example of what is called “theoretical cartography,” *i.e.*, mapmaking based more on conjecture than fact that was exhibited by a number of cartographers, mainly French, during the 18th century. Of particular interest here are depictions of a Northwest Passage and a West Sea (today’s Puget Sound).

- [1775?] 77. **Zatta, Antonio** (fl. 1775-1797). “America Settentrionale.” Handcolored copperplate map. [Historic Maps Collection]

This is another “theoretical” map of the Northwest—this one by a well-known Italian cartographer of the 18th century.

- 1793 78. **Goldson, William**. “Chart on Mercators Projection, Exhibiting the Tracks of Maldonado and De Fonte, in 1598 and 1640; Compared with the Modern Discoveries.” Copperplate map, in his *Observations on the Passage between the Atlantic and Pacific Oceans, in Two Memoirs on the Straits of Anian, and the Discoveries of De Fonte. Elucidated by a New and Original Map* (Portsmouth: W. Mowbray, 1793). [Rare Books Collection]

## The Northwest Passage

Goldson addresses his work to “the Merchants Trading to the North-West Coast of America” and reminds them of the “liberal reward” which the government has offered for the discovery of a link between the Atlantic and Pacific Oceans. In his preface, he states:

De Fonte’s report has been the subject of much controversy, in which the opinions have been so various, that the account was gradually falling into general discredit, when the return of Captain Cook, whose authority was considered as being conclusive, led the world to suppose, that the whole was a mere fabrication. But later discoveries have given it authenticity; and that part of the following pages which treats on this subject, is founded on these discoveries.

On his map, Goldson hypothesizes that de Fonte’s track and lake are further north than previously thought, hoping to spur new explorations in that area.

In the 19th century, explorers did venture further north, above the mainland of North America, culminating in the infamous voyage of Sir John Franklin in 1845 and the subsequent litany of ships sent in search of the lost Franklin party. But it was not until the 20th century that the speculations of 15th-century geographers were realized.





### The Northwest Passage

- 1903-6 79. **Amundsen, Roald (1872-1928).** "Route of the *Gjöa* through the North West Passage." Colored lithograph map, in his *Roald Amundsen's "The North West Passage": Being the Record of a Voyage of Exploration of the Ship "Gjöa" 1903-1907* (London: Archibald Constable and Company, 1908). [General Library Collection]

Almost fifty years after Leopold McClintock, the British naval officer and explorer, was able to confirm reports that a navigable passage existed linking the Atlantic and Pacific Oceans, Amundsen, with a crew of six men, and with six sled dogs aboard, successfully traversed the route in his herring sloop *Gjöa*. Departing from Christiana (now Oslo), Finland, 16 June 1903, he arrived in Nome, Alaska, 31 August 1906.

- 1937 80. **Roberts, Kenneth (1885-1957).** *Northwest Passage* (Garden City, N.Y.: Doubleday, Doran & Company, 1937). First trade edition. [Rare Books Collection, gift of James Brownlee Rankin, Class of 1923]

This is an historical novel based on the pre-Revolutionary War exploits of Robert Rogers, the American frontier soldier who raised a courageous force of militia, known as Rogers' Rangers, which won a wide reputation in military campaigns around Lake George by using the guerrilla technique of Indian warfare. Late in the novel, Rogers also attempts to find a Northwest Passage. The novelist's opening statement,



### The Northwest Passage

prefacing the first chapter, provides a meaningful commentary on the four centuries men have spent in pursuit of this elusive route:

The Northwest Passage, in the imagination of all free people, is a short cut to fame, fortune and romance—a hidden route to Golconda and the mystic East. On every side of us are men who hunt perpetually for their personal Northwest Passage, too often sacrificing health, strength, and life itself to the search; and who shall say they are not happier in their vain but hopeful quest than wiser, duller folk who sit at home, venturing nothing and, with sour laughs, deriding the seekers for that fabled thoroughfare—that panacea for all the afflictions of a humdrum world.<sup>17</sup>



## Globes

In 1492, the same year that Columbus sailed the Atlantic, Martin Behaim (1459-1507), a Nuremberg merchant, finished his 20-inch terrestrial globe. Sent by his parents to the Netherlands and Portugal to gain business experience, Behaim returned home for a visit from the Azores, full of tales about Portuguese voyages. The town council was impressed enough to convince Behaim to design a globe that would lend prestige to the town hall. The shell of the globe was constructed of papier-mâché, painted vellum gores designed by Georg Glockendon were glued to its surface, and the whole was mounted on a wooden stand. Behaim's Atlantic was about  $100^{\circ}$  narrower than its true width of  $229^{\circ}$  because his Asia had been extended so far to the east. (Columbus, of course, also grossly underestimated the distance to Asia.) Behaim's globe is believed to be the oldest world globe still in existence, though the Greek historian Strabo wrote of a world globe ten feet in diameter that Crates of Mallus, a Greek philosopher and scholar, had made and exhibited in 150 B.C.

- 1509 81. **Waldseemüller, Martin (ca. 1470-1518).** *Globus Mundi...* ([Strassburg]: Joannes Grüninger, 1509). Extremely rare work. [Rare Books Collection, gift presented by Mrs. Marshall L. Brown from the library of Cyrus H. McCormick, Class of 1879]

This work is ascribed to Waldseemüller and is thought to have accompanied his globe of the same year. It is the earliest work devoted to the globe to name America. The New World (*nūw welt*) is only hinted at



## Globes

in this woodcut image of a world globe, yet the word *America* is specifically used in the text to name the "newly discovered fourth part of the world." Having named America in his pamphlet accompanying his 1507 world map [see items 32 and 33], Waldseemüller has not yet reconsidered the appropriateness of the name as he will in 1522 [see item 35], when he will withdraw it.

- 1675 82. **Leybourn, William (1626-1700?).** *An Introduction to Astronomy and Geography: Being a Plain and Easie Treatise of the Globes* (London: Printed by F. C. for Robert Morden and William Berry, 1675). Copy owned by Narcissus Luttrell (1657-1732), the noted bibliographer. [Rare Books Collection]

Leybourn was a mathematician and educator as well as a professional land surveyor. He co-authored the first book on astronomy written in English, *Urania Practica* (1648). In the exhibited work, before beginning a section devoted to the uses of the globe—finding longitude, latitude, time of day or night, and the distance between any two points—he argues for adopting St. Michaels Island in the Azores as the prime meridian.

To say the truth, by reason of the variety of Meridians, the Longitudes are grown to such an uncertainty and confused pass.... This indeed I have observed, that many Geographers, or rather discribers of particular places, tell us that such a place is so many degrees of Longitude;



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but from what Meridian, others must guess. Some particularly profess to follow Mercator: but what are most men the wiser for this? for Mercator's Meridian was not always the same; sometimes through the Canary Islands, sometimes through the Azores.<sup>18</sup>

- 1692 83. **Coronelli, Vincenzo (1650-1718).** A complete set (12) of copperplate-engraved global gores, from his *Corso geografico universale* (Venice, 1692). [Rare Books Collection]

Coronelli spent most of his life in Venice, where, as a Franciscan priest, he became Father General of his order in 1699. By then, though, he was already famous as a cartographer and globe-maker and was Venice's official cosmographer. He taught geography at the University and founded the first geographical society, the Cosmographical Academy of the Argonauts, in 1680. Engraver of hundreds of maps, he was probably better known for his splendid globes, which were even finer than those of Blaeu. His masterpiece was a pair of celestial and terrestrial globes, 15 feet in diameter, that he made for Louis XIV of France; the star map showed the heavens as they stood at the king's birth.

The exhibited gores, if cut out, would fit a globe of approximately six inches in diameter; spread out, they demonstrate the problem encountered by cartographers trying to accurately portray the world on a flat map.



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One can discern California as an island on this map.

- 1717 84. **Mead, Bradock (fl. 1730-1757).** *The Construction of Maps and Globes. In Two Parts...* (London: Printed for T. Horne *et al.*, 1717). [Rare Books Collection, gift of Richard Halliburton, Class of 1921]

The first part of this work describes how to create various projections for maps, while the second part explains how to construct all types of globes: magnetic, copper and ivory, and paper.

- 1818 85. **Cary, John (ca. 1754-1835).** *A Catalogue of Maps, Atlases, Globes, Astronomical Works, &c.* (London: John Cary, 1818).

Cary's advertisement page for globes in this early catalog is interesting for a number of reasons: the variety of globes available, the costs associated with having them colored by hand, and the emphasis on being geographically current with the latest discoveries. Notice that Lewis and Clark's expedition is mentioned.

- 1819 86. **Wilson, James (1763-1855).** "The American Nine Inch Terrestrial Globe, Exhibiting with the greatest possible Accuracy, The Positions of the Principal Known Places of the Earth; with New Discoveries &



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Political Alterations down to the Present Period: 1819." [Graphic Arts Collection]

Exhibited is the first edition of the nine-inch terrestrial globe of America's first globe-maker. The world map consists of 12 printed paper gores which have been laid down on a papier-mâché globe and then varnished. The wooden stand and brass hardware are original.

A native of New Hampshire, Wilson spent his early adulthood as a farmer and blacksmith, mastering the skill of working with hot metal. He studied copper engraving under Amos Doolittle of Connecticut and mapmaking from Jedidiah Morse, the "father of American Geography." He made his first globe in 1811, a 13-inch terrestrial globe, the first of any kind prepared and published in the United States.

The exhibited globe shows the boundary between Spanish America and the United States drawn according to the terms of the Adams-Onis Treaty of 1819; hence, the globe may have been created in celebration of that event.



James Wilson: "The American Nine Inch Terrestrial Globe" (1819) by America's first globe-maker



### Catalog Notes

1. Herman Moll, *A System of Geography: Or, A New & Accurate Description of the Earth in All Its Empires, Kingdoms and States* (London: Printed for Timothy Childe, 1701), page 1 of the “Advertisement” section.
2. Eames, *Two Important Gifts*, 5-6.
3. I have relied, for the most part, on the translation of Eames, *The Letter of Columbus*, 1-2,6.
4. Tooley and Bricker, *Landmarks of Mapmaking*, 45.
5. Henry Stevens, *Bibliotheca Geographica*, 191.
6. Moreland and Bannister, *Antique Maps*, 22.
7. Skelton, *Decorative Printed Maps*, 35-36.
8. The descriptions for the Ptolemy editions largely come from Henry N. Stevens, *Ptolemy's Geography*, 37-62.



### Catalog Notes

9. Deserving credit goes to Princeton colleagues John Keaney, professor of classics, and Jochen Twele, general humanities bibliographer, for tracking this quotation down: Cicero *Tusculanae disputationes* 4.37. The words *potest videri* are actually the last two words of Cicero’s previous sentence and were apparently printed by mistake (and proliferated by copying!); in their place should be the words *enim* (the rhetorical *For*) and *videatur* (the present subjunctive passive tense).
10. Francis Ernest Rockwood, *Cicero’s ‘Tusculan Disputations, I’ and ‘Scipio’s Dream’* (Norman, Okla.: University of Oklahoma Press, 1966), xxxii.
11. Margaret Bingham Stillwell, *Incunabula and Americana, 1450-1800: A Key to Bibliographical Study* (New York: Columbia University Press, 1931), 69.
12. Details and dates of the maps have been confirmed by reference to Tony Campbell, “The Jansson-Visscher Maps of New England,” in Tooley, *Mapping of America*, 279-294.
13. Wheat, *Mapping the Transmississippi West*, vol. 2, 59.
14. Wagner and Camp, *The Plains & the Rockies*, 62.



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### Catalog Notes

15. Ristow, "The Western Hemisphere," 421.
16. Tooley, *Mapping of America*, 110. The book's entire third chapter, "California as an Island," clearly charts this carto-bibliographical phenomenon.
17. Kenneth Roberts, *Northwest Passage* (Garden City, N.Y.: Doubleday, Doran & Co., 1937), statement facing page 3. Printed with permission of Bantam, Doubleday, Dell Publishing Group, Inc.
18. William Leybourn, *An Introduction to Astronomy and Geography: Being a Plain and Easie Treatise of the Globes* (London: Printed by F. C. for Robert Morden and William Berry, 1675), 206.



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