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Wall Map. Records ranging from sales catalogs to estate inventories show that maps were often placed on walls during the long eighteenth century, when such works were variously called large maps, glazed maps, framed maps, hanging maps, or maps on rollers. (The term “wall map” came into use only in the late nineteenth century.) The placement of maps on walls was a feature of several different cartographic modes. Property maps could be displayed by the property owners; private companies and government agencies could display regional maps, often manuscript, of the territories under their control. But the Enlightenment was marked by a widespread consumption of published wall maps, whether urban or geographical (world, continents, and regions).

While their contents varied considerably, Enlightenment wall maps nonetheless shared a common form. Physically large, they comprised multiple large sheets (demi to elephant size) often of high-quality paper, reinforced with cloth backings; they were often equipped with wooden rollers and sometimes with storage boxes. A good example of an impressively large wall map was John Rocque’s map of London and Westminster (1746), whose twenty-four sheets measure about 2×4.5 meters when fully assembled (see fig. 878). As works of spectacle, wall maps were further distinguished by pronounced visual elements including sectional designs, decorative trompe l’oeil frames (usually on urban and only rarely on regional maps), and elaborate cartouches (Barber 1990).

Eighteenth-century wall maps differed from earlier wall maps in that they were a product of the century’s burgeoning public sphere and print culture (Pedley 2005). Before 1650, wall maps were restricted to privileged settings in the palaces of royalty and nobility and in the grand houses of the gentry and wealthy burghers

(especially in the Netherlands), and such placement persisted. But after 1650, almost all the participants in Europe’s map trade designed wall maps and marketed them to Europe’s increasing middling sort (Barber and Harper 2010). Wall maps were advertised as interior furnishings for both public places (such as taverns or assembly rooms) or in domestic spaces (such as studies, hallways, and parlors). Mapmakers promoted wall maps for their visual appeal, emphasizing the use of color, allegorical imagery, and pictorial views. Because multisheet wall maps were printed in sections, each sheet contained fragments of the map’s overall design; they became fully legible only when assembled, their legibility frequently

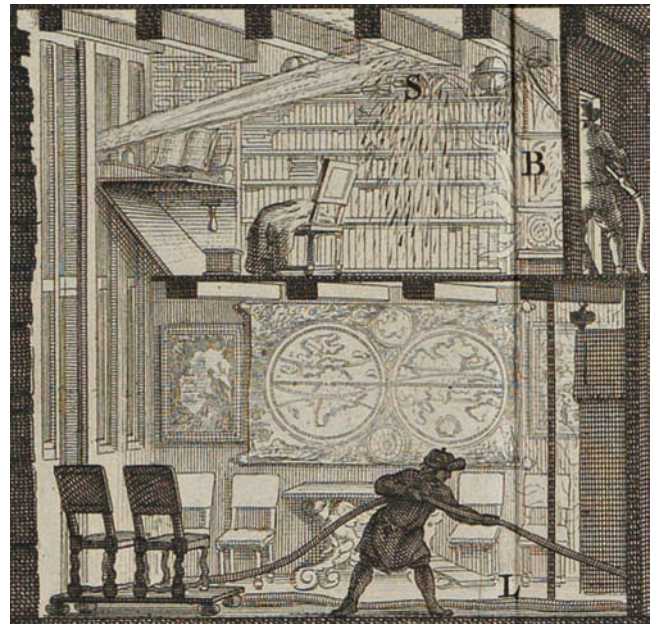


FIG. 946. THE PRIZED VALUE OF WALL MAPS. Detail of a view of Dutch firefighting, showing the prominence and value of a large double-hemisphere world wall map. From Jan van der Heyden’s *Beschryving der nieuwlijks uitgevonden en ge-octrojeerde slang-brand-spuiten* (Amsterdam, 1690), fig. 2 (between 6 and 7).

Size of the entire original: ca. 32.5×45.0 cm; size of detail: ca. 7×7 cm. Image courtesy of the Koninklijke Bibliotheek, The Hague.



FIG. 947. A SMALL MAP MADE INTO A WALL MAP. Thomas Rowlandson's ca. 1780 drawing of "The Undergraduate's Room" features a small double-hemisphere world map mounted on the chimney breast. Watercolor with pen and ink.

Size of the original: 12.1 × 19.2 cm. Image courtesy of the Yale Center for British Art, New Haven (B1986.29.191).

being guided by the contents of their ornamental cartouches and their total composition encompassed by their frame.

However, it is not clear that such large maps were intended primarily to be wall maps, and not all multisheet maps were intended to be wall maps. Rather, publishers could sell large maps in multiple formats in order to increase the probability of recouping their high production costs. The largest wall maps, such as Louis Bretez's plan of Paris surveyed under orders of Michel Étienne Turgot (1739; see fig. 174) or Henry Popple's map of North America (1733), each in twenty sheets, were also published as bound atlases, with index maps. Publishers also sold large maps in dissected form: sliced into smaller portions and pasted onto cloth, they could be folded and unfolded without damaging the paper. Dissection allowed consumers to buy wall maps even when they did not have space to hang them; they could be easily stored on shelves, whether in the publisher's carton or in boxes made to resemble bound books. Indeed, a map's owner could alter its physical form as needed (Edney 2012).

While it may be argued that wall maps could function as designer objects celebrating political power, ac-

tual display practices indicate that wall maps served a much broader range of functions. Probate records and estate inventories reveal that wall maps became a prized consumer object serving a range of official as well as personal needs (fig. 946). As genre painters from Jan Vermeer to William Hogarth have shown, wall maps provided theatrical props for scenes depicting modern government as well as political satire (Pritchard 2001). Inside European and European-influenced homes, wall maps hung next to tapestries, mirrors, and paintings, thus projecting a society in which individuals used wall maps as a signifier for asserting individual refinement, class status, or national identity on a global or local scale (Brückner 2011).

Indeed, with the advent of wall maps as popular wall hangings, the very concept of wall map changed. With the increased availability of printed maps, map consumers of all classes began to hang up and display maps of all sizes and makes (fig. 947). Any cartographic image could become an appealing wall display and a personal statement of its owner's interests and concerns. In this respect, walls became one more household object on which Europe's middling sort could display their in-

creasing engagement with the world and their developing sense of aesthetics.

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SEE ALSO: Consumption of Maps; Decoration, Maps as; Geographical Mapping; Map Trade; Urban Mapping

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West-Indische Compagnie (WIC; West India Company; Netherlands). During the late seventeenth century and through the eighteenth, the Dutch had control over a number of areas in the Atlantic. The Dutch possessions consisted of six islands in the Caribbean: the Windward Islands of Curaçao, Aruba, and Bonaire and the Leeward Islands of Sint Eustatius, Saba, and Sint Maarten. On the South American coast, the Dutch ruled the colonies Essequibo, Demerara and Berbice (present-day Guyana), and Surinam. In Africa, the Dutch held a chain of forts and smaller settlements on the Gold Coast (now Ghana). The most important fort in Africa was Elmina. All these areas lay within the charter of the Dutch West India Company, West-Indische Compagnie (WIC), founded in 1621.

In 1654 the WIC lost Brazil to the Portuguese, and in 1664 the Dutch surrendered New Amsterdam (New York) and the surrounding colony of New Netherland to the British. Because of the loss of revenue and costly wars, the company's already stretched financial situation deteriorated, and the WIC was declared bankrupt in 1674. Immediately, a new chartered company was established. This second WIC was far less ambitious and it carefully avoided costly territorial conflicts. It opened an ever-increasing number of areas and products to private trade and limited its own activities in many cases to collecting dues. By the middle of the eighteenth century, Dutch private trade was allowed in the entire area of the WIC charter. In some respects the WIC was more like a management organization than an actual trading company. Although in the eighteenth century the bulk of the trade in the Dutch Atlantic was done privately,

the company continued to fit out ships under its own flag too (Den Heijer 2013). The WIC charter expired in 1791 and was not renewed.

Most Dutch possessions in the West Indies were under the control of the company, but some were ruled by other authorities. The large colony of Surinam was governed by the Sociëteit van Suriname beginning in 1683 (fig. 948). The WIC held a one-third share in the Sociëteit but its influence declined during the eighteenth century. Of the neighboring colonies on the South American continent, Essequibo was the only one under direct control of the WIC. The Caribbean islands and the forts on the African coast were governed by WIC officials. Unlike its counterpart in the east, the Verenigde Oost-Indische Compagnie (VOC), the WIC never felt the need to supply ships with navigation charts. The WIC's mapmaking was therefore limited. In large part it consisted of plans of forts and other defenses and some town plans. These maps are mainly from the islands of Curaçao and Sint Eustatius and of African forts. In Surinam and the neighboring colonies, the mapping concentrated on the land-ownership of the numerous plantations along the rivers.

The work on these plantations was done by enslaved people from Africa. Runaway slaves, the Maroons, founded villages further inland and formed a threat to the plantation owners. To aid expeditions into the inland to control the Maroons and to catch slaves, better maps were needed. The *Generale kaart van de Provincie Suriname* (1737) published by Alexander de Lavaux shows the results of a number of these expeditions into the jungle. In the 1770s the Sociëteit van Suriname ordered Johan Christoph van Heneman to make a new map of the entire colony. The results were published as large wall map in eight sheets under the title *Kaart van de Colonie Suriname* (1784). This map gives a clear insight into the extent of the plantations and presumed location of Maroon villages (Kok 1982).

After the Anglo-Dutch War (1780–84), the urgent need for the reinforcement of the defense of the Dutch colonies became apparent. This resulted in a short flurry of cartographic activities in all regions of the Dutch Atlantic, but the turmoil of the French Revolutionary Wars in Europe and the Netherlands meant that nothing was constructed and the maps and plans ended up in drawers (Zandvliet 1985).

The second WIC always had a very limited staff in the Netherlands. The company did not maintain its own cartographic or hydrographic office. The extent of private trade meant there was an open market for charts and sea atlases of the Atlantic in the Netherlands. It is likely that most charts used by WIC vessels came from sea atlases such as *Het Brandende Veen* (1675–85) by Arent Roggeveen and later from sea atlases and charts of the Van Keulen firm.



FIG. 948. DETAIL FROM ALEXANDER DE LAVAUX, *AL-GEMEENE KAART VAN DE COLONIE OF PROVINTIE VAN SURINAME* (AMSTERDAM: COVENS & MORTIER, CA. 1758). Copper engraving on two sheets; ca. 1:150,000. Detail of the area around Paramaribo, showing the townsite and plantations, most of the long lot type, with each owner having at least a small waterfront from which to ship produce.

Lavaux's map identifies more than 400 plantations. Next to the fort at the junction of the rivers is the *kostgrond*, or agricultural plot for the use of the Sociëteit van Suriname. Size of the entire original: 59.5 × 88.5 cm; size of detail: ca. 14.0 × 26.5 cm. Image courtesy of the John Carter Brown Library at Brown University, Providence (Cabinet Gm737 LaA75).

The mapping of the Dutch Atlantic world never received the same scholarly attention as its Asian counterpart, but there are a few useful publications. A good inventory of maps, charts and topographical drawings, with reproductions, is provided by the *Grote atlas van de West-Indische Compagnie* (Brommer and Den Heijer et al. 2011–12). The production of maps of Surinam is an exception and has been well described and illustrated (Bubberman et al. 1973). The Dutch islands of the West Indies and the forts on the West African coast have scarcely received attention.

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SEE ALSO: Map Trade: Netherlands; Marine Charting: Netherlands; Netherlands, Republic of the United; Verenigde Oost-Indische Compagnie (VOC; United East India Company; Netherlands)

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Wiebeking, Carl Friedrich von. Carl Friedrich von Wiebeking was born in 1762 in Wollin, Pomerania. A precocious talent, by 1779 he was working under Friedrich Wilhelm Carl von Schmettau on the Prussian survey (1767–87). In 1788, as a very experienced surveyor, Wiebeking moved to the Rhine region near Düsseldorf. There he worked as a hydraulic engineer (*Wasserbau-meister*), quite effectively combining his mapping and engineering skills. The time of great river regulation had begun. In 1795–96, he worked for Hessen-Darmstadt as tax advisor and chief building inspector for the Upper Rhine. From 1802 he was in Vienna, active at the top of Austrian service as court advisor and head of construction. In 1805 he was called to Munich to be chief of the ministerial section for street and hydraulic construction.



FIG. 949. ONE SHEET FROM A RHEINLAUFKARTE, 1796, BY CARL FRIEDRICH VON WIEBEKING. The third sheet of the *Hydrographisch-hyrotechnische [sic] Karte von dem Nieder Rhein von Linz bis unter Arnheim in X Blatt*, copper engraving; ca. 1:30,000. The Rhine river map, which appears in the atlas volume of Wiebeking 1811–17, was engraved and printed with the title *Hydrographisch und militairische Karte* in 1796, before the accompanying text volumes. This sheet is typical of Wiebeking's river maps. At the time of its making, Cologne (Cöln on the map) had about 45,000 inhabitants. The

medieval wall surrounded an area of over four square kilometers. The small numbers in the river indicate the depths (measured in rhinish feet). The river flows left to right on the map, the line of its fastest current is delineated by a slightly thicker line in the river channel, swinging across the stream and across the thin shading lines. The map was engraved by Johann Christian Eckard.

Size of the original: 28.9 × 61.2 cm. © The British Library Board, London (Cartographic Items 454.i.12[1]).

In 1818—by then special advisor and general director for the whole of Bavarian hydraulic, bridge, and street construction—Wiebeking quit state service to focus on his scientific interests, which he pursued until shortly before his death in Munich in 1842.

The diversity of Wiebeking's professional activity is reflected in his numerous publications; his theoretical and practical studies on the art of hydraulic construction reflect a synthesis of his activity. Wiebeking's hydraulic works stand out for their precise river mappings; they provided a necessary basis for appropriate river regulation and are represented above all in his main work on hydraulics, *Allgemeine auf Geschichte und Erfahrung gegründete theoretisch-practische Wasserbaukunst* (1798–1807). A new edition (with a shortened title) appeared in Munich in 1811–17. In four quarto-format volumes, it comprised 2,456 pages of text; the accompanying atlas volume contained 153 imperial-folio-format copperplates (maps, profiles, views, technical drawings of bridges, and locks). In accordance with his belief in testing theories through practice, Wiebeking differentiated theoretical from practical river construction. The

detail-rich ten-sheet Rhine map from Linz (south of Bonn) to north of Arnheim (Netherlands) at a scale of ca. 1:30,000 attests to Wiebeking's impressive knowledge of the nature and characteristics of rivers (fig. 949). Wiebeking established a plausible foundation for the measures necessary to correct negative forces (floods, ice drifts, erosion damage) through the combined effects of maps and text. Thus, for example, Wiebeking refers to the damaging effects of the artificially created right-angle intersection of the mouth of the Sieg River, the “right,” or east, tributary of the Rhine near Bonn. He demanded the return to a natural acute-angle confluence with the Rhine (as it is today) and provided hydraulic instructions to accomplish it. Along with directions for hydrotechnological construction, he presented hydrometric measurements in tables and maps: depths, flow speeds, outflow volumes, and streaming axis as the line of the fastest flows (Schwarz 2005, 32–33, 111).

Also notable are the depictions of former courses of the Rhine. Reviewing reconstructions of earlier flow patterns and old maps and texts especially helped Wiebeking. His precise land observations in conjunction

with his knowledge of the stability of river forms were put to good use, and he employed them above all with an eye to hydraulic engineering. He applied historical-geographical methodology and compared the results to the actual conditions, both cartographically and in greater detail in his textual publications. In his hydraulic construction, the text volumes and maps enter into a symbiosis that, at least for river surveying and mapping, had rarely been achieved at this level of detail. The river maps alone, of which the large-scale Rhine maps are exemplary, represent a resource of the first order—historically, geographically, and cartographically.

UWE SCHWARZ

SEE ALSO: Administrative Cartography: Netherlands; Thematic Mapping: German States; Topographical Surveying: German States, with Geodetic Surveying

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Women and Cartography. Mary Sponberg Pedley suggests that in France daughters did not follow their fathers into the field of geography because geographers who were mapmakers, unlike printers or engravers, did not view themselves as artisans but as intellectuals whose daughters did not carry on their intellectual work (1992, 122). While sons might follow their fathers as mapmakers, women might inherit the business and act as publishers to sell off old stock, but for the most part they either married geographers who carried on the intellectual exercise or married into a higher social class. While the only well-studied female geographer from this period is Marie Le Masson Le Golft (see fig. 234), and the only well-documented, on-the-spot mapmaker the artist and diarist Elizabeth Simcoe (Longchamps 2014), many women entered the map printing trade after the death of a husband or father, and some women, such as engravers, worked in the trade under their own name with their fathers, husbands, or family members (Hudson and Ritzlin 2000).

The Haussard sisters, Elizabeth and Marie Catherine, the daughters of the Parisian engraver Jean-Baptiste Haussard, carried on their father's profession and engraved one-third of the cartouche designs for Gilles Robert Vaugondy and Didier Robert de Vaugondy's *Atlas universel* (Pedley 1992, 64). Other women also conducted engraving projects. One of the more celebrated projects came out of the workshop of Jean Lattré. In

June 1762 there appeared an anonymous review of a new map that touted the unique nature of the work as a feminine production (Pedley 2005, 112). A map of the path of the solar eclipse (1 April 1764) across Europe was drawn by Nicole-Reine Étable de la Brière Lepaute, a gifted astronomer and mathematician and collaborator with Joseph-Jérôme Lefrançais de Lalande, and engraved by Marie-Françoise Lattré (wife of engraver and publisher Jean Lattré) and Elisabeth Claire Tardieu (wife of the engraver Jacques-Nicolas Tardieu) (fig. 950). The reviewer took the opportunity to make a social commentary concerning this map, which was "new proof that the knowledge of the sciences and the fine arts is not an exclusive privilege that allows access only to one gender. Women also will distinguish themselves in this noble career, when they desire to busy themselves usefully, or rather when we become conscious of the abuse of giving them only a frivolous education" (Anonymous 1762, 1534).

Lattré was a unique woman in the trade in that she published a work produced by women under her own name. The role of the majority of the women involved in map production in this period became more visible only after their husband's death. Widow mapsellers or publishers carried on, often for only a short time, until they remarried, when they turned the business over to a son or son-in-law or sold the business to a competitor in the trade (Barker 1997, 90–92). Their legal ability to continue to run their printing establishments was connected to guild protection of women, at least in France and England, or to the strength of the guild system in their respective countries. For example, the syndic of the printing trade in Paris allowed widows to continue running their husband's workshops including training apprentices, but they would lose that right if they remarried someone who had not been accepted as a master in the guild (Saugrain 1744, 212–13). In England, widows of freemen of the Stationers' Company were considered freewomen and could carry on their husband's business and acquire apprentices of their own without remarrying and did not have to marry freemen of the Company to maintain control of their businesses (Barker 1997, 98–99; Mitchell 1994, 47–52).

After the death in 1740 of John Senex, fellow of the Royal Society of London, member of the Stationers' Company, engraver, and map- and globemaker, his widow, Mary Senex, continued to advertise his works—even selling a pair of globes to Benjamin Franklin. In 1744 she published a broadside of globes, maps, and various geographical works by her late husband in which she announced, in particular, a pair of twenty-eight-inch globes "fit to adorn the libraries of the curious" (Senex 1744). When the Royal Society commented on the improvements and value of the globes being produced in

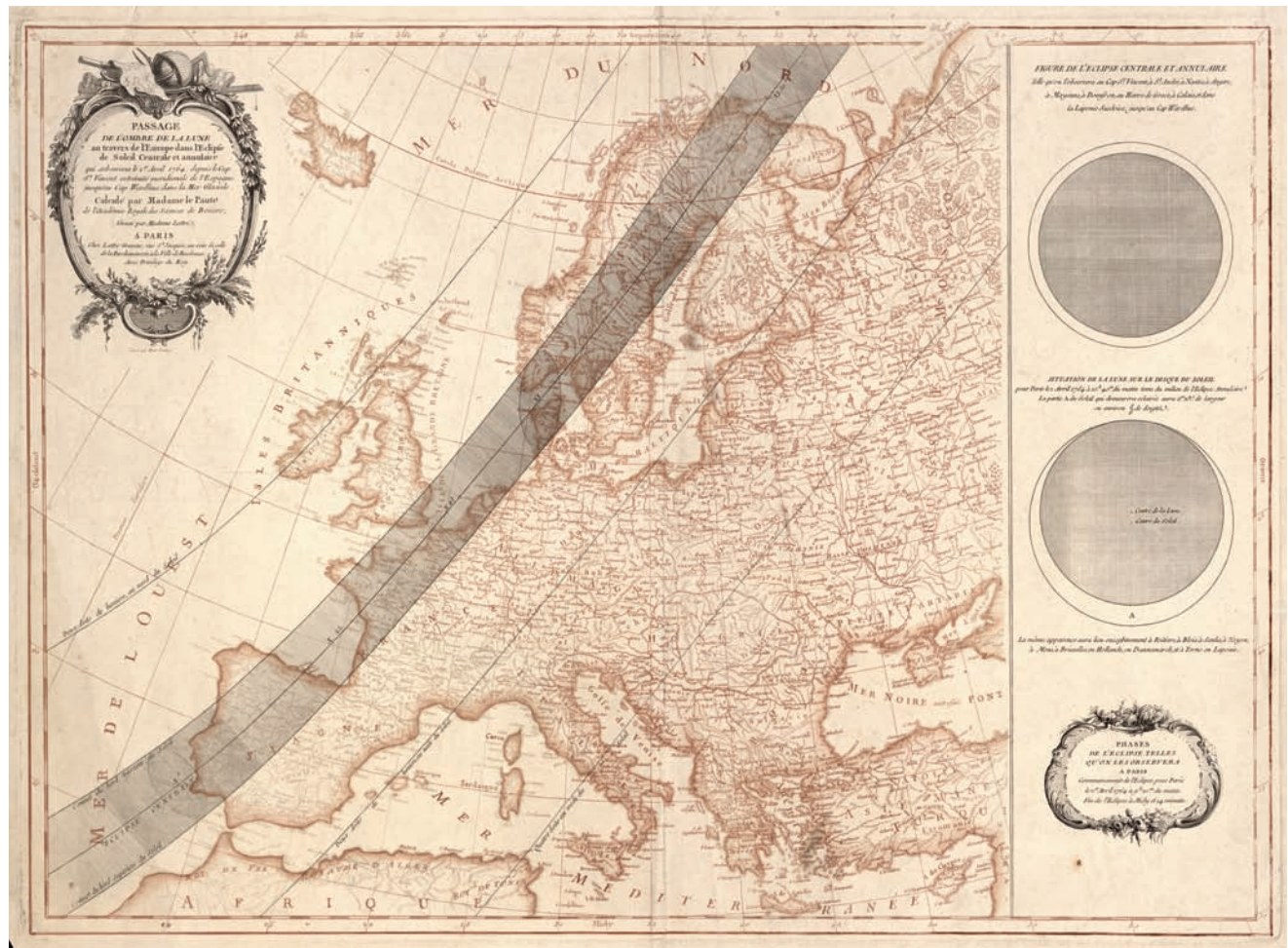


FIG. 950. NICOLE-REINE ÉTABLE DE LA BRIÈRE LE-PAUTE, *PASSAGE DE L'OMBRE DE LA LUNE AU TRAVERS DE L'EUROPE DANS L'ECLIPSE DE SOLEIL CENTRALE ET ANNULAIRE QUI S'OBSERVERA LE 1^{ER} AVRIL 1764*. Paris: Lattré, 1762. This eclipse map was not

only compiled and engraved by women, it also benefited from the technique of printing in color from two separate plates. Size of the original: ca. 46 × 62 cm. Image courtesy of the Geography and Map Division, Library of Congress, Washington, D.C. (G5701.B1 1764.L4).

Nuremberg, Mary Senex wrote to Martin Folkes, president of the Royal Society, to remind the Society of the superior local talent and to promote the Senex globes (17 January 1748/49; British Library, London, MS. 4438, fol. 267). Like her husband, she wanted to ensure the success of her business, which already had competition just within the city of London and certainly did not need the Royal Society to suggest that the Nuremberg globes warranted any stamp of approval over English-made globes, in particular, the Senex globes. Mary continued to act as a publisher for the work of her late husband and ran a successful shop until her death in 1755.

Some widows sought only monetary advantage from the value of the mapping establishment. In 1712, Alexis-Hubert Jaillot, *géographe du roi* and map publisher, died leaving his heirs—his second wife, Charlotte Orbanne,

and his children from both marriages—a business establishment worth nearly 28,000 livres, a substantial value. Jaillot's son from his first marriage, Bernard-Jean-Hyacinthe, continued the business with an agreement to pay an annual sum to Orbanne, his stepmother. By 1726, however, Bernard-Jean-Hyacinthe was forced to sell some inventory because he was no longer able to pay the agreed upon annual sum of 1,250 livres. Five years later, Orbanne sold the remaining geographical stock (for 14,000 livres) to Bernard-Jean-Hyacinthe's son Bernard-Antoine, who had recently been conferred with the title of *géographe du roi* (Pastoureau 1984, 229–34). These transfers, recorded in various notarial records, proceeded rather smoothly and have provided the standard understanding that women did not run mapmaking establishments; male heirs did. Women,

however, would increase in number not only as participants in the trade over the period but also as consumers of geographical material.

While it is difficult to get specific information regarding the numbers of consumers, and in particular women, there are indications that promotional aspects were directed at women and that women showed up increasingly as consumers. Examples include periodical literature with geographical aspects aimed at women, almanacs for sale to women or dedicated to elite women, and advertisements and subscription lists, containing women's names, for the sale of maps and atlases. The role of women as consumers extended from commissioners or patrons of particular works to the elite and middling sort women as subscribers or consumers.

Elite women consumers and patrons are more easily traced because of dedications to them or merely because of their elite or unique status. For example, while Jeanne Antoinette Poisson, marquise de Pompadour, the mistress of Louis XV, may be remembered for presenting to Louis's generals "maps adorned with her beauty spots to suggest troop movements" (Pedley 2005, 6), her offers of patronage were likely historically more significant as a subscriber to such eighteenth-century projects as Denis Diderot and Jean Le Rond d'Alembert's *Encyclopédie*, the Cassini *Carte de France*, and the *Atlas universel*—she had commissioned a pair of globes from Didier Robert de Vaugondy in 1751 (Pedley 2005, 6, 84). In the eighteenth century, dedications were still offered in return for a hoped-for reward or preferment but likely provided a greater marketability with an elite or noble dedication (Hudson and Ritzlin 2000, 6). In his catalog for 1766, Robert Sayer advertised *A New and Correct Map of the World* in two sheets, "Illustrated with numerous descriptive Paragraphs which are not only Instructive but Amusing," and dedicated to Augusta of Saxe-Gotha, the Dowager Princess of Wales (Sayer 1766, 13).

For much of the period, however, women would remain a small percentage of the total number of visible consumers to geographical projects. In 1673 Richard Blome published *Britannia*, and at the beginning of the atlas he presented a list of the 812 benefactors for the work and their corresponding coats of arms. Among the elite subscribers were five women (0.6 percent). Even a half-century later, when Senex dedicated his *New General Atlas* (1721) to George Augustus, Prince of Wales, there were at most four women subscribers out of 1,061 listed; these few female subscribers were mostly from the elite class.

It is not always easy to ascertain the position of non-elite women in the subscription lists, but Herman Moll's subscription list for his five-volume world atlas, *Atlas geographus* (1711–17), included three women out of

830 subscribers, two of whom he identified as booksellers. In the subscription list from the Vaugondy *Atlas universel* (1757), two of the thirteen female subscribers ordered a large number of copies and were likely booksellers of the type praised by Augustin-Martin Lottin as a "precious part" of the guild of printers and booksellers (Pedley 1979, 71). Some of the subscribers or consumers may have been schoolmistresses such as those mentioned in Arthur Tooker's early advertisement from ca. 1670 (McKenzie and Bell 2005, 1:643). Women of quality, the fair sex, gentlewomen, or schoolmistresses increasingly sought "polite knowledge."

At the beginning of the eighteenth century, periodical literature such as the *Ladies' Diary*, begun in 1704, participated in the spirit of the popularization of science encouraged by the late seventeenth-century work by Bernard Le Bouyer de Fontenelle, *Entretiens sur la pluralité des mondes* (1686), translated as *A Discovery of New Worlds* by Aphra Behn in 1688, the year before her death. While similar to Fontenelle's *Entretiens*, Francesco Algarotti's *Il Newtonianismo per le dame* (1737) and even John Newbery's chapbook, *The Newtonian System of Philosophy Adapted to the Capacities of Young Gentlemen and Ladies* (1761) portrayed polite and learned conversations with marquises and countesses; the goal was instruction to a largely nonspecialized audience (Meyer 1955; Findlen 1995, 167–73). In particular, the *Ladies' Diary* at a cost of three pence not only provided greater accessibility for the middling sort but sought to instruct, entertain, and regulate the behavior of the "fair sex" (Costa 2002, 49–54; Shevelov 1989, 32). This almanac for women, one of the best-selling almanacs for the century, included science articles, mathematical teasers, geographical questions, and enigmas "peculiarly adapted for the Use and Diversion of The Fair-Sex" (quote from early cover, Costa 2002, 51). Approximately 25 percent of the questions or problems that appeared in the almanac were of a geographical nature (Costa 2002, 59).

Eliza Haywood's *Female Spectator* exhorted her female audience to maintain proper moral conduct and to develop traditional feminine skills, such as needlework, while promoting proper learning for women, which included the study of philosophy, history, geography, and mathematics (White 1970, 23–32; Shevelov 1989, 167–74). *The Lady's Magazine*, begun in the last decades of the eighteenth century, sought to instruct and amuse a wide female audience and included needlework patterns drawn from map designs (Tyner 2001). Maps had for over a century appeared on playing cards, flash cards, screens, and silk scarves and were, in the eighteenth century, available as jigsaw puzzles, board games, and samplers, adding to the presence of maps and geographical images for a consuming culture (Shefrin 1999).

It is not surprising that the end of the century saw a rise in the number of female subscribers to cartographic and geographic publications. *Cary's New and Correct English Atlas* (1787) by John Cary, dedicated to Thomas Thynne, third viscount Weymouth, also included the viscountess among his twenty-seven female subscribers (of 1,185), but more importantly the women making up this 2 percent of the total subscribers were mostly women of the middling sort, many of whom may have been schoolmistresses or governesses (Skedd 1997, 101–25). *Cary's New Universal Atlas* (1808) with just over fifty female subscribers, or 4 percent of the total of 1,350, coincides with the increase in the number of women in cartography in the century that followed.

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SEE ALSO: Consumption of Maps; Decoration, Maps as; Education and Cartography; Map Collecting; Map Trade; Public Sphere, Cartography and the; Reproduction of Maps: Engraving and Printing; Samplers, Map

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World Map. Renaissance world maps, or *mappae-mundi*, manifested a variety of symbolic, innovative, and playful forms as well as a clear narrative of Europe's broadening world view until its eventual coincidence with the physical globe of the earth. By comparison, Enlightenment world maps appear formulaic and "stultified" (Shirley 1989, 34) and so remain barely studied.

Between 1650 and 1800, the mapping of the world was almost completely dominated by the double-hemisphere map, in which two hemispheres are separately projected. Most such maps used the stereographic projection in its equatorial aspect (fig. 951), although other projections were occasionally used, such as the Mercator. These world maps were produced across Europe for inclusion in atlases and books and for hanging on walls. One of the most enduring subgenres was the large double-hemisphere world map in two sheets. Alexis-Hubert Jaillot seems to have been the first to produce such a map, in Paris in 1674; the form was soon adopted in Britain by William Berry in about 1680 (Shirley 2001, 479–80, 509). Such two-sheet maps were usually intended for the mass market (Armitage 2012).

The double-hemisphere form has significant conceptual and symbolic advantages. It was initially developed ca. 1527 to map out the spheres of Spanish and Portuguese interest according to the Treaty of Tordesillas (Shirley 2001, 61). By 1600 it was common to map the Americas within a single hemisphere, and so to map the world by adding a second hemisphere for the Old World. The standard aspect of the double-hemisphere

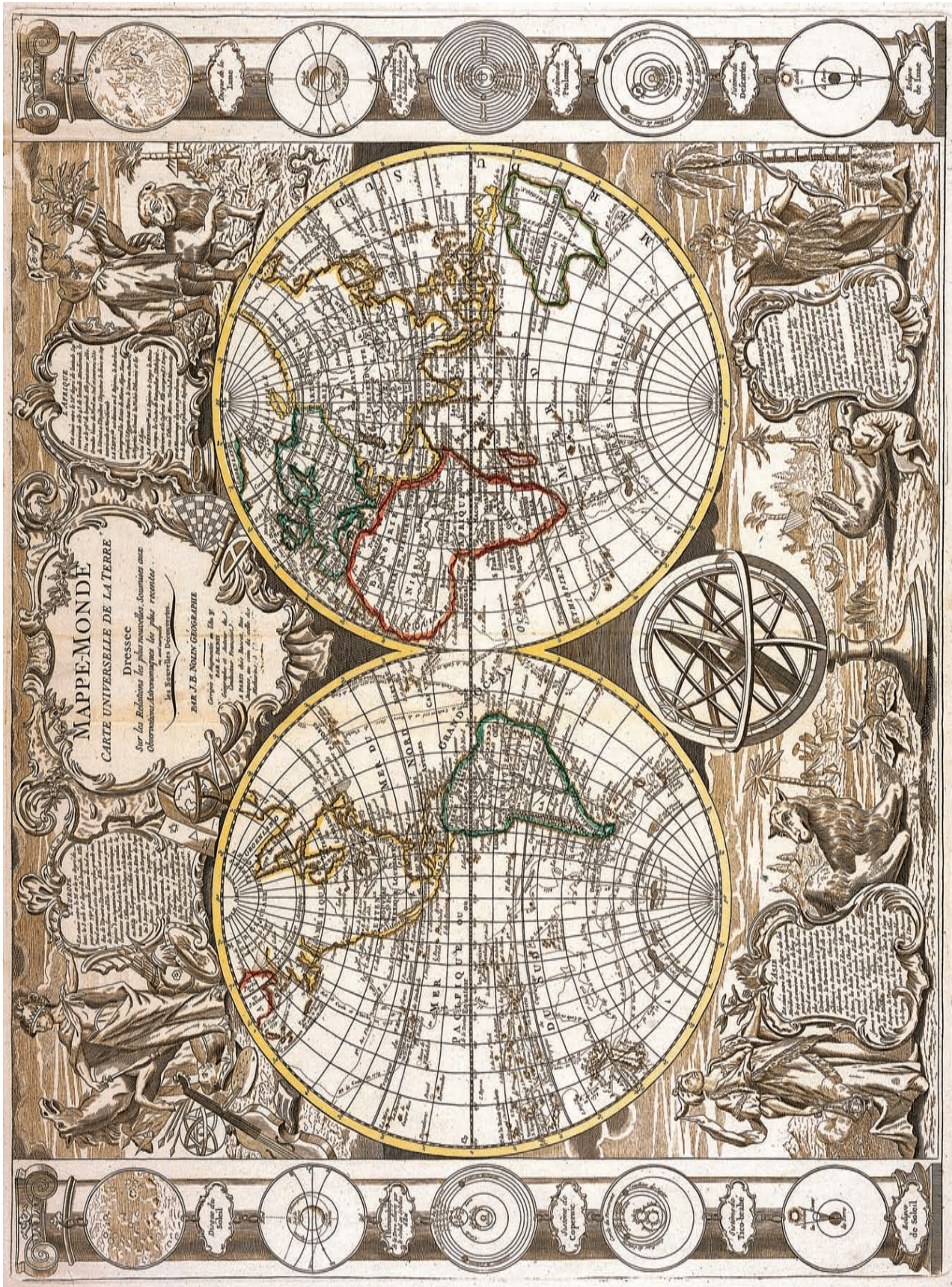


FIG. 951. LOUIS DENIS'S LATE REPRINTING OF JEAN-BAPTISTE NOLIN, MAPPE-MONDE CARTE UNIVERSELLE DE LA TERRE (PARIS, 1795). This two-sheet double-hemisphere world map demonstrates the complexity of cosmographical imagery (with allegories of the continents, astronomical diagrams, and armillary sphere) found on many maps intended for the general marketplace. Size of the original: ca. 48.0 × 64.5 cm. Image courtesy of the Universitäts Bern, Zentralbibliothek, Sammlung Ryhiner (Ryhiner Collection 1103:17).

map naturalized the old world/new world division that, after the 1780s, acquired a distinctly political inflection as the division between the old despotism and new liberty (Edney 1994, 388–89). Conversely, a few geographers adopted oblique projections to divide the earth into oceanic and terrestrial hemispheres (see figs. 1 and 639). More generally, the form sustained a sense of the globe's sphericity and easily and neatly contained the circuit of the whole earth (Cosgrove 2007, 95).

Moreover, the spandrels between the circular hemispheres and the map's rectangular margins provided room for two occasionally overlapping genres of cosmographical allegory. First, allegories of the seasons, elements, and continents continued the Renaissance tradition of representing the world as a divinely created cornucopia (Cosgrove 2007, 102–3). Second, notably on maps produced during the Enlightenment period, a variety of astronomical images—small celestial maps of the northern and southern skies, armillary spheres, solar and lunar maps, and diagrams explaining the geometry of eclipses—augmented the terrestrial hemispheres to produce flattened versions of the ubiquitous pairs of terrestrial and celestial globes that modeled the entire (geocentric) cosmos (see figs. 275 and 386).

Significantly, historical (classical and biblical) vignettes were abandoned after 1650, manifesting the new emphasis for geography on the situation of the teraqueous globe in the present. This emphasis and an adherence to Copernican cosmology probably prompted some British and French geographers to leave their world maps sparsely ornamented or even completely unornamented (see figs. 201, 291, and 615). In adhering to the plain rhetoric for presenting facts advocated by the scientific societies, these maps emphasized the potential for geographical perfection, the ultimate completion of Europe's knowledge of the world's lands and oceans. This is not to say that the plain maps were more "scientific" than the cosmographical ones. The producers of both kinds generally claimed to have drawn upon the latest and most correct sources, and both were generally derived with few alterations from previous world maps. In other words, double-hemisphere maps were intended to enshrine a world view, whether cosmographi-

cal or starkly factual, rather than give precise data on the earth's features.

There were two exceptions to this broad statement. Jean-Dominique Cassini (I) drew upon an existing tradition of circular polar azimuthal world maps to draw one on the floor of the Paris Observatory to serve as an archive of new, rigorously determined geographical information before it was worn out by visitors' feet; a reduction of this map, published in 1696, marked forty-three locations whose latitudes and longitudes had been determined (Shirley 2001, 573–75; and see fig. 147). Johann Gabriel Doppelmayr presented 138 such locations on his plain double-hemisphere map of ca. 1720 (Shirley 1989) (see fig. 297). While these maps emphasized developments in mathematical geography, they were not widely copied for popular consumption.

Finally, some British and French geographers prepared world maps on the Mercator projection, again without cosmographical allegory. Gerardus Mercator had originally created the projection in the 1560s specifically for marine charts; while few mariners actually used charts on the projection, it seems to have served as a convention for geographers to represent the world as if from a marine point of view. In this respect, its use was apparently related to the global competition for empire between the British, French, and Dutch and also to the rise of thematic mapping (see figs. 9 and 776).

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SEE ALSO: Geographical Mapping; Map Trade; Projections: Geographical Maps

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