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Ferraris Survey of the Austrian Netherlands. From 1770 to 1778 the entire territory of the Austrian Netherlands and of the Prince-Bishopric of Liège was systematically mapped on a large scale (*un pouce de France pour 160 toises*, or ca. 1:11,520). The surveying and mapping were directed by Joseph Jean François de Ferraris. Although considered a private enterprise, the work was approved of and largely paid for by the Habsburg government in Vienna. It was part of a much larger initiative undertaken by the Viennese court in the second half of the eighteenth century that resulted in the Josephinische Landesaufnahme, the first extensive survey of the Habsburg territory. Made for the Austrian court, the Ferraris map was clearly French inspired in its origins, scale, survey techniques, and geodetic base, which were all modeled on the *Carte de France* by the Cassinis (1756–89), and in its use of French engravers for publication.

Ferraris had strong ties with the Austrian court through his Lorraine origins and the protection of his family by Léopold I, duc de Lorraine. He spent part of his childhood at the Viennese court, studying at the *École des Pages*, where the mathematician and surveyor Johann Jakob Marinoni taught. Ferraris began his military career in Vienna, returning to the Austrian Netherlands in the 1760s. By 1767 he had become director general of the *Kaiserliches und Königliches Niederländischen National Feld Artillerie Corps* at Malines and director of the *École de mathématiques du corps d'artillerie* (founded at Malines, ca. 1763) (Lemoine-Isabeau 1984, 62–63). Charles Alexandre, duc de Lorraine, younger brother of Maria Theresa's consort, Emperor Francis I, and governor of the Austrian Netherlands, was himself a cartography enthusiast; he supported a large-scale mapping project in response to the desire of the court in Vienna to map its lands. In preparation for the larger enterprise, Charles Alexandre ordered Ferraris to direct

the survey of two imperial domains: the Sonian Forest near Brussels (1767–70) and the Mariemont château in the province of Hainaut (1769). Members of the artillery corps on Ferraris's staff participated in the survey, including Léopold-François Cogeur, who had trained at the *Académie militaire du Génie* in Brussels and taught at the Malines academy.

A plan for executing a survey of such a vast area was proposed by the French engineer Colonel François de Bon in 1764, before that of Ferraris in 1769 (Lemoine-Isabeau 1984, 62, 186–95; Bracke 2009, 9). Both proposals envisioned two maps. The first would be a manuscript map on a large scale (1:11,520; Bon proposed 1:14,400) in 275 sheets, which would be used for military purposes and reserved for the emperor and his cabinet, thus called the *Carte de Cabinet*. The second would be a printed map, engraved on twenty-five copperplates (Ferraris originally proposed seventeen) at a smaller scale (1:86,400), destined for local administrations and for sale to private parties. Thus the printed *Carte chorographique des Pays-Bas autrichiens* was called the *Carte Marchande*. The income from the sale of the proposed 1,500 copies of this map was meant to cover the expenses of the whole enterprise, but, as with many other large-scale mapping endeavors, things worked out differently, and Ferraris had to appeal to the Austrian court repeatedly for financial support.

From 1771 to 1775 Ferraris directed the survey. Its execution was headed by three members of his staff (Cogeur, Damien Gillis, and Peter Wirtz) who led as many as 178 members of the artillery corps to survey the entire territory using only simple plane tables and surveyor's chains. The geodetic basis of the survey was advertised as the series of triangles related to the map of France by Giovanni Domenico Maraldi and César-François Cassini (III) de Thury first published in 1745, a later version of which included the territory north of the line formed by the Sambre and Meuse Rivers (see fig. 19) (Vervust 2016). Where possible, the surveyors used existing maps, especially those made by the French *ingénieurs géographes* during wars from the late seventeenth and into the eighteenth century, and in certain places maps by local surveyors. The sketches made in the field were

assembled in Malines and copied onto each of the 275 sheets (in two sizes: ca. 45×141 cm, 90×141 cm) that made up the whole of the *Carte de Cabinet*. It was accompanied by a twelve-volume *mémoire* in which every detail of military interest was described for each sheet (De Coene 2012). Two copies of the map were made: one for the emperor (Nationaal Archief, The Hague) and one for Charles Alexandre (fig. 236). A third copy was created at the request of the imperial government in Vienna. The Vienna version, assembled from copies of the field sketches, serves as an invaluable testimony to the process of the map's creation, as these types of preliminary drawings were often discarded after the fair copy was completed (fig. 237).

The production of the twenty-five sheets that constitute the *Carte Marchande* began as soon as the manuscript maps were completed (fig. 238, p. 406). By 1777 proof sheets were produced and by 1778 the first sheets

of the atlas appeared from the printing office in Malines. Meanwhile, serious measuring errors had been noted, especially on the frontiers. Some parts of the country were surveyed again, and a set of six maps was produced. The copperplates were corrected accordingly and the sheets that were already printed were annotated with pen and pencil. The copperplates still exist in the Chalcographie of the Bibliothèque royale de Belgique/Koninklijke Bibliotheek van België.

The *Carte de Cabinet* is regarded as the oldest topographical map of the Belgian territory and as a primary source of information about Belgium's preindustrial landscape, thanks to its rich toponymy and detailed hand coloring; its design includes soil types, forests, rivers, roads, religious institutions, buildings, bridges, tenant farms, factories, mills, and even gallows. The map served as a model for the mapping of the new Belgian nation in the nineteenth century. The survey also rep-

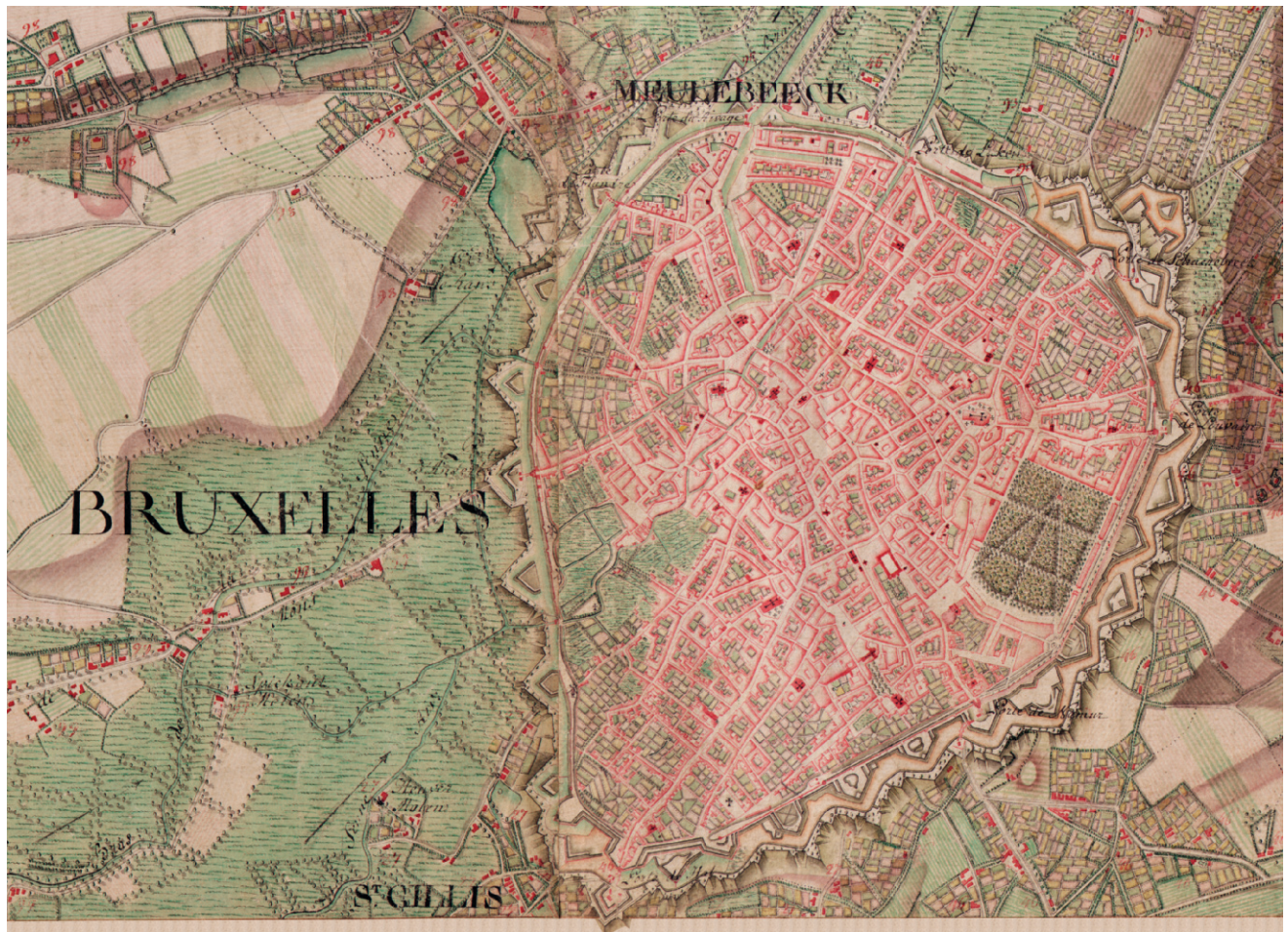


FIG. 236. DETAIL FROM THE FERRARIS CARTE DE CABINET, 1771–78, MADE FOR CHARLES ALEXANDRE, DUC DE LORRAINE. Manuscript map, ink on paper; scale, ca. 1:11,520.

Size of the entire original sheet: 90.4×141.4 cm; size of detail: ca. 28.5×39.5 cm. Image copyright Royal Library of Belgium, Brussels (Ms. IV 5.627, sheet 76).



FIG. 237. DETAIL FROM THE FERRARIS CARTE DE CABINET, 1771–78, MADE FOR THE IMPERIAL GOVERNMENT IN VIENNA. The grid used in the field plans in preparation for copying to the assembled work is shown.

Size of the entire original sheet: 87.4×138.4 cm; size of detail: ca. 28.0×36.5 cm. Image courtesy of the Kriegsarchiv, Österreichisches Staatsarchiv, Vienna (Kartensammlung B VIII a 125, sheet 76).

resents the efforts of monarchies in Europe in the eighteenth century to understand and comprehend the nature of their landholdings through large-scale mapping efforts that used consistent representational techniques, scale, and geodetic bearings.

WOUTER BRACKE

SEE ALSO: Josephinische Landesaufnahme (Josephine Survey; Austrian Monarchy); Netherlands, Southern

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Figure of the Earth. See Geodesy and the Size and Shape of the Earth

Finland. See Sweden-Finland



FIG. 238. DETAIL AROUND BRUGES FROM THE FERRARIS CARTE MARCHANDE, TITLED CARTE CHOROGRAPHIQUE DES PAYS-BAS AUTRICHIENS, 1777. Area south of Bruges is shown, scale 1:86,400. While less detailed and lacking the color of the *Carte de Cabinet*, the printed version of the Ferraris survey includes much topographical and social information, as seen in the different engraving for wood-

land and pasture, nature of the roads (paved roads shown with trees lining both sides), types of towns (the post horn and the sign for a bishopric near the city of Bruges). See previous entry, p. 404.

Size of the detail: 13 × 13 cm. Image courtesy of the Stephen S. Clark Library, University of Michigan, Ann Arbor (Map G6010 1777.F4, sheet VII).

Flamsteed, John. Born in the village of Denby in Derbyshire, England, on 19 August 1646 and educated in the town of Derby, John Flamsteed first gained an interest in astronomy through reading and studying at home; his ill health as a child and young man caused

him to leave school at age fifteen. By 1670, his diligent studies resulted in the *Philosophical Transactions* publishing some of his work. That same year he enrolled in Jesus College at Cambridge, receiving his master of arts degree in 1674 as a nonresident student. Shortly af-

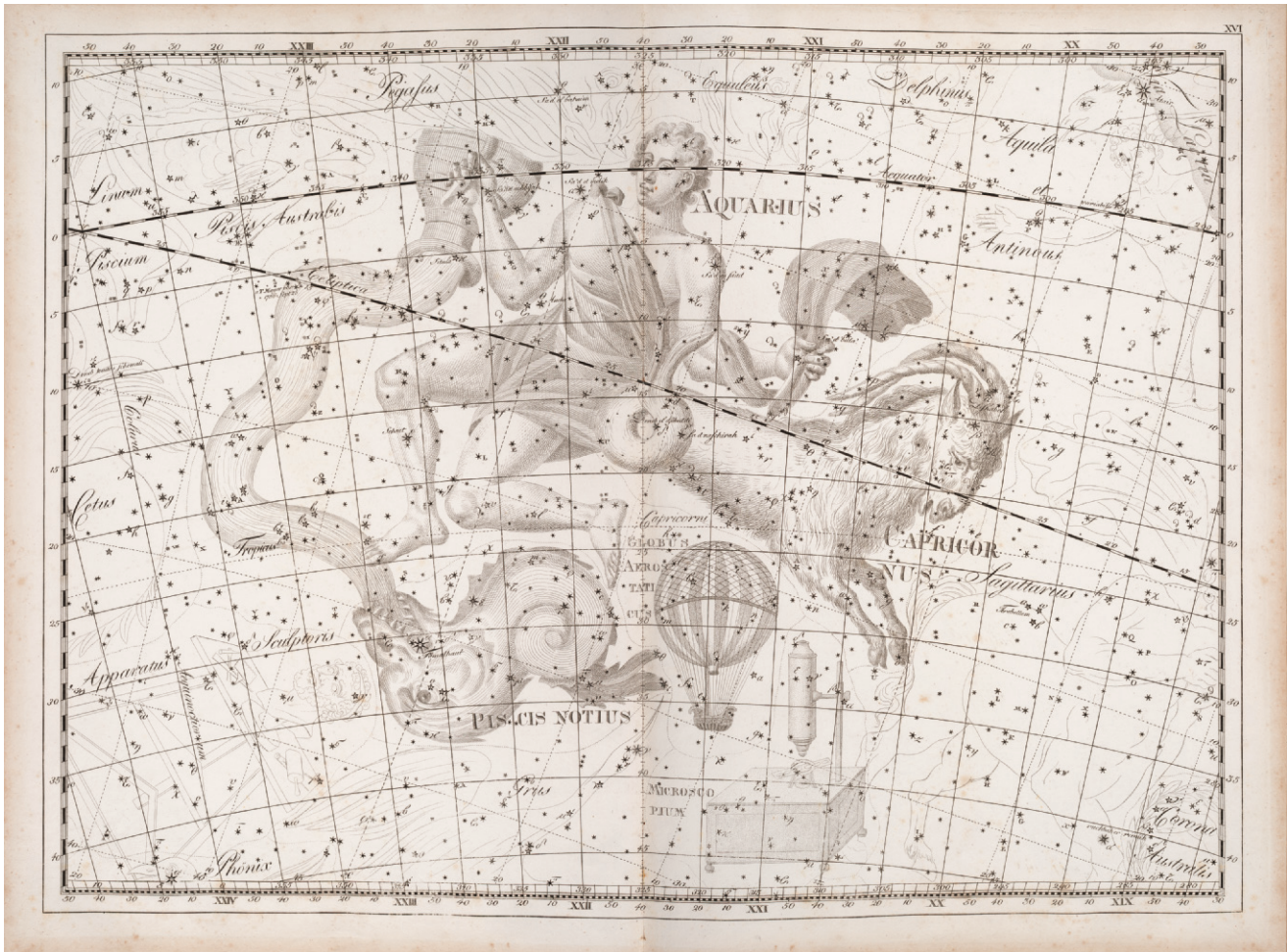


FIG. 239. A LATER DERIVATIVE OF FLAMSTEED'S CONSTELLATION MAPS. Listed in the table of contents as Capricornus, Aquarius, Piscis Notius, Microscopium, and Globus aërostaticus in Johann Elert Bode's *Uranographia sive astronomum descriptio* (Berlin: Autorem, 1801), pl. 16. Bode's atlas

represents the culmination of the Enlightenment celestial mapping on foundations laid by Flamsteed.

Size of the original: 58 × 79 cm. Image courtesy of the Linda Hall Library of Science, Engineering & Technology, Kansas City.

ter graduation in 1675, he was offered the position of the first astronomer royal at the soon-to-be-constructed Royal Observatory at Greenwich, a position that he held for the remaining forty-four years of his life.

Flamsteed encountered much difficulty in getting the government to furnish the observatory with appropriate instruments, and eventually he funded the proper equipment himself. Once it was satisfactorily outfitted, Flamsteed applied himself to the task of publishing a new catalog of stars, among other observations. Despite the urging of his patrons and many contemporaries, Flamsteed, ever the perfectionist, continually delayed publication of his observations. He had a contentious relationship with many colleagues, ultimately resulting in his ouster from the Royal Society in 1709. Furious at what he considered to be the unauthorized publication of a draft manuscript of his star catalog in 1712, he succeeded in obtaining all remaining copies in 1715

and burned them. Resolved to publish his catalog properly, Flamsteed set to work and had completed two volumes of what would be the *Historia coelestis Britannica* before his death on 31 December 1719. His assistants Abraham Sharp and Joseph Crosthwait finished the work and published it posthumously in 1725 in three volumes with a preface by Flamsteed's widow, Margaret, and James Hodgson. Sharp and Crosthwait also oversaw an additional posthumous publication of a star atlas, *Atlas coelestis*, as a companion to the star catalog (see fig. 152). This atlas was the first to use a sinusoidal projection for star charts, and because of this use (and that by Nicolas Sanson circa 1650), it is often called the Sanson-Flamsteed projection. Flamsteed's influence on celestial cartography persisted for nearly a century; the atlas was republished in 1753 and 1781 and revised and reduced to a smaller size by Jean Fortin in 1776 and 1795 (French) and Johann Elert Bode in 1782 and 1805

(German), in addition to the large celestial atlas by Bode published in 1801 (fig. 239).

Although Flamsteed's interests lay in many astronomical subjects, he clearly privileged practical astronomy over natural philosophy. Perhaps his greatest legacy was advocating and implementing the use of telescopic sights in observing star positions; his *Historia coelestis Britannica* and *Atlas coelestis* were the first star catalog and atlas to be fully produced using this method. Despite gaining an impressive level of accuracy and improvement upon earlier star measuring and mapping projects, his catalog had numerous errors; Caroline Lucretia Herschel published a volume of corrections to the catalog in 1798. Due to the large number of stars observed telescopically by Flamsteed that had not previously been recorded, a system of nomenclature needed to be developed. The "Flamsteed numbers" for star nomenclature, which are still used today were, in fact, not devised by Flamsteed himself, but rather by Edmond Halley, who edited the unauthorized 1712 edition of the catalog; Flamsteed eliminated these numbers in the 1725 edition and his star atlas, preferring prose descriptions of stellar locations within constellations. Edme-Sébastien Jaurat reintroduced the Flamsteed numbers in 1782, and Joseph-Jérôme Lefrançois de Lalande employed them in 1783, codifying their use as standard nomenclature.

ANNA FELICITY FRIEDMAN

SEE ALSO: Celestial Mapping: (1) Enlightenment, (2) Great Britain; Greenwich Observatory (Great Britain); Instruments for Angle Measuring: Back Staff

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Fleurieu, Charles-Pierre Claret de. Charles-Pierre Claret de Fleurieu was born in Lyon on 2 July 1738. Educated by the abbé Jacques Perneti, secretary of the Académie lyonnaise, he entered the *gardes-marine* in December 1755 and very soon became interested in improving navigational instruments. *Enseigne de vaisseau*

from 23 March 1762, he was temporarily assigned in 1765 to work with Ferdinand Berthoud and thus became the clockmaker's most loyal supporter. The published results of Fleurieu's voyage to test clocks, conducted in the Atlantic in 1768 and 1769 (the year he entered the Académie de marine), provided essential knowledge regarding timekeeping at sea (Fleurieu 1773; Chapuis 1999, 78–79). This didactic work, an authority with regard to sea navigation and very critical of Jacques-Nicolas Bellin, emphasized the importance of solving the problem of longitude and correcting marine maps, illustrated by the *Nouvelle carte réduite de l'océan Atlantique ou Occidental* (1772), which corrected the longitudinal dimension of the northern Atlantic (fig. 240). *Lieutenant de vaisseau* on 1 October 1773 and *capitaine de vaisseau* on 1 November 1776, Fleurieu was named *inspecteur adjoint* of the Dépôt des cartes et plans de la Marine on 15 May 1776, five days after the promotion of Joseph-Bernard, marquis de Chabert, with whom he constituted the driving force of the Dépôt until the Revolution, taking Chabert's place whenever the latter was at sea (Chapuis 1999, 222–23, 315–17). *Directeur des ports et arsenaux* from November 1776 until November 1790, he was the first officer to consider the role of the "scientific revolution" within the Marine. A great believer in hydrography as an instrument of national prestige, strategy, and commerce, he closely attended developments in Great Britain, sustaining a correspondence with Alexander Dalrymple (Chapuis 1999, 238), while also directing intelligence. His encyclopedic spirit, enriched by a navigation library and endowed with immense geographic learning, committed him to the principle of the transparency and reliability of sources; he was charged with the task of composing instructions for the voyages of Jean-François de Lapérouse and Joseph-Antoine-Raymond Bruny d'Entrecasteaux. With the *Neptune du Cattégat et de la mer Baltique* (1785–1809), he laid the technical and human foundation for a new school of high-quality engraving that prevailed in French maritime maps into the nineteenth century (Chapuis 1999, 501–4, 534–36).

Even though he had a deep understanding of triangulation, Fleurieu was not a terrestrial hydrographer and did not develop any new methods of surveying. When he published *Découvertes des François en 1768 & 1769 dans le sud-est de la Nouvelle-Guinée* (1790), he was also *ministre de la Marine* (24 October 1790–15 May 1791; *intérim ministre*, July–November 1803); and tutor to the Dauphin from 1792, signaling his close ties to Louis XVI. Though arrested, Fleurieu survived the Terror and became influential once again during the Consulate and the Empire. In August 1800, he engineered the publication of the circumnavigation of Étienne

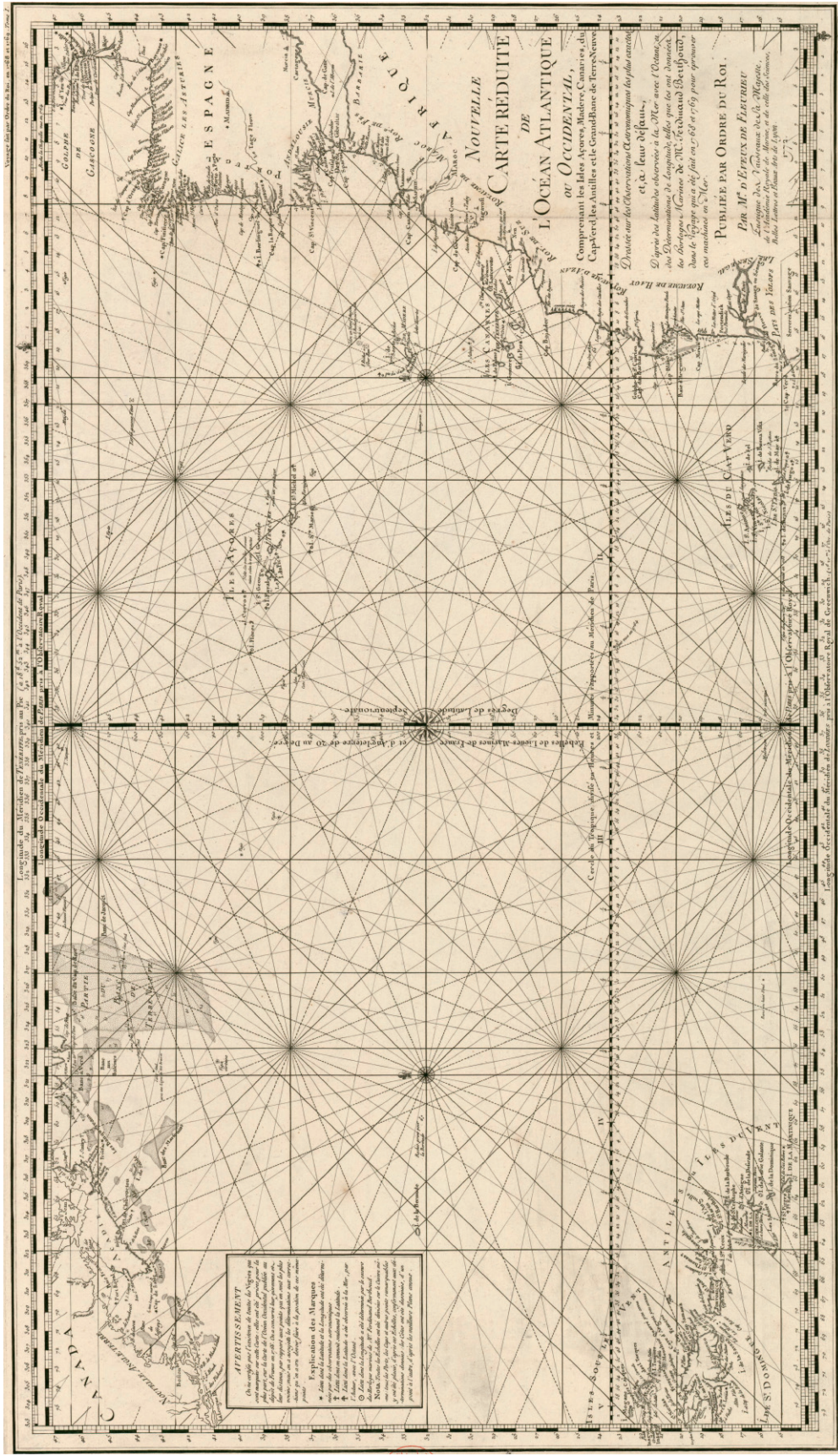


FIG. 240. CHARLES-PIERRE CLARET DE FLEURIEU, NOUVELLE CARTE RÉDUITE DE L'OCEAN ATLANTIQUE OU OCCIDENTAL (PARIS, 1772). First edition, engraved on one sheet, ca. 1:12,000,000. This map was published in 1772 and inserted into Fleurieu's *Voyage* (1773) the following year. The map corrects a number of essential positions (notably from those found on Bellin's maps) with ref-

erence to the meridians of Paris and Greenwich and for the first time in France provides the nearly exact dimensions of the North Atlantic in terms of longitude. Size of the original: 48 × 76 cm. Image courtesy of the Bibliothèque nationale de France, Paris (Cartes et plans, Ge DD 2987 [9646 B]).

Marchand (14 December 1790–14 August 1792); this massive work realized Fleurieu's historical interest in the discovery of the northern Pacific and articulated his system for classifying the oceans by using a hydrographic vocabulary that anticipated later models. A member of the Institut and the Bureau des longitudes and bearing many titles, he died in Paris on 18 August 1810. His collection of maps—second in size and importance only to that of Jean-Baptiste Bourguignon d'Anville in eighteenth-century France—was acquired by the state in December 1810 (Chapuis 1999, 494). It later became part of the collection of the Service hydrographique de la Marine kept in the Département des cartes et plans at the Bibliothèque nationale de France (Chapuis 1999, 880).

OLIVIER CHAPUIS

SEE ALSO: Dalrymple, Alexander; Dépôt des cartes et plans de la Marine (Depository of Maps and Plans of the Navy; France); Marine Chart; Marine Charting: (1) Enlightenment, (2) France; *Neptune du Cattégat et de la mer Baltique*

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Fortification Plan. See Military Map: Fortification Plan

France. The period from 1650 to 1815 represents a crucial time in France's history. During this important century and a half, the monarchy focused on expanding the country's territory, reinforcing its administrative organization and providing the necessary infrastructure for scientific and economic growth. This entry accordingly summarizes the role of mapping for each arena of activity. Note that the Revolution of 1789 did away with many of those structures and that administration. Napoleon I (emperor from 1804 to 1815) expanded the French Empire, but the growth was not lasting, unlike his administrative and military reorganization that, following the Ancien Régime and the Revolution, put institutions in place that continue to function today.

In 1643, at the age of four, Louis XIV became king upon the death of his father, Louis XIII, but only took control of the government in 1661 at the death of Cardinal Jules Mazarin, who, along with the king's mother, Anne of Austria, had secured the regency. At the time, France was coming out of a period of the major turmoil of the civil wars known as the Fronde, which included

a revolt by aristocrats and nobles led by the "Great Condé" (Louis II de Bourbon, prince de Condé).

The situation was more promising on the foreign front. The Peace of Westphalia, signed with the Holy Roman Emperor in 1648, had definitively joined southern Alsace to France. Eleven years later, the Treaty of the Pyrenees, negotiated with Spain, gave France Roussillon and Cerdagne in the south and Artois in the north, as well as a good number of fortified areas in the northeast. The border between France and Spain was set definitively by this treaty.

Louis XIV's personal reign was marked by many years of war. On his deathbed he told his great grandson, the future Louis XV, that he loved war too much ("*J'ai trop aimé la guerre*"). From 1661 onward, Louis XIV enjoyed many successes, and the Treaties of Aix-la-Chapelle (1668) and of Nijmegen (1678–79) gave him the Franche-Comté and numerous lands in Flanders, Artois, and the Lorraine.

At this point, France was poised to finalize its borders. By demanding the territories surrounding some conquered cities, this foreign policy of annexation (*politique de réunion*) brought additional lands. Despite the objections and coalition of some European powers, the Treaty of Ryswick (1697) allowed Louis XIV to keep all of Alsace. The War of the Spanish Succession (1701–13) ended with the Treaty of Utrecht (1713): Nice and the Duchy of Savoy, having been occupied during the war, were returned to the duke of Savoy, except for the area of Barcelonnette; France also kept the Principality of Orange. However, it had to relinquish Acadia, Newfoundland, and the Hudson Bay in North America to Great Britain.

Louis XIV's successors followed less aggressive territorial policies. During the reign of Louis XV (1715–74), the Treaty of Paris (1763) that ended the Seven Years' War sanctioned the relinquishment of France's colonial empire: Canada (with the exception of the islands of Saint-Pierre and Miquelon), Louisiana, and most of its territories in the Antilles, Africa, and India. But in 1766, Lorraine was integrated into the kingdom, and in 1768, Corsica was annexed. During the reign of Louis XVI (1774–92), France reclaimed a small number of territories in Africa and the Antilles, following France's commitment to the American Revolutionary War.

The French Revolution brought about the definitive annexation of foreign enclaves (Avignon and Comtat Venaissin, the Principality of Montbéliard, and the Republic of Mulhouse) and a new temporary occupation of Nice and the Savoy (1792–93 to 1814–15). The successful wars of the Revolution and the Empire enabled France to enlarge its territory considerably. The annexed regions of the French Empire under Napoleon I Bonaparte were divided into *départements* (fig. 241), while some conquered countries became kingdoms that



FIG. 241. RENÉ PHELIPEAU, CARTE DE L'EMPIRE FRANÇAIS, DIVISÉ EN 126 DÉPARTEMENTS (PARIS: BASSET, 1810), ONE PRINTED SHEET. The map shows the extension of French territory under Napoleon I, a little before the period of its maximum extent.

Size of the original: 66 × 74 cm. Image courtesy of the Bibliothèque nationale de France, Paris (Cartes et plans, Ge C 1900).

were entrusted to those close to Napoleon. At its maximum extent, the French Empire in 1812 comprised 130 *départements*, extending France into Belgium, the Netherlands, the right bank of the Rhine, Piedmont, Liguria, Tuscany, the Illyrian Provinces, and the Roman States; four *départements* were added in 1812 after the annexation of Catalonia. The emperor's defeats brought about his first abdication in April 1814, and then after a brief return to power, a second abdication in June 1815. Louis XVI's brother became king as Louis XVIII

and negotiated the Treaties of Paris, which reestablished France's 1789 borders, but preserved the enclaves for which annexation was confirmed.

The Fronde rebellion (1648–53), emanating from the privileged classes of parliamentarians and princes, left a mark on Louis XIV, who endeavored to reduce their power by creating an administrative structure that was centralized, efficient, and devoted to the sovereign power. He replaced the organization of a kingdom based on a feudal system, which had been only slightly mod-



FIG. 242. NICOLAS SANSON, *CARTE GENERALE DU ROYAUME DE FRANCE EN DOUZE GOUVERNEMENTS GENERAUX SUIVANT L'ORDRE DES ESTATS GENERAUX* (PARIS: CHEZ M. TAVERNIER, 1643), ONE PRINTED SHEET. The map shows the division of France into military regions.

Size of the original: 40.5 × 52.5 cm. Image courtesy of the Bibliothèque nationale de France, Paris (Cartes et plans, Ge DD 2987 [373]).

ernized in the sixteenth century, with a system of power that relied on men of more modest social stature.

From the sixteenth-century, districts called *gouvernements* had been headed by governors, representatives of the king with major powers, particularly military (fig. 242). The king gradually reduced their privileges by giving more and more power to the *intendants*, his personal representatives who, during the second half of the seventeenth century and for all of the eighteenth century, became the foundation of the provincial administration. The districts they controlled were originally divided for the purpose of financial management (*generalités*). Other intendants were created afterward as the kingdom expanded.

The administration of the Ancien Régime was characterized in France by an array of different circumscriptions, corresponding to different powers. The highest judicial power was exercised by the *parlements* (parliaments), which, in this framework, legislated and enforced the decisions of the Conseil du Roi. This right gave them the power to block the royal administration, a right that they exercised in times of crisis. In 1789, there were thirteen *parlements*, and their jurisdiction varied greatly, with the one in Paris being by far the most extensive. There were other districts for other functions: financial (with intendants and also with tax farms) and judicial (for the courts of justice that specialized in various fiscal disputes—*Cour des aides*, *Cour des comptes*, *Cour des*

monnaies). The districts they covered were very extensive and had specific subdivisions.

Religious districts were based on an organization from Gallo-Roman times dating back to the fourth century, with relatively minor modifications except in the south of France. The dioceses, numbering 117 at the end of the Ancien Régime, were reorganized under 18 archbishops. The cartography of these various districts fueled major production of maps in the seventeenth century and certainly into the eighteenth century (Dainville 1956).

When the French Revolution occurred in 1789, one of the first projects given to the deputies in charge of France's reform was to eliminate all institutions belonging to the absolute monarchy of the Ancien Régime and to replace them with new structures. As far as administrative organization was concerned, the Assemblée

constituante (1789–91) decided to give the same territorial division to all public services and national representation. The former “provinces,” an incorrect term designating the former *gouvernements*, were cut up into *départements*. After abandoning the idea of giving them a strictly geometric basis (fig. 243), the Assemblée constituante regrouped them, taking into account the former administrative divisions that had been based on geography and ease of communication. The law of 25 January 1790 established the organization of *départements*, but, after many adjustments, they were settled definitively under the constitution of An VIII (13 December 1799) under the Consulat. France (outside of its colonies) was divided into 83 *départements*, which were themselves divided into districts (shortly afterwards replaced by *arrondissements*) and subdivided, in



FIG. 243. CARTE DE LA FRANCE DIVISÉE EN SES 83 DÉPARTEMENTS, VÉRIFIÉE AU COMITÉ DE CONSTITUTION (PARIS: BUREAU DE L'ATLAS NATIONAL, 1790), ONE PRINTED SHEET. The map follows the project of the French Revolution of 1789 in which the French territory

was divided geometrically in order to achieve *départements* of equal dimensions. Size or the original: 46 × 60 cm. Image courtesy of the Bibliothèque nationale de France, Paris (Cartes et plans, Ge D 15304).

turn, into cantons, which were themselves divided into municipalities. The names given to the *départements* were inspired by geography (rivers or relief). From then on, these districts served as a basis of all of France's administrative and political organization. Even the current larger districts created in 1972, which regrouped many *départements* into regions, did not change this basic organization.

Louis XIV and his minister Jean-Baptiste Colbert (1661–83) wanted to equip France with a number of essential institutions for its economic development and scientific influence, with pride of place given to the royal Académie des sciences (founded 1666). The Paris Observatory was founded in 1667 for the work of academic astronomers and was directed by Jean-Dominique Cassini (I), whom Colbert had brought from Italy. Establishing reliable cartography that could respond to commercial and administrative needs through credible astronomical measurements was a high priority.

The security of navigation, like the extension of trade and the colonies, required reliable maps that were regularly updated, as well as the development of a means to calculate longitude at sea. *Le Neptune françois*, a collection of maps of the coasts from Norway to Gibraltar created from the most recent surveys, was published in 1693 by the king's order. The Dépôt des cartes de la Marine was established in 1720, dedicated to the mission of collecting and compiling marine charts, for which it had a monopoly from 1773.

Developing land-based trade required the implementation of a network of proper roads, successfully accomplished during Louis XV's reign thanks to a policy realized under the Controller General Philibert Orry, who not only authorized the restoration of royal roads, but also the creation of a new road network to correct, or even replace, the existing one. Daniel-Charles Trudaine, who was appointed director of the Ponts et Chaussées in 1742, gave the decisive nudge to the project that determined that roads would be as straight as possible and with a sufficiently wide dimension. By 1778, it was estimated that two-thirds of the network was complete.

Better exploitation of estates was needed, whether church or lay properties, royal domains, or royal forests maintained for the needs of the Marine. It was essential to know the exact area, the type of lands, the division of cultivated land, and the local communication networks. The need to create accurate maps for this purpose was apparent, along with necessary documents to establish a new means for calculating the taxes sought by Louis XV in 1763. The cadastre, which was crucial for a fair distribution of taxes, was envisioned at the end of the Ancien Régime; it became indispensable to the Revolution and the Empire to allow for modernized taxation. Developed gradually, given the magnitude of

the task, cadastral mapping began in 1807 but was not completed until 1850.

Similarly, as the general administration of the kingdom became more sophisticated over the course of the eighteenth century, it required increasingly solid and accurate knowledge concerning its territory. For this purpose, Louis XV ordered the creation of a general map of the kingdom in 1747, to be based on geometric measurements and astronomical surveys conducted by the scientists of the Académie. Completed in 1790, it provided a basis for developing new divisions of France.

The military efforts that so strongly marked the second half of the seventeenth century and the period of the Revolution and the Empire also called for the establishment of modern institutions to prepare for the deployment of armies and ships and to ensure conquests. Significant progress was made to achieve this by creating competent personnel through teaching and training in specialized schools and within the military services themselves. The legacy of these eighteenth-century developments was not challenged under the Revolution, which is a tribute to their effect. The state played a distinct role in the establishment of unified measures in France at the beginning of the Revolution, and soon throughout Europe.

HÉLÈNE RICHARD

SEE ALSO: Academies of Science; Administrative Cartography; Boundary Surveying; *Carte de France*; Celestial Mapping; Compagnie des Indes (Company of the Indies; France); French East Indies; French West Indies; Geodetic Surveying; Geographical Mapping; Map Collecting; Map Trade; Marine Charting; Military Cartography; New France; Paris Observatory (France); Ponts et Chaussées, Engineers and École de (School of Bridges and Roads; France); Property Mapping; Revolution, French; Thematic Mapping; Topographical Surveying; Urban Mapping

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Franquelin, Jean Baptiste Louis. Jean Baptiste Louis Franquelin was one of the most prolific cartographers in New France, having produced about fifty maps (Charbonneau 1972, 46–52). Born in 1650 in the French province of Berry, he left France for Canada probably during the summer of 1672. The following year, he attended the small seminary of Quebec, where he probably studied science under the Jesuits. When Louis Jolliet



frontiers between French and English colonies and many recent discoveries by French explorers, as well as a view of Quebec City.

Size of the original: 101 × 158 cm. Service historique de la Marine, Vincennes (Recueil 66, n° 6 bis)/Bridgeman Images.

FIG. 244. JEAN BAPTISTE LOUIS FRANQUELIN, "CARTE DE L'AMERIQUE SEPTENTRIONNALLE," 1688. Pen, ink, and watercolor on paper; ca. 1:3,000,000. One of the most spectacular works of original French mapmaking in Canada, both for its size and its elaborate design, the map shows the

and Jacques Marquette explored the Mississippi River, Franquelin was one of the few who knew how to “make geographic maps and other plans to inform the Court and give knowledge of the environs to governors and intendants” (Franquelin 1694). The ever more pressing need for maps grew as French *voyageurs* traveled to the interior of the continent in great numbers, motivated by the prospect of wealth from trade. Franquelin quickly became an essential resource for informing the French authorities about these new discoveries. In 1683, he went to France to present his early work to the court, accompanied by the explorer René Robert Cavelier de La Salle, who had traveled the Mississippi to its mouth. Upon his return to New France in 1684, Franquelin partnered with Jolliet to create a map of the Saint Lawrence River. This work earned him the position of king’s hydrographer, in which capacity he taught navigation and related subjects to young Canadians.

In 1688, Franquelin returned to France to present his latest comprehensive work to the court: a large manuscript map of North America including a very well-rendered view of Quebec and a proposed border between New France and New England (fig. 244). In response to his proposal for further mapping responsibilities, the king mandated Franquelin to “visit all the countries where our subjects have been, and even discover others” (Louis XIV [1689]; Palomino 2017). Unfortunately, the project came to naught, since war broke out between France and England in the spring of 1689. In these new conditions, Franquelin changed his plans and turned to the defense of the colony. During the siege of Quebec, he worked as an engineer, supervising fortification work needed to protect the city. In 1692, the governor of New France, Louis de Buade, comte de Frontenac et de Palluau, sent him with Antoine de Lamothe Cadillac to reconnoiter the New England coast to gauge the merits of launching an attack against Boston or Manhattan. The expedition resulted in maps of the coast of New England and a plan of Boston (Charbonneau 1972, 48), which he brought to France in 1693. There Franquelin learned that his wife and children had drowned in a shipwreck on their way to join him in France. After this tragedy, Franquelin never returned to North America. By 1697, he was working for Sébastien Le Prestre, marquis de Vauban, the general commissioner for fortifications. Nevertheless, his interest in New France continued as he produced a number of maps of extraordinary quality before he died, sometime between 1712 and 1730.

Franquelin’s maps were constantly updated according to information reported by *voyageurs*. While in Quebec, close to the seat of colonial government, he was able to intercept travelers returning from the west and could update material more quickly than could European geographers. Franquelin integrated into his maps geographical

knowledge from the voyage accounts of a number of famous explorers, among them Jolliet, Marquette, La Salle, Daniel Greysolon Dulhut, Jean Péré, Pierre de Troyes, Pierre Allemand, Louis Hennepin, Pierre Le Sueur, Lamothe Cadillac, and Pierre Le Moyne d’Iberville. However, because his work remained in manuscript form, it never gained the recognition that it deserved. And yet, the most prolific geographers of Europe, including Guillaume Delisle, Nicolas de Fer, Alexis-Hubert Jaillot, and Vincenzo Coronelli, were inspired by his work to depict a new America, Franquelin’s exceptional testimony to the French presence in North America.

JEAN-FRANÇOIS PALOMINO

SEE ALSO: Administrative Cartography: New France; Geographical Mapping: New France and French West Indies; New France; Topographical Surveying: New France

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French East Indies. In the seventeenth and eighteenth centuries, the French East Indies did not exist as a territorial entity but rather as a series of establishments scattered in the Indian Ocean whose number and size varied according to the commercial and political interests of the French king. No French monarch from Louis XIII to Louis XVI had pursued a true colonial policy in the East Indies, whose commercial outlets were too limited to balance imported products and whose neighbors (the Chinese and the Mughals, in decline after 1707)

were too powerful to be attacked. Moreover, the Indian Ocean was too distant for colonies requiring population from the West. After abandoning the colony of Madagascar at Fort Dauphin (Tôlanaro) in 1674, the French government focused on maintaining ports of call and entrepôts needed for its commerce with China and India. The administration of these outposts, patterned on the royal model, was entrusted to the successive Compagnies des Indes. The Marine du Roi did not appear in these waters except in time of war.

Madagascar had long attracted the French. The first establishment (1642) was abandoned in 1674, but in 1768–70 Louis Laurent de Féderbe, comte de Modave, tried in vain to raise the fortifications of Fort Dauphin, and in 1774 the adventurer Maurice Auguste Benyowski attempted a similar construction at Antongil Bay. Making the Mascarene Islands the key to French establishments in the East Indies recurred as an idea among administrators of the Compagnie des Indes and the *secrétaires d'État à la Marine*, who were responsible for overseas colonies. Réunion (Île Bourbon) was occupied from 1668 and Mauritius (Île de France) in 1715. They were joined to the royal domain from 1764, while the other Asian establishments underwent the same process in 1770. The keystone of the French presence in the East Indies was, of course, India. They established a foothold at Surat in 1668, then founded their principal settlement at Pondicherry with a governor and a ruling council; they experienced their greatest territorial expansion under Joseph-François Dupleix, governor from 1742 to 1754. However, they lost nearly everything in 1763 by the terms of the Treaty of Paris (1763), which ended the Seven Years' War. Further east, the French attempted a foundation at Mergui in 1688, in the course of embassies being exchanged between Louis XIV and Nārāi, king of Siam. By the eighteenth century, Mergui remained a favored winter harbor for ships from the Compagnie des Indes during the monsoon season. Finally, like the other European nations, the French had commercial entrepôts in Canton. In order to improve the acquisition of Chinese products and to combat the Dutch monopoly on spices, the French also attempted commerce, more or less unsuccessfully, in Cochin China in the 1740s and in the Moluccas around 1768–75.

From this scattered territory and the state's high-risk interest in the East Indies emerged a fragmented cartographic activity that was concentrated on two axes: defense and reconnaissance. After the local ruler granted a concession, the creation of defenses and the development of establishments were entrusted to three different groups. The first consisted of *ingénieurs militaires* (fortifications engineers), of whom the most remarkable was Jean-François Charpentier de Cossigny, who established the defenses of Île de France (1732), Pondicherry

(1739), and Île Bourbon (1753–59). The second comprised *ingénieurs géographes* (topographical engineers) assigned to the colonies, including Denis de Nyon, who was engineer at Pondicherry in 1700 and was engineer and governor of Île Bourbon from 1721 to 1726 (fig. 245). The last group was a team of sixteen *ingénieurs civils* directly employed by the Compagnie des Indes, including Duez de Fontenay, who received a military rank, Louis Paradis, and Jean Bourcet, who was entrusted with the reconstruction of Pondicherry from 1765. After the dissolution of the Compagnie des Indes in 1770, they became the geographic engineers of the colonies up until the suppression of the corps in 1784.

These three groups produced several categories of maps. First, there were plans for the development of locations held by the French (e.g., Port-Louis on Île de France or Pondicherry in India) or places under attack (e.g., Gingee Fort or Srirangam in India). Second, there were plans of foreign establishments. These were sometimes made in secret like the atlas of Louis François Grégoire Lafitte de Brassier, who was a prisoner of the English at the siege of Pondicherry in 1778 and returned to France in 1781 by way of Bengal, China, and the Sunda Islands (fig. 246), but they were sometimes drawn up at the request of a foreign sovereigns, such as those of Singor (Songkhla), Mergui, Bangkok, and Louvo by the engineer Lamare during the second embassy sent to the king of Siam in 1686–87. Third, there were plans of French possessions, such as the map of the environs of Fort Dauphin in Madagascar made by Michel Sirandré during the attempted establishment of a fortified settlement by Modave in 1770 and plans of the Seychelles by Lafitte de Brassier in 1777. Finally, there were maps of reconnaissance for possible establishments, such as those of Karwar and Mangalore in India drawn up on order of the governor of Pondicherry, Guillaume Léonard de Bellecombe, in 1778. These maps and plans, often gathered in an atlas to give a better estimation of enemy forces, usually remained in manuscript (Aix-en-Provence, Archives nationales d'outre-mer). Only a few plans, documenting feats of military prowess or a golden age, were published: e.g., *Madraz et le fort St.-Georges pris par les Français commandés par Mr. Mahé de La Bourdonnais le 21 septembre 1746*, celebrating the capture of Madras in 1746, or the *Plan de Pondichery en 1741*, showing the city under the governorship of Dupleix, published in volume 9 of Antoine François Prévost's *Histoire générale des voyages* (1751).

Navigation in the waters of the East Indies was aided by the careful work of Jean-Baptiste d'Après de Manneville, director of the hydrographic office of the Compagnie des Indes from 1762, whose charts compiled from the observations of French and English marine officers were published in the two editions of *Le Neptune*



FIG. 245. DENIS DE NYON, “ISLE DE FRANCE,” 15 JULY 1722. The manuscript outline plan of the Isle de France and the four insets that depict the detailed settings for two proposed forts demonstrate on one page the concerns of the Compagnie des Indes for the security of their establishments.

Size of the original: 51 × 72 cm. Image courtesy of the Bibliothèque nationale de France, Paris (Cartes et plans, Ge SH 18 pf 219 div 2 P 7).

oriental (1745, 1775) and *Le supplément au Neptune oriental* (1781) (Filliozat 2003). In addition, maps and charts of the East Indies were published by the Dépôt des cartes et journaux de la Marine for the Département de la Marine until the creation of the Dépôt des cartes et plans des colonies in 1778. Given the level of territorial fragmentation, there were no major operations of topographic survey and triangulation as in France, but Étienne-François, duc de Choiseul, secretary of state for the Marine, asked Jacques-Nicolas Bellin to compile medium-scale geographical maps: Île Bourbon (1763), Madagascar and Île de France (1764), and India with Sri Lanka (1766). These maps were included in the *Hydrographie française*, for which Bellin employed a mixed model. Like marine maps, they retained compass roses indicating winds as well as numerous markings regarding tides and points for anchoring, but like geographic

maps they depicted relief as well as hydrographic networks in the interior of the land. The map of India also included geopolitical data. These maps formed an official response to private publications. Bellin relied on several sources for his production: the latest work of geographers, including a map of India drawn up by Jean-Baptiste Bourguignon d’Anville for the Compagnie des Indes in 1752 and the additions to *Le Neptune oriental*; data coming from the Dépôt de la Marine, such as observations made by Nicolas-Louis de La Caille in the Îles de France and Bourbon in 1753; and marine journals and logbooks, especially those with an eye to territorial acquisition, such as the reconnaissance of the Seychelles by Nicolas Morphey in 1756.

MANONMANI RESTIF-FILLIOZAT

SEE ALSO: Compagnie des Indes (Company of the Indies; France); France; *Neptune oriental*, Le

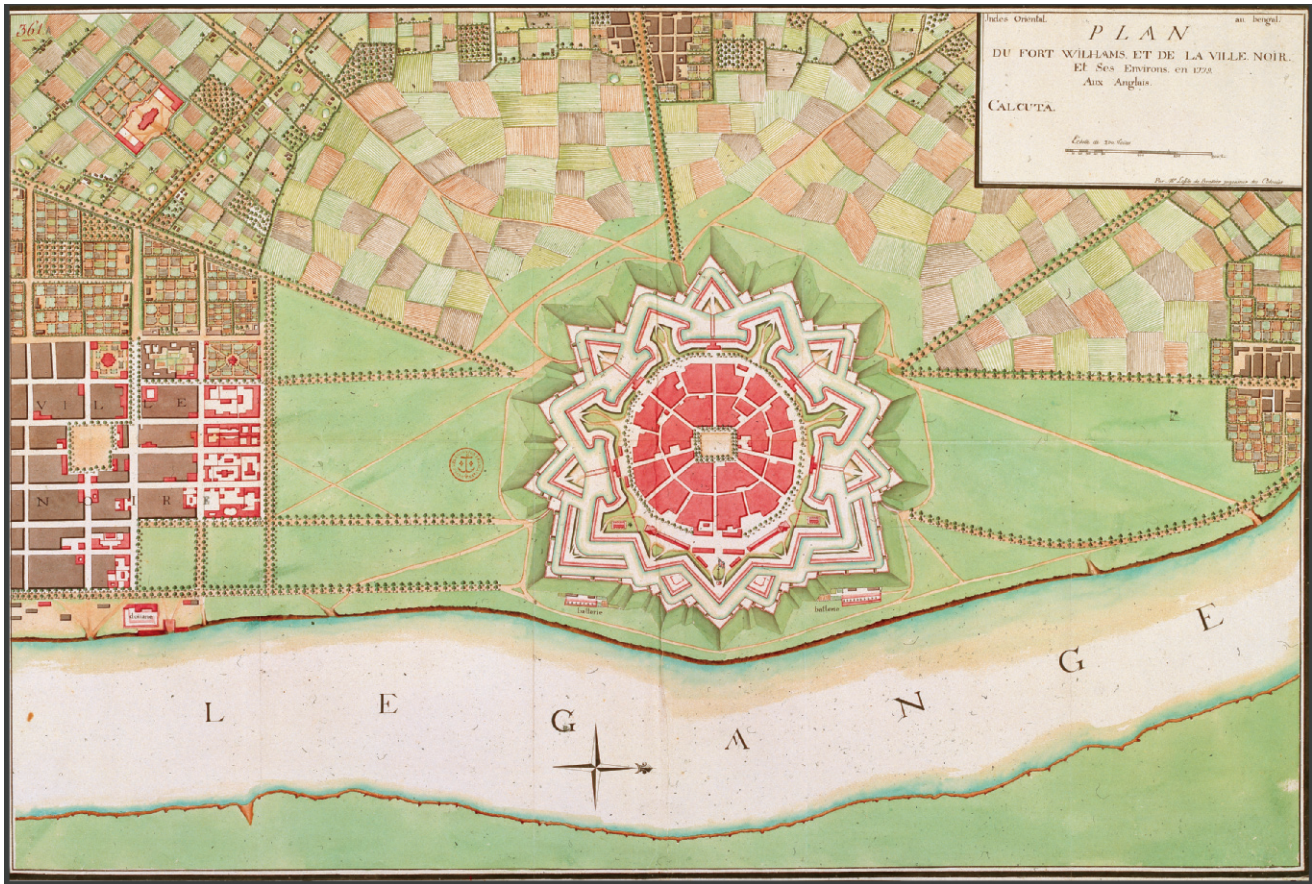


FIG. 246. LOUIS FRANÇOIS GRÉGOIRE LAFITTE DE BRASSIER, *PLAN DU FORT WILHAMS. ET DE LA VILLE NOIR [SIC]. ET SES ENVIRONS. EN 1779. AUX ANGLAIS. CALCUTA, CA. 1780.* After his captivity by the English, the author, an active and prolific engineer in the French East Indies, created a series of plans of English establishments

in the East Indies, such as this one, which he presented to the Ministry of the Marine upon his return to France. Scale 1:350. Size of the original: 66.5 × 99.5 cm. Image courtesy of the Archives nationales d'outre-mer, Aix-en-Provence (FR ANOM 25 DFC 361 A).

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French West Indies. The territorial grouping of the French West Indies (French Antilles) took shape in stages during the seventeenth and eighteenth centuries. The French endeavored to give it geographical (rather than political) continuity from the Antilles to the North At-

lantic, following the St. Lawrence and Mississippi Rivers through the interior of North America. However, international rivalries, the inconstancy of royal power, and low levels of commerce discouraged efforts to populate the colonies, without which territorial possession could neither be affirmed nor defended.

Two physical areas composed this territorial grouping. On the one hand, the continental expanse of Canada and Louisiana made up New France. On the other, a group of islands in the Gulf of Mexico made up the French West Indies: Saint-Domingue (the western half of Hispaniola), the Windward Islands of Grenada (Grenade) and Martinique; the Leeward Islands of Saint Croix (Sainte-Croix), Saint Kitts (Saint-Christophe), Marie-Galante, and Guadeloupe; and Tortuga (Île de la Tortue). To them was added the South American enclave of French Guiana (Guyane) (fig. 247).

After some early attempts by Protestants in Brazil in the sixteenth century (Toulouse 2007, 1562), the French



FIG. 247. GUILLAUME DELISLE, *CARTE DU MEXIQUE ET DE LA FLORIDE DES TERRES ANGLOISES ET DES ISLES ANTILLES*, 1703, CA. 1:8,700,000.

Size of the original: 47 × 66 cm. Image courtesy of the Geography and Map Division, Library of Congress, Washington, D.C. (G 3300 1703.L5).

established a presence on the coast of Guiana, founding Cayenne in 1634, but this site never constituted a well-populated or prosperous colony. The case of the Caribbean Islands was completely different. Colonies in the French Antilles were much smaller and, from a commercial point of view, more advantageous for colonizers. After several hesitant efforts at settlement and numerous wars, the islands of Sainte-Croix, Saint-Christophe, and Grenade were finally ceded to—or their commerce left in the management of—the Dutch and the English. But Guadeloupe and Martinique, which were colonized in 1635 (first for tobacco farming and then for sugar cane), remained French possessions. Meanwhile, the western part of Saint-Domingue, already occupied, was acquired from the Spanish in 1697 by the Treaty of Ryswick. Here the greatest number of African slaves were exiled: almost 500,000. The cartography of this most populated

and wealthy area of Saint-Domingue is of particular interest at all scales and includes an atlas of plantations, maps of the boundaries with Spain, and detailed plans of communication networks of paths, waterways, and postal routes (Pinon 1999). This combination of small-scale geographical maps and large-scale detail of private and public architecture and gardens provides the most accurate image of all the French colonial West Indies.

The slaves purchased in Africa and regulated from 1685 by the *Code noir* performed the manual labor in the Antilles. Several cities, regular in design and with elegant architecture, were established on Saint-Domingue, including Le Cap-Français (1670; reconstruction 1711) and Port-au-Prince (1749–51), while the capitals of Guadeloupe (Basse-Terre, 1643) and Martinique (Saint-Pierre, 1635) were more modest. These latter two islands proved less agriculturally productive because of

their limited surface area and mountainous geography. Saint-Domingue alone produced 70 percent of France's colonial wealth from its plantations, soon surpassing that of the British Antilles. The largest French fortunes were massively invested there, making sugar, indigo, coffee, and cotton high-profit industries at the expense of African enslavement and the rapid depletion of the soil. By the time the slave revolts on Saint-Domingue had created the first black republic of Haiti in 1804, overexploitation had already partially ruined the island.

The French tried several systems of colonization: familial in the northern region of New France, in constant negotiation with the Amerindians; slave-based in the Antilles and Guiana (where 90 percent of the population was of African origin); and mixed in Louisiana, where the demographic weakness of the colony necessitated compromise. The French government in Paris never really escaped from Colbertian economic logic, which sought only French profit from the riches of the distant West Indies. Alongside the official cartography produced by the engineers and their draftsmen to accompany their descriptions of towns and forts, there existed—especially in Louisiana—a personal cartography that illustrated the stories of draftsmen and colonists. They produced maps and plans, deceptively naïve in style, focusing on plantations, areas of the city, and the location of specific activities.

Following the Seven Years' War (1756–63) and the Treaty of Paris (1763), France lost New France and Louisiana (as well as their nearly complete losses in India and Senegal), never having had the means to defend these possessions or to make them prosper. The status of the Antilles and Guiana as French departments, the presence of millions of French speakers in Canada and the extreme northeast of the United States, as well as the numerous descendants of black and white Creoles and expatriates of Acadia in Louisiana and neighboring states bear witness to the historic and cultural vestiges of France in the Americas.

GILLES-ANTOINE LANGLOIS

SEE ALSO: Administrative Cartography; Boundary Surveying; Compagnie des Indes (Company of the Indies; France); France; Geographical Mapping; New France; Property Mapping; Topographical Surveying; Urban Mapping

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Fricx, Eugène Henry. Publisher, printer, and book- and mapseller Eugène Henry Fricx was born on 10 January 1644 in Brussels, where he died on 18 December 1730. His career as printer began when he took over the printing office of his uncle Jean II Mommaert in Brussels in 1670. Initially, he mainly published books with historical or theological content and by 1689 he became *imprimeur de sa majesté*, a privilege granted by the Spanish privy council. He began printing maps in 1703 perhaps in connection with the War of the Spanish Succession (1701–14) as part of the war effort.

The Southern Netherlands (under Spanish control until 1713, then Austrian Habsburg control until 1789) was the site of many battles between France and the allied Austrian-British-Dutch armies (fig. 248). In 1703, at the behest of the Spanish government, Fricx began a series of engravings of King Felipe V's Italian campaigns as part of the war's propaganda (fig. 249). In the same year, he began production of maps that were included in the *Table des cartes des Pays Bas et des frontieres de France* (1704–12, ca. 1:115,000), known more simply as the *Carte des Pays Bas*, in twenty-four sheets.

From 1706 to 1712, Fricx continued to publish battlefield maps showing the surrounding areas of all the important battles between the allied forces and the French army and the sieges of cities and fortresses in Belgium and the northern part of France. In 1712, he combined forty-eight of these map sheets with his *Carte de Pays Bas* and Johann Peter Nell's map *Postarum seu veredariorum stationes per Germaniam et provincias adiacentes* (1711, ca. 1:2,500,000) into a kind of military atlas of the war. Fricx added two more maps and revised existing plates several times, and his son printed a reedition in the 1740s (Bracke 2006, 14–15). This varied collection comprised two parts: first, the twenty-four topographic maps of regions from the *Carte de Pays Bas* and, second, the forty-seven (and in later editions, forty-eight) city maps, such as that of Brussels (see fig. 604), and plans of sieges and battles. Sources have been identi-



FIG. 248. EUGÈNE HENRY FRICX, *THEATRE DE LA GUERRE DES PAYS-BAS*, 1703. Engraved by Jacques Harrewyn, ca. 1:280,000. Fricx's first published map appeared early in the War of the Spanish Succession. Its dedication to Isidro Melchor de la Cueva y Benavides, fourth marqués de Bedmar, the commander of the Bourbon forces in the Southern Nether-

lands, emphasized Fricx's commitment to the Spanish regime at this point in his career.

Size of the original: 60 × 56 cm. Image courtesy of the Universität Bern, Zentralbibliothek, Sammlung Ryhiner (MUE Ryh 2908:31).



FIG. 249. FELIPE PALLOTA, *GEOGRAPHIA DE LA PARTE DE ITALIA, EN QUE SE A HECHO LA GUERRA*, 1703. Published in Brussels by Fricx. Engraved by Jan Baptist Berterham, based on drawings and layout by Pallota, an architect attached to the Spanish royal cavalry. This was one of a suite of engravings made for the Spanish Crown as propaganda in

support of the Bourbon Felipe V (grandson of Louis XIV) as a candidate for the throne of Spain, a precipitating event in the War of the Spanish Succession.

Size of the original: 50 × 65 cm. Image courtesy of the Bibliothèque nationale de France, Paris (Cartes et plans, Ge DD 2987 [5164]).

fied for many of them. The topographical regional maps were based mostly on surveys and manuscript maps by French military engineers, such as published works by Pennier and Jean-Baptiste Naudin and other material probably supplied by Robert-Alexandre d'Hermand, who later became tutor to the young Louis XV and head of the French *ingénieurs géographes* in 1719 (Lemoine-Isabeau 1992, 100–101). The city maps were based on the work of Gaspard Baillieul, a military engineer and Paris-based map editor. By contrast, the plans of battles and sieges were taken from Austrian, Dutch, and English sources, with a decidedly anti-French point of view (Bracke 2006, 15). The mixture of French and allied sources suggests the unusual and cosmopolitan audience for the maps envisaged by Fricx after the defeat

of the Spanish-French forces at the Battle of Ramillies (1706). Initially, the maps of the *Carte des Pays Bas* were destined for private distribution among Spanish military officers; after Ramillies, Fricx received a privilege from the Brabant Council for selling maps to the public (Lemoine-Isabeau 1992, 98–99).

Maps from Fricx's collected *Carte des Pays Bas* were copied by other European cartographers and publishers, including Nicolas de Fer (*Les frontières de France et des Pais Bas*, 1708–10); Herman Moll (*Les provinces des Pays-Bas catholiques*, ca. 1730, ca. 1:430,000); Georges-Louis Le Rouge (*Les XVII. provinces dites les Pays-Bas*, 1742, ca. 1:1,000,000); the Crépy firm (*Cartes des provinces des Pays Bas*, 1744, 1785, ca. 1:130,000); Covens & Mortier (ca. 1720, 1745); and Matthäus Seutter

(*Belgium foederatum*, 1731/1756, ca. 1:640,000; and *Les provinces des Pays Bas autrichiens*, ca. 1744, ca. 1:250,000; see fig. 748). The maps remained in common use until the Austrian general Joseph Jean François de Ferraris published his *Carte chorographique des Pays-Bas autrichiens* (1:86,400) in 1777–78.

In addition to the *Carte des Pays Bas*, Fricx published maps of the continents by Guillaume Delisle as well as Ricquier's *Partie du Gange où sont les établissements du commerce des nations de l'Europe dans les Indes orientales* (1726). The latter was based on the work of Jacque André Cobbé, compiled as a bird's-eye view and oriented east (ca. 1:400,000). (Ricquier's manuscript is in the Bibliothèque Royale de Belgique, Brussels.)

Almost all the maps produced by Fricx's publishing house were engraved by Jacques Harrewyn and his brother Jean, with decorations by Corneille Marke. The map business was continued by Fricx's son Guillaume Henri, whose journal of 1705–8 provides a detailed picture of his business network and prices (Bracke 2012, appendix).

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SEE ALSO: Ferraris Survey of the Austrian Netherlands; Naudin Family; Netherlands, Southern

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