



Enlightenment Mapmakers and the Southwest Borderlands

Treasures from the Virginia Garrett Cartographic Library

*An Exhibit in Conjunction with the
Tenth Biennial Virginia Garrett Lectures
on the History of Cartography*

October 3, 2016 through January 15, 2017

Special Collections
The University of Texas at Arlington Libraries

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Map 11 (for description see page 15)



Map 12 (for description see page 16)

COVER MAP

Tobias Conrad Lotter after Guillaume Delisle, *America Septentrionalis*, engraving (hand colored), 46 x 58 cm.
(Augsburg: Lotter, between 1758 and 1778). UT Arlington Libraries Special Collections

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Acknowledgments

When Virginia Garrett donated her wonderful private collection of maps to the University of Texas at Arlington in 1997, a special endowment was established to promote its use by inviting scholars to speak on topics relating to the history of cartography. As a result, every other year for the past twenty years (since 1998) the University of Texas at Arlington Libraries have hosted the Virginia Garrett Lectures on the History of Cartography along with a special exhibit drawn primarily from Mrs. Garrett's map collection. This year's Tenth Biennial Virginia Garrett Lectures theme "Profiles in Cartography: Mapmakers and the Southwest Borderlands" encourages a diverse program of speakers but proved challenging as a theme for planning the accompanying exhibit.

Limiting the focus of this exhibit to the eighteenth century allows us to view and study a number of maps from Mrs. Garrett's collection which are seldom on display. While cartographic history experts argue convincingly that the European Enlightenment in maps should include "the long eighteenth century" extending backward from 1700 to approximately 1650 and forward to 1820, it is then with some regret then that this exhibit will only cover maps in the years from about 1688 to 1800. Earlier Garrett exhibits and catalogs have included, for example, Nicolas Sanson d'Abbeville's *Amerique Septentrionale* of 1650 or 1651, and Alexander von Humboldt's *Map of New Spain* of 1810 or 1811, which might be seen as the capstones for the longer period. By omitting these time extensions we can study in more detail a wealth of interesting eighteenth-century maps such as Châtelain's *Carte tres Curieuse...* of 1719, Le Rouge's 1756 French copy of Mitchell's 1755 *Map of North America*, or multiple versions of Tobias Conrad

Lotter's *America Septentrionalis*. These have not been on exhibit here for some time. With a better knowledge of our own collection we now eagerly await the forthcoming publication of the new *Cartography in the European Enlightenment* volume (edited by Matthew Edney and Mary Sponberg Pedley with associate editors Robert Karrow, Dennis Reinhartz, and Sarah Tyacke) for the University of Chicago Press's *History of Cartography Project*.

A number of people have contributed to this exhibit and the accompanying gallery guide. First, I would like to thank Head of Special Collections Brenda McClurkin who has encouraged and supported me on this project at every step, from beginning to end. My colleagues in Special Collections and in other departments of the UTA Libraries have also offered and given their support. Particular thanks goes to independent designer Carol Lehman for her fine work on the gallery guide and to Cathy Spitzenberger who proofread the manuscript. Over the years both have helped keep these gallery guides to a high standard. Special Collections volunteer Wendy Cole spent a number of her Saturdays helping mat and frame the maps even after she took on a new job as Archivist at the Dallas Historical Society in Fair Park. Glenn Nerwin, Keith Woodward, Michael King, Brian Morton of Nerwin & Associates completed the task and installed the exhibit. I am also grateful for the help and support of Dr. Imre Demhardt, holder of the Garrett Endowed Chair on the History of Cartography, to Dr. Dennis Reinhartz, UTA Professor Emeritus in History, and to Dr. David Buisseret, former holder of the Garrett Endowed Chair on the History of Cartography.

- Ben W. Huseman

Introduction

The idea of “Southwest Borderlands” in the eighteenth century is a slippery term because borders constantly shifted during the course of the century due to frequent wars and treaties. The term “Southwest” alone can have entirely different meanings, if, for example, one’s starting point is in the present state of Maine. At the beginning of the eighteenth century, the southwestern areas of the present Carolinas, Georgia, and northwestern Florida constituted a “southwestern borderlands” as far as British colonists were concerned. While European powers claimed southern North America, they exercised no control over much of it, and a long list of conflicts created shifting borders, treaties, and a demand for new maps as the various powers planned new defenses, new colonies, and new economic projects to secure territory. By the end of that century the “borderlands” had shifted much further westward and could be said to include only what became known here locally as “the Greater Southwest.” A review of eighteenth-century maps depicting the shifting Southwest Borderlands demonstrates that European knowledge of southern North America had grown considerably, but that much territory was still virtually unknown to them.

Enlightenment-era maps are the work of many people, and attempting to compile biographical information on all these people constitutes an enormous and often impossible task for any one map, let alone the number exhibited here. Unlike a stand-alone work of art, mapmaking by the eighteenth century was often a collective endeavor – although even then a single cartographer’s personality and worldview was often reflected in the map itself. Those familiar with these

maps regularly refer to the “Coronelli map” or the “Delisle map” as though one person did them, but this is in many cases an incorrect, but at times necessary, simplification. Explorers, travelers, soldiers, priests, missionaries, native peoples, surveyors, ship pilots, and navigators all contributed information from the locations depicted. Sometimes such people constructed a manuscript map, but more often the maps found in most collections today resulted when cartographers (often geographers, mathematicians, engravers, mapsellers, and publishers back in Europe) compiled visual and textual information gleaned or copied from such diverse sources and each other in order to draw and print a map that was then published in multiple copies through the standard eighteenth-century reproduction process of copperplate engraving.

There were at times an array of other people involved in engraving, printing, and coloring the maps in order to reproduce them. Even when one engraver’s name appears on the map, it may be the work of a whole workshop with someone engraving mountains, another person rivers, another the lettering, and so on. Occasionally, but not always, the credit for a map goes to the mapmakers themselves, but often the publishers or people who paid in advance to produce the maps received more credit since they took the most financial risk. On many occasions these, too, were different people. Providing biographies of all the people involved in a map is not the goal here, but associating a human face or two with a map adds interest and often is a step toward understanding more about the map itself and how it impacted perceptions of “the Southwest Borderlands.”

Cartographers and Maps

The Case of the “*Carte très Curieuse...*” the Châtelain Family and Bernard Picart

For years map enthusiasts have attributed this map – “one of the most elaborately engraved maps ever published” – to **Henri Abraham Châtelain** (1684-1743) of Amsterdam, but now more recent scholarship suggests that attribution for this map is a lot more complicated. Henri Abraham’s brother, **Zacharie Châtelain the Younger** (1690-1754), and/or the engraver, **Bernard Picart** (1673-1733), (and possibly members of his own workshop) were probably involved as well. The Châtelains were a family of French Huguenot book, atlas, and map publishers working in Amsterdam, and Bernard Picart was a famous French émigré-turned-Dutch Calvinist engraver also working in Amsterdam. The map was included in volume VI of the Châtelain family’s *Atlas Historique*, issued in seven volumes between 1705 and 1739. Map scholar Jan W. van Waning noted that printers’ marks and advertisements show that Jan Goeree and Pieter Sluyter were the engravers for volumes I-IV and Picart for volumes V-VII. The Atlas constituted a fifteen-year project that, although based in the Netherlands, capitalized on the demand for French-language atlases. However, the encyclopedic, informative, and moralistic *Atlas Historique* was more than an atlas since it included chronologies and genealogies, information on governmental, military, and ecclesiastical institutions, national histories, views, and curiosities.

The map appeared in an era when map buyers’ style preferences for the amount of cartographic decoration had swung to extremes. International buyers from both the nobility and the *nouveau riche* could show off their wealth and status by displaying limited editions of pictorial geography in the current and trendy baroque style. Henri Abraham Châtelain wrote in the preface to his atlas that he was happy to be living in “un siècle éclairé” (an enlightened century), adding that “Never was the taste more favorable to works of wit: the sciences and the arts are on the throne: the high-minded public is insatiable; its desire is tickled by the abundance of novelty...”¹ Ironically, however, back in France at the same time, a new emphasis upon scientific accuracy was already moving preferences in many circles in the opposite direction.

Throughout much of the seventeenth century (which in the Netherlands has been often referred to as “the Dutch Golden Age”), the Dutch had been the leaders in European mapmaking, just as they had led the world in trade and exploration. Dutch atlas creators and mapmakers like the Blaeu Family had set the standards for beauty and utility in the second quarter of the 17th-century. However, the Anglo-Dutch Wars in the second half of the century and other events around the world dealt the Netherlands severe economic blows. By the end of the century the Dutch nation and their mapmaking leadership were on the decline. As Dutch fleets were decimated, Dutch and Franco-Dutch mapmakers like the Châtelains increasingly had to rely on secondhand cartographic information from foreign, particularly French, sources. The Châtelains, like other commercial mapmakers, came up with gimmicks such as elaborately engraved vignettes to attract buyers to their often outdated maps.

Zacharie Châtelain the Elder (ca.1646-1723), Francois l’Honoré (1672-1746) and Family

The map- and bookseller and publisher **Zacharie Châtelain the Elder** was born in Villiers-le-Bel, Val-d’Oise, France, around 1646. Sometime before 1684 he married **Catherine Bonnel** (1658-1727). The Huguenot couple along with their infant son **Henri Abraham Châtelain** (1684-1743), left France soon after October 1685, when French King Louis XIV had issued the Edict of Fontainebleau, revoking the Edict of Nantes. By the end of the year the Châtelains had arrived in Amsterdam. Zacharie the Elder registered as a gold lace seller and manufacturer. By the late 1690s he was working in a book printing company. His partner

in this firm was Jean Malherbe (b.1666/1667), a native of Loudun who had registered as a bookbinder in Rotterdam in 1697. Malherbe agreed to instruct Zacharie’s younger sons **Zacharie Châtelain the Younger** (1690-1754) and **Samuel Châtelain** (?) in the trade. The partnership ended acrimoniously around 1703.

That year (1703) a daughter, **Marthe**, married **Francois Chartres l’Honoré** (1672-1749), a bookseller and printer from The Hague who was originally from Sedan in France and also probably of Huguenot

¹ Henri Abraham Châtelain, *Atlas historique; ou, Nouvelle introduction a l’histoire, a la chronologie et a la geographie ancienne et modern....*, vol. 1 (Amsterdam: Zacharie Châtelain, 1732-39), preface, translated and quoted in Inger Leemans, “Bernard Picart’s Dutch Connections: Family Trouble, the Amsterdam Theater, and the Business of Engraving,” in Lynn Hunt, Margaret Jacob, and Wijnand Mijnhardt, eds., *Bernard Picart and the First Global Vision of Religion* (Los Angeles: Getty Research Institute, 2010), pp. 53, 58.

background. In February l'Honoré was accepted in the Booksellers Guild of Amsterdam. He and his father-in-law Zacharie the Elder worked together in partnership as Francois l'Honoré et Cie [and Co.], and with Francois' brother Jonas l'Honoré in The Hague. Their various work addresses included "achter het stadhuis" (behind the town hall) in 1703 and opposite the Stock Exchange as "L'Honoré & Compagnie." 1704-1707. As Zacharie the Elder's sons took a more active role in the firm, Zacharie the Elder withdrew in 1714. l'Honoré worked with Zacharie the Younger from 1715-1726, and on the Keizersgracht 1741-1746.

Jan W. van Waning, "Chatelain's Atlas Historique: New evidence of its authorship," *Journal of the International Map Collectors' Society* 20 (2010): 7-15; Cornelisz. Koeman, *Atlantes Neerlandici* (5 vols.; Amsterdam: Theatrum Orbis Terrarum, Ltd., 1967-1971), vol. II, p. 33-38; See *Genealogieonline Stamboom Franken* <https://www.genealogieonline.nl/stamboom-franken> accessed July 27, 2016.; *Tooley's Biographical Dictionary of Mapmakers* Revised Edition, edited by Josephine French and Valerie Scott, Mary Alice Lowenthal, Elisabeth Parry (4 vols.; Tring, England, U.K.: Map Collector Publications and Early World Press, 1999-2004), vol. 1, p. 285.

Bernard Picart (1673-1733)



Bernard Picart
Engraving, by Nicolaas Verkole
after Jean-Marc Nattier,
(Amsterdam, 1740).

As native of Paris, engraver and illustrator Bernard Picart was the son of engraver Etienne Picart (1632-1721). Bernard took drawing classes at the French Royal Academy and studied engraving with his father, Benoit Audran, and Sebastien Leclerc. In 1696 he traveled to Antwerp, where he made several engravings and was awarded a prize for drawing. From 1697 to 1698 he worked as a book illustrator in Amsterdam before returning to Paris. Following his wife's death in 1708, he left France for Sweden, but only reached

the Netherlands. After a brief time in The Hague in 1710, he moved permanently to Amsterdam in 1711. There he found employment, became a Calvinist, and remarried. His father also relocated there sometime before his death in 1721. Bernard Picart engraved the highly decorative and pictorial maps that appeared in volumes V-VII of Chatelain's *Atlas Historique* from 1713 to 1720. Picart may have re-used some of this material for his illustrations that appeared in his most famous work: Jean Frédéric Bernard's *Cérémonies et coutumes religieuses de tous les peuples du monde* [Religious ceremonies and costumes of all world peoples] (9 vols.; Amsterdam, 1723-1727), considered one of the first anthropological studies of world religions.

Maxime Préaud, "Picart." *Grove Art Online*. Oxford Art Online. Oxford University Press, accessed August 17, 2016.



1

For larger version of this map, see back cover.

1

Carte tres Curieuse de la Mer du Sud, contenant des Remarques Nouvelles et tres utiles non seulement sur les Ports et Iles de cette Mer mais aussy sur les Principaux Pays de l'Amerique tant Septentrionale que Meridionale avec les noms & la Route des Voyageurs par qui la Decouverte en a été faite

1 map on 2 sheets ; each 41 x 141 cm. or smaller on sheet 47 x 149 cm. or smaller, from *Atlas Historique* (7 vols.; Amsterdam: Frères Châtelain; l'Honoré & Châtelain, 1713-1720), vol. VI. 139/1 00877 bibId=950849

Châtelain's highly decorative historical and geographical map of the "New World" embodies the European concept of the *cabinet of curiosities*, wherein encyclopedic collections of objects were strewn together in an effort to impress, educate, and entertain viewers. Although the general composition is original, many of the pictorial vignettes were directly copied from other maps and travel accounts by the map's engraver, Bernard Picart. The map's illustrations are thus a compilation of New World visual imagery just as the map itself is a compilation of other maps, surveys, and descriptions. For examples, the busy anthropomorphic beavers before Niagara Falls and the scenes of cod fishing on the Grand Banks off Newfoundland that illustrate some of the lucrative products found in North America had already been copied over and over, having originally appeared on a wall map with engraved illustrations by Nicolas Guérard for French cartographer Nicolas de Fer. The image of Niagara Falls itself first appeared in the 1697 account written by the first European eyewitness to the natural landmark, Louis Hennepin. The portrait tondos of European explorers add historical interest and context. Some of the ethnographic depictions of native ceremonies and a bizarrely shaped Aztec pyramid demonstrate that illustrators had as much difficulty as cartographers in authenticating their sources.

Topographically, the map offers only a modest amount of information and was in its time far behind more advanced and innovative French maps of the period by Guillaume Delisle. In the North American Southwest, for example, California is an island, the Mississippi is dangerously close to Texas, and the "Riviere du Nord ou [or] Brave" lacks the Big Bend but at least flows into the Gulf of Mexico and not into the "Mer de Californie" as on some earlier maps.

Cornelis Koeman II p. 33; Jan W. van Waning, "Chatelain's *Atlas Historique* New Evidence of Its Authorship" *Journal of the International Map Collectors' Society* 120 (Spring 2010): 7-15; Raymonde L'italien, Jean-François Palomino, Denis Vaugeois, *Mapping a Continent: Historical Atlas of North America, 1492-1814*, trans. By Käthe Roth (Sillery, Quebec: Les éditions du Septentrion; Georgetown, Ontario: McGill-Queen's University Press, 2007), pp. 12, 13, 142-143, 145; Edward H. Dahl, "The Original Beaver Map - De Fer's 1698 Wall Map of America," *The Map Collector* 29 (December 1984): 22-26. Schwartz and Ehrenberg, *The Mapping of America*, pp. 146-47, pl. 85; Tooley, *Mapping of America*, p. 130; Leighly, *California as an Island*, pl. xx; McLaughlin 190.

The Southwest Borderlands and European Cartographic Knowledge at the End of the Seventeenth Century

By 1700, European powers claimed much of North America, more often than not completely ignoring Native American, First Nations, or Indian territorial rights. The British Colonies were established on the east coast, the French claimed Canada and the territories drained by the Mississippi, and the Spanish lay claim to the rest. Despite extensive Spanish and, to a lesser extent, French and British exploration during the course of the sixteenth and seventeenth centuries, general European ignorance of the Southwestern borderlands was still widespread at the beginning of the eighteenth. Some misconceptions would not be completely cleared up for years. For example, the erroneous notion that California was an island originated around 1625 and remained a common feature on many outdated maps of North America well into the eighteenth century. Also, while coastline knowledge continued to improve, the course of rivers and other features of the interior of the continent were still largely unknown.



Vincenzo Coronelli (1650-1718)



Vincenzo Coronelli
Engraving. British Library, London

One of the most influential cartographers whose works spread misconceptions about the Southwestern borderlands throughout Europe in the late seventeenth and early eighteenth centuries was the Venetian cleric Vincenzo Coronelli. He is today widely acclaimed as one of the greatest globemakers ever. His globes once constructed, were highly prized and very attractive but not easily updated, leading to a rather static, inaccurate, and antique view of the New World in many important European circles. For examples, Coronelli's maps and globes regularly show California

as an island and the Mississippi River running through Texas!

While Coronelli was not the first to do this, he was one of the more influential geographers to accept these widely-held notions.

Born in Venice in 1650, Coronelli was the second son of a tailor. As a youth, from about 1660 to 1663, he was reportedly apprenticed to a wood engraver in Ravenna, and upon returning to Venice entered the Convent of S. Nicolo della Lattuca of the Franciscan Order of Conventual Friars Minor (Minorites) at the age of thirteen. While pursuing a career as a member of a convent he increasingly demonstrated what would become his lifelong interest in geography and applied sciences. He became a novice in 1665 and published his first book, an almanac. He next entered the famous Convent of Santa Maria Gloriosa dei Frari in Venice, became a sub-deacon, and also studied astronomy from 1667 to 1671. After receiving his doctorate in theology at the Collegium Santo Bonaventura in Rome in 1673, he held a number of successively higher ecclesiastical offices in Padua and Rome – eventually holding the rank of “Minister General” of the Minorite Order from 1701 to 1704, before Pope Clement XI removed him for disobedience and arbitrary conduct.

Meanwhile, Coronelli produced his first pair of globes (both terrestrial and celestial) for the Duke of Parma around 1678, leading to his second career as a globe-maker, geographer, and mapmaker. Between 1681 and 1683, he visited Paris at the invitation of Cardinal César d'Estrées, who was the French ambassador to the court of Rome, and constructed two huge globes for King Louis XIV of France. For this project Coronelli had access to all sources of geographical information then available at the French court and the cooperation of members of the Académie des Sciences. The globes won him international renown, and from Louis XIV a collar of gold, a pension, an honorary diploma, and a fifteen-year copyright privilege beginning in December 1686.

Upon his return to Venice in 1684 Coronelli founded the Accademia Cosmografia degli Argonauti – the world's first geographical society. The Venetian Council also named Coronelli Cosmographer of the Republic of Venice in 1685, granted him a pension and a copyright privilege, and allowed him to set up his globe-making workshop in the Convent of Santa Maria Gloriosa dei Frari. Thus with state support Coronelli next began to hire and train engravers for various cartographic projects, including an atlas, *Atlante Veneto*. He also traveled again to Paris in 1686 where he made contracts with the King's engraver **Jean Baptiste Nolin** for the latter to produce

prints for Coronelli's globes and sheet maps, in effect turning over Coronelli's French copyright to Nolin. From 1686 Coronelli and his workshop produced geographies, histories, and atlases, many of which were part of a multi-volume series titled *Atlante Veneto* (1690-1701), which included a book on globes *Libro dei globi* (editions from 1695). While Coronelli's success made Venice a center of cartography during his lifetime, his works and reputation soon passed into obscurity after his death.

Helen Wallis, intro., in *Vincenzo Maria Coronelli, Libro dei Globi, Venice 1693, 1701* (Amsterdam: Theatrum Orbis Terrarum, 1969), pp. V-XXI; Tooley's Rev. Ed., vol. 1, pp. 301-303.

2

Father Vincenzo Maria Coronelli (1650-1718)

America Settentrionale Colle Nuove Scoperti fin all' Anno 1688...

Engraving (hand colored) on 2 sheets of paper, 59 x 85 cm., from Coronelli, *Atlante Veneto* (Venice: Accademia Cosmografia degli Argonauti, 1690-1701).

142/7 00568

Coronelli's two-sheet map of North America from his *Atlante Veneto* typifies the southwestern topography found on his globes based largely upon information compiled on his first trip to Paris in 1683-1685. Thanks to French cooperation, he incorporated the latest information from LaSalle's first expedition down the Mississippi in 1682 into a Gulf coastline harking back to Gessel Gerritsz. as published by Blaeu in the 1630s. Unfortunately, LaSalle had been unable to take accurate longitudinal readings with his astrolabe, his measurements for latitude were incorrect, and his compass had broken by the time he had reached the mouth of the great river. LaSalle and his assistants had confused the Mississippi with the Escondido (which scholars equate with the Nueces). Thus Coronelli carefully weighed the sources available and concluded that the Mississippi flowed through what is now Texas. Thanks to information from the Spanish renegade and ex-New Mexico Governor Diego Peñalosa conveyed through the Abbé Claude Bernou, Coronelli correctly depicted the Rio Bravo/Rio del Norte (Rio Grande) flowing from New Mexico (see no.), but, like the respected French cartographer Nicolas Sanson, Coronelli accepted the widely-held notion that California was an island.

Tucker, Gene Rhea (2008). "Coronelli's Texan Mississippi: A Reinterpretation of the America Settentrionale of 1688," *Terrae Incognitae* 40 (2008): 82-101; Jack Jackson, *Flags Along the Coast: Charting the Gulf of Mexico, 1519-1759: A Reappraisal* (Austin: The Book Club of Texas, 1995), pp. 11, 12, 36, 104, 105, 118, 120.; Jack Jackson, *Shooting the Sun* 2 vols.; Austin: The Book Club of Texas, 1998), vol. 1, pp. 16-17.

3

Father Vincenzo Maria Coronelli (1650-1718)

Hos Globos Terraqueum, ac Coelestem dicat, et donat Rmo P.D. Sigismundo Politio a Placentia...[Globe Gores Dedicated to His Serene Highness Padre Don Sigismundo Politio in Piacenza]

Engraving, 25 x 47 cm., included in Coronelli, *Libro dei Globi* (Venice: Accademia Cosmografia degli Argonauti, between 1693-1718). 51/9 2004-477

The Primacy of French Cartography

By the eighteenth century, much of the world recognized French leadership in mapmaking (even if sometimes grudgingly). This primacy rested upon the political, military, and cultural rise of France during the reign of the “Sun King,” Louis XIV (1661-1715), and continued throughout the era known in Europe as the Enlightenment. The effort to establish firm French colonies in the New World added to geographical knowledge at this time, but in addition – through dynastic alliance – they gained more access to information about the secretive Spanish Empire in the New World as well. In 1700, Carlos II, the last Spanish Hapsburg, died without immediate heirs, and in 1701, a member of the French Royal family, the Bourbons, Philippe duc d’Anjou, grandson of Louis XIV, ascended the Spanish throne as Felipe V. Even though the Spanish possessed considerable cartographic skills and by this time had extensive knowledge about their American lands, it was at this time that the rest of the world outside Spain began to learn a great deal about the southern portion of North America – largely through French printed maps or copies of them. Moreover, at this time French cartographers, aided by reason and the ideals of and the advances brought about by the Enlightenment, began to apply more rigorous scientific methods to mapmaking.

The French state, which centered on the king but included the nobility, and the king’s ministers at Versailles and Paris recognized that maps were essential to power. As the state bureaucracy grew over the course of the late seventeenth and eighteenth centuries, they nurtured the trade and science of cartography (without calling it by that name). French mapmakers, who at this time were called *geographes* (geographers) instead of cartographers, tended to be scholars working in offices, hence styled *geographes de cabinet*. Many seldom left Paris but instead compiled information from a variety of sources.

With the enthusiasm of the *Encyclopedistes* (who also originated in France during this era) the French promoted a variety of essential related subjects including geography, mathematics, astronomy, surveying, and engraving, just as they patronized the other sciences, arts, and trades. From the time of Louis XIII, the French kings gave prestigious titles to mapmakers such as “*geographes du roi*” (geographer to the king) and often accompanied these with pensions. By the eighteenth century, several mapmakers could hold these titles at once, and there were several different levels such as “*geographe ordinaire du roi*” and “*premier geographe du roi*.” Not just kings but other members of the royal family, such as the Duc d’Anjou and the Grand Dauphin, came to appoint and subsidize their own *geographes* or mapmakers.

As far back as 1666, the French Finance Minister Jean-Baptiste Colbert had established the *Académie Royale des Sciences* in Paris and adopted the *Journal des Sçavans* as its publication. Almost from the beginning, geography and mapping were major interests, and the journal regularly published map reviews. While seeking geographical information from the French provinces, Colbert realized that the maps he had were inadequate and inaccurate and that the key to improving them lay not just in printing technology and aesthetics but also in the sciences. The Italian-born astronomer at the new Paris Observatory (begun 1667), Jean-Dominique Cassini (1625-1712), and his familial successors knew that truly accurate maps of France required not only better methods of field surveying (through triangulation) but also better ways to determine longitude and a knowledge of the exact size and shape of the earth. By the middle of the eighteenth century, the French, led by the Cassini family, embarked upon costly state-sponsored scientific projects to answer these questions and create an official large-scale *Carte de France* (eventually on 182 sheets of the same scale).

French education, usually organized by religious orders, provided essential background for cartographers during this time. It should be emphasized that not merely the sciences but also the humanities were deemed important to understanding maps. Some of the best mapmakers received instruction from well-traveled Jesuits whose curriculum or *Ratio Studiorum* emphasized math, science, geography, history, foreign languages, and the early use of maps and globes in an interrogative method of inquiry that sought “truth.” Such mapmakers often did not begin as mere engraving apprentices but due to their education became scholarly map compilers or *geographes de cabinets* (armchair geographers) who did not usually engrave their own maps and instead hired others. As a result of their education, the

best French cartographers produced a printed *memoire* that accompanied their map telling how the map was made and provided a thorough analysis of all its sources, old and new, visual and textual.

The French state also supported institutions that taught cartographic skills such as the *Ecole d'Artillerie* (School of Artillery, founded in 1720), the *École des Ponts et Chaussées* (the School of Bridges and Roads, 1747), the *École Royale Militaire* (Royal Military Academy, 1751). After serving in the military, men with such skills often found further employment in the government or the map trade as *ingenieurs-geographes* or as hydrographers in the *Dépôt des cartes et plans de la marine* (Office for naval charts and plans, founded in 1720).

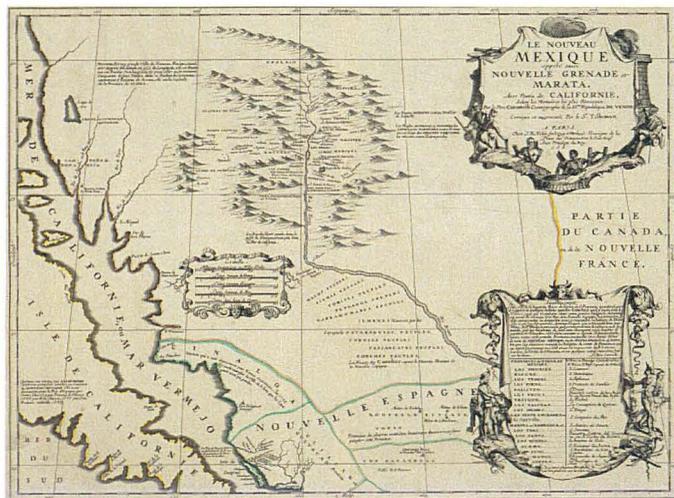
In the long run, such state expansion ultimately increased knowledge around the world, but it came at a great price. The French state bore the cost of much cartographic innovation while much of the rest of the world copied and imitated their maps. France was on the brink of bankruptcy by the 1780s, and not just due to the costs of running the state bureaucracy. The French had been heavily involved in nearly every war of the century: the War of the Spanish Succession (1701-1715), known in the British Colonies as Queen Anne's War (1702-1713), which ended in America with the Treaty of Utrecht 1713; the War of Austrian Succession (1740-1748), which was known in the British Colonies as King George's War (1744-1748) between Britain and France, which, like the Anglo-Spanish War of Jenkins' Ear (*Guerra del Asiento*) (1739-1748), ended with the Treaty of Aix-la-Chapelle in 1748; a mainly Anglo-French conflict known in the British Colonies as "the French and Indian War" that began in 1754, grew to encompass several nations on several continents as the Seven Years War (1756-1763), ending with the Treaty of Paris of 1763; and the American Revolution or American War for Independence of 1775-1782 that ended with the Treaty of Paris in 1783. All these wars fueled a demand for maps, but the wars were obviously costly. The economic crisis of the 1780s was one of the main factors leading to the horrors of the French Revolution beginning in 1789. By the last quarter of the century, French cartography was still vibrant, but it had increasingly more competition from others who had rather easily attained French knowledge and built upon French contributions.

See Mary Sponberg Pedley's excellent book on this subject *The Commerce of Cartography: Making and Marketing Maps in Eighteenth-Century France and England* (Chicago and London: University of Chicago Press, 2005) as well as Christine Marie Petto's *When France was King of Cartography: The Patronage and Production of Maps in Early Modern France* (Lanham, Maryland and Plymouth, U.K.: Lexington Books, A Division of Rowman Littlefield Publishers, Inc., 2007); Raymonde Litalien, Jean-Francois Palomino and Denis Vaugeois, *Mapping a Continent: Historical Atlas of North America, 1492-1814*, trans. by Kathe Röth (Montreal: McGill-Queen's University Press, 2007); Marco van Egmond, *Covens & Mortier*, pp. 50-51.

Jean-Baptiste Nolin I (1657-1708), Jean-Baptiste Nolin II (1686-1762), Jean-Nicolas du Tralage (a.k.a. Sieur du Tillemon) (1620-1698)

The Nolin family of Paris were primarily engravers and print publishers from the skilled tradeworkers class who started producing cartographic material in the early 1680s, largely thanks to a friendship and agreement with the Venetian geographer, globemaker, cartographer, and cleric **Father Vincenzo Coronelli**. The family's head at this time was **Jean-Baptiste Nolin I** (1657-1708), the son of engraver Jean Nolin, located on the Rue St. Jacques. Jean-Baptiste I had trained under engraver François de Poilly (1623-1693), a "graveur ordinaire du roi" (Engraver to the King) and had spent some time in Italy. Either at this time or later in France in the early 1680s, Nolin I met Coronelli. In 1687, Coronelli transferred his copyright privilege from Louis XIV to Nolin I, allowing him to engrave, print, and sell maps in France based upon his (Coronelli's) works. J. B. Nolin was not a trained geographer, and he at first relied upon geographer and map collector **Jean-Nicolas du Tralage** (also known as the **Sieur du Tillemon**) to revise Coronelli's maps for publication. Despite this, Nolin's reputation as a mapmaker increased substantially after he received royal appointments: first as "geographe de Son Altesse Royale Monsieur le duc d'Orleans" (geographer to His Royal Highness the Duke of Orleans) on December 2, 1694, and later as "geographe ordinaire de Sa Majeste" (ordinary geographer to His Highness (the King) on January 25, 1700. However, less than two months later, in March 1700, Nolin ran into legal trouble in a famous quarrel with his brilliant young competitor **Guillaume Delisle**. Delisle complained that Nolin had plagiarized geographic information from him to produce a world map that included several of his own innovations, including the mapping of California as a peninsula and a more correct placement of the Mississippi River. Delisle took Nolin to court and won, and Nolin was forced to pay the court costs. Nolin's reputation never quite recovered from this. After his death in 1708 his widow and son continued to derive support from the business until about 1712, when the son assumed control.

Nelson-Martin Dawson, *L'Atelier Delisle*, pp. 30-31; Petto, *When France Was King of Cartography*, pp. 25, 32, 38-39, 41, 59, 101-02, 155-60, 164, 177-178; Tooley's *Dictionary of Mapmakers*, Rev. Ed., vol. 1, p. 404; vol. 3, p. 329-330.



4

Jean-Nicolas du Tralage (a.k.a. Sieur du Tillemon) and Father Vincenzo Maria Coronelli, with cartouches by Nicolas Guerard (ca.1648-1719)

Le Nouveau Mexique appelé aussi Nouvelle Grenade et Marata, avec Partie de Californie: selon les Memoires les plus Nouveaux par le Pere Coronelli, cosmographe de la ssmme. Republique de Venise; corrigée et augmentée par le Sr. Tillemon

Engraving and etching (with hand-colored outlines), 46 x 60 cm. (Paris: Chez J. B. Nolin, 168[7]). 83-151

Coronelli's time in France allowed him to compile valuable geographic knowledge about New Spain's interior provinces. One of his most important sources was a manuscript map drawn by Abbé Claude Bernou based upon information from a former governor of New Mexico (1661-1664), the self-proclaimed Comte, don Diego Dionisio de Peñalosa Briceño y Berdugo (1621-1687). Peñalosa had been banished by the Inquisition for alleged misdeeds and had traveled to London and by 1678 was in France, where he offered his services to the French. Tillemon's and Coronelli's maps as published by Jean-Baptiste Nolin not only spread knowledge of many place names for the first time, such as "el Passo," they also showed that the "Rio del Norte" and "Rio Bravo" were one and the same. One particularly interesting toponym near the "Moqui Peoples" (Hopi people) is the town or village of "Santa Fé de Peñalossa" – apparently a fabrication.

Peter L. Eidenbach, *The Atlas of Historic New Mexico Maps, 1550-1941* (Albuquerque: University of New Mexico Press, 2010), pp. 20-34-35; Shirley, *The Mapping of the World*, p. 547; Carl I. Wheat, *Mapping the Trans-Mississippi West* (2 vols.; San Francisco: Institute of Historical Cartography, 1958), vol. 1, pp. 43-66; Kessel, pp. 137; Paul E. Cohen, *Mapping the West: America's Westward Movement 1524-1890* (New York: Rizzoli, 2002), pp. 43-45; David J. Weber, *The Spanish Frontier in North America* (New Haven: Yale University Press, 1992), pp. 131, 148-149. For Peñalosa see Jack Jackson, *Flags Along the Coast: Charting the Gulf of Mexico, 1519-1759: A Reappraisal* (The Book Club of Texas, 1995), pp. 12, 42, 104, 126; Jack Jackson, *Shooting the Sun* (2 vols.; Austin: Book Club of Texas, 1998), vol. 1, pp. 16-17.

Nicolas de Fer (1646-1720) and Family



Nicolas de Fer
Engraving with etching on paper, (Paris, ca. 1705).

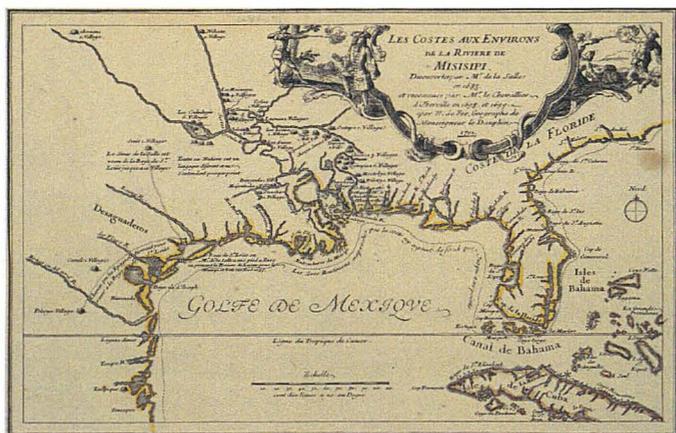
The De Fer family were mapsellers and publishers working in Paris in the seventeenth and early eighteenth centuries. Like many of their contemporaries, the de Fers filled their maps' blank spaces with elaborate and hyperbolic cartouches in order to appeal to the vanity of their patrons, who included many members of the French nobility. At the same time, the most cartographically important member of the family, **Nicolas de Fer** (1646-1720), also attempted to incorporate the latest geographical information from the

Académie Royale des Sciences and carefully draw attention to it – and, as many scholars suggest, perhaps less for the purpose of greater scientific accuracy than for attracting better sales. De Fer maps popularized many important discoveries even if they did not always credit where they came from. As map scholar Jack Jackson ably demonstrated, in many cases, the new information about New Spain came from hand-drawn copies of Spanish manuscript maps that made their way to the French court and the *Académie des Sciences*.

The father, **Antoine de Fer**, was a mapseller, engraver, and colorist, active from 1644 until 1672, or shortly before his death in 1673. His widow, **Geneviève** took over the business until their son Nicolas assumed control in 1687. Nicholas had learned the art of engraving while serving as an apprentice to engraver Louis Spirinx as early as 1659, but the de Fer workshop employed as many as thirteen different engravers over the years, including **Charles Inselin** and **Vincent de Ginville**. In 1690 Nicolas was named “*geographe du Grand Dauphin*” (geographer to the Grand Dauphin, i.e., Louis XIV’s oldest son Louis (1661-1711), heir apparent to the French throne and the father of the future King Louis XV). Nicolas also served as geographer to the Grand Dauphin’s son Philippe, duc d’Anjou, and was named a *geographe du roi*. In November 1700, when as a result of the difficult Spanish Succession, the latter became the first Bourbon King of Spain as Felipe V, Nicolas de Fer became, by default, the geographer to the Spanish King as well.

The De Fers had formidable competition for patronage: the renowned **Delisle** family of French geographers and mapmakers were their contemporaries. In the early 1700s, both families had almost equal access to the same information. Scholar Jack Jackson noted that the hand-drawn maps of one are often difficult to distinguish from the other. Curiously, Nicolas de Fer copied Guillaume Delisle on occasion, but they never went to court over plagiarism as the latter did with Nolin. Perhaps the Grand Dauphin’s high regard for Nicolas gave the Delisles cause for caution. Interestingly, a surviving trade card shows the interior of the De Fers’ successful map shop known as “*La Sphère Royale*,” located along the Quai d’Horloge on the Isle de la Cité in the heart of Paris. When Nicolas died in 1720, his three married daughters inherited the business. They tried to find a buyer for the entire stock, but eventually it was split with two of his sons-in-law attempting to continue the business with decreasing success until the remaining stock was acquired by other publishers.

Jack Jackson, *Flags along the Coast: Charting the Gulf of Mexico, 1519-1759: A Reappraisal* (The Book Club of Texas, 1995), pp. 13, 36, 37, 39, 44, 46, 48, 53, 54, 59, 119, 120, 121, 122; Petto, *When France Was King of Cartography*, pp. 25, 30, 40-41, 59, 164, 179, 182; Pedley, *The Commerce of Cartography* (2005), pp. 48, 92, 181, 196; Tooley’s Rev. Ed., vol. 2, p. 59; Edward H. Dahl, “The Original Beaver Map – De Fer’s 1698 Wall Map of America,” *The Map Collector* 29 (December 1984): 22-26; Ashley Baynton-Williams, “Nicolas de Fer’s Shop on a Trade Card” in *MapForum.com* [December 2000]: 11; “Nicolas de Fer,” *Mapping the Past: Rare Russian Maps* from Special Collections. University of Missouri. June 30, 2011. Retrieved April 11, 2016.



5

5

Nicolas de Fer

Les costes aux environs de la riviere de Misisipi: decouvertes par Mr. de la Salle en 1683 et reconnues par Mr. le Chevallier d'Iberville en 1698 et 1699

Engraving and etching (with hand-colored outlines) on paper, 22.5 x 34 cm., engraved by Vincent de Ginville, 1701, from Nicolas de Fer, *L'Atlas Curieux* (Paris: Nicolas de Fer, 1700-1705).
201/1 900017

De Fer’s deceptively simple map of 1701 was a major improvement over earlier printed maps of the Gulf coast area. It incorporated much new information from the recent 1698 and 1699 French expeditions of Pierre le Moyne, Sieur d’Iberville, and his brother Jean Baptiste, and it emphasized the earlier explorations of La Salle. Importantly, it drew upon a new placement of the Mississippi credited to the gifted young *geographe* Guillaume Delisle before he had been able to publish his own detailed map of the area. Political sensitivities probably had prevented Delisle from including information about d’Iberville’s explorations on his 1700 map of North America because the French were in the middle of negotiations with the Spanish over Louis XIV’s grandson Philippe, duc d’Anjou’s succession to the Spanish throne as Felipe V. The French had not wanted to upset the Spanish any further with news of d’Iberville’s activities in their claimed territories until the uncertainty was over.

By 1701, this mattered less. De Fer’s engraver Vincent de Ginville included interesting vignettes of La Salle’s tragic murder and that of his assassin in the cartouche, which tend to draw the viewer’s attention away from the map itself. Like his competitors the Delisles, who at this time were also studying manuscript maps from the French expeditions as well as copies of earlier Spanish maps, De Fer now placed the Mississippi entering the Gulf in a location east of present Texas and created a much better defined coast. Not only does De Fer show an approximate location for La Salle’s failed fort near Matagorda Bay, there are also forts in the area around what should be Lakes Pontchartrain and Bourne. De Fer’s Spanish sources probably also included the Abbé Bernou’s copy of Carlos de Sigüenza y Gongora’s map of 1689 which showed the route of Alonso de León’s expedition to find La Salle and Juan Bisente del Campo’s copy of Spanish mapping efforts along the coast by Juan Enriquez Baroto. The French had found Bisente’s chart along with two French survivors of La Salle’s expedition in 1697, when they captured a Spanish ship. Before De Fer produced this map, he had published a large wall map in 1698 that followed Coronelli’s model of the area in showing the Mississippi entering the Gulf in Texas.

Jack Jackson, *Flags along the Coast: Charting the Gulf of Mexico, 1519-1759: A Reappraisal* (The Book Club of Texas, 1995), pp. 13, 36, 37, 39, 44, 46, 48, 53, 54, 59, 119, 120, 121, 122; Seymour I. Schwartz and Henry Taliaferro, “A Newly Discovered First State of a Foundation Map ‘L’Amerique Septentrionale,’” *Map Collector* 26 (March 1984): 2-6; Martin and Martin, *Maps of Texas and the Southwest* (1984, 1999), pp. 90-91.



6 _____

Nicolas de Fer

Le vieux Mexique ou, Nouvelle Espagne avec les costes de la Floride faisant-partie de l'Amerique septentrionale

Engraving and etching (with hand-colored outlines) on paper, 22.5 x 34 cm., 1702, from Nicolas de Fer, *L'Atlas Curieux* (Paris: Nicolas de Fer, 1700-1705). 24/6 240049

De Fer's map of "Old Mexico or New Spain and the coasts of Florida" showed additional territory, including "the famous mines of Santa Barbara" in Nueva Viscaya. It also repeated much information found on the 1701 map *Les Costes aux Environs de la Riviere de Misisipi*. De Fer avoided the problem of whether California was an island by cutting off the composition and leaving the northwest area blank.

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Nicolas de Fer [after Father Eusebio Kino]

Cette carte de Californie et du Nouveau Mexique, est tirée de celle que a été envoyée par un grand d'Espagne pour être communiquée a Mrs. de l'Academie Royale des Sciences

Engraving, by Charles Inselin. (Paris: Nicolas de Fer, 1705). 64/7 2007-359

The map's title translates roughly "This map of California and New Mexico is taken from one that was sent by an important Spaniard to be communicated to members of the Royal Academy of Sciences." The manuscript map in question was a copy of a 1695-1696 map drawn by the Jesuit priest and missionary Father Eusebio Kino, who, by that time had traveled over much of northern New Spain yet still believed that California was an island. Kino's map had a great deal of new and reliable information about Spanish missions and settlements, including sites along the upper reaches of the Rio Grande in present Chihuahua and far west Texas. As noted in De Fer's title, a Spanish nobleman forwarded a copy of Kino's 1695-1696 map to the French Royal Academy of Sciences where in 1700 De Fer and engraver Charles Inselin copied it without crediting Kino. De Fer and Inselin rearranged Kino's map with a numbering system and keyed list and, in so doing, failed to transfer all the sites and names with complete accuracy. Although De Fer's map was an improvement for its time, the map was quickly superseded by other printed maps based on a more famous 1701 manuscript map by Kino that showed California as a peninsula.

Ernest J. Burrus, S. J., *Kino and the Cartography of Northwestern New Spain* (Tucson: Arizona Pioneers' Historical Society, 1965), plate VIII, reproduces Kino's original 1695-1696 map that is today in the Central Jesuit Archives in Rome. Also see Bill Warren, "Mapmaker on a Mission: Father Kino and the Myth of Insular California," *Mercator's World* 7: 4 (July/August 2002): 24-29.



8 _____

Nicolas de Fer after Guillaume Delisle and Pierre Le Moyne, Sieur d'Iberville

La riviere de Missisipi, et ses Environs, dans l'Amerique Septentrionale mis au jour par N. de Fer

Geographe de sa Majesté Catolique, 1715. (Paris: de Fer, 1715). Bin 13 220002

The map is an almost exact copy of a manuscript map "Carte des environs du Missisipi" drawn by Delisle in 1701 that is considered one of the great maps in a series he drew to determine the geography of the area around the new French territory of *la Louisiane*. It was compiled from information provided by d'Iberville, the Bisente chart, Abbé Bernou's copy of the Sigüenza map of 1689, and from many other sources. As Jack Jackson pointed out, it "reflects the confusion faced in trying to mesh French descriptions of Texas with the Spanish maps available at the time." Delisle's manuscript is in the *Service Historique de la Marine*, located in Vincennes, France. How Nicolas de Fer managed to publish this with his name on it or why the Delisles did not sue the de Fer family for plagiarism is a mystery. It is possible the two families had an agreement, or, that by publishing it fourteen years after Delisle produced the original sketch, de Fer thought the Delisles might ignore the infringement.

Paul E. Cohen, *Mapping the West: America's Westward Movement 1524-1890* (New York: Rizzoli, 2002), pp. 48-50, reproduces the Delisle manuscript map; Jack Jackson, *Flags along the Coast: Charting the Gulf of Mexico, 1519-1759: A Reappraisal* (The Book Club of Texas, 1995), pp. 13, 36, 37, 39, 44, 46, 48, 53, 54, 59, 119-122; Jack Jackson, *Shooting the Sun* (2 vols.; vol. 2, p. 41;

9 _____

Nicolas de Fer

Partie Meridionale de la Riviere de Missisipi et ses Environs dans l'Amerique Septentrionale mise au jour par N. de Fer

1718. Paris : Chez J.F. Bénard, 1718., probably from De Fer, *Atlas ou Recueil de Cartes Géographiques...*(Paris: De Fer, 1709-28). 134/9 00704

A second version of De Fer's 1715 map, based upon Delisle's 1701 sketch, appeared in 1718 as the bottom two sheets in a larger four-sheet map of North America. The map, produced for the *Compagnie d'Occident* at the time of the "Mississippi Bubble," was virtually the same on the bottom two sheets but added small etchings of native people, animals, ships, canoes, and settlements taken directly from older maps and prints, such as Jan Jansson's *America Septentrionalis* from about 1640. This particular imprint is possibly a later reissue by French Huguenot refugee Jean-Frederic Bernard of Amsterdam, who may have purchased De Fer's plate after his death and did not change De Fer's Paris address on the plate.

See Robert W. Karrow Jr. and David Buisseret, *Gardens of Delight: Maps of Travel and Accounts of Illinois*, (Chicago: Newberry Library, 1984), p. 9, no. 8.

The Delisle Family



Top (left to right):
Claude de l'Isle, Guillaume
de l'Isle, Jos[eph]

Bottom (left):
Nicolas de l'Isle, mezzotints,
from Christian Gottlieb
Reichard and the Gesellschaft
des Gelehrten (Association
of Scholars), *Allgemeine
geographische Ephemeriden*
(30+ Vols.; Weimar:
Industrie-Comptoirs, 1798-
1822+), vol. 10 (1802), pp. 93,
179; vol. 11 (1822?).

Bottom (right):
Louis de l'Isle de la Croÿere,
lithograph (St. Petersburg,
Russia: the Expedition for
Provision of Government
Securities, ca. 1820s?).
*Peter the Great Museum of
Anthropology and
Ethnography, Russian
Academy of Science, St.
Petersburg*

Flourishing during a period of French political and cultural ascendancy, the Delisle family had a profound impact upon the cartography of the eighteenth century. Outstanding geographers de cabinet, the Delisles came to embrace a new scientific conception of cartography, combining older mapmaking techniques employed by the Sansons with the field results of newer astronomy and survey methods of the Cassini family of astronomers, surveyors, and mapmakers also then working in France. The Delisles' methodology was based on empiricism and the application of reason, not mere imitation. They had a special interest in the New World because of France's growing interest in colonizing Louisiana. They admitted when they did not have enough information, when accurate surveys and observations were not available, for example, for the mouth of the Mississippi. In advancing the science of cartography and status of *geographes*, they were anxious to demonstrate their superiority to untrained mapmakers who merely copied the works of others. Like other *geographes de cabinet*, they did not engrave or letter their own printed maps, nor did they design the cartouches, but instead hired others.

While **Guillaume Delisle** (1675-1726) is generally recognized as the principal cartographer of the family (in large part because he produced several important maps pertaining to North America), his father **Claude Delisle** (1644-1720), a historian geographer, and educator, had the interest and knowledge to push his sons into successful cartography-related careers, providing them with excellent educations and important societal connections. Two of Guillaume's younger brothers, **Louis Delisle de la Croÿere** (1687-1741) and **Joseph Nicolas Delisle** (1688-1768), spent years in Russia and were involved in mapmaking there: the former as an explorer on expeditions to Siberia, Kamtschatka, and Alaska, and the latter working on the first atlas of Russia with Ivan Kirilovich Kirilov. After Guillaume's death in 1726, his widow **Marie Angélique, née Duval**, managed the map business until her death in 1745 when much of it was acquired by their son-in-law **Philippe Buache de Neuville** (1700-

1773), noted for his theoretical cartography and still another of the more prominent French *geographes* of the eighteenth century.

The older **Claude Delisle** was the son of a doctor from Lorraine. Claude received a license to practice law after studying under Jesuits at the college of Pont-à-Mousson. However, he soon left behind this profession and his hometown of Vaucouleurs to become an instructor in history and geography in Paris. There he found work as a lecturer in history at the prestigious seminary of Saint-Sulpice where many noble families sent their sons who aspired to church offices. Among his pupils was the future regent Philippe d'Orleans, son of Louis XIV's brother Philippe I, Duc d'Orleans. Claude Delisle was reputedly an excellent teacher and authored or edited several books including a world history survey, an *Atlas historique et genealogique* (published in 1718), and several works on geography. Claude was particularly interested in the geography of the New World. In 1698, he worked with the sons of the renowned French *géographe ordinaire du roi* (Geographer to the King) Nicolas Sanson (1600-1667) on the preparations for Pierre Le Moyne d'Iberville's expedition to the Mississippi and the establishment of the French colony of *Louisiane*. Apparently, many educational ideas from the Jesuits and cartographic techniques from the Sansons passed through Claude Delisle to his sons for whom Claude also arranged studies with the astronomer Jean-Dominique Cassini, then the director of the Paris Observatory and professor of astronomy at the Royal College. (Important for cartography, Cassini had discovered a cumbersome but more accurate method to calculate longitude-based observations of Jupiter's moons. For much of the next century Cassini and his heirs would also head an important government-funded project to create a large-scale map of France based upon careful surveys employing methods of triangulation.) By applying reason and the enlightenment spirit of reform to multiple subjects, ranging from history to geography, astronomy, and mapmaking, emphasizing such skills and abilities as learning to distinguish between truth and falsehood and the importance of employing rigorous doubt and skepticism of all sources, Claude Delisle saw that his sons had all the necessary skills and training to become excellent cartographers.

Guillaume Delisle, a son of Claude's by his first marriage, was reportedly attracted to making maps as a child. Apprenticed to the astronomer Jean-Dominique Cassini, Guillaume's first recorded attempt at a scientific map was a 1696 manuscript *Carte de la Nouvelle France et pays adjacent* (map of New France and adjacent territories), followed by a globe at least a couple of years later that correctly showed California as a peninsula and a more correct position for the Mississippi. The first published maps to bear Guillaume's name appeared in 1700. They were accompanied by letters in the *Journal des Scavans* by Claude whereby the Delisles explained their methodology and sources for determining the position of the Mississippi and complained that the Jupiter satellite observations recommended for calculating longitude were not yet available for the river's mouth. Also at this time the Delisles brought a lawsuit against the older engraver/map publisher **J.B. Nolin** whom they eventually proved had copied Guillaume's earlier globe. Guillaume was elected a member of the prestigious Académie des Sciences in 1702, an honor that not only gave him access to important clientele but also access to the latest information and methodology. In 1707, Guillaume left his parents' house on the rue des Canettes, parish of Saint-Sulpice, and moved his

workshop to the Isle de la Cité, address “au Quai de l’Horloge.” Both addresses were advantageously located to give the Delisles contact with travelers coming in from around the world, geographers, nobles, and government officials. In 1718, Guillaume was named *premier geographe du roi*. He designed and published around ninety maps before his death in 1726.

Nelson-Martin Dawson, *L’Atelier Delisle : L’Amérique du Nord sur la table à dessin* (Sillery, France: Éditions Septentrion, 2000); Mary Sponberg Pedley, *The Commerce of Cartography: Making and Marketing Maps in Eighteenth-Century France and England* (Chicago: University of Chicago Press, 2005); Petto, *When France Was King of Cartography* (Lanham: Lexington Books, 2007); Anne Godlewska, *Geography Unbound: French Geographic Science from Cassini to Humboldt* (Chicago: University of Chicago Press, 1999), 34,47.”Delisle, Guillaume.” and “Delisle, Joseph-Nicolas” in *Complete Dictionary of Scientific Biography*. Vol. 4. Detroit: Charles Scribner’s Sons, 2008. 22-25, *Gale Virtual Reference Library*. Web. 22 Aug. 2016; *Tooley’s Dictionary of Mapmakers* Rev. Ed. (1979), vol. 1, pp. 353-355. See also Monique Pelletier, “The Working-Method of the New Cartographers: the Gulf of Mexico and Spanish Sources, 1696-1718,” *Terrae Incognitae: The Journal of the Society for the History of Discoveries* 34 (2002): 60-72.

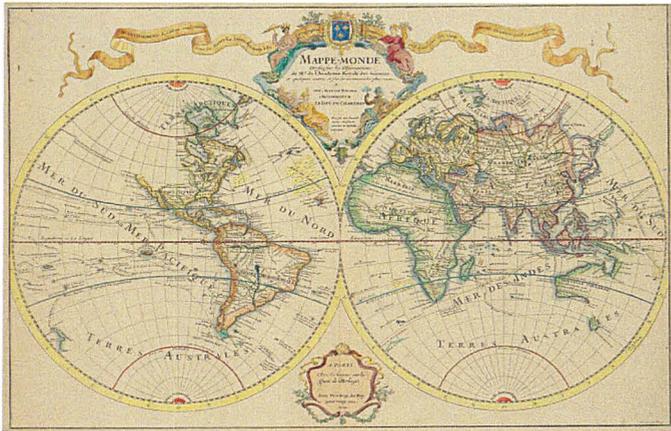
Charles Simonneau the Elder (1645-1728)



Charles Simonneau the Elder
Engraving and etching, 1741,
by Pierre Dupin after Hyacinthe
Rigaud

Employed as the designer of cartouches for Guillaume Delisle’s 1700 world map and his 1703 *Carte du Mexique*, engraver and designer Charles Simonneau was born in Orleans where his father was a wine merchant. He served as an apprentice to Paris engraver Guillaume Chasteau from 1710 to ca.1712, took drawing lessons at the *Académie Royale*, and may have been a pupil of Noel Coytel. His brother and son were also engravers and illustrators.

Maxime Préaud. “Simonneau.” *Grove Art Online*.
Oxford Art Online. Oxford University Press.



10

10

Guillaume Delisle, with cartouches by Charles Simonneau the Elder
Mappe-monde dressé sur les observations de mrs. de l’Académie royale des Sciences et quelques autres et sur les memoires les plus recens à son Altesse Royale Monseigneur le Duc de Chartres / par son tres humble et tres obsessant serviteur G. de L’Isle Geographe

Engraving (hand colored), 43.5 x 66.5 cm., engraved by Berey.
Paris: Chez l’Auteur, au Quai d’Horloge, 1700 (after 1707). 135/1 00467

Guillaume Delisle was only twenty-five years old when he constructed this map, which was soon recognized as a landmark map. With this map (shown here in a later state which corrected an earlier westward bend in South America), Delisle was one of the first cartographers since 1625 to correctly show California again as a peninsula rather than as an island. By choice he left a big portion of northwestern North America blank since he had determined (correctly) that no reliable information was yet available for the area. Delisle, as a *geographe de cabinet*, was focused on the scientific accuracy of this map. Charles Simonneau’s elegant baroque design for the decorative cartouche includes female figures symbolizing four continents.



11

Guillaume Delisle, with cartouches by Charles Simonneau the Elder
Carte du Mexique et de la Floride des Terres Angloises et des Isles Antilles: du Cours et des Environs de la Riviere de Mississipi Dressée sur un grand nombre de mémoires principalemt. sur ceux de Mrs. D’Iberville et le Seur

Engraving and etching (with hand-colored outlines) 49 x 66 cm.
(Paris: Ph. Buache, 1745; first published 1703). 141/3 00468

Delisle’s 1703 map, seen in this virtually identical 1745 reissue by his son-in-law and successor Philippe Buache, was one of the first printed maps to give a good general idea of the course of the Mississippi River and some of its major tributaries. It included information from d’Iberville’s and La Salle’s explorations, Spanish texts, Coronelli’s (Penalosa’s) New Mexico, Bisente’s chart, and Sigüenza’s map. East of the Mississippi Delisle’s Apalachicola River flows almost due south from a large lake in present Tennessee based on information from seventeenth-century Englishman Richard Bristock or Brigstock.

Delisle attempted to include locations of many Native American tribes, spelling their names in phoenetic French: Alibamous, Chaktas, Chicachas, Caddodaquio, Choumans, and others. Delisle's map was widely copied throughout Europe.

Jean Delanglez, "The Sources of the Delisle Map of America, 1703," *Mid-America* 25:4 (October 1943): 275-298; Jack Jackson, *Flags Along the Coast: Charting the Gulf of Mexico, 1519-1759: A Reappraisal* (The Book Club of Texas, 1995); Jackson, *Shooting the Sun*, pp. 39-41; Martin and Martin, *Maps of Texas and the Southwest* (1984, 1999), pp. 92-93, plate 14; William P. Cumming, *The Southeast in Early Maps*, Third Ed., Rev. & enlarged by Louis De Vorsey, Jr. (Chapel Hill & London: University of North Carolina Press, 1998), pp. 193-195, 270-272. On Buache see Tooley's Rev. Ed., vol. 1, pp. 203-204; Mary Sponberg Pedley, *Imago Mundi* 36 (1984): 48-63.



12

Guillaume Delisle

Carte de la Louisiane et du cours du Mississippi Dressée sur un grand nombre de Memoires entr'autres sur ceux de Mr. Le Maire par Guillaume Del'isle de l'Academie Rle. des Sciences

Engraving (with hand-colored outlines) on paper, 49.5 x 66 cm.
(Paris : Chez l'Auteur, 1718). Bin 13/3 220001

Highly controversial and widely influential in its time, Delisle's 1718 map was one of the landmark maps of the eighteenth century. It caused a considerable stir for several reasons. First, the map's release coincided with the frenzy for investment in John Law's *Compagnie d'Occident* and the *Compagnie des Indes* that soon collapsed in the "Mississippi Bubble" stock crash in 1720. Second, it boldly announced that France claimed most of North America under the names of "Louisiane" and "Canada or New France." Although exaggerating the actual topography of French territory and compacting the surrounding lands claimed by foreign powers, it nevertheless gave a good general idea of the course of the Mississippi along with an inset showing its mouth in the Gulf. Further, by emphasizing the river and its important tributaries, the map made visually obvious to all the river's vital strategic importance for the control of North America. Suddenly, Europeans could see clearly that travel and transportation on rivers rendered the interior of North America wide open to French discovery and exploitation. Spanish Florida had disappeared, Spanish New Mexico was shrinking, and the British were now hemmed in along the east coast. In addition, the map conveyed symbolically – without the aid of what was increasingly becoming "trivial" pictorial imagery – the ideas that French power was growing, that French

Louisiane was a promising investment, and that French cartographic prowess in producing such an amazing map was evidence of that power.

In addition to sources Delisle had previously used for his earlier maps, this map benefitted from a series of manuscript maps compiled, drawn, and sent to France by **François Le Maire**, a French missionary in Louisiana, who had interviewed the French trader Louis Juchereau de Saint-Denis sometime around 1716. Saint-Denis had traveled through Texas deep into Spanish territory and down to Mexico City and back between 1713 and 1716 (his route shown on Delisle's map), and he would return there again in 1716-1717. Saint-Denis's visits caused considerable consternation among Spanish officials who, in typical bureaucratic fashion, did not always extend to the nosey foreign interloper the warmest of welcomes. Among the details conveyed are the "Mission de los Tejas" and a label that would soon come to haunt the coastal-dwelling Karankawa: *Indiens errans et Antropophages* or "Wandering Indians and Man-eaters." Alonso de Leon's route through south Texas in search of La Salle and further east, a remarkably fine attempt to show Hernando de Soto's route through the southeast in 1539-1541, suggest the historical influence of Delisle's father Claude. Delisle probably rendered Florida as an archipelago based upon the captured Spanish chart by Juan Bisente del Campo.

Jack Jackson, *Flags Along the Coast: Charting the Gulf of Mexico, 1519-1759: A Reappraisal* (The Book Club of Texas, 1995), pp. 12, 13, 25, 36, 37, 39, 40, 42, 44, 45, 48, 50, 53, 54, 59, 60, 91, 92, 95, 105, 119, 120, 121, 122, 123, 125, 126, 133; Jackson, *Shooting the Sun*, pp. 39-41, 44, 52, 76-77, 84-85, 88, 131, 135, 205n, 206n, 236-237, 315, 361, 366, 380, 442, 474n; Cumming/De Vorsey, *The Southeast in Early Maps* (1998), pp. 212-214; Petto, *When France Was King of Cartography* (2007), pp. 100, 101-106.

Jean Baptiste Bourguignon d'Anville (1697-1782)

Acknowledged as one of the greatest cartographers of the eighteenth century, d'Anville was a *geographe de cabinet* very much like Guillaume Delisle. D'Anville used a rigorous, precise, scientific approach to mapmaking. Often at great personal expense, he collected and thoughtfully considered as much information as he could, including maps, travel reports, letters from correspondents, and other texts, both ancient and modern. Instead of indiscriminately compiling all of this information together into a map, he would then begin to eliminate sources and claims that he deemed untrustworthy or doubtful, often leaving areas on his maps completely blank rather than filling them with unproven, false, or misleading information. Like other French *geographes de cabinet*, he accompanied every significant map he produced with a critical essay or *mémoire*. In describing his working method, he noted that he preferred constructing general maps of an area after he had drawn specific maps – if time permitted and depending upon the project. He also preferred working with historic nomenclature that hinted of the origins of place names and emphasized the importance of their aesthetic placement and lettering on the sheet. He took great care to work with heavy sheets of the finest quality paper for both printed and manuscript maps so that he could use his dividers repeatedly to plot and copy, and in order to erase and correct. Like many of his fellow *géographes*, D'Anville also employed others to engrave his maps



Jean-Baptiste Bourguignon d'Anville, Engraving and etching by Augustin de St. Aubin after Benjamin Duvivier (Paris, ca. 1750).

and design his cartouches. These included the engraver **Guillaume-Nicolas Delahaye** (1727-1802) and d'Anville's own younger brother, the master Rococo artist/engraver **Hubert François Bourguignon d'Anville Gravelot**, usually known simply as "Gravelot." D'Anville's maps were highly praised by contemporary explorers such as Bougainville.

Born in Paris in 1697 to Hubert Bourguignon, a tailor, and Charlotte Vaugon, d'Anville received early training from Jesuit instructors. He was drawn to geography, classical history, and old maps as early as age 12, according to his eulogy by Bon Joseph Dacier. He attended the *Collège des Quatre Nations*, a large free secondary school in Paris, and studied with Louis Du Four du Longuerue, a classicist, who encouraged his interest in historical geography. D'Anville's precocious mapmaking skills and knowledge were such that in 1718 he was appointed geography tutor to the eight-year-old King Louis XV and formally given the title *geographe du roi* in 1719. The young King's Regent, Philippe, duc d'Orleans took note of d'Anville and soon Philippe's son Louis d'Orleans gave d'Anville a generous pension sometime before 1723. D'Anville married Charlotte Testard in 1730, and they had two daughters: one became a nun and the other married a government bureaucrat. By the 1740s, d'Anville was appointed *premier geographe du roi* and allowed to set up shop in the galleries of the Louvre, as had the Sansons. In 1753, D'Anville was elected a member of the *Académie des Inscriptions et Belle-Lettres* (founded also by Colbert, which was devoted to the humanities) and the *Académie des Sciences* in 1773. He also belonged to the Russian Academy of Sciences at St. Petersburg and the Antiquarian Society of London. D'Anville compiled over 200 maps and wrote 78 papers or books on geography. His vast personal research collection included travel books, geographies, history books, correspondence, and over 10,000 maps in print and manuscript that he left to the king. These were eventually acquired by the *Bibliothèque National* (French National Library), largely thanks to his pupil, French geographer, cosmographer, and map librarian Jean-Denis Barbié du Bocage (1760-1825).

Lucile Haguet, "J.-B. d'Anville as Armchair Mapmaker: The Impact of Production Contexts on His Work," *Imago Mundi* 63:1 (2011): 88-105; Josef W. Konvitz, *Cartography in France, 1660-1848: Science, Engineering, and Statecraft* (Chicago: University of Chicago Press, 1987); Tooley's Rev. Ed., vol. 1, pp. 36-39; Juliette Taton, "Anville, Jean-Baptiste Bourguignon D," *Dictionary of Scientific Biography* (New York: Charles Scribner's Sons, 1970), vol. 1, pp. 175-176; Louis Charles Joseph de Manne and Jean Denis Barbié du Bocage, *Notice Des Ouvrages De M. D'Anville... Précédée De Son éloge*. A Paris: Chez Fuchs, libraire ...; Demanne ...; De l'imprimerie de Delance, 1802; Petto, *When France Was King of Cartography*, pp. 41, 59-65, 67, 77-78, 80-81, 100, 101, 106, 112, 118, 122, 160-162, 181, 183, 185-187.

Guillaume-Nicolas Delahaye (1727-1802) and Family

The Delahayes were a family of French engravers that engraved maps for **Delisle**, **Buache**, **d'Anville**, **Cassini de Thury**, and the **Robert de Vaugondys**. A native of Paris and reportedly a godson of **Guillaume Delisle**, Guillaume-Nicolas was the son of engraver Jean-Baptiste Delahaye and brother of Jean-Baptiste-Henry Delahaye. Guillaume specialized in geographical and topographical engraving and was named a *Premier Graveur du Roi* or "premier engraver to the King." Guillaume's daughter married Jean-Denis Barbié du Bocage in 1792.

Marie Sponberg Pedley, "New Light on an Old Atlas: Documents concerning the Publication of the Atlas Universel (1757)," *Imago Mundi* 36 (1984): 52-61; "Guillaume-Nicolas Delahaye," *Wikipédia* (Français), accessed August 25, 16; *Tooley's Rev. Ed.*, vol. 1, p. 1.



13

Jean Baptiste Bourguignon d'Anville, with cartouche by Hubert François Bourguignon d'Anville Gravelot
Amérique Septentrionale: publiée sous les auspices de Monseigneur le duc d'Orleans, premier prince du sang / par le Sr. D'Anville, MDCCXLVI

Engraving (with hand-colored outlines) on two sheets, each 46 x 87 cm. (irregular), engraved by Guillaume Delahaye (Paris: d'Anville, 1746). 100/7 210039

The research d'Anville conducted for this map included reading several decades' worth of exploration and travel narratives as well as maps by his predecessors and contemporaries, yet he realized there were still vast areas of the continent where nothing was yet known. D'Anville's map of North America corrected much of the exaggerations and distortions found on Delisle's earlier maps, adding newer, more precise information about the shapes of the Great Lakes and the configuration of the Mississippi basin, including the lower Missouri, Arkansas, and lower Red Rivers. Along the lower Missouri, for example, d'Anville depicted Fort d'Orléans (established in 1723) after carefully studying accounts by its founder, Étienne de Veniard, Sieur de Bourgmont (1679-1734), who had returned to France in 1725 with his Missouria wife and a number of Native American tribal representatives. Important sources for the Gulf coast were the field survey maps of French engineer Valentin Devin (d. 1735), who had first arrived in Louisiana in 1719.

L'Italien, Palomino and Vaugeois, *Mapping a Continent* (2007), p. 193; Jackson, *Flags along the Coast* (1995), pp. 58-96.

Hubert-François Bourguignon d'Anville Gravelot (1699-1773)



Hubert-François Bourguignon d'Anville a.k.a. Gravelot-Engraving, by Jean Massard after Maurice Quentin de La Tour. National Portrait Gallery, London

Born in Paris in 1699 to Hubert Bourguignon, a tailor, and Charlotte Vaugon, d'Anville, the younger Hubert styled himself simply as "Gravelot" or "Hubert Gravelot" possibly to distinguish himself from his father and his older brother, the great French mapmaker **Jean Baptiste Bourguignon d'Anville**. Gravelot was an artist, draughtsman, etcher, and engraver who drew and designed cartouches for a few maps, but he is better known for other decorative subjects, among which are portraits, views, illustrations, and caricatures. Like his brother, Gravelot

attended the Collège des Quatre Nations in Paris. His father sent him to Lyons and found employment with the French ambassador to Rome, Louis d'Aubusson, duc de la Feuillade, but reportedly wasted his travel money and never made it to Rome. On his return to Paris his father sent him to Santo Domingo with the governor-general of the island, the chevalier de la Rochelard. There Gravelot made a map of the island, but apparently little else. The loss of a ship containing merchandise sent by his father left him penniless, and he returned to Paris in 1729. He studied in Paris under Francois Boucher and developed a reputation as an illustrator before he immigrated to London around 1732. There he opened a drawing school in James Street, Covent Garden. He also taught at St. Martin's Lane Academy where one of his pupils was Thomas Gainsborough. Gravelot is credited with introducing the rococo style to London. He returned to Paris in 1745. He was married twice and died in Paris where he was buried in St. German l'Auxerrois.

M. G. Sullivan, "Gravelot, Hubert-François (1699-1773)", *Oxford Dictionary of National Biography*, Oxford University Press, 2004; online edn, May 2009, accessed October 4, 2016. Also see David Rogers, "Gravelot, Herbert-François Bourguignon, *The Oxford Companion to Western Art. Oxford Art Online*. Oxford University Press, accessed October 4, 2016.



[Solomon?] Bolton after Jean-Baptiste Bourguignon D'Anville and Hubert-François Bourguignon d'Anville Gravelot *North America: Performed under the Patronage of Louis Duke of Orleans, First Prince of the Blood by the Sieur d'Anville, Greatly Improved by Mr. Bolton*

Engraving (hand colored), 45 x 86 cm., engraved by R. W. Seale and Walker after Gravelot's cartouche (London: Bolton, 1750). 77/7 190003 bibld=1362126

D'Anville's map of North America was widely copied. This 1750 "Greatly Improved" version by Mr. [Solomon?] Bolton translated some toponyms and added comments in English where D'Anville and his engravers had left blank spaces. For example, at far left underneath the inset of Hudson's Bay, Bolton noted how Delisle and d'Anville had chosen to avoid any reference to "New Albion" on the west coast of America, which had been explored by Sir Frances Drake and was therefore a basis for the English claim to that territory. Of course, Bolton, while making his point, could not refrain from nationalist exaggeration, proclaiming "Drake, the first Circumnavigator."

Jacques Nicolas Bellin, the elder (1703-1772) and son Jacques Nicolas Bellin, the younger (1745-1785)

Jacques-Nicolas Bellin the elder began working as a clerk at the French *Dépôt des cartes et plans de la Marine* (Department of maps and charts of the navy) in Paris at the age of eighteen in 1721, just a year after the founding of this office. He would work there for over fifty years. Bellin received on-the-job training, copying, drawing, editing, selecting, and archiving maps and charts used by the French Royal Navy and mariners from around the world. Bellin never went to sea himself but relied on his critical skills with math, languages, and logic and the manuscript surveys, reports, and journals by engineers, boat pilots, and printed travel reports and charts. For many years the maps he drew often appeared anonymously with the simple designation "*Dépôt de la Marine*"; however, he authored numerous *mémoires* explaining how the maps were constructed, analyzing sources, and requesting information and encouraging corrections on areas needing further study. The vast collections at the *Dépôt* inspired Bellin to produce not only marine charts but also maps of continental interiors, in particular many of the twenty-eight maps he prepared for Pierre-Francois-Xavier de Charlevoix's *Histoire et description generale de Nouvelle-France* appearing in 1744, but also many other examples.

On August 1, 1741, he was officially recognized by royal brevet as the first "Ingénieur-hydrographe de la Marine" and given a pension and salary increase. From 1745 until his death, Bellin held the title of *Censeur royal* for geographic works. His correspondence and cooperation with British hydrographers led to his election in 1752 as a member of the prestigious Royal Society of London. During the Seven Years' War of 1756-1763, Bellin's maps began appearing in the *Hydrographie Francaise* (the Depot de la Marine's collection of sea charts of the world published between 1756-1773) and in his five-volume *Petit atlas maritime* for the duc de Choiseul, which appeared in 1764.

In his various roles as scientist, cartographer, hydrographer, curator, and archivist at the Depot, Bellin's expertise and honesty were highly valued, and many of the ship captains and explorers who set out from France consulted him and his archive beforehand. Bellin's work load

was impressive and at times so great he admitted to accumulating and withholding information from publication. Nonetheless, he, and perhaps his son, are credited with contributing 1,400 articles to Diderot's *Encyclopédie*...

Litalien, Palomino, and Vaugeois, *Mapping a Continent* (2007), pp. 232-237; Mireille Pastoureau, "Jacques-Nicolas Bellin, French Hydrographer, and the Royal Society in the Eighteenth Century," *The Yale University Library Gazette* 68:1/2 (1993): 65-69. Sponberg Pedley, *The Commerce of Cartography*, pp. 13, 19, 25, 26, 30, 69, 78-79, 111, 114, 115, 117, 118, 168, 169, 194; Petto, *When France Was King of Cartography*, pp. 41, 59-60, 69, 71-74, 78, 94, 100-23, 161, 163, 181, 183, 184, 185, 188; Godlewska, s (1999), p. 36.

15 _____

Jacques-Nicolas Bellin the Elder
Carte de l'Amerique septentrionale pour servir à l'histoire de la Nouvelle France, 1743 / dressée par N.B., ing. du roy, et hydrog. de la marine

Engraving, 29 x 36 cm. by Guillaume Dheulland (ca.1700-ca.1770), in P. Fr. X. de Charlevoix, *Histoire et description generale de la Nouvelle France, avec le Journal Historique d'un Voyage fait par ordre du Roi dans l'Amerique Septentrionale* (6 vols.; Paris: Chez Pierre-Francois Giffart, 1744), vol. 1, betw. pp. 24 and 25.

As engineer-hydrographer at the Depot de la Marine, Bellin was quite interested in the geography of North America's waterways, which at that time were the highways to penetrate the vast distances of the interior. His treatment of the Mississippi basin and general flow of rivers in present Texas and New Mexico was not unusual. However, the optimistic French belief that they could find an all-water route westward to China through the middle of the continent apparently drove him to graft a disproportional map upon what was otherwise a fairly good outline of North America's coastlines. Bellin's map shows a series of rivers and lakes stretching west from a large and misshapened Lake Superior. This information came from the French explorer and fur trader Pierre Gaultier de Varennes, Sieur de La Verendrye, who, together with his four sons, had helped establish a French presence deep within the western wilderness in the 1730s. Unfortunately, the Verendryes had no way of determining longitude, their distance estimates were off as a result of portages and detours, and some of the information they had obtained from Indians was misinterpreted. Indeed, one of Bellin's sources was a map drawn by the Cree Ochagach around 1729 and sent by the Verendryes to the *Depot des Cartes de la Marine* where it remains today. Bellin tried to make all this new information properly fit existing maps, resulting in unusual cartographic consequences.

Litalien, Palomino, and Vaugeois, *Mapping a Continent* (2007), pp. 232-237. Ochagach's map is illustrated on p. 207.



17

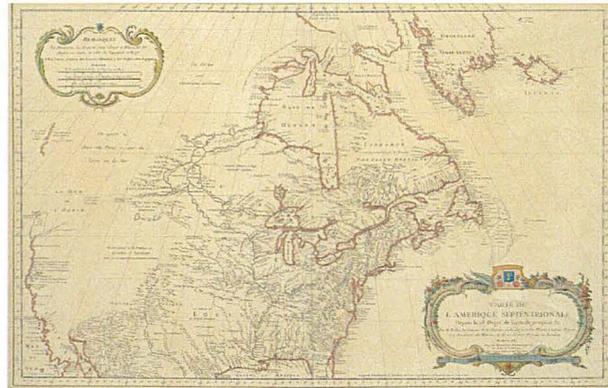
17 _____

Nicolas Bellin
Plan de la Nouvelle Orleans Sur les Manuscrits du Depot des Cartes de la Marine, Par N. B. Ing. de la M. 1744

Engraving, cm., by Guillaume Dheulland (ca.1700-ca.1770), in P. Fr. X. de Charlevoix, *Histoire et description generale de la Nouvelle France, avec le Journal Historique d'un Voyage fait par ordre du Roi dans l'Amerique Septentrionale* (6 vols.; Paris: Chez Pierre-Francois Giffart, 1744), vol. 4, opp. p. 196.

Bellin's plan of New Orleans – “according to manuscript plans in the Depot of Mariners’ Charts” – was possibly the second New Orleans plan in print after George Henri Victor Collot's *Sketch*, which was published in 1726. Unlike Collot's, Bellin's plan was copied repeatedly after its publication in 1744. According to John Magill, it and another plan of the city from Bellin's *Le Petit Atlas Maritime* of 1764 are similar to a manuscript city plan drawn by a cartographer named Gonichon in December 1731. Although established in 1718, New Orleans did not have a formal plan until 1721 when French military engineer Adrien de Pauger arrived to survey lots according to the design of his superior, Le Blond de la Tour.

Alfred E. Lemmon, John T. Magill, and Jason R. Wiese, eds., *Charting Louisiana* (2003), pp.104, 309-315 .



18 _____

Nicolas Bellin
Carte de l'Amerique Septentrionale: depuis le 28 degré de latitude jusqu'au 72 par M. Bellin, ingenieur de la Marine et du Dépôt des Plans, Censeur Royal, de l'Académie de Marine, et de la Société Royale de Londres, 1755

Engraving (hand colored) on paper, 58 x 68 cm.,1755, from *Hydrographie Francaise* (Paris: Depot des Cartes de la Marine, 1756-1773). 77/7 190007

Bellin produced this map near the beginning of what the British colonists called “the French and Indian War” or what would soon become known worldwide as the Seven Years’ War. By this time Bellin had apparently accumulated much more information about North America, but vast areas were still unknown. Many forts are shown, quite a few of them indicative of the growing hostilities between the French and their Indian allies on the one side, and the British and their colonists and Indian allies on the other. A key at upper left denotes symbols for French forts, old abandoned French forts, English forts, and Spanish forts. Bellin apparently included up-to-date information about these. For example, just southeast of Fort Duquesne (in downtown

Pittsburgh today) is “Fort Necessite det [ruit, i.e. destroyed],” where British Colonial Forces under the young Colonel George Washington surrendered on July 3, 1754. In Texas, Bellin depicted a “Nouv[elle] Fort Espagnol” on the north side of the mouth of the Colorado.

Here once again Bellin exhibited his interest in the hydrography of rivers. In Texas, for example, he depicted and listed the names of no less than seventeen of them, and, unlike on some maps of the period, they flow in a generally correct direction, from the northwest to the southeast. By this time Bellin has modified the confusing hydrography of the areas west of the Mississippi and Lake Superior and southwest of Hudson’s Bay found on his earlier map. The larger size of Bellin’s map and further study of newer sources allowed him to indicate more of the area’s geographical complexities. Interestingly, unlike Philippe Buache, who in 1752 had published a map of North America that depicted the vast “Mer ou Bay de l’Ouest,” Bellin wisely did not draw its outlines, left entire areas blank, and for a big portion of the west honestly noted that “One is ignorant of whether this area is land or sea.”

19

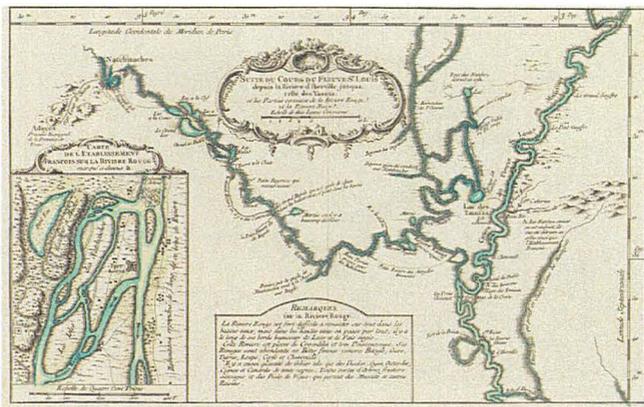
Nicolas Bellin

Carte réduite des costes de la Louisiane et de la Floride dressée au Dépôt des cartes, plans, et journaux de la marine / par le S. Bellin, ingenieur de la marine

Engraving on paper, 54 x 79 cm., 1764, from *Hydrographie Française* (Paris: Dépôt des Cartes de la Marine, 1756-1773). 77/10 240056

By the time Bellin’s map appeared in 1764, France had lost the Seven Years’ War and, by the terms of the Treaty of Paris, had recently turned over lands east of the Mississippi to the British. Spain, as France’s ally, also lost Florida to the British, but received all lands of French Louisiana located west of the Mississippi including New Orleans. Bellin’s portrayal of the Gulf coast from Pensacola west benefitted from his access to French survey maps by Valentin Devin and others. However, the idea that Florida was an archipelago rather than a peninsula stemmed from old English charts and the erroneous depiction on Delisle’s widely imitated 1718 *Carte de la Louisiane*.

See Jackson, *Flags along the Coast* (1995), pp. 44, 123



20

Nicolas Bellin

Suite du Cours du Fleuve St. Louis depuis la Rivière d’Iberville jusqu’à celle des Yasous, et les Parties connues de la Rivière Rouge et la Rivière Noire.

Engraving (with hand-colored outlines) on paper, 23 x 36 cm., from

Bellin, *Petit Atlas Maritime* (5 vols.; Paris: printed for the Duc de Choiseul, 1764), vol. 1, no. 46. 129/4 00773

Bellin utilized manuscript maps by French engineers to construct this map of the lower Red River in la Louisiane. However, by the time his map appeared in 1764, France had lost the entire area, recently turning over lands west of the Mississippi to the Spanish and the area east of the Mississippi to the British. The map shows Fort Rosalie and Natchez on the Mississippi at right and the lower Red River as far as Natchitoches in the upper left where a road leads to the Spanish presidio at Los Adayes in the eastern portion of the Spanish “Province de Tepas.” An inset of the Natchitoches area at lower left shows Fort S. Jean and other structures.

Rigobert Bonne (1727-1794)

Rigobert Bonne came from Raucourt in northeastern France, just south of Metz. As *Ingénieur Hydrographe de la Marine* or hydrographic engineer for the French navy, mathematician, and cartographer, Bonne replaced Bellin as *Censeur Royal* for geographic matters after the latter’s death in 1785. He often worked with the engraver and publisher Jean Lattré or his son (d. 1782), who was a *Graveur Ordinaire du Roi* (Engraver to the King).

Tooley’s *Dictionary Rev. Ed.* (1999-2004), vol. 1, p. 163; vol. 2, p. 94; Petto, *When France Was King of Cartography* (2007), p. 80.



21

Rigobert Bonne

Carte du Mexique ou de la Nlle. Espagne contenant aussi le Nouveau Mexique, la Californie, avec une partie des pays adjacents projetée et assujettie au ciel par Mr. Bonne

Engraving (with hand-colored outlines) 28 x 40 cm., by Arrivet (Paris: Chez Lattré, 1771). 55/5 87-591

Bonne’s 1771 map of Mexico or New Spain features a new rococo-style cartouche engraved and designed by a little-known artisan named “Arrivet.” The map shows but does not name all of a total of seventeen rivers in Texas. Missions along the left bank of the Rio Grande or “Rivière du Nord” above its junction with the Pecos (here labeled the “Riv. Salado ou Riviere des Apaches”) include St. Christophe (San Cristobal, founded in 1715), St. Paul, la Conception, and St. George.



22

Rigobert Bonne

Le Nouveau Mexique avec la Partie Septentrionale de l'Ancien: ou de la Nouvelle Espagne par Mr. Bonne, Ingénieur-hydrographe de la marine

Engraving, 21 x 32 cm., by André in *Atlas de Toutes les Parties Connues du Globe Terrestre: dressé pour l'Histoire philosophique et politique des établissements et du commerce des Européens dans les deux Indes.*

[Genève: J.l. Pellet, 1780]

128/8 00375 OR G1015 .B6

23

Rigobert Bonne

Carte de la Louisiane et du Floride

Engraving, 33 x 22.5 cm., in *Atlas de toutes les parties connues du globe terrestre, dressé pour l'histoire philosophique et politique des établissements et du commerce des Européens dans les deux Indes* [par Rigobert Bonne.]

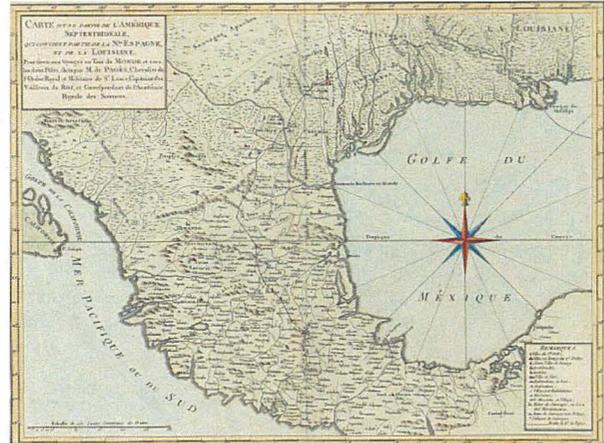
[Genève? J.L. Peelet? 1782?]

G 1015 .B62 1782 SpCo Map Rm

Pierre Marie Francois, Vicomte de Pagès (1748-1793) and Bernard (?)

Pagès was a French naval officer who crossed what is now Texas and Mexico on the first part of a trip around the world. He claimed his motives were scientific. After his return to France, he recorded his memories of the trip in a book *Voyages autour du monde* (Paris, 1782) that included several maps compiled by "Bernard" who was presumably an engraver or publishing agent. The book soon appeared in an English translation *Travels Round the World: in the years 1767, 1768, 1769, 1770, 1771* (2 vols.; London: J. Murray, 1791) – one of the first books on Texas in English. Born in Toulouse to a noble family, Pagès took advantage of the less restricted conditions for a Frenchman to travel in New Spain after the end of the Seven Years War (1756-1763). A corresponding member of the Académie des Sciences, he next accompanied French expeditions toward the South Pole (1773-1774) and North Pole (1776) and served with the French Navy during the American War of Independence. He retired to Santo Domingo and was killed in 1793 during the Haitian Revolution.

Handbook of Texas Online, Marilyn M. Sibley, "Pagès, Pierre Marie François de," accessed June 15, 2016.; Marilyn McAdams Sibley, ed., "Across Texas in 1767: The Travels of Captain Pagès," *Southwestern Historical Quarterly* 70 (April 1967): 593-622.



24

Bernard and Pierre Marie Francois, Vicomte de Pagès

Carte d'une partie de l'Amérique Séptentrionale: qui contient partie de la Nle. Espagne, et de la Louisiane pour servir aux voyages au tour du monde et vers les deux pôles faits par M. de Pagès; Benard direxit

Engraving (hand colored) on paper, 31 x 41 cm., from Pierre de Pagès, *Voyages autour du monde* (2 vols.; Paris: Moutard, 1782).

127/10 00563

Engraver or publishing agent Bernard probably directed the compilation of the map for Pagès' book based upon the author's recollections and available maps of Mexico. These probably included maps by Bellin and Bonne and, undoubtedly, Spanish scholar **Alzate y Ramirez's** 1768 map of New Spain, which had recently been published in Paris by the *Académie des Sciences*. The map here shows the route of Pagès' travels between 1767 and 1768: Leaving Santo Domingo (prior to which he had sailed from Rochefort, France), he went to New Orleans and to Natchitoches in Spanish L[ouisiana] by way of the Mississippi and Red Rivers. From there he crossed what is now Texas along the *Camino Real* (Old San Antonio Road) and entered into what is present Mexico at Laredo. The map places three missions – Concepción, San José, and La Espada – along the San Antonio River and the fort or presidio of La Bahia and missions around it along the Guadalupe. From Laredo Pagès passed through Monterrey, Saltillo, Charcas, San Luis Potosi, San Felipe (Guanajuato), Mexico City, Cuernavaca, and Chilpancingo before heading westward on across the Pacific from Acapulco.

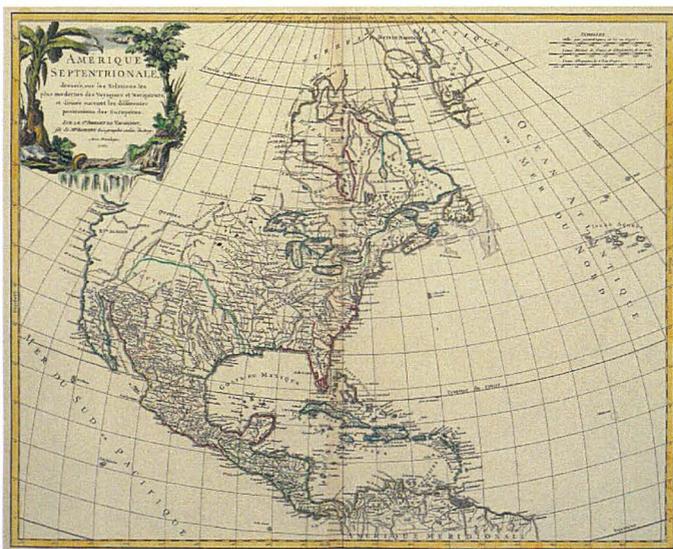
Gilles Robert de Vaugondy (1688-1766) and son Didier Robert de Vaugondy (1732-1786)

The Robert de Vaugondys played an important part in the French cartography of the Enlightenment. They were the inheritors of the Sanson tradition of mapmaking and particularly adept at making globes, maps, and atlases that were, as they advertised, both "*bel et utile*" (beautiful and useful). They counted among their clients King Louis XV, Madame de Pompadour, and many other members of the French nobility, bureaucracy, Académie des Sciences, and rising middle class. Like d'Anville and the Delisles, the Robert de Vaugondys carefully weighed their sources and did their best to distinguish between reality, conjecture, and falsehood in mapping. Their works gained an international following and were copied by a number of foreign cartographers.

The father Gilles was born in Paris, the son of a silk fabric maker. He may have received Jesuit training at the College of Louis le Grand, and by the early 1720s styled himself as a *geographe and professeur en mathématiques*. He became friends with Pierre Moullart-Sanson, grandson of the great French cartographer, mapseller, and publisher Nicolas Sanson. After Pierre's death in 1730, Gilles and two associates inherited much of the Sanson cartographic stock and business privileges and moved to the quai de l'Horloge – the same Paris street associated with many other French geographers. By 1734 Gilles was appointed *géographe du roi*, although it was not until 1737 that he began compiling and publishing his own original maps in addition to reissuing and updating the older Sanson material with more recent and accurate information.

Gilles' young son Didier joined him in the business, and together they compiled maps, atlases (with accompanying descriptions about how the maps were constructed), and globes throughout the 1740s, 50s, and early 60s. They regularly hired the Paris firm of Guillaume-Nicolas Delahaye (1727-1802) to engrave their maps. Didier authored books and articles on geography, geographical instruction, globes, and maps. Some of these appeared in Denis Diderot and Jean le Rond d'Alambert's famed *Encyclopédie* and in the *Journal des Sçavans of the Académie des Sciences*. In 1751 he too was appointed *géographe du roi*, and, after his father's death in 1766, continued the family business, and held the position of "Censeur royal" for geographic works from 1773 until 1787. He published a new atlas in 1778, but sold his map business to care for his ailing wife. By 1782, he had to abandon his house on the Quai de l'Horloge. He died in a much reduced financial condition in 1786 before completing his last major project, an eight-foot globe. His cartographic stock eventually passed to Charles François Delamarche (1740-1817).

See Mary Sponberg Pedley, *Bel et Utile: The Work of the Robert de Vaugondy Family of Mapmakers* (Tring, Herts, England: Map Collector Publications, 1992). Pedley, *Commerce of Cartography* (2005), p. 48. Petto, *When France Was King of Cartography* (2007), pp. 40, 41, 77, 80, 101, 111-112, 117, 123, 160-164, 183, 187; Godlewski, *Geography Unbound* (1999), p. 36.



25

25

Didier Robert de Vaugondy

Amérique Septentrionale dressée, sur les Relations les plus modernes des Voyageurs et Navigateurs, et divisée suivant les différentes possessions des Européens. Par le Sr. Robert de Vaugondy, fils de Mr. Robert Geographe ordin.' du Roy. Avec Privilege. 1750

Engraving with etching (hand colored) on paper, 47 x 57 cm. [Paris? : s.n.], 1750, probably from Gilles and Didier Robert de Vaugondy, *Atlas Universel* (Paris: Robert de Vaugondy and Antoine Boudet, 1757), plate 97. 64/10 240050

The Robert de Vaugondys hired others to engrave the cartouches for their maps. This one was possibly designed by Parisian engraver, draughtsman, and ornamentalist Pierre Philippe Choffard (1730-1809).

Pedley, *Bel et Utile* (1992), p. 210, cat. no. 448, state 1

26

Didier Robert de Vaugondy

Carte de la Californie: suivant I. la Carte manuscrite de l'Amérique de Mathieu Néron Pecci olen dressée à Florence en 1604, II. Sanson 1656, III. De l'Isle Amérique Sept. 1700, IV. le Pere Kino Jesuite en 1705, V. la Société des Jésuites en 1767

5 maps on 1 sheet ; 29 x 19 or smaller, on sheet 43 x 55 cm., from Jean-Baptiste-René Robinet, ed. *Supplément 5e.* to Denis Diderot, et al., eds., *Encyclopédie* [Paris : s.n., 1779]. 20/9 120019

Didier Robert de Vaugondy constructed this compilation of five maps on one sheet to show the discrepancies in the mapping of California. The sheet was one of several by Robert de Vaugondy to illustrate various geography-related articles written by Swiss geographer Samuel Engel in Jean-Baptiste-René Robinet's *Supplément* to Diderot and d'Alembert's *Encyclopédie*. Map I on this sheet, credited to Italian cosmographer Mathieu Neron Pecci and dated 1604, shows California as often mapped in the late sixteenth century. Map II reproduces the esteemed French cartographer Nicolas Sanson's depiction of California as an island in 1650 – a common error in his time and later. Map III shows a brilliant graphic solution adopted by the young Guillaume Delisle in 1700 to show that California's island status was not at all certain: he left areas blank, including a narrow opening in the northern coastline of the "Mer de Californie ou Vermeille" (Red or Sea of California). In Map IV Didier credits a 1705 version of Jesuit California missionary-explorer Father Eusebio Kino's famous map, and Map V reproduces a Jesuit map of 1767 based upon a map by another Jesuit missionary, Father Ferdinand Koncak. Imagine the perplexing job of the geographer/cartographer who was back in Europe trying to reconcile these confusing and often contradictory sources!

Bill Warren, "The 'Diderot' Maps," *The Portolan* 53 (Spring 2002): cover, 34-47; Alfred W. Newman, "Map 15," in Warren Heckrotte and Julie Sweetkind, eds., *California 49: Forty-nine Maps of California from the Sixteenth Century to the Present* (San Francisco : California Map Society, c1999).

Spanish Cartographers and the Borderlands

Spanish cartographers' contributions to the mapping of the Southwestern Borderlands during the eighteenth century were very great although at times little known and reluctant. With the important exception of Native Americans, Spain held prior claim above all other European powers to the entire Borderlands territory since the Entradas of the sixteenth century. Mapping remained an important tool in preserving and extending their rule there. Unfortunately, the spirit of Enlightenment learning was often seriously hampered by a system-wide traditional reluctance to share information about what Spanish authorities perceived as solely and rightfully theirs. Since their far-flung dominions were too vast for Spanish military resources to defend, Spanish authorities had originally determined to follow a policy of defense by secrecy. With an approach to geography that was similar to their mercantilist theory of economics, they believed that foreign powers were less likely to intrude on Spanish lands if only an elite few Spanish authorities understood their geographical extent and topography.

In the early 1700s, this Spanish policy of secrecy and royal censorship prevented the production and publication of decorative printed maps of their far-flung empire for public education and amusement (and for the use of foreign rivals, "pirates," and interlopers). Moreover, everything printed on the Americas had to pass royal censors or the Inquisitor General. Not surprisingly, as a result, far fewer maps were printed in Spain and her dominions because independent commercial mapmaking businesses could not thrive there as in England, the Netherlands, France, and elsewhere. In particular, Spanish *criollos* born in the Americas increasingly needed better geographic and cartographic knowledge if they were to solve problems, but they were powerless to do so if the only copies of important maps were located in Seville, Madrid, or Mexico City. Rudimentary maps and plans were occasionally printed by Mexico City engravers "with all the proper licenses," but such was the state of cartography in the middle of the eighteenth century that the reform-minded Spanish prime minister, Don Zenón de Somodevilla, Marqués de la Ensenada, complained:

"There are no accurate maps of the kingdom or its provinces; nobody knows how to engrave them, nor do we have any others than the imperfect ones produced in France and the Netherlands. Consequently, we do not know the true locations of towns or their distances, which is a shameful state of affairs..."²

While printed maps languished, the Spanish had excelled at producing practical survey maps, plans, and working charts in manuscript form for official uses such as aids to navigation, policy decisions, military and missionary activities. Here at least, in many cases, Spanish mapmakers were equal to or better than many of their contemporaries. In a system harking back to the sixteenth- and seventeenth-century days of the *Casa de Contratación* (when all maps of newly-discovered lands were regulated through the house of trade or commerce in Seville), the Spanish crown issued royal licenses to most mapmakers, whether *pilots* (since many maritime maps were constructed by experienced ship navigators), *cosmógrafos* (as Spanish geographers and astronomers were often called), or *ingenieros* (engineers, both civil and military).

Throughout the century the Spanish attempted to keep up with French Enlightenment scientific advances that impacted mapping. As early as 1711, they reformed military cartography by establishing the Royal Corps of Engineers in response to the *French Ingenieurs pour les camps et armées* established in 1691. At first most Spanish military engineers with cartographic skills who were sent to New Spain concentrated upon strengthening and enlarging fortifications or performing civil engineering tasks around more populated areas such as Mexico City. Soon, however, trained engineers such as Francisco Álvarez Barreiro, Nicolas Lafora, Don Joseph de Urrutia, and Miguel Costansó

² Marqués De La Ensenada, *Puntos de Gobierno*, 1748, cited in Antonio Rodríguez Villa, *Don Cenon De Somodevilla, Marqués De La Ensenada: Ensayo Biográfico, Formado Con Documentos En Su Major Parte Originales, Inéditos Y Desconsidos*. Madrid: Librería de M. Murillo, 1878, pp. 161-162. Translation from Pilar Chias and Tomas Abad, "The Peninsular War 1808-1814: French and Spanish Cartography of the Guadarrama Pass and El Escorial," in Elri Liebenberg, Imre Josef Demhardt, Soetkin Vervust, eds., *History of Military Cartography: 5th International Symposium of the ICA Commission on the History of Cartography*, 2014 (Switzerland: Springer Verlag, 2014), p. 267.

were sent northwards in various efforts to secure the frontier from foreign intruders and to protect Spanish settlements and allies from Indios Barbaros (Native American tribes that did not recognize Spanish authority).

Following the French example, Spanish cartography also benefitted from the reorganization of the Naval Ministry in 1714, and from the establishment of the Cadiz Academy for Naval Cadets in 1717. Between 1735 and 1744, two Spanish Naval officers, Jorge Juan and Antonio de Ulloa, participated in the French-led geodesic mission to South America. This cooperation led to advances in Spanish science. Under the leadership of the Marques de la Ensenada, who served in various state capacities including Prime Minister from 1742-1759, the Spanish government supported the training of cartographers, engravers, surveyors, astronomers, and other map-related professions. Funding limitations, however, meant that this support was restricted to a handful with the result that these enjoyed virtually a royal monopoly. This limited support continued under the reform-minded King Carlos III (1759-1788). The Spanish established Royal Observatories in Cadiz in 1753 and later in Madrid in 1790. The Spanish founded a Hydrographic Depository in 1789, the Geographic Cabinet of the Army in 1795, and a Directorate for Hydrographic Works in 1797. By the end of the century excellent Spanish maritime charts covered the Gulf of Mexico and the western coast of America.

Interestingly, some of the best maps emanating from Spanish-claimed territories in the eighteenth century came from Jesuit Missionaries such as Father Eusebio Kino and Fernando Consag who were not originally of Spanish origin but who operated under Spanish authority. They drew important maps of Baja California, Sonora, the Gulf of California, and other areas of the Southwest Borderlands. Since Jesuit training emphasized natural sciences, Jesuit-drawn maps tended to be more advanced than those by members of other religious orders, who, if they drew maps, tended to prefer decoration over geographic information. The Jesuit missionaries' maps and others slipped out of Spain into the hands of foreign cartographers who copied, printed, and published Spanish geographical discoveries and cartographic efforts – usually without any credit whatsoever. Ironically, the Jesuit information “leak” came to an abrupt end in 1769 when King Carlos III expelled the order, largely because he saw them as increasingly answering to no authority but the Pope.

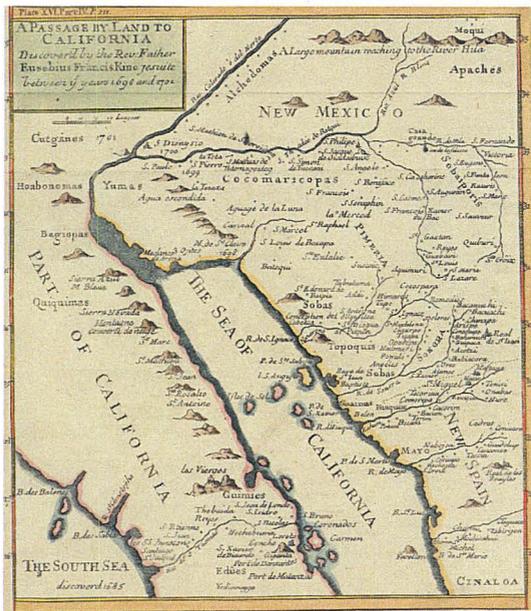
See Janet R. Fireman, *The Spanish Royal Corps of Engineers in the Western Borderlands: Instrument of Bourbon Reform 1764 to 1815* (Glendale, California: Arthur H. Clark Company, 1977); Michel Antochiw, “La Vision Total de Nueva Espana: Los Mapas Generales del Siglo XVIII,” in *México À Través de los Mapas*, ed. Hector Mendoza Vargas (Mexico: Instituto de Geografia, UNAM, 2000), pp. 71-88; See also W. Michael Mathes, “Spanish Maritime Charting of the Gulf of Mexico and the California Coast,” and David Buisseret, “Spanish Military Engineers in the New World before 1750,” and Dennis Reinhartz, “Spanish Military Mapping of the Northern Borderlands after 1750,” in Dennis Reinhartz and Gerald D. Saxon, eds., *Mapping and Empire: Soldier-Engineers on the Southwestern Frontier* (Austin: University of Texas Press, 2005).

Francis Eusebio Kino (1645-1711)

Father Kino was a Jesuit missionary, explorer, and mapmaker famous for his work in the northern New Spanish territories of Baja California and the Pimería Alta, which included Sonora and what is now southern Arizona. Born in Segno, Tirol, he received an education at Jesuit schools at Trent and Hall (near Innsbruck) where he excelled in science and mathematics. Joining the order of “the Company of Jesus” in 1665 in Landsberg, Bavaria, he pursued further studies at the Jesuit Universities of Ingolstadt and Munich where two of his favorite professors were the mathematician and cosmographer (cartographer) Adam Aigenler (1635-1673) and Heinrich Scherer (1628-1704), geographer, cartographer, engraver, mathematician, and author. Between 1670 and 1673, Kino taught literature back in Hall, then returned to Ingolstadt for more studies. There the Duke of Bavaria invited him to teach courses in mathematics and science. Kino became an ordained priest sometime around 1676-1677, and the next year attended a seminary at Oettingen. In hopes of becoming a missionary, he travelled in 1678 to Spain where various delays allowed him to study Spanish. Finally, in January 1681, he sailed for New Spain, arriving in Mexico City that summer. That year Kino's first book *Exposicion Astronomica* (a treatise on comets) appeared there with a comet chart by him that was engraved in Mexico City by Antonio Ysarti. Kino scholar Ernest J. Burrus has identified it as “the first elaborate astronomical chart to be printed in the Americas.”

From 1683 to 1685, Kino served on two colonizing expeditions to Baja California with Admiral Isidro de Atondo y Antillón as missionary and royal cosmographer (cartographer). Reassigned as a missionary to northern Sonora and present southern Arizona in 1687, Kino, in cooperation with other missionaries and Spanish military contingents, travelled extensively there among the Pima and neighboring tribes, founding and supporting several missions. After surviving a Pima uprising in 1695, he spent a month in Mexico City writing reports, accounts, and sharing his maps before returning to the Pimería. Originally believing that California was an island, Kino began to suspect otherwise by the late 1690s. By following the courses of the Gila and Colorado Rivers to the Gulf in his travels, he constructed one of the first maps to again correctly connect California to the mainland. After serving further years in the Pimería, Kino fell ill and died at Magdalena, Sonora.

Ernest J. Burrus, S.J., *Kino and the Cartography of Northwestern New Spain* (Tucson: Arizona Pioneers' Historical Society, 1965); Charles Polzer, S.J., *A Kino Guide: A Life of Eusebio Francis Kino, Arizona's First Pioneer and a Guide to His Missions and Monuments* (Tucson: Southwestern Mission Research Center, 1974); Raymond John Howgego, *Encyclopedia of Exploration to 1800* (Potts Point, Australia: Hordern House, 2003) p. 573; Dora Beale Polk, “Kino, Eusebio,” in David Buisseret, ed. *Oxford Companion to World Exploration* (Oxford University Press, in association with the Newberry Library, Chicago), pp. 437-439.



27

After Francis Eusebio Kino

A passage by land to California discovered by the Rev. Father Eusebius Francis Kino Jesuite between ye years 1698 and 1701

Engraving (hand colored) on paper, 24 x 20.5 cm.,
by Emanuel Bowen, from John Lockman, *Travels of the Jesuits*
(2 vols.; London: John Noon, 1743). 49/10 88-196

This early English copy of Father Eusebio Kino's 1701 map clearly shows the land connecting the Baja California peninsula at upper left. It also conveys the place names and locations of many of the Jesuit missionary's travels. In the upper right are the ruins of Casa Grande, Apaches, Moqui (Hopi villages), and the hills of "A large mountain reaching to the River Hila [Gila], which flows westward into the "Rio Colorado o' del Norte." Mission towns established and named by Kino, either in Christian or native names, include "St. Ignace" (San Ignacio), "S. Magdalena" (Magdalena), "San François Xavier du Bac" (San Xavier del Bac), "Cocospara" (Cocóspora), "Conception del Cabetca" (Caborca), "St. Gaetan" (Tumacácori, i.e., San Cayetano del Tumacacori), and "S. Cosme" (Tucsón, i.e., San Cosmé del Tucsón). In the lower part of the map is the portion of the Baja peninsula that Kino covered with Isidro Atondo's second expedition. From San Bruno on the coast of the Sea of California, Kino had travelled west across the mountains to reach the Pacific in 1685 (here labeled "The South Sea discoverd[sic.] 1685").

Kino's map appeared in print – apparently not by Spanish intent – but from the fact that a manuscript copy of his map sent from Mexico City made it into the hands of a French Jesuit, who had first published it in 1705 as an engraving by Charles Inselin in the popular mission magazine *Lettres Edifiantes* and the Jesuit scientific journal *Mémoires de Trévoux*. From there it was widely copied in contemporary engravings. This English copy still preserves some of the French from the original French printed copy such as "San François Xavier du Bac."

Ernest J. Burrus, *Kino and the Cartography of Northwestern New Spain* (Tucson: Arizona Pioneers' Historical Society, 1965), plates X and XI, reproduce the early printed version as well as the earliest extant Spanish version based upon the original manuscript map preserved in the Jesuit archives of Chantilly (near Paris); also see Bill Warren, "Mapmaker on a Mission: Father Kino and the Myth of Insular California," *Mercator's World* 7: 4 (July/August 2002): 24-29.

Francisco Álvarez Barreiro (active 1716-1729)

Little is known about this important Spanish military engineer who served in New Spain and Texas. He arrived in Mexico City in 1716 along with Don Baltasar de Zuñiga y Guzmán, Marqués de Valero y Duque de Arión, Viceroy of New Spain from 1716-1722. Nothing is known of Barreiro's training, but he was probably a veteran of the War of the Spanish Succession (1701-1714) and may have served alongside the closely-allied French Army engineers since the elaborate plans for Texas *presidios*, attributed here to him, resemble designs by the influential French military engineer Sébastien Le Prestre de Vauban (1633-1707). From 1717-1718, Barreiro accompanied the expedition into Texas, led by Martín de Alarcón, that established the presidio and settlement of San Antonio and resupplied the six missions of east Texas. Barreiro reported that he helped construct the chapel for Mission San Antonio de Valero. In 1720, he briefly returned to Spain, but he was soon back in Mexico.

Barreiro next accompanied Brigadier Pedro de Rivera's inspection of frontier posts from 1724-1728. They toured north from Mexico City to Chihuahua, then through Paso del Norte to Santa Fe, then down the Rio Grande and across the western Sierra Madre to Janos, then to Arispe in Sonora, south to Sinaloa, then back east across the mountains through Janos, Casas Grandes, and Chihuahua. They next headed into Texas, visiting San Antonio, La Bahia, and the coast, before heading south to Monterrey and back to Mexico City. All along the way they stopped regularly to give Barreiro a chance to conduct surveys, take notes, and draw maps. Eventually, he produced five manuscript maps of provinces today in the Archives of the Indies in Seville and a general map in the Hispanic Society of America. The British Library owns fine manuscript copies approximately dating from the time of the originals. The Spanish never published these maps during the eighteenth century.

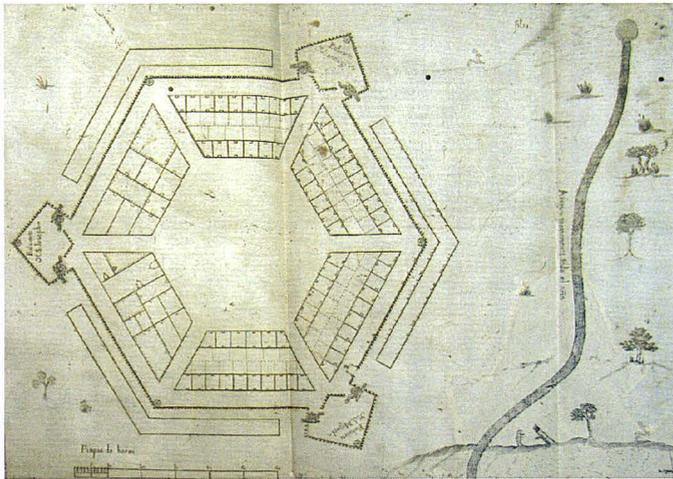
Handbook of Texas Online, Donald E. Chipman, "Alvarez Barreiro, Francisco," accessed September 10, 2016; Fireman, *The Spanish Royal Corps of Engineers in the Western Borderlands* (1977), pp. 49, 53-57; Henry R. Wagner, *The Spanish Southwest 1542-1794* (2 vols.; Albuquerque: Quivira Society, 1937), vol. 2, pp. 326-329; Jack Jackson, *Shooting the Sun* (1998), vol. 1, pp. 54-82, 237-242.

Francisco Sylverio de Sotomayor (ca.1699-ca.1763)

Working in Mexico City between 1721 and 1763, copperplate and woodcut engraver Francisco Sylverio de Sotomayor produced over 1,245 numbered engravings, according to at least one source. Among these were four engraved plans of proposed Spanish fortifications for the printed version of Juan Antonio de la Peña's *Derrotero de la expedicion en la provincia de los Texas...*, published in Mexico City in 1722. He is also known to have engraved in 1746 a map of New Spain by Joseph Antonio de Villaseñor y Sanchez. In addition to book illustrations, Francisco Sylverio produced devotional images and heraldic devices with the assistance of his son Juan Manuel Sylverio Sotomayor who operated a roller press. Their shop was located on the *Calle de las Escalerillas* (today the *Calle de la República de Guatemala*), located just behind the city's cathedral. From there they had an easy walk to the typographers and publishers they contracted with on the *Calle de Tacuba*, located just down their street. In 1731, Francisco received a license from Viceroy Juan de Acuña to produce block-cut engraved playing cards at the Royal Playing Card Factory. Sylverio was born in Mexico City ca.1699, according to archival records connected to his marriage to Anna Martínez with whom he had five children. By the time of the census of 1753, he was fifty-four, his children were between the ages of seven and twenty, and the family

had a *mestizo* maid, indicative of some prosperity. By 1762, when his son Juan Manuel married, Sylverio had re-married to Ana Ruiz Fonseca, and together they went to live with the family of his new daughter-in-law Maria Rosalia Guerrero.

Kelly Donahue-Wallace, "Printmakers in Eighteenth-Century Mexico City: Francisco Sylverio, Jose Mariano Navarro, Jose Benito Ortuno, and Manuel Galicia de Villavicencio," *Anales del Instituto de Investigaciones Esteticas* 78 (2001): 221-234; Manuel Romero de Terreros, *Gabados y grabadores en la Nueva España* (Mexico City: Ediciones Arte Mexicano, 1949), p. 531.



28

Francisco Alvarez Barreiro (attrib.)

Plan del Presidio de N.S. del Pilar de los Adays, en la Frontera de los Texas. Nuevo Reyno de Philipinas, cuya Fortificacion demarco, y deixo executada el Marques de San Miguel de Aguayo, en primero de Noviembre de mill setecientos y veinte y un años; no aviendo dado la proporcion regular, que correspondia al Capital del semidiametro, y flancos de los Baluartes....

Etching on paper, 29.5 x 41 cm., by Francisco Sylverio de Sotomayor, in Juan Antonio de la Peña, *Derrotero de la expedicion en la provincia de los Texas... que de orden del excmo. señor marqués de Valero, vi-rey, y capitan general de esta Nueva-España passa à executar el muy illustre señor d. Joseph de Azlor, cavallero mesnadero del reyno de Aragõ, marques de S. Miguel de Aguayo, governador, y capitan general de dichas provincias de Texas, Nuevas Philipinas, y de esta de Coaguila, nuevo reyno de Estremadura*, Con licencia en Mexico: En la Imprenta nueva plantiniana de Juan Francisco de Ortega Bonilla; en la calle de Tacuba, año de 1722.

This plan of a Spanish fort or presidio is one of four that appeared in the printed account of the Aguayo Expedition into Texas of 1721, written by the expedition's Chaplain Major, Juan Antonio de la Peña, and published in Mexico City in 1722. The identity of the designer, draftsman, or military engineer for the original plans is not known for certain, but it or a copy of it still exists in the Archivo General de Indias in Seville. Jack Jackson speculated that Spanish military engineer Francisco Alvarez Barreiro might have drawn them. The engraving was the work of engraver Francisco Sylverio de Sotomayor of Mexico City. Produced with a scale in "baras" (*varas*), the hexagonal fort has three bastions named for Saints Joseph, Michael (*Miguel*), and James (*Santiago*) which were intended to mount two cannons each. The plan also shows ditches (outside the wooden

palisades) and ramparts (within) with doorways and other openings. An "arroyo permanente todo el año" (creek with year-round water) appears at right along with a few whimsical representations of trees, a bear, and a deer.

The 1721 Spanish expedition led by José de Azlor y Virto de Vera, Marqués de San Miguel de Aguayo, answered an earlier French incursion into Spanish territory in what is now western Louisiana in 1719 during the War of the Quadruple Alliance (Britain, France, Austria, and the Dutch vs. Spain in 1718-1720). In 1719, the French had attacked Mission San Miguel at Los Adaes (est. 1716) which the Spanish had then abandoned. The Marqués de Aguayo, a wealthy Spanish landowner and governor of Coahuila, then returned to the Los Adaes area at the head of a combined force of Spanish soldiers, missionaries, civilians, and Indians. They reestablished the mission and built a fort or presidio out of wood and earth, but not necessarily according to the original plans included here. Located near the eastern end of the Camino Real, the isolated mission and fort at Los Adaes faced the French Fort St. Jean Baptiste near Natchitoches on the Red River and served as the easternmost outpost of the Spanish province of Texas until 1772 when the mission and fort were once again abandoned after France had ceded western Louisiane (*Louisiane*) to her Spanish ally following their defeat by Britain in the Seven Years War (1756-63).

See Richard G. Santos, *Aguayo Expedition into Texas/1721: An Annotated Translation of the Five Versions of the Diary Kept by Br. Juan Antonio de la Peña* (Austin, Texas: Jenkins Publishing Co., 1981); James L. McCorkle, Jr., "Los Adaes," *Handbook of Texas Online*, accessed June 27, 2016; Jackson, *Shooting the Sun* (1998), vol. 1, pp. 58-62.

Tomás López y Vargas Machuca (1731-1802)

Sometimes called "Spain's first modern cartographer," Tomás López was born in Madrid to parents originally from Toledo. He studied math, grammar, and rhetoric at the Colegio Imperial and took drawing at the famous *Real Academia de Bellas Artes de San Fernando* in Madrid. Interested in geography, López worked on a topographic survey near El Pardo outside Madrid with Jorge Juan y Santacilla (1713-1773) and Antonio de Ulloa (1716-1795), two Spanish naval officer-scientists who had recently returned from South America as members of the French Geodesic Mission – the first major international scientific expedition. At the suggestion of the famous duo, Spanish Prime Minister Don Zenón de Somodevilla, Marqués de la Ensenada, decided to send López to Paris in 1752 to learn how to engrave maps, ornamentation, and architectural plans along with Juan de la Cruz Cano and other students. The Marqués de la Ensenada, in recognizing Spain's need for better maps, had decided to use royal funds to facilitate the training of promising young Spanish mapmakers, engineer-scientists, surveyors, engravers, and others.

While in Paris, López was apprenticed to an engraver and printseller named Guillaume, whose daughter he married. López studied mathematics at Mazarin College under the abbé de La Caille, a member of the Académie des Sciences who had studied with Cassini and had accompanied a scientific expedition to the Cape of Good Hope to observe the southern stars. López and Cruz Cano also gained valuable skills and knowledge at the workshop of the great French cartographer d'Anville and while there probably made the acquaintance of the engraver Guillaume Dellahaye. López and Cruz Cano soon put their new cartographic and engraving skills to practical use collaborating on maps of the Americas (1755 and 1757) which they dedicated to Ferdinand VI. Also in 1757, López produced a small atlas of Spain dedicated to the Spanish ambassador in Paris, D.

Jaime Masones de Lima y Soto Mayor. With this publication, for the first time López referred to himself as “*Pensionista de S.M. en la Corte de Paris*” (Pensioner of His Majesty in the Court of Paris).

In 1760, López returned to Madrid, where he continued to receive an annual royal pension and set up a shop. His addresses were “Calle Ancha frente el monasterio de S. Bernardo,” and “*en casa del autor calle del Ave Maria*,” and “*esquina de la del Olmo en la casa nueva*.” There he produced single maps for an atlas of Spain and Portugal and in 1772 was named *Geógrafo de los Dominios de Su Majestad* (geographer to the domains of the king). He began engraving a multi-sheet map of Spain based upon an unfinished manuscript map on 36 sheets by Jesuits Carlos Martinez and Claudio de la Vega that had been commissioned by the Marqués de Ensenada back in 1739-1743. Produced by compilation rather than verified by careful surveys, López’s maps of Spain were, however, of varying scales, had two separate meridians (sometimes Pic de Teyde, sometimes Madrid), and lacked the precision of the Cassini model that the Marqués had hoped to imitate.

During the last quarter of the century, López engraved numerous maps and plans of Spanish dominions in the Americas and published *Principios geograficos aplicados al uso de los mapas* (Madrid: printed by Joachim Ibarra, 1775, with a second volume appearing in 1782). In 1795, Spanish Prime Minister Manuel Godoy tried to establish a geographic office under the auspices of the Secretary of State, which López and his sons Juan and Tomas Mauricio were expected to organize; however, this office had not opened by 1799. Nonetheless, López for many years enjoyed virtually a monopoly on printing maps produced for the state, with the exception of maritime charts. He was successful financially, occupying a series of increasingly grander Madrid locations, beginning with a modest address in the Lavapiés neighborhood and ending up at an address near the Puerta del Sol. He was a member of various societies and served as the treasurer for the Academy of History from 1796. When López died in 1802, his sons continued their geographic work and in 1810 published an atlas of their father’s maps.

Gabriel Marcel, *Le Geographe Thomas Lopez et son Oeuvre: Essai de Biographie et de Cartographie* (Paris: Bibliotheque Nationale de France, Hachette Livre reprint of 2e Edition Corrigeé Et Augmentée; Madrid, 1908); A. Lopez Gomez, “El Método Cartográfico de Tomás López: el Interrogatorio y los Mapas de España” *Estudios Geográficos* 57(1996)



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29

Thomas López y Vargas Machuca and Juan de la Cruz Cano y Olmedilla

Mapa marítimo del Golfo de Mexico e islas de la America, para el uso de los navegantes en esta parte del mundo, construido sobre las mexores memorias, y observaciones astronomicas de longitudes, y latitudes. Dedicado a la Catholica Magestad de Don Fernando VI Rey de España, y de las Yndias, por sus mas rendidos, y fieles vasallos, Thomas Lopez, y Juan de la Cruz. Año de 1755

Engraving with etching on two sheets, each approximately 58 x 42 cm. (Paris, 1755).

107/6 2000-99

This two-sheet map of the Gulf and Caribbean, dedicated to the King of Spain Fernando VI, was one of the first maps produced by López along with his fellow Spanish student expatriate in Paris, Juan de la Cruz Cano y Olmedilla (1734-1790). European knowledge of the coastlines of the Caribbean islands, Central America, and southern North America was extensive by the eighteenth century. Between 1783 and 1786, the Gulf was resurveyed in a systematic manner by the primer piloto José de Hevia.

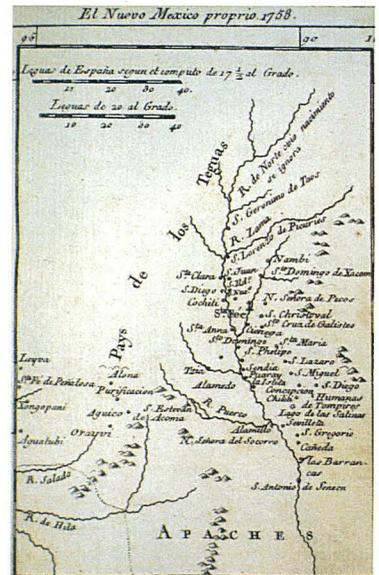
30

Tomás López y Vargas Machuca *El Nuevo Mexico proprio 1758*

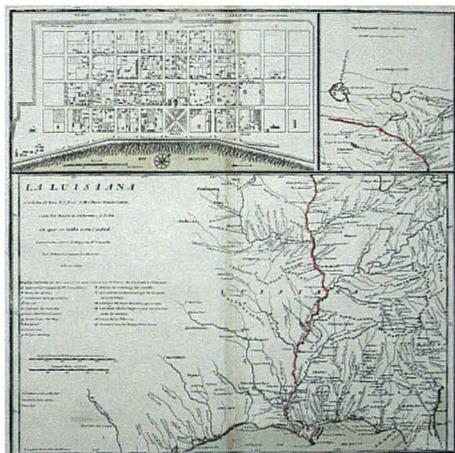
Engraving and etching on paper (13 x 9 cm.), in López, *Atlas Geographico de la America Septentrional y Meridional* (Paris and Madrid: Antonio Sanz, 1758), opp. p. 16.

G1540 .L6 1758

Lopez’ tiny atlas includes this map of New Mexico along with a general map of the Americas, regional maps showing the provinces of Mexico, Mechoacan, Panuco, Yucatan, Tabasco, Guaxaca, Tlascala, Guadalajara, Xalisco, Chiametlan, Zacatecas, Nueva Vizcaya, Culucan, Cinaloa, California, Nuevo Reyno de Leon, Nueva Navarra, Pimeria, Sonora, Hiaqui, Mexico City, Cuba, and numerous regional maps and city plans of South America. (Unfortunately, there was no regional map showing the area of Texas.) The atlas bears a dedication to “la



la Catholica Sacra Real Magestad de el Rey Nuestro Señor Don Fernando VI” by his “*mas humilde Vasallo Thomas Lopez, Pensionista de S.M. en la Corte de Paris Ano de 1758*” along with an engraved portrait of Fernando VI.



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Tomas Lopez y Vargas Machuca

La Luisiana Cedida al Rei N. S. por S. M. Christianisima, con la Nueva Orleans...

Engraving and etching with stipple (with outline coloring) on paper, 40.5 x 40 cm. (Madrid, 1762) 82/2 2016-155

As a result of the Seven Years' War of 1756-1763, Spain's alliance with France made Spanish holdings around the world targets of the opposing British who took Cuba, Florida, Minorca, and the Philippines. The French attempted to compensate their Spanish allies for their losses at the secret Treaty of Fontainebleau in 1762 by ceding to Spain all land known under the name Louisiana as well as the town of New Orleans. This Spanish map, copied from the French cartographer D'Anville, represented the best information concerning their newly acquired possessions available to the Spanish at the time. Separately published, the map translated references from D'Anville's French maps into Spanish and included a map of Louisiana, a plan of New Orleans, and a small inset intended to show the sources of the Mississippi.

José Antonio Alzate y Ramirez (1739-1799)



D. Jose Antonio Alzate
19th-century lithograph after
a painted portrait, location unknown.

A scientist-scholar and proponent of the Mexican Enlightenment, Alzate made important contributions to the mapping and geography of New Spain in addition to medicine, botany, mathematics, and astronomy. He was born to wealthy parents in the town of Ozumba, subsequently renamed "Ozumba de Alzate" in his honor and located approximately thirty-eight miles southeast from the center of Mexico City in the present state of Mexico. A distant relative of Sor Juana Inez de la Cruz, Alzate attended the prestigious Jesuit

school of San Ildefonso in Mexico City and he obtained a bachelor of theology degree from the Royal Pontifical University of Mexico in 1756. Later that year he entered the priesthood. Like the French philosophes, Alzate's interests were encyclopedic, and he was eager to spread the practical benefits of science to his fellow countrymen in New Spain. Around 1767 he compiled one of the first important maps of New Spain by a native scholar since that compiled almost one hundred years

earlier in 1680 by the Mexican-born and Jesuit-trained polymath Carlos de Sigüenza y Góngora (1645-1700). The French Royal Academy of Sciences in Paris admitted Alzate as an associate member, publishing in 1768 his map of New Spain as well as his astronomical observations on a transit of Venus. He edited and authored the short-lived weekly scientific journal called *Diario literario* (1768), another journal *Asuntos varios sobre ciencias y artes* (1772-73), and finally his most successful periodical *Gaceta de literatura* (1788-1797). Subjects covered included medicine, applied science, agronomy, general science, mining, botany, geography, chemistry, and history.

Sociedad Bascongada. Considered by many as the father of modern natural science in Mexico, today's *Academia Nacional de Ciencias* traces its origins to the *Sociedad Científica Antonio Alzate*, which was named in his honor when established back in 1884. The society's journal is still called *Memorias de la Academia nacional de ciencias "Antonio Alzate."*

"Alzate Y Ramirez, José Antonio." *Complete Dictionary of Scientific Biography*. Vol. 1. Detroit: Charles Scribner's Sons, 2008. 127. *Gale Virtual Reference Library*. Web. June 29, June 2016; W. F. Cody, "An Index to the Periodicals Published by Jose Antonio Alzate y Ramirez," *The Hispanic American Historical Review* 33: 3(August 1953): 442-475. Jackson, *Shooting the Sun*, vol. 1, pp. 67, 131-140, 253-57, 132, 134, 136, 35-36, 76-77, 121, 151-2, 160, 184, 242, 302, 344, 361, 452, 459, 523.

José Mariano Navarro (1742-ca.1809)

Navarro was a copperplate engraver and printer in Mexico City, active from ca.1764 to ca.1809. According to biographers, Navarro produced at least 70 single-leaf engravings and book illustrations. The first of his two known shops was located on the *Calle de Manrique* and the other beginning sometime before 1769 on the *Calle de los Donceles*. He married Maria Josepha Ferrer y Espejo in 1762 at the *Sagrario Metropolitano* in Mexico City. Their marriage document stated that the bride was from the city of Puebla, and the groom was from the town of Amosoque (apparently Amozoc de Mota, located just east of Puebla). By 1771, they were living behind his workshop on the *Calle de los Donceles* in front of the Royal Mint in a house owned by the Vicario General of the Cathedral. This location was ideal for conducting business with the elite of the city, and there Navarro was known to have associated with at least one other engraver – Juan José Nájera – who was probably an assistant.

Donahue-Wallace, "Printmakers in Eighteenth-Century Mexico City..." *Anales del Instituto de Investigaciones Esteticas* 78 (2001): 224-229; Manuel Romero de Terreros, *Gabados y grabadores en la Nueva España* (Mexico City: Ediciones Arte Mexicano, 1949), p. 516-518.



Image courtesy DeGolyer Library, SMU, Dallas.

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Antonio de Alzate y Ramirez

Plano de la Nueva España: en que se señalan los viages que hizo el Capitan Hernan Cortes assi antes como despues de conquistado el Imperio Mexicano / dispuesto por Dn. Jph. Anto. de Alzate y Ramirez, año de 1769

Engraving on paper, 32.5 x 42.5 cm., by Juan Antonio Navarro, from Francisco Antonio de Lorenzana, *Historia de Nueva-España* (México City: printed by Joseph Antonio de Hoyal, 1770). 18/7 89-678

Working in Mexico City, Alzate prepared a reduced version of his 1767, or rather updated 1768, map of New Spain to serve as an illustration for Mexico City Archbishop Francisco Antonio de Lorenzana's history of New Spain. It is possible that Alzate, the engraver **Juan Antonio Navarro**, and perhaps even Archbishop Lorenzana, met to discuss its production. Alzate's maps were the first general printed maps of New Spain to refer to the province of "Texas." Alzate based his representation of the northern areas on a manuscript general map by Spanish Army military engineer Francisco Alvarez Barreiro. The latter had accompanied expeditions with Governor Martín de Alarcón in Texas (1717-1722) and Brigadier General Pedro de Rivera throughout northern New Spain (1724-1728). For the southern portion Alzate relied upon Sigüenza y Góngora's 1691 map of New Spain.

As in Alzate's larger and later versions of this map, the reduced map here repeats the same general cartographic shapes as well as the erroneous depiction of Texas' rivers as flowing southward instead of southeasterly (he had actually had depicted their directions better on his first attempt in 1767); however, while the reduced version omits many of the details, it adds the routes used by Cortez and his captains in their conquest of Mexico. In 1767, Alzate had dedicated his larger map of New Spain to the Archbishop, and he sent a similar map to the French Royal Academy of Sciences in Paris in 1768. Alzate was soon admitted as a member of the prestigious French Royal Academy of Sciences, an honor then seldom conveyed upon a colonial. His large maps were engraved and published in Paris by **Philippe Buache** and also in Madrid, probably by the Spanish engraver/cartographer **Tomás López y Vargas Machuca**, for the French Academy.

Jack Jackson, *Shooting the Sun* (1998), vol. 1, pp. 131-139; Dorothy Sloan Auction Number 23 (), item no. 226; Martin, James C. and Martin, Robert Sidney. *Maps of Texas and the Southwest, 1513-1900* (Austin: Texas State Historical Association, 1999, first published in 1984), p. 100, plate 20; Martín Meras, *Cartografía Marítima Hispana: La Imagen de América*, pp. 195-196; Michel Antochiw, "La Vision Total de Nueva España: Los Mapas Generales del Siglo XVIII," in *México À Través de los Mapas*, ed. Hector Mendoza Vargas (Mexico: Instituto de Geografía, UNAM, 2000), pp. 71-88. The 1767 manuscript version dedicated to Archbishop Lorenzana is today in the Museo Naval in Madrid. Oddly, on that manuscript map, Texas' rivers run truer to their actual southeast directional course rather than flowing generally south as seen on most later versions of Alzate's maps. Also, part of the hypothetical "Sea of the West" appears to the north of the Southwestern Borderlands and there is an inset of the Delisle-Buache map. Another manuscript map by Alzate, dated 1772, resides in the Museo Naval. It credits Sigüenza y Góngora and the engineer Barreiro. See Jose Ignacio Echeagaray, ed., *Cartografía Novohispana* (Mexico City: San Angel Ediciones, S.A., 1980), plates 3 and 4. Interestingly, Alexander von Humboldt later found a copy of the 1772 Alzate map in the archives of Mexico City, but considered it "very bad," and considered Alzate's published map of 1768 basically a copy of Sigüenza y Góngora's map. See Jackson, *Shooting the Sun*, vol. 1, p. 160; Wheat, *Mapping the Transmississippi West*, Vol. 1, pp. 87, 218, no. 149.

Fray Joseph de Haro (active ca. 1756-ca.1770)



Virtually nothing is known about the Franciscan cleric Fray Joseph (or José) de Haro (sometimes spelled Aro) credited as the person who commissioned the decorative manuscript map of the province of Nuevo Santander shown below. A certain Francisco Joseph de Haro served as one of two scribes on an inspection of the new colony of Santander commanded by Spanish Army dragoon Captain José Tienda de Cuervo in 1757. The engraved image of a cleric which is attached to the map by a ribbon was probably added by a later owner or dealer and almost certainly not originally intended as a portrait of Haro.



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Joseph de Haro (?)

Este Mapa comprende todas las billas y lugares de Espanoles haci como las Misiones de Indios y Presidios existentes en la Provincia Santander...

Watercolor and tempera on vellum, 28.5 x 39 cm.

[Mexico or New Spain, after 1770] 50/1 86-255

The decorative manuscript map of the Province of Santander might have been a personal souvenir or commemorative rendering of a province traversed or administered by the Franciscan friar Joseph de Haro, who may have been the map's original owner and possibly its creator. The map's inscription has been translated: "This map comprises all the villages and places of the Spaniards as well as the missions for the Indians and the presidios existing in the province of Nuevo Santander from the best knowledge about the same. It was surveyed and drawn under the superior orders of Fray José de Haro of the order of Saint Francis." As already stated, on an earlier 1757 inspection of the new colony of Santander commanded by Spanish Army dragoon Captain José Tienda de Cuervo, a "Francisco Joseph de Haro" had served as a scribe. Although engineer Lieutenant Agustín López de la Cámara Alta also served with Tienda's expedition, scholars agree he did not execute the Haro map based upon a comparison with a copy of López's map for Tienda's expedition in the British Library. Haro's map, on the other hand, is as full of inaccuracies and distortions as it is decorative. For example, the map shows the Nueces an impossibly short distance from the Rio Grande,

suggesting that as far as the map's creator was concerned, aesthetics mattered far more than accuracy. Curious also, as scholars have noted, the Haro map must date after 1770 since it includes the "new" villages of Cruillas and San Carlos (both established in 1760) as well as Villa Croix (established in 1770).

Dennis Reinhartz, "Spanish Military Mapping of the Northern Borderlands after 1750," in Reinhartz and Gerald D. Saxon, eds., *Mapping and Empire: Soldier-Engineers on the Southwestern Frontier* (Austin: University of Texas Press, 2005), pp. Dennis Reinhartz, "Maps from Inspection of the Northern Frontier of New Spain in the Second Half of the Eighteenth Century" in *Cartographica* 3-4 (Autumn/Winter 1998): 89-97; Dennis Reinhartz, "Two Manuscript Maps of Nuevo Santander in Northern New Spain from the Eighteenth Century" in Karen S. Cook, ed., *Images and Icons of the New World: Essays in American Cartography* (London: The British Library, 1996), pp. 55-65; Jack Jackson, *Shooting the Sun* (1998) vol. 1, pp. 188, 269.

Luis Bertucat (1739-1793)

A native of France, Bertucat studied mathematics and civil military architecture at the *École Royale* in Paris and briefly pursued further education in Italy as a sublieutenant. Hoping to join a scientific corps, he traveled to Spain in 1763 and taught at the Royal School of San Fernando in Madrid as an *académico de mérito* before immigrating to the Americas. He reportedly served three years as a volunteer engineer in Havana, Cuba and, by May 1766, had enlisted as a lieutenant in the Luyano Militia. In Cuba, Bertucat attracted the notice of King Carlos III's newly appointed Commandant General of the *Provincias Internas*, Brigadier Teodoro de Croix, who was on his way to Mexico. Appreciating Bertucat's skills, Croix appointed him a lieutenant in the Arispe Provincial Dragoons stationed in Sonora on the northern frontier of the *Provincias Internas*. Bertucat responded by devising a type of body armor to shield against Indian arrows and was granted a patent and leave to develop the idea. Upon returning to Mexico, Bertucat found someone to manufacture a few examples and returned to his unit with them. Croix adopted them for his bodyguard. Bertucat next accompanied Croix on his 1777-78 inspection tour from Durango to San Antonio de Bejar to Chihuahua and back. After this western service he spent several years engaged in various engineering tasks in Spanish Louisiana and Florida. He commanded posts at Balize near the mouth of the Mississippi and at San Marcos de Apalache on the west Florida coast near present Tallahassee. Luis Bertucat and an aide reportedly drowned in a hurricane in 1793.

Janet R. Fireman, *The Spanish Royal Corps of Engineers in the Western Borderlands: Instrument of Bourbon Reform, 1764-1815* (Glendale, California: Arthur H. Clark Company, 1977), pp. 141-145. The Archivo General de Indias (AGI) has a number of maps and plans drawn by Bertucat. "Adversaries in 1791," *Florida Historical Quarterly* 49:1 (July 1970): 49-62, accessed March 31, 2016; Luis Navarro Garcia, Jose de Galvez, pp. 404-405; Jackson, *Shooting the Sun*, vol. 1, 163-168, 182, 266-267.

Juan Agustín Morfi (active ca.1755 until 1783)

A native of the province of Asturias, Spain, and possibly of Irish ancestry, Morfi travelled to America in 1755 or 1756 and joined the Franciscan order at Santo Evangelio in Mexico City in 1761. His age was not recorded. He taught theology for several years at the Franciscan *Colegio de Santa Cruz de Tlaltelolco* and later at the principal Franciscan monastery in Mexico, the *Convento Grande de San Francisco*. He developed a reputation as a gifted orator and in 1772 gave the principal sermon at a public festival in honor of the Virgin of Guadalupe. In 1777-1778, he served as chaplain and diarist on the inspection tour of Brigadier Teodoro de Croix, Commandant General of the *Provincias Internas*. All along the way Morfi collected

geographical, social, economic, and historical information as well as copies of maps and plans from local archives before he separated from the group at Las Cruces on the border between Coahuila and Nueva Vizcaya, where his diary ends on February 24, 1778. He soon returned to Mexico City where he compiled his notes and materials on Texas into a manuscript titled "*Memorias para la Historia de Texas*" and set about writing his "*Historia de Texas*," which was still incomplete at his death in 1783.

Fray Juan Agustin Morfi, *History of Texas 1673-1779*, translated, with biographical introduction and annotations by Carlos Eduardo Castañeda (Albuquerque: Quivira Society, 1935), pp. 15-23; *Handbook of Texas Online*, "Morfi, Juan Agustin," accessed September 24, 2016,

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Juan Agustin Morfi (?) after Luis Bertucat

Derrotero: hecho por el Comandante General Cavallero de Croix por las provincias de su cargo desde la ciudad de Durango hasta la villa de Chihuahua, formado sobre las longitudes del Ingeniero Dn. Miguel Costanso y las latitudes de Dn. Nicolas Lafora el año 1778

Ink, watercolor, gouache, and graphite on paper, 54 x 56 cm.
[Mexico], after 1778.

119 85-26

This manuscript map has been attributed to Father Juan Agustin Morfi, chaplain of Brigadier Teodoro de Croix's inspection tour. It is best described as an old, hand-drawn copy of a map that is located in the Archivo General de Indias (AGI), Seville. The latter was drawn and signed by the expedition's engineer Luis Bertuca. Both maps outline the route that Brigadier Teodoro de Croix's inspection tour took from the city of Durango through present northern Mexico to the province of Texas and back. The route took them on a loop around the "*Bolson de Mapimi*" – an internal drainage basin shared by the present Mexican states of Durango, Coahuila, Chihuahua, and Zacatecas. Numbering identifies the sequence of the tour, and a key at the bottom names the sites inspected. Another key at bottom right denotes symbols for cities with bishoprics, villages, pueblos, haciendas, ranchos, missions, rivers, watering holes, camps, mines and other features noted on the map. Morfi's notes and descriptions compliment the maps, but the engineer was the man with the skill to construct it.

There are interesting differences between the UTA copy and the AGI map. The compass rose on the AGI map has a *fleur-de-lis* at the top that could be Bertucat's subtle reference to Croix's and his own French origins, while the UTA map's compass rose is pierced by an arrow. The UTA map's cartouche is also similar but not identical and obviously drawn by a less sophisticated draftsman. The map may have once belonged to Father Morfi, who perhaps copied Bertucat's map himself or had someone else copy it for him. Morfi and the engineer must have worked closely together to document their tour. The cleric was known to collect maps, and Croix once requested that Morfi comment upon a general map of the area that he loaned the Franciscan. Given the eighteenth-century Spanish aversion to map publication, a hand-drawn copy was perhaps the best solution for a member of the expedition who wanted a reference map of his own.

Dennis Reinhartz, "Spanish Military Mapping after 1750," in Reinhartz and Saxon, eds., *Mapping and Empire: Soldier-Engineers on the Southwestern Frontier* (2005), pp. Jack Jackson, *Shooting the Sun*, vol. 1, pp. 30, 126, 167-68, 178, 181-82, 265-67, 294, 297. On p. 167, plate 46, Jackson reproduces Bertucat's original map in the Archivo General de Indias, Seville.

British Cartography and the Borderlands

Although Great Britain, like France, was a leader in the European Enlightenment, British cartography lagged behind the French at the beginning of the century as did their geographic knowledge of North America's Southwestern Borderlands. At least one critic lamented that British geography and mapmaking had fallen entirely into the hands of engravers, who copied each other indiscriminately, and that those who happened to obtain original material jealously concealed it from their rivals.³ British mapmakers complained about the imperialistic claims and exaggerations on French maps but went right ahead copying French maps since they recognized they were the best available. The British Colonies were hemmed in on the east coast but were eager to expand west, and although they shared a border with Spanish Florida, they were separated from New Spain by miles and miles of French-claimed wilderness territory. With new advances in scientific instruments, British surveying methods improved throughout the century but with no way to access Spanish and French-held territories other than along the coasts, British mapmakers were seriously limited with what they could do. Mercantile theories of economics prevented free trade in times of peace, but the rival European nations were often at war with each other anyway. The century's wars drove cartographic efforts and the quest for geographic knowledge. Often to obtain such geographical information about New Spain or New France, British mapmakers resorted to copying foreign, usually French, printed maps. British cartographers and spies would purchase, steal, or copy what maps they could. On several occasions, the British had the good fortune to capture an enemy ship that was carrying "top secret" maps.

As cartographic historians Mary Pedley, Lawrence Worms, and others have demonstrated, British copperplate engravers controlled the nation's map market, and British cartographers generally rose from the trades classes. British mapmakers, mapdealers, and map publishers learned their skills on the job, often serving an apprenticeship through a London livery company such as the Merchant Taylors or Stationers' Company. Sometimes they came from a scientific instrument-making background. Rarely did they have a combined formal education in both the sciences and the humanities. They seldom wrote about geography or even a justificatory *mémoire* to explain their maps' sources but instead might annotate their maps with a bit of text on the map itself that explained their sources. They often had to learn geography, astronomy, mathematics, and other skills at their own expense at private academies, charity schools, or from tutors. British institutional support for cartography was generally weaker than in France. While there were numerous *geographes du roi* in France, there was only one *Geographer to the King* in England.

Despite the weaker state of British cartography, there were institutions similar to those in France that had an interest in cartography. The establishment of the Royal Society in London in 1660 preceded the founding of the French Académie des Sciences in Paris (1666); however, few British mapmakers were members, and the Society's journal *Philosophical Transactions* published only two map-related articles during the entire eighteenth century while the comparable French publication published monthly map reviews during that period and counted several *geographes du roi* among its members. Scientific interests flourished in both London and Paris along with engravers, printers, and publishers to support them. In 1714, the British government formed a Board of Longitude to administer a scheme to offer prizes to encourage innovators to solve the problem of determining longitude at sea. Cartographic and surveying skills were taught or promoted by the Royal Navy, by the Royal Army's Corps of Engineers, established in 1716; at the Royal Naval Academy at Portsmouth, established in 1733; at the Royal Military Academy at Woolwich, established in 1741, the Royal Observatory at Greenwich (1675), and the Ordinance Drawing Room at the Tower of London, dating back to Tudor times.

As in other Enlightenment countries, public demand for cartographic materials was high. The British produced maps for periodicals, history, military, and travel books in addition to globes, wall maps, and charts. French Huguenot refugees who came to London found employment in the map trade and brought with them, not only French styles,

³ Braddock Mead, also known as John Green (ca.1685-1757) as paraphrased by G. R. Crone, *Maps and Their Makers: An Introduction to the History of Cartography* 5th edition (Folkestone, Kent, England: Wm Dawson & Son, Ltd., 1978), p. 101. See also G.R. Crone, "John Green. Notes on a neglected Eighteenth Century Geographer and Cartographer," *Imago Mundi* 6 (1949): 85-91.

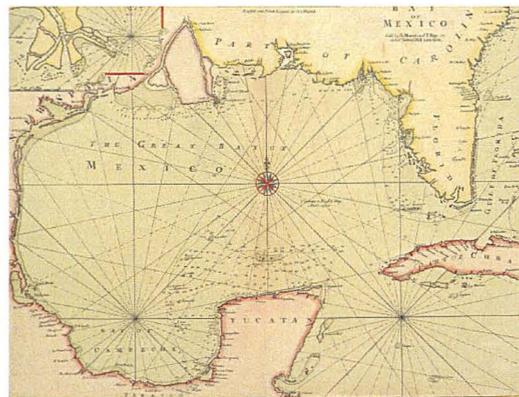
but also the French approach to scientific cartography. As elsewhere, skillful business entrepreneurship was necessary and highly prized for survival. Costs were high for surveying, printing, and even compilation – since a mapmaker might have to obtain and purchase a lot of materials from foreign sources. Mapmakers had to employ a subscription list system to raise money in advance in order to fund expensive projects. There was a high instance of bankruptcy among English cartographers, suggesting that government support could have done more to protect these valuable contributors to British power. Nevertheless, after 1750 something of “a renaissance of English cartographical science” took place according to G.R. Crone. Mapping of the thirteen British Colonies along the east coast of North America progressed thanks to initiatives of the Board of Trade and Plantations and the British Colonial Governors. French mapmakers copied the resulting map of North America by John Mitchell. British Navy coastal mapping was soon unsurpassed, both for the east and west coasts. London increasingly became a “centre of cartographic progress” and the quality and quantity of British cartography and geographic knowledge rivalled that of France by the end of the eighteenth century.

See Mary Sponberg Pedley, *The Commerce of Cartography: Making and Marketing Maps in Eighteenth-Century France and England* (Chicago and London: University of Chicago Press, 2005); Lawrence Worms and Ashley Baynton-Williams, *British Map Engravers: A Dictionary of Engravers, Lithographers and Their Principal Employers to 1850* (London: Rare Book Society, 2011); Brian Brian J. Harley, “The Bankruptcy of Thomas Jefferys: an Episode in the Economic History of Eighteenth-century Map-making,” *Imago Mundi* 20 (1966):27-48; G.R. Crone, *Maps and Their Makers: An Introduction to the History of Cartography* (5th edition; Folkestone, Kent, England: Wm Dawson & Son, Ltd., 1978), pp. 93-111.

Richard Mount (1654-1722) and Thomas Page I (ca.1780-d. 1733)

The British book, map, and chartmaking and publishing firm of Mount & Page operated under various partnerships throughout the eighteenth century. They dominated the production of English nautical books, sea atlases, and charts for much of that time. The firm's founder **Richard Mount** was baptized in Elmstead, Kent, England, and at age 16 apprenticed to the London book, chart, and instrument seller William Fisher (1631-1692). Mount became Fisher's partner about 1677 and married the latter's daughter Sarah in 1682. Upon Fisher's death in 1692, Mount continued the business from Tower Hill (opposite the Tower of London), publishing Greenville Collins' *Great Britain's Coasting Pilot* (1693), *The English Pilot, The Fourth Book...* (1698) with John Thornton, and other map and navigation-related books. About 1701 Mount took on partner **Thomas Page** (ca.1780-1733) and published *The English Pilot, Part I*, which included charts of the coastlines of Britain and much of western Europe. From about 1706-1715 Mount & Page acquired the chart plates of Jeremiah Seller, **Charles Price I**, John and Samuel Thornton, and John Seller and soon had a virtual monopoly on all English sea-atlases. Mount died in 1722 after he was kicked by a carthorse on London Bridge. The Mount and Page families intermarried, and the original partners' heirs, including William Mount (1688-1769), Fisher Mount (ca.1689-1728), Thomas Page II (1704-1762), John Mount (1725-1786), Thomas Page III (1730-1781), William Mount II (1753-1815), and Thomas Page IV (1756-1797) continued to reprint their material. Unfortunately for the firm, their early dominance was not sustainable since they were unable, with a few exceptions, to update their charts. By the 1760s their work had been supplanted by the Admiralty, the East India Company, **Thomas Jefferys**, and others.

See Lawrence Worms and Ashley Baynton-Williams, *British Map Engravers: A Dictionary of Engravers, Lithographers and Their Principal Employers to 1850* (London: Rare Book Society, 2011), pp. 469-70, 508-9; Susanna Fisher, *The Makers of the Blueback Charts: A History of Imray, Laurie, Norie & Wilson Ltd.* (Ithaca, New York: Regatta Press, 2001), pp. 3-5, 38, 55-56; Sarah Tyacke, *London Map-Sellers, 1660-1720* (Tring, Hertfordshire, U.K.: Map Collector Publications, Ltd., 1978), pp.114, 126, 160.



35

Richard Mount and Thomas Page *A Chart of the Bay of Mexico*

Engraving (hand colored) on paper, 46 x 57.5 cm., 1700, probably from *Atlas Novus Maritimus* (London : R. Mount & T. Page, 1702). 24/13 250007

Until the publication of Delisle's map of 1718, this English sea chart was the best printed map available of the Gulf Coast and the mouth of the Mississippi. Mount & Page may have issued the map separately as early as 1700 since that date appears to the east of the compass rose in the center of the Gulf. Coastal mapping scholar Jack Jackson speculated that the English probably had access to a captured copy of Spanish pilots Juan Enriquez Barroto's or Juan Bisente del Campo's maps of the Gulf Coast since they reflect Bisente's coastal details and Barroto's toponyms. Jackson also believed that the inset map at upper left may be based upon information from Captain William Bond's 1699 reconnaissance voyage of the mouth of the Mississippi on behalf of Dr. Daniel Coxe's Anglo-Dutch Carolana Company. At that time Bond's ship ascended the river to a point just below New Orleans before Bienville convinced him that the French already controlled the river. Unfortunately, Bond's presumed charts are missing. Mount & Page's chart and its Gulf coast interpretation was also influential for other English chartmakers.

Jack Jackson, *Flags Along the Coast*, pp.46- 50-55, plate 18; Paul E. Hoffman, "Discovery and Early Cartography of the Northern Gulf Coast," in Alfred E. Lemmon, John T. Magill, Jason R. Wiese, and John R. Ebert, eds., *Charting Louisiana: Five Hundred Years of Maps* (New Orleans: Historic New Orleans Collection, 2003), pp. 18, 35.

John Senex (1678-1740), Charles Price (ca.1679-1733) and John Maxwell (active 1707-1714)

Considered by some to be the leading English scientific publisher of his time, **John Senex** was a bookseller, mapseller, and instrument-seller as well as mapmaker, globemaker, engraver, and surveyor. The son of a gentleman named John Senex of Ludlow, Shropshire, England, the young Senex was apprenticed in the Stationers' Company in 1695 to the London bookseller Robert Clavell, advancing to freeman by 1706 and liveryman by 1721. Senex collaborated variously in the London scientific instrument, chart, atlas and globe business with Jeremiah Seller (between 1703 and 1705), Charles Price (between 1703 and 1710), John Maxwell (1709 until at least 1714), William Taylor, and Richard Cushee (from 1724 to 1729), producing or publishing a variety of works on mathematics, astronomy, geography, and history, but also on philosophy and religion. In 1723 Senex married Mary Wilcox at St. Margaret Westminster, and they had a daughter in 1730. Senex's apprentices included, among others, engraver and colourist William Lathbury (1692-1744) and draughtsmen and engravers Samuel Parker (active 1715-1718) and Thomas Hutchinson (active 1733-1754). Senex was a freemason by 1723, and he was elected a Fellow of the Royal Society in 1728. After his death in 1740, his wife Mary ran the business, apparently successfully, until 1755.

Globe and instrument-maker, surveyor, mapmaker, mapseller, and engraver **Charles Price** was the son of a gentleman named John Price of Llangendeirne, Caermarthen, Wales. In 1694 Charles was apprenticed in the Merchant Taylors Company to London compass-maker, instrument-maker, map and chartmaker, globeseller, publisher, engraver, and "Hydrographer to the King" John Seller I (1632-1697). After Seller's death Price formed partnerships with Seller's son Jeremiah (1700-1705), with John Senex (1705-1710), with mapseller, publisher, optical instrument-maker George Willdey (1710-1713), and with instrument- and globemaker Benjamin Scott (1715-1718). One of Price's apprentices beginning in 1709 was **Emanuel Bowen** who became a prominent engraver, cartographer, publisher, and printseller. In December 1731 Price was jailed for debt in Fleet Street Prison. At Price's death in 1733 his estate went to his wife Elizabeth, daughter Ann, and son Charles Price II (active. 1733-1747).

John Maxwell (active 1707-1714) was associated with John Senex from 1709 to at least 1714, selling globes and maps, writing for Senex "English atlas" (1714), and authoring other articles.

See Worms and Baynton-Williams, *British Map Engravers*, pp. 599-601, 535-536, 441; Tyacke, *London Map Sellers 1660-1720*, pp. 142, 136-138, ; and Sarah Bendall et al., *Dictionary of Land Surveyors and Local Map-Makers of Great Britain and Ireland, 1530-1850* (2nd ed. 2 vols.; London: British Library, 1997), vol. 2, pp. 457-458; Bendall et al., *Dictionary of Land Surveyors and Local Map-Makers of Great Britain and Ireland, 1530-1850* (1997), vol. 2, p. 415.

36

John Senex, Charles Price, and John Maxwell

North America: corrected from the observations communicated to the Royal Society at London, and the Royal Academy at Paris

Engraving on paper, 94 x 65 cm., by John Senex (London: John Senex, Charles Price, & John Maxwell, 1710). 142/6 00551

Senex, Price, and Maxwell copied and translated Delisle's 1703 *Carte du Canada ou de la Nouvelle France* for the northern part of their map and copied and translated Delisle's 1703 *Carte du Mexique et de la*

Floride for the southern portion. Senex did add a different cartouche. Surprisingly, the Englishmen even copied the Frenchmen's dotted-line political boundaries, but not surprisingly, they did not credit or mention Delisle. Around 1717 George Whilldey and his engraver H. Terrasson, in turn, copied Senex, Price, and Maxwell's map for Whilldey's *Atlas of the World*.

Margaret Beck Pritchard and Henry G. Taliaferro, *Degrees of Latitude: Mapping Colonial America* (New York: Harry N. Abrams, Inc., in association with The Colonial Williamsburg Foundation, 2002), pp. 110-113.

37

John Senex

A map of Louisiana and of the River Mississippi

Engraving with etching (hand colored) on paper, 49 x 58 cm., from Senex, *A New General Atlas* (London, D. Browne, 1721). 63/8 96-29

For this map, Senex copied and translated Guillaume Delisle's 1718 *Carte de la Louisiane* with no credit to the French cartographer. Again, Senex's cartouche is original and contains his dedication of his map to William Law, either the father or younger brother of John Law (1671-1729) who bore much of the blame for the financial panic known as the "Mississippi Bubble." Like his brother, William Law the younger (1675-1752) was involved in the administration of both the Banque Generale and the Louisiana Company and was reportedly later imprisoned for fifteen months in the Bastille for corruption.

Charles Mackay, *Memoirs of Extraordinary Popular Delusions and the Madness of Crowds* (3 vols; London, 1841, 1932 reprint), p. 45; Lemmon, Magill, Wiese, Hebert, eds., *Charting Louisiana* (2003), p. 61, no. 21.

Herman Moll (ca.1654-1732)

While John Senex has been called "Britain's leading scientific publisher" of the first part of the eighteenth century, the engraver, cartographer, mapseller, and globemaker Herman Moll, who was likely originally German, has been characterized by his biographer Dennis Reinhartz as "Great Britain's most celebrated geographer and mapmaker" for this same period. Moll's maps were finely engraved, largely topographic, and distinctive in style, and he included many interesting facts and curious comments wherever there were blanks in an attempt to add value and attract customers. Moll is best known for his great atlas folio usually consisting of thirty double-sheet maps titled *The World Described*... It first appeared in 1718 – just four years after another famous German-turned-British, Prince-Elector George of Hanover, ascended the throne of Great Britain as King George I. Moll and others issued the atlas in numerous editions from 1718 until 1754.

Moll was presumably born in Bremen around 1654 and was probably of German ancestry according to evidence discovered by Sarah Tyacke. Reinhartz speculated that Moll may have picked up most of his fine engraving skills there. Moll was first recorded in London in 1678 in company with the architect, surveyor, and polymath Robert Hooke (1635-1703). At the time, Moll was engraving maps for bookseller, printer, map and printseller Moses Pitt (1639-1697). According to Hooke's diary, Moll, Hooke, Pitt, and others frequented Jonathan's, a coffeehouse at Number 20 Change (Exchange) Alley in Cornhill. This was at a time when coffeehouses figured prominently as early stock



Herman Moll
Graphite and ink wash on paper by the Rev. Dr. William Stukeley, dated 17 April 1723. Bodleian Library, Oxford University

exchanges and attracted many of the intellectuals and literati of the era. And from various bits of evidence, Reinhartz ably pieced together Moll's circle of friends and acquaintances over the years. These included economist John Locke, seafarers William Dampier and Woodes Rogers, and novelists Daniel Defoe and Jonathan Swift, in whose works and writings Moll or his maps would be mentioned or featured.

Soon after 1678 Moll was also working for mathematicians and surveyors Sir Jonas Moore and John Adair, for Royal Navy hydrographer Greenville Collins, and for Seller & Price. By 1686 Moll had a wife, Ann Magdalen, and a newborn son, Gillis Hendrick (who was baptized that year at St. Ann Blackfriars). Another child, Henderina Amelia, would eventually be mentioned in his will. Beginning in 1688, Moll's first shop was located at Vanley's Court in Blackfriars, but Reinhartz speculates that Moll may have also sold maps from a simple stall at various locations, including Westminster Hall. In 1691 Moll moved to the corner of Spring Garden, Charing Cross. During the 1690s Moll worked with mapmaker, globemaker, mapseller, bookseller, and instrument-makers Philip Lea and Robert Morden and with mapseller, printseller, bookseller, and publisher Christopher Browne. After this Moll again moved, this time to Devereux Court in the Strand in the parish of St. Clement Danes, where he remained for the rest of his life. In later years one of Moll's friends was the physician, churchman, and antiquarian William Stukeley who not only kept memoirs in which he mentioned his friend Moll frequently, but also noted their friends and acquaintances and even left a portrait sketch of the cartographer. By his will, Moll described himself as "Geographer of St. Clement Danes," where he was buried. His daughter inherited his goods and estates "in the Kingdom of Great Britain and Germany and elsewhere," but most of his maps or plates were apparently soon acquired by **John and Thomas Bowles**.

Dennis Reinhartz, *The Cartographer and the Literati: Herman Moll and His Intellectual Circle* (Lewiston, New York / Queenston, Ontario / Lampeter, Wales, U.K.: The Edwin Mellen Press, 1997). John E. Crowley, "Herman Moll's *The World Described* (1720): Mapping Britain's Global and Imperial Interests," *Imago Mundi* 68:1 (2016): 16-34; Worms and Baynton-Williams, *British Map Engravers*, pp. 456-458; Tyacke, *London Map-Sellers, 1660-1720* (1978), pp. 122-123.

The Bowles Family

The Bowles family of London continued to publish maps by **Herman Moll** well into the second half of the century. Print and map-sellers **Thomas Bowles I** (active 1683-d. 1721) and **Thomas Bowles II** (before 1695-1767) ran the business in the early years from a shop at the corner of Paul's Alley in St. Paul's Churchyard next to the Chapter House until 1714. His older son **Thomas II** managed the shop from about 1715, and they added to their stock by publishing new materials and buying old. In addition to maps, they published architectural views, battle scenes, and portraits. Thanks to the father's will and the aide of Thomas II, younger son **John Bowles** (1701-1799) established a map and print-selling business in Cheapside and Cornhill. He reissued Herman Moll's *Atlas Minor* in 1763 and went into partnership with his son **Carrington Bowles** (1724-1793) as "John Bowles & Son" until his death in 1799, when most of his stock went to Robert Wilkinson.

See Tyacke, *London Map-Sellers, 1660-1720* (1978), pp. 111-113; Worms and Baynton-Williams, *British Map Engravers*, pp. 101-104.

A New and Exact Map of the Dominions of the King of Great Britain on ye Continent of North America: Containing Newfoundland, New Scotland, New England, New York, New Jersey, Pensilvania, Maryland, Virginia and Carolina According to the Newest and most Exact Observations by Herman Moll, Geographer

Engraving and etching (with hand-colored outlines), 103 x 62 cm. [London]: printed and sold by Tho. Bowles, 1715, included in *The World Described* (1720). State 5: post 1735. 142/2 00554



Herman Moll's famous "beaver map" actually copied a beaver scene designed many years earlier by Nicolas Guérard for a 1698 wall map by Nicolas de Fer. It included a view of Niagara Falls based upon a print after an eyewitness sketch by Louis Hennepin. More original was Moll's design of his map's composition and commentary, for the map expounded the British position relative to the boundary dispute that erupted with France following the Treaty of Utrecht of 1713 which ended the War of the Spanish Succession. The British claimed all lands up to the St. Lawrence, including Acadia, which Moll

labeled "New Scotland," as well as Iroquois lands west of the Alleghenies bordering Lake Ontario (here "Lake Frontignac"). Here, the Iroquois, according to Moll, "are all hearty friends to ye English..." Insets at bottom were copied from a 1711 map sponsored by merchant Edward Crisp and include "A Map of the Improved Part of Carolina..." and a plan of Charleston, a general map of North America, and, importantly, a map of the southeast, including Florida and the Gulf coast as far as the Mississippi. Interestingly, Moll acknowledged geographical information for this area from Captain Thomas Nairne (d. 1715), a Scottish trader in the Carolinas who ranged as far as the Mississippi. Perhaps one of the most inappropriate errors on a map appears on Florida, here a "Desart." This example of Moll's map bears the imprint of Thomas Bowles, who acquired Moll's plates after his death in 1732.

Reinhartz, *The Cartographer and the Literati* (1997), p. 37; Dahl, "The Original Beaver Map—De Fer's 1698 Wall Map of America," *The Map Collector* 29 (December 1984): 22-26; Pritchard and Taliaferro, *Degrees of Latitude* (2002), pp. 114-117; Litalien, Palomino, and Vaugeois, *Mapping a Continent* (2007), pp. 160-161; Jackson, *Flags along the Coast* (1995), pp. 44, 54, 123, 125, 133, 134, 135; Cumming and De Vorse Jr. *The Southeast in Early Maps* (1998), pp. 21-24.

Herman Moll

The Isle of California, New Mexico, Louisiane, The River Misisipi, and the Lakes of Canada and The English Empire in America, Newfound-land, Canada, Hudson's Bay &c. in Plano

Engravings on paper, in *The Compleat Geographer: or, the Chorography and Topography of all the known Parts of the Earth*. The third edition. (3rd Edition; London: Printed for Awnsham and John Churchill at the Black-Swan, 1709), pp. 230-231. 2 parts bound as one. 32.5 cm. AGC9556 Map Annex

Moll employed seventeenth-century models such as Coronelli and Franquelin to construct his maps of North America. In the map at left, California appeared as an island, and the Mississippi ran through Texas. These maps also appeared in Moll's *Atlas Manuale: or, a new sett of Maps....* (1709).

Herman Moll

A Map of the West-Indies or the Islands of America in the North Sea with ye adjacent countries; explaining what belongs to Spain, England, France, Holland & c. also ye trade winds, and ye several tracts made by ye Galeons and ye Flota from place to place According to ye Newest and most Exact Observations by Herman Moll Geographer

Engraving and etching (hand colored) on paper, 59 x 101.5 cm., between 1708 and 1720, from Moll, *The World Described* (London: Moll, 1720). 140/1 2013-302

Moll dedicated his large map of the West Indies to Scottish trader and financier William Patterson (1658-1719) who was involved in colonizing schemes along the east coast of Panama. Above several rivers along the Texas-Louisiana coast, Moll added one of his typically quaint and broken "olde English" translations: "Many nations on ye heads of this Branc-hes who use Horses and Trade with the French and Spanjards." According to Jack Jackson, French maps and Mount & Page served as sources for Moll's Gulf coastline. The coastline of Florida followed the earlier charts of Thornton and John Seller, which in turn were modeled on Robert Dudley's maps. Moll included an inset view of Mexico City with a key that identified a number of buildings including the Cathedral and the Viceroy's Palace.

Jackson, *Flags along the Coast* (1995), p. 44, 54, 123.

Herman Moll

A Map of Mexico or New Spain, Florida now called Louisiana and Part of California & c.

Engraving (with hand-colored outlines) on paper, 18.5 x 26 cm. (London, between 1717-1745) 128/8 00397

Moll's maps received various outline boundary coloring as political boundaries changed; however, the coloring was not necessarily consistent.

Bernard Lens the younger (1659-1752)

Bernard Lens the younger, a drawing master at Christ's Hospital in London, was chiefly employed as an engraver by printseller Edward Cooper, but Lens had his own rolling press, and he published a number of engravings on his own account. In 1697 he and John Sturt set up a drawing school where apprentices and young engravers might take extra lessons. He advertised in the London Gazette.

On Bernard Lens see Clayton, *The English Print 1688-1802*, pp. 4, 13, 20, 21, 30, 169, 171.

42 (See reproduction on page 59)

Herman Moll

To the Right Honourable John Lord Sommers ... This Map of North America According to ye Newest and most Exact Observations is most Humbly Dedicated by your Lordship's most Humble Servant Herman Moll Geographer

Engraving and etching (with hand-colored outlines), 58.5 x 97.5 cm. Cartouche engraved by George Vertue after a design by Bernard Lens [London]: Printed for John and Thomas Bowles, P. Overton, and John King, included in Moll, *The World Described* (London: Moll, 1720). 103/8 220024

In a cartouche by Bernard Lens that includes Indians and Eskimos, Herman Moll prominently dedicated his map of North America to John

Lord Somers (1651-1716), Lord High Chancellor of England under King William III. Somers was one of the architects of the Glorious Revolution and the Protestant Succession of the Hanoverian George I in 1714. Somers also served as president of the Royal Society from 1698 to 1703 and collected prints and maps. Moll derived large portions of his map from Delisle's 1700 map of North America, Delisle's 1703 maps of Canada and Mexico, and Delisle's 1718 map of Louisiana. Yet Moll failed to follow Delisle's example in the critical area of California, preferring the older interpretation of California as an island. Moll was one of several prominent cartographers who utilized and misinterpreted a map showing a huge "Longue" river extending directly west from the Mississippi by the French traveler Louis Armand de Lom d'Arce, Baron de Lahontan (1665-ca.1715). Baron Lahontan's engraver had printed two separate maps in different scales on one plate separated only by a double dotted line labeled in fine print: "Separation de ces deux cartes." The cod fishing scene at left below the cartouche was copied directly from Nicolas de Fer's wall map of 1698.

Schwartz and Ehrenberg, *The Mapping of America* (1980), pp. Ben W. Huseman, *Territories so Extensive and Fertile* The Louisiana Purchase (Dallas: DeGolyer Library, SMU, 2004), pp. 2-3; On Overton see Tyacke, *London Map Sellers 1660-1720*, pp. 130-135. On Bowles see Tyacke, *London Map Sellers 1660-1720*, pp. 111-113.



After Herman Moll

A New Map of the North Parts of America claimed by France under ye Names of Louisiana, Mississippi, Canada, and New France with ye Adjoyning Territories of England and Spain: to Thomas Bromsall, esq., this map of Louisiana, Mississippi & c. is most humbly dedicated, H. Moll, geographer laid down according to the newest and most exact observations by H. Moll, geographer, 1720

Engraving with etching (with hand-colored outlines), 62.5 x 103.5 cm., included in Moll, *The World Described* (London: Moll, 1720). 141/7 00668

The text commentaries on Herman Moll's 1720 map showing "the North Parts of America claimed by France...with ye Adjoyning Territories of England and Spain" constituted in effect a "memoire" that not only described the cartographer's sources but also documented the international controversy stirred by Guillaume Delisle's Carte de la Louisiane of 1718. In what has been described as "a war of maps," Moll copied the French cartographer's boundaries, adding blue (blue-green) for the French claims, yellow for the English, and red (pink) for the Spanish, but added political commentary:

"The French divisions are inserted on purpose, that those Noblemen, Gentlemen, Merchants &c. who are interested in our Plantations in those Parts, may observe whether they agree with their Properties,

or do not justly deserve ye Name of Incroachments; and this ye more to be observed, because they do thereby Comprehend within their Limits ye Charakeys and Iroquois, by much ye most powerfull of ye Neighbouring Indian Nations, the old Friends and Allies of the English, who ever esteemed them to be the Bulwark and Security of all their Plantations in North America.”

Moll copied information from Delisle's map, which he termed “a French Map, published in Paris in 1718,” for the Southwest and for the inset of the mouth of the Mississippi. Oddly, Moll continued to show California as an island, but at the same time improved upon Delisle's depiction of the Great Lakes. Moll also acknowledged using “ye Original Draughts of Mr. Blackmore, the Ingenious Mr. Berisford, now residing in Carolina, Capt. Nairne and others never before published.” The inset of the Acadian port of Annapolis Royal, for example, came from Nathaniel Blackmore, surveyor general there. Richard Brerisford was a Charlestown merchant and planter who had reported to the Board of Trade about French encroachments, and Captain Thomas Nairne was the Indian agent for South Carolina who set the colony's Indian policy. Moll included a reference to Nairne's travels with the Yamasee Indians to attack and destroy Florida Indian towns and capture Indian slaves. Moll also included the “Margravate of Azilia” – the British colony proposed in 1717 by Sir Robert Montgomery. The precursor of the Colony of Georgia, the “margravate” was to be located between the Savannah and Altamaha Rivers to serve as a buffer between the English, Spanish, French, and Creek nations.

Cumming and De Vorsey *Southeast in Early Maps* (1998), p. 24; Pritchard and Taliaferro, *Degrees of Latitude* (2002), pp. 122-125.

44

John Bowles after Herman Moll

Guillaume Delisle, et al. East & West Florida, and the North Part of the Gulf of Mexico, with the adjacent Territories belonging to Great Britain & to Spain

Engraving (hand colored), 22 x 29 cm., in Herman Moll, *Atlas Minor*, or, a new and curious set of sixty-two Maps... (London: Printed for John Bowles, [1763]).

G 1015 .M6 1763 Map Rm

By the Treaty of Paris of February 1763, the British acquired Spanish Florida and all lands of the former French colony of Louisiana located west of the Mississippi. To govern the vast territory, the British later that year established East and West Florida as separate colonies with the Appalachian River as the boundary between the two. Here the London print- and mapseller and publisher John Bowles updated an older map by Moll based upon Delisle and others by adding a new title, new boundaries, and new nomenclature to reflect the new political situation in North America. This map helps date an atlas that Bowles otherwise probably left purposefully ambiguously undated. Unlike most of the other maps in the atlas, it does not bear Moll's name.

Emanuel Bowen (ca.1693/1694-1767) and Son Thomas Bowen (ca.1732/1733-1790)

Engraver, cartographer, publisher, and printseller Emanuel Bowen was one of the most prolific British mapmakers of the middle eighteenth century and widely known for his elegant rococo engraving. He published several large county and regional maps, including a large improved map of South Wales in 1729 that was based upon his own surveys. He also engraved charts for a number of the leading British hydrographers between 1721 and 1750. Bowen's maps appeared in his *Complete System of Geography* (2 vols.; 1744-1747), a *Complete Atlas*

(1752), a *Large English Atlas* (1760), *Royal English Atlas* (ca.1763), *Atlas Anglicanus* (1767-1768), and other atlases, books, and periodicals such as *The Gentleman's Magazine* (between 1736 and 1744) and *The Universal Magazine* (between 1751 and 1759). Two of Bowen's apprentices, **Thomas Kitchin** (apprenticed 1732) and **Thomas Jefferys** (apprenticed 1735), became important mapmakers. Emanuel's son Thomas Bowen, while less prolific, was nevertheless a competent engraver and compiler of maps as well.

Emanuel Bowen, the son of a gentleman of Talley, Carmarthen, Wales, was apprenticed through the Merchant Taylors to the globe, map, and instrument-maker and seller, engraver, and surveyor Charles Price in 1709. Bowen married in 1715 and became free from his apprenticeship in 1716. He engraved and sold prints of various kinds and was once arrested for printing a seditious anti-government portrait in 1722. A freemason, Bowen became a senior warden of the Newgate Street Lodge in London in 1723 and master of a new lodge in Camarthen, ca. 1725. Emanuel became a Baptist in May 1739 at the Barbican Chapel, which he attended for the rest of his life. Bowen's former apprentice Thomas Kitchin married Bowen's daughter Sarah in December 1739. Shortly before Emanuel's death, his son **Thomas Bowen** went into partnership with engraver Richard Reynolds, and together the younger men were imprisoned in the King's Bench for debt in 1761. Emanuel Bowen died in 1767, “reduced by family extravagances, and almost blind through age.” In 1768 Thomas married Alice Downes, a relative of engraver Charles John Downes, and by the 1770s Thomas was back engraving maps for various books and periodicals. A brother, **Morris Bowen**, was a London engraver and cartographer active between 1772 and 1775. Over the years the Bowens had a variety of addresses in central London, such as around St. Katherine's (east of the Tower, 1720), near Fleet Street (1722, 1774), Aldersgate (1723-4), in Clerkenwell (1737-1739, 1768, 1771-1773, 1785-1786), Smithfield (1742), and in the Holborn area (1752, 1759-1768). Thomas died in a Clerkenwell workhouse in 1790.

Iolo Roberts and Menai Roberts, “Bowen, Emanuel,” *Oxford Dictionary of National Biography* (Oxford University Press, 2004), accessed July 6, 2016; Worms and Baynton-Williams, *British Map Engravers*, pp. 96-100; Clayton, *The English Print 1688-1802*, pp. 78-79.

45

Emanuel Bowen

A New Map of Georgia with part of Carolina, Florida and Louisiana drawn from original draughts, assisted by the most approved maps and charts; collected by Eman. Bowen

Engraving with etching on paper, 37 x 49 cm., from John Harris, *Navigantium atque Itinerarum Bibliotheca. Or, A Complete Collection of Voyages and Travels* (London, 1744-1748), vol. II (1748), opp. p. 323.

Bin 12 900015

British Geographer to the King Emanuel Bowen produced this map of the area of the present southeastern United States to accompany an essay titled “The History of the Rise, Progress, and Present State of the Colony of Georgia” for the third edition of John Harris' collection of voyages and travels (1748). The map indicates the villages and alliances of various Indian nations including the *Arkansas*, *Chikasaws*, *Chauctaws*, *Middle Creeks*, *Lower Creeks*, *Apalacheas*, *Yamassee*, *Cherekees*, *Yamacraw*, and *Uchee*. In addition to part of the British Colony of South Carolina, including Charles Town, and Sir James Oglethorpe's Georgia Colony, the map gives fine details of areas claimed by the French and Spanish. These include the mouth of the Mississippi, the New Orleans, Natchez, Biloxi, and Mobile areas, the junction of the Alabama and Coosa Rivers, and northern Florida.

Cumming and De Vorsey, *Southeast in Early Maps* (1998), p. 261, map 267, plate 18.

Emanuel Bowen

A New & Accurate Map of Louisiana, with Part of Florida and Canada, and the Adjacent Countries. Drawn from Surveys, assisted by the most approved English & French Maps & Charts, The whole being regulated by Astronl. Observations. By Eman. Bowen

Engraving with etching on paper, 33.5 x 42.5 cm. (London, 1752).

125/17 00078



Emanuel Bowen

A New & Accurate Map of Mexico or New Spain together with California, New Mexico &c. Drawn from the best Modern Maps & Charts & Regulated by Astronl. Observns.

Engraving with etching (hand colored) on paper, 36 x 43 cm.

(London, 1752).

127/10 00564

Despite the “modern” scientific jargon with reference to “astronomical observations,” Bowen, even as Geographer to His Majesty, did not have access to accurate field information for much of the territories depicted – no one would until the mid-nineteenth century. His map shows Santa Fe along the 101st meridian instead of its actual location along the 105th, with the result that New Mexico lies four degrees of longitude east of its true location, and the area of present west Texas is considerably condensed. Also significant are Bowen’s cartouche and inset. In the cartouche, a European, probably intended as a sixteenth-century Spaniard, enslaves a couple of Indians. This image dates at least back to 1729 when Peter Van der Aa included an identical image on his cartouche of a map of Mexico or New Spain appearing in Abraham du Bois’ *La Geographie Moderne*, published in Leiden at that date. Such images, repeated over and over, contributed to the Spanish “Black Legend” – the idea that the Spanish treated Indians worse than their Anglo-Protestant peers, many of whom behaved equally bad in reality. Bowen’s inset depicts the Galápagos Islands based upon descriptions and charts by English sea captains William A. Cowley and Woodes Rogers.

John Mitchell (1711-1768)

The compiler of what has been called “the most important map in American history” (because of its association with grand strategy and diplomatic negotiations – see no. 48), John Mitchell was born in White Chapel Parrish, Lancaster County, Virginia. His father was a wealthy merchant and tobacco plantation owner. John’s mother died when John was an infant and had been independently quite wealthy. Mitchell’s biographers Edmund and Dorothy Smith Berkeley speculate that he was sent to school in Scotland under the care of relatives or friends at a very young age. From 1722 Mitchell received a broad, liberal education at the University Edinburgh, with courses in ancient and modern languages, history, logic, natural philosophy, including chemistry, physics, astronomy, mechanics, mathematics, and botany. He earned a master’s degree there in 1729 and attended medical school until late 1731. Returning to Virginia, Mitchell practiced medicine and actively conducted research in the fields of botany and zoology from a home he purchased in 1734 in Urbanna, Middlesex County. At some point, he married and acquired white and black servants. However, in 1745, as a result of illness, Mitchell and his wife left Virginia for London. There Mitchell established himself as an authority on exotic plants and was elected a member of the Royal Society.

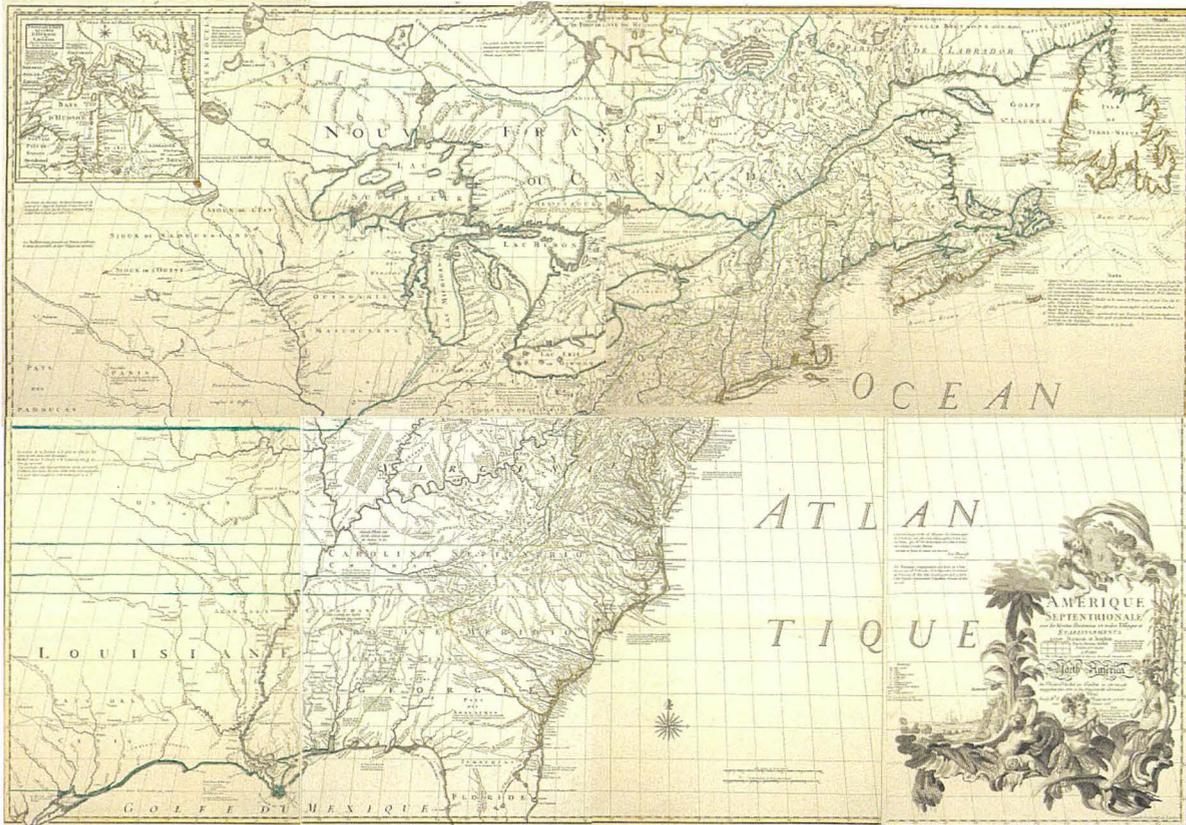
Also while in London, Mitchell came to the attention of George Montagu Dunk (1616-1771), second Earl of Halifax, president of the British Board of Trade and Plantations in the years 1748-1761. Halifax was in need of accurate geographical information about the British colonies in America and sought Mitchell’s first-hand geographical knowledge. Recognizing Mitchell’s talent and interest, Halifax commissioned and convinced him to create a map, although he had no experience at mapmaking. For some time, Mitchell gave up his botanical pursuits to work on the project which ultimately resulted in the large map that was engraved by **Thomas Kitchin** and first published in 1755. The map was an immediate sensation, as nothing of this size had ever been published on eastern North America.

After the publication of the map, Mitchell remained a London resident for the rest of his life. He lived the life of a gentleman of moderate means, socializing with friends and patrons and visiting their country estates. In addition to more natural science related works, Mitchell wrote two anonymous political essays that have been attributed to him: *The Contest in America between Great Britain and France...* (1757), and *The Present State of Great Britain and North America, with Regard to Agriculture, Population, Trade, and Manufacture...* (1767)

Edmund Berkeley and Dorothy Smith Berkeley, Dr. John Mitchell, the *Man Who Made the Map of North America* (Chapel Hill: University of North Carolina Press, 1974); Matthew H. Edney, “John Mitchell’s Map of North America (1755): A Study of the Use and Publication of Official Maps in Eighteenth-Century Britain,” *Imago Mundi* 60:1 (2008): 63-85; Matthew H. Edney, “A Publishing History of John Mitchell’s Map of North America, 1755-1775,” *Cartographic Perspectives* 58 (Fall 2007): 4-27.

George-Louis Le Rouge (1712-ca.1790)

Le Rouge was born “Georg Ludwig Rouger” to French parents in the parish of St. Clemens in Hanover. His background probably explains why he was a strong proponent of the study of foreign languages. While serving as a lieutenant in the regiment of Saxe, he acquired skills in mapmaking and surveying. Afterwards, around 1740, he established himself in Paris in the *Rue des Grands Augustins* (on the left bank of the Seine opposite the Isle de la Cité) as a publisher, compiler, and editor of maps. By 1744 he had become an officially recognized military geographer (“*Ingénier Géographe du Roi*”) under Louis XV. Le Rouge specialized in copies of English maps and offered what were normally



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expensive maps at cheaper prices. In 1778, as the American War for Independence created a demand for information about the rebellious British colonies, he published collections of English maps under the titles *Atlas Amériquin septentrional* and *Pilot Amériquin septentrional*. Interestingly, Benjamin Franklin was among Le Rouge's collaborators and correspondents.

Pedley, *The Commerce of Cartography*, pp. 26, 31, 60, 76-77, 98; Tooley's *Dictionary of Mapmakers*, vol. 3, p. ; Ellen R. Cohn, "Benjamin Franklin, George-Louis Le Rouge and the Franklin/Folger Chart of the Gulf Stream," *Imago Mundi* 52 (2000): 124-142; R. Oehme, "A French World Atlas of the 18th century: the Atlas General of G.L. Le Rouge," *Imago Mundi* 25 (1971):55-64.

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George-Louis Le Rouge after John Mitchell
Amérique Septentrionale avec les Routes, Distances en miles, Villages et Etablissements François et Anglois

Engraving with etching and stipple (with hand-colored outlines) on eight sheets, 130 x 189 cm., sheets 79 x 55 cm. (Paris: Le Rouge, 1756). 26/19 310047
 For full map see <http://pulse.uta.edu/vwebv/holdingsInfo?bibId=1475978>

Called "the most important map in American history," John Mitchell's eight-sheet *Map of the British Colonies in North America* was first engraved by **Thomas Kitchin** and published by Andrew Millar in London in 1755. It was the most comprehensive map of the eastern part of North America produced during the colonial era. Moreover, copies of this map were used by all sides in the negotiations for the Treaty of Paris in 1783 that ended the American Revolution. Beyond this, it was used in international diplomatic negotiations as late as the 1930s. According to Mitchell's biographers the Berkeleys, it appeared in at least twenty-one variations (editions and impressions) between 1755 and 1791: seven in England; ten in France; two in Holland; and two

in Italy. This is a French second edition, first impression, dated 1756, translated and published by **Le Rouge** with both French and German titles. Le Rouge's copy here is quite close to the 1755 English original in size and even to the design of the cartouche. The sheer number of variants, including ones by the Dutch firms of Covens & Mortier and R.& J.Ottens, demonstrates the importance and popularity of the map in its time and also shows how geographic information spread in the eighteenth century.

The map, originally commissioned around 1749 by the Earl of Halifax, who was president of the British Board of Trade, fulfilled a need at that time for more accurate geographical information about the continent. Halifax wanted the map published in order to show British officials and the British public French encroachment on British lands and claims in North America. Halifax believed that visualizing the French threat would change opinions and help steer policy. While working on the project, Mitchell produced multiple manuscript and copy maps that were circulated, compared, discussed, and corrected based upon information already in London and upon new materials, including maps, sent from the British Colonies in America as missing information became apparent.

The first edition appeared on February 13, 1755 – after fighting had already broken out in the colonies in what would become the French and Indian War – and the map was an immediate sensation. Undoubtedly hoping to profit from the demand for the map, Le Rouge's French edition came out the next year as the conflict spread to Europe in the Seven Years War of 1756-1763. French (and German) purchasers of Le Rouge's map could now follow more closely the geographic dimensions of the war in North America – and probably at a cheaper price than by trying to acquire the English version. In his edition, Le Rouge copied Mitchell's boundaries and colors (blue for French, yellow

for English, and green for contested boundaries, with dark green for the French and pale green for the Spanish), explaining that “One realizes that the supposed boundaries on this map are here without consequence and only serve to give an idea of the different pretensions.” Perhaps exhibit viewers here should note that in the southern borderlands, there are only the two shades of “contested” green.

Matthew H. Edney, “John Mitchell’s Map of North America (1755): A Study in the Use and Publication of Official Maps in Eighteenth-Century Britain,” *Imago Mundi* 60:1 (2008): 63-85; Matthew H. Edney “The Mitchell Map: An Irony of Empire.” Osher Map Library, University of Southern Maine, 1997. <http://www.oshermaps.org/special-map-exhibits/mitchell-map>. Lawrence Martin, “John Mitchell’s Map of the British and French Dominions of North America,” and Richard W. Stephenson, “Table for Identifying Variant Editions and Impressions of John Mitchell’s Map of the British and French Dominions in North America,” in Walter W. Ristow ed. and comp., *A la Carte: Selected Papers on Maps and Atlases* (Washington, D.C.: Library of Congress, 1972), pp. 109-113. See also Mary Sponberg Pedley, “Kartenhandel in Frankreich und Grossbritannien im 18. Jahrhundert,” trans. by Ulrike Seeberger, in “*Auserlesene und allerneueste Landkarten*” *Der Verlag Homann in Nürnberg 1702-1848* (Nürnberg: Stadtmuseums Fembohaus and W. Tümmels Buchdruckerei und Verlag GmbH & Co., 2002), pp. 165.

John Gibson (ca.1724-1773)

From about 1748 London engraver, draughtsman, and cartographer John Gibson produced maps for and with a number of engravers, publishers, and authors, including Emanuel Bowen and Robert Sayer. Gibson was probably born in London to a locksmith of St. Giles in the Fields and was apprenticed through the Stationers livery company to engraver John Blundell in 1739. Gibson was subsequently turned over to John Pine in 1743 and made free in 1748. He was imprisoned for debt in the King’s Bench in 1765. His various addresses from 1748 to 1765 were in the Clerkenwell area of London.

Worms and Baynton-Williams, *British Map Engravers*, pp. 260-261.

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Emanuel Bowen (?) and John Gibson

[*French Louisiana and Parts of the British Colonies in America*]

Engraving with etching (hand colored) on paper, 18.5 x 24.5 cm., from *Gentlemens’ Magazine* (London, June 1763). 126/10 000392

Robert Sayer (1725?-1794)



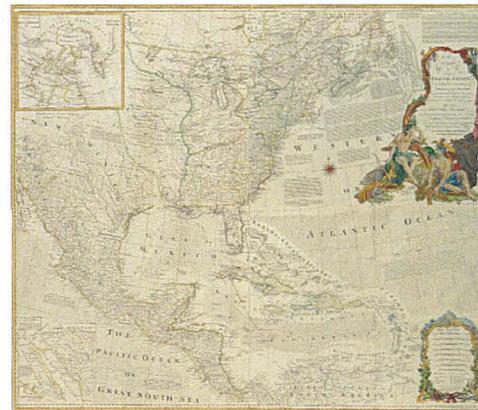
Detail of a portrait of Robert Sayer (right) and Family at Richmond attributed to Johann Zoffany, formerly in the Kimbell Art Museum, Fort Worth, Texas

Robert Sayer was one of the most successful seller and publisher of prints and maps in Britain during the eighteenth century. The son of lawyer James Sayer of Stockton and his wife Thomasine Middleton, Robert was born in Sunderland about 1725 and may have been a clerk in the Bank of England in 1743. His older brother James married in 1747

Mary Overton, widow and successor of Philip Overton (active 1707-1745), who was a third-generation map and printseller of London. Sayer worked with Mary Overton for almost two years before taking over the business by late December 1748 after being made free in the Stationers guild by redemption that September. In 1754 at Datchworth, Hertfordshire, Robert married Dorothy Carlos or Carless, “an agreeable young lady with a handsome fortune.” Sayer helped Thomas Jefferys remain in business after the latter went bankrupt in 1766. Sayer acquired Jefferys’ printing plates and unpublished manuscripts in return

and more materials after Jefferys’s son died in 1776. From 1774 to about 1782, Sayer was in partnership with his former servant and Stationers company apprentice John Bennett, who was the son of a shoemaker from Tideswell, Derbyshire. After Bennett developed a mental illness and was admitted to an asylum in Clapton in 1783, Sayer dissolved the partnership, removing Bennett’s name from imprints after 1785. Sayer employed Robert Laurie and James Whittle from 1790 as “Robert Sayer & Company” until his death from “a lingering illness” in 1794, after which the business was known as Laurie & Whittle. Sayer’s first wife Thomasine died in 1774, and he married a second wife, Alice Longfield, née Tilson, at St. Mary Magdalen, Richmond. Interestingly, Robert Sayer, his second wife Alice, his son James by his first wife, and their mansion at Richmond appear in a conversation portrait attributed to artist Johann Zoffany, whose works Sayer popularized internationally through engravings.

Worms and Baynton-Williams, *British Map Engravers*, pp. 585-588; Clayton, *The English Print 1688-1802*, pp. 107, 125, 131, 138, 140-141, 143-146, 150, 163, 164, 167, 168, 180, 196, 198, 203, 220-223, 234, 238, 241, 247, 264, 268, 274, 296n78, 301n35, 302n57, 303n10 and n96.



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Robert Sayer after Emanuel Bowen and John Gibson

An Accurate Map of North America Describing and distinguishing the British and Spanish Dominions of this great Continent According to the Definitive Treaty Concluded at Paris 10th Feby. 1763: Also all the West India Islands belonging to and possessed by the several European Princes and States; the whole laid down according to the latest and Most authentick Improvements by Eman. Bowen and John Gibson, engraver.

Engraving with etching (hand colored) on 2 sheets, each 54 x 123 cm. (London: Printed for Robert Sayer, 1775). 142/6 00552 biblid=911520

When Bowen and Gibson’s map first appeared in 1755 with a different title that included the words “...and French Dominions...exhibiting the Present Seat of War and the French Encroachments...,” the French and Indian War was in its second year. Bowen used d’Anville’s 1746 map of North America as a base map and added information from a number of smaller regional maps he had produced earlier. Since John Mitchell’s new map of North America became available earlier that year, Bowen added information from it for areas east of the Mississippi. For areas west of the Mississippi Bowen still had to rely upon French sources. Improving upon earlier Moll maps, Bowen clarified the fact that California was a peninsula by adding an inset copy at lower left of his own copy of Father Kino’s map of the upper portion of the Gulf

of California. (See cat. no. 27). Bowen and Gibson's elaborate rococo cartouche designs rivaled those of d'Anville's brother, Gravelot.

Later, in 1775, the highly successful English print and map publisher and merchant Robert Sayer updated Bowen's map in an effort to capitalize on growing British interest in the American Colonies at the beginning of the American Revolution. Sayer simply changed the map's title, referring instead to the more recent Treaty of Paris of 1763 that ended the French and Indian/Seven Years' War. Sayer even included actual text from that treaty's Articles IV-IX and XX in the map's empty spaces in a manner similar to Herman Moll's text commentaries. Sayer & Bennett issued another version with minor changes in 1777 as did Laurie & Whittle in 1794.

Thomas Kitchin (1718-1784)

Thomas Bowen Kitchin (ca.1740-1781)

Another prolific eighteenth-century British engraver, cartographer, and map and print seller, Thomas Kitchin was the son of Thomas Kitchin, a hat-dyer, and was christened at St. Olave in the Southwark burrough of London in 1719. After serving the first part of his apprenticeship through the Merchant Taylors company with **Emanuel Bowen** from 1732 to 1739, Kitchin then married Bowen's daughter Sarah. Thomas did not obtain his freedom until 1746 when he immediately began to take on apprentices of his own. Over the years he took on six, including his own son **Thomas Bowen Kitchin**, beginning in 1754. He worked and lived in the Clerkenwell area of London and was also an active member of the Barbican Baptist chapel from at least 1752. From 1755 he ran a shop in nearby Holborn Hill, London. Kitchin was a very skilled engraver and apparently did much of his own lettering and decorations. In addition to a wide variety of maps, he also produced and published a collection of bawdy drinking songs (early 1740s – before his first marriage), an art manual, portraits, satires, and trade cards. From 1758 he was Engraver to the Duke of York. Bowen married in 1761 his second wife, Jane Burroughs, the daughter of a popular Baptist preacher, and in 1768 he became a deacon and moved to St. Albans, Hertfordshire, twenty miles north of London. From 1769 Kitchin used the imprint "Thomas Kitchin & Son" and from at least 1773 was Hydrographer to King George III. The son Thomas Bowen Kitchin was also an engraver and mapseller who worked and ran the shop in Holborn Hill until 1777 with his former apprentice John Barber, just before it was acquired by another former apprentice, William Hawkes.

Laurence Worms, "Thomas Kitchin's 'journey of life': hydrographer to George III, Mapmaker, and Engraver," *Map Collector* 62 (1993): 2-8, 14-20; Worms and Baynton-Williams, *British Map Engravers*, pp. 378-381.



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51

Thomas Kitchin

Mexico or New Spain: in which the motions of Cortes may be traced

Engraving with etching (hand colored) on paper, 28 x 38 cm. From William Robertson, *The History of America* (6th edition in 3 vols.; London: A. Strahan and T. Cadell, and Edinburgh: J. Balfour, 1793). 128/1 00496

Thomas Kitchin engraved maps for the first edition of Robertson's *History of America* in 1777. Kitchin's map of Mexico or New Spain was not that unusual and suggests reliance upon Delisle, d'Anville, and perhaps Robert de Vaugondy. Note the placement of "New Albion" in Upper California based upon Sir Francis Drake's visit there; this was common on British maps. Kitchin's maps appeared in subsequent editions and even after his death. This finely colored version from 1795 is from a weak strike that exhibits some of the wear and tear on the copperplate after multiple printings.

Thomas Jefferys (ca. 1718-1771)



Thomas Jefferys
Map & Print Seller, St. Martin's Lane, Ink, sepia, wash, and graphite on paper, by Paul Sandby
British Museum, London

Considered one of the most competent London cartographers and a significant mapseller of the eighteenth century, Thomas Jefferys produced fine charts and maps for a local, national, and international market. Jefferys was appointed *Geographer to the Prince of Wales* in 1746 at the age of thirty and later, upon the accession of George III in 1760, *Geographer in Ordinary to the King*. His maps relating to North America often had the official government sanction of the Commissioners of the Board of Trade and Plantations. Some of his early success was undoubtedly due to an employee named **Braddock Mead** (ca.1685-1757), also known as **John Green**, an Irish translator, geographer, and editor who advocated for and adopted the latest French mapping methods. According to

cartographic historian Brian Harley, Jefferys played an important role in the improvement of English cartography that took place after 1750, he promoted the new topographical surveys of Britain, and his workshop was a collecting center for masses of cartographic data generated before and during the Seven Years' War. During this time, he was a semi-official supplier of charts and maps to various government branches, and he also produced and sold many of the higher quality military and naval views relating to the war. Harley termed Jefferys a leader in making London an international center of cartographic advancement. Ironically, Jefferys went into bankruptcy in 1767 after he undertook major surveys of English counties without sufficient governmental backing.

Jefferys' date of birth is not known, but he was baptized "Thomas Jeffries" at St. Martin, Birmingham, in 1719. When apprenticed through the Merchant Taylors guild to **Emanuel Bowen** in 1735, Jefferys was listed as the son of the late Henry Jefferys, cutler, of St. James Clerkenwell. In 1742 he joined the Barbican Chapel where Bowen, **Kitchin**, and others in the London map business worshipped. Jefferys was made free in 1744. He married Elizabeth Raikes, the daughter of a printer of Gloucester and a half-sister to a pioneer of Sunday schools. Jefferys and Elizabeth's seven children were baptized at St. Martin-in-the-Fields. After his bankruptcy in 1767, **Robert Sayer** helped him

remain in business but acquired much of his stock. Jefferys had seven apprentices over the years, including his son, engraver and publisher Thomas Jefferys Jr., who continued the business in partnership with William Faden after Jefferys Sr.'s death in 1771. Jefferys Jr. apparently left the business to Faden in 1776, and the latter bought him out in 1783.

Brian J. Harley, "The Bankruptcy of Thomas Jefferys: an Episode in the Economic History of Eighteenth-century Map-making," *Imago Mundi* 20 (1966):27-48; Worms and Baynton-Williams, *British Map Engravers* (2011), pp.347-352; Walter W. Ristow, Introduction to reprint of Thomas Jefferys, *The American Atlas* (Amsterdam: Theatrum Orbis Terrarum, Ltd., 1974), pp. v-xi; Clayton, *The English Print 1688-1802*, pp. 94, 114, 125, 130, 177, 186, 220, 264.

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Thomas Jefferys

West Indies

Engraving with etching and stipple (hand colored) on paper, 19 x 30 cm., from Thomas Salmon, *A New Geographical and Historical Grammar* (6th ed. with very great additions and improvements; London : W. Johnston, 1758).

24/11 240086

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Thomas Jefferys

North America

Engraving with etching and stipple (hand colored) on paper, 19 x 23.5 cm., from Thomas Salmon, *A New Geographical and Historical Grammar* (6th ed. with very great additions and improvements; London : W. Johnston, 1758).

24/11 240089

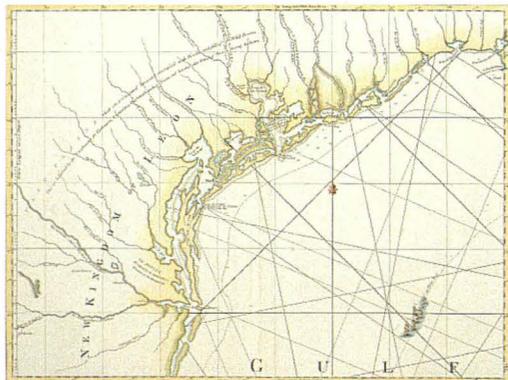
54

Thomas Jefferys

The Coast of West Florida and Louisiana

Engraving on paper, 48 x 61 cm. from Jefferys, *West India Atlas...* (London: Robert Sayer, 1775).

Bin 1483-150



55

Thomas Jefferys

The Western Coast of Louisiana and the Coast of New Leon

Engraving (with hand-colored outlines) on paper, 46 x 61 cm. from Jefferys, *West India Atlas...* (London: Robert Sayer, 1775).

27/8 3289

Although not that accurate, Jefferys' English chart of the Texas Gulf Coast was very influential in the last quarter of the eighteenth century. Accurate surveys were simply not yet available. The maps derived from a variety of sources including copies of Spanish manuscript maps dating from the early eighteenth century.

Jack Jackson, *Flags along the Coast* (1995), p. 138; Martin and Martin, *Maps of Texas and the Southwest* (1999, 1984), pp.102-103.

John Russell I (1745-1806)

John Russell 2 (ca.1750-1829)

John Charles Russell (1773-1848)

Three different London mapmakers in this era with the name John Russell make the identification of the creator of certain maps with this name problematic, but not impossible, to identify thanks to printed addresses and other clues.¹ The first was a portrait painter, astronomer, and engraver from Guildford who married the sister of William Faden. Apprenticed to painter Francis Cotes, this Russell exhibited at the Royal Academy and became Crayon Painter to the King and to the Prince of Wales in 1790 and to the Duke of York in 1792. His main contribution to cartography appears to be the creation along with Faden of a lunar globe. The second John Russell (2), a cartographer, engraver, and printer, was baptized at St. Katherine Creechurch in London, the son of a London gunlock-maker. He was apprenticed through the Goldsmiths guild to mapmaker, engraver, and globemaker William Palmer in 1765 and made free in 1772. He married Elizabeth Lloyd Sandiford at St. Bride Fleet Street, and they had a son who became an engraver and printer named John Charles Russell. The son was one of ten apprentices (including map engraver and draughtsman Alexander Findlay) that the elder took on over the years.

Worms and Baynton-Williams, *British Map Engravers*, pp. 574-576.

56

John Russell (ca.1750-1829)

A General Map of North America

Engraving on paper; 36 x 46 cm. probably from William Guthrie, *A New Geographical, Historical, and Commercial Grammar* (London, 1794).

19/7 91-339

According to Laurence Worms and Ashley Baynton-Williams' informative reference work *British Map Engravers* (2011), the address "9 Constitution Row, Grays Inn Road" in tiny print just below the margin at the lower right identifies this map as the work of John Russell (2). The map was probably intended for a school textbook and was remarkably up-to-date and accurate in its details on Texas for such a map: major towns, settlements, or missions include Naguadoch (Nacogdoches), Loretto (Goliad), and St. Antonio. The west coast includes accurate and recent information from Captain James Cook's third voyage. The rumored "Sea of the West" (or Great Salt Lake?) appears just beyond the southern branch of the "Stony Mountains," although the continuity of this mountain chain had not yet been confirmed.

Robert Laurie (1755-1836)

James Whittle (1757-1818)

Richard Holmes Laurie (1777-1858)

Engraver, publisher, map, chart, and printseller Robert Laurie was born in London, the son of a Robert Laurie, a truss-maker, and Ann Lowry. He served an apprenticeship through the Stationers company to Robert Sayer from 1770 to 1777, and during this time won awards for drawing, for patterns for calico printing, and for the discovery of a new method of printing mezzotints in color. He married the daughter of a Soho picture-frame maker and worked independently before returning to work with Sayer. From 1790 to 1794 "Sayer & Co." included Sayer, Laurie, and a junior partner, James Whittle. With Sayer's death in 1794, the business became Laurie & Whittle and remained at 53 Fleet Street. When Robert Laurie retired to Broxbourne, Hertfordshire, in 1812, the firm became known as Whittle & Laurie, consisting of James Whittle

and Robert's son Richard Holmes Laurie. Whittle died in 1818, and **Richard Holmes Laurie** became the sole proprietor. At his death in 1858, Alexander George Findlay continued the business which survives today through an amalgamation as Imray, Laurie, Norie & Wilson, Ltd., makers of nautical charts & books.

Worms and Baynton-Williams, *British Map Engravers*, pp. 390-392, 718.

57

Robert Laurie, James Whittle, and Richard Holmes Laurie
A New and Complete Map of the West Indies Comprehending all the Coasts and Islands Known by that Name by Monsr. D'Anville; with Several Emendations and Improvements

Engraving with etching (hand colored) 47 x 86 cm.
(London: Laurie & Whittle, 1794). 141/7 00466

As noted in the title, this British re-issue of d'Anville's 1746 map had some "emendations and improvements." The coastline of Florida is better delineated as are many of the islands, probably based upon British maritime charts. An added color key explains what areas belong to whom. Many of the actual coordinate locations for sites in New Spain or Mexico were not corrected until the German scientist-traveler Alexander von Humboldt visited there in 1803-1804 and published his landmark map in 1809 and 1811. Many locations in the Southwestern Borderlands of Northern New Spain would not receive proper surveys until the mid- to late-nineteenth century.

William Faden (1749-1836)



Portrait of William Faden with globe, by John Russell 1, British Library

Engraver, cartographer, mapseller, printseller, and publisher William Faden was the successor to a portion of Thomas Jefferys family's business and built up a considerable stock of maps of his own, including foreign imports, some of which he reissued with his own prolific imprint. Faden was born in London and baptized at St. Bride, Fleet Street, in 1749, the son of printer and publisher William Faden of Salisbury Court, Fleet Street, and wife Hannah Berriman. Young Faden was apprenticed through the Clothworkers

guild to James Wigley in 1764 and made free in 1771. Faden went into partnership with the family of Thomas Jefferys Sr. soon after the latter's death that same year. While much of the stock was auctioned off in 1772, Faden and Thomas Jefferys Jr. continued as partners until 1776 when the latter retreated from the business. Faden was an active member of the Society of Civil Engineers and took an active interest in military mapping. His testimony in 1781 in the treason trial of Francis Henry de la Motte regarding the latter's purchase of large quantities of maps helped lead to the guilty verdict for the defendant who was subsequently executed. Faden took over full ownership of the Jefferys business along with the title *Geographer to the King* in 1783. He carried great quantities of large folding maps and large-scale maps, and he published the first British Ordinance Survey map. Also, the Admiralty acquired some of his charts and reissued them as official Admiralty charts. In 1823 he turned over his business to his former apprentice James Wyld. Faden left behind a sizeable fortune when he died at Halliford, Shepperton, Middlesex, in 1836.

Worms and Baynton-Williams, *British Map Engravers*, pp. 221-225.

58

William Faden

The United States of North America with the British Territories and Those of Spain According to the Treaty of 1784

Engraving and etching (hand colored), 54 x 64 cm. Engraved by William Faden (London: William Faden, 1796). 80/8 220028

A color key establishes the limits of the boundaries of the United States (yellow), British North America (red), Spanish (green), and French (blue) territories according to the Peace of Paris of 1784 at the end of the American Revolution on this Faden map of 1796. Significantly, the color purple, which indicates lands belonging to the "Aborigines," merits a very lengthy qualifying text explanation that stretches across the western Atlantic. Already by 1796, when the map was published, the inhabitants of the new United States had been negotiating new land deals with various tribes or simply encroaching on or usurping Indian lands in order to expand as actions were unfolding in the Northwest Indian Wars. Lands east of the Mississippi and south of the Ohio were now under the jurisdiction of Kentucky and the Tennessee Territorial Government. Both East and West Florida were returned to Spain, but note here that the map's colorist erred, making it U.S. territory yellow instead of Spanish green. Indians formerly in eastern areas, such as the Cherokee and Seminole, now appear further west as they were forced on by Euro- and Afro-American settlement. Interestingly, Faden's sources were apparently insufficient or not consulted in the area of Spanish Texas, which is here labeled "New Mexico" and the "Country of the Ceniz."

Samuel Dunn (1723-1794)

Astronomer, geographer, cartographer, mathematician, writer, teacher, and inventor, Dunn compiled and published at least eight collections of maps or atlases in addition to authoring pamphlets, lectures, textbooks, and practical guides, primarily related to navigation. Dunn was born in Crediton, Devon, England, the son of a school teacher. From an early age he was interested in the mathematical sciences and by 1743 was teaching and writing on these subjects. Navigation, in particular, interested him and in 1751 he moved to London where he became master of an Academy at Ormond House, Chelsea. There he taught and wrote about theoretical and practical navigation and continued his study of astronomy. Dunn created "Universal Planispheres" to teach "spherical geometry without the expense of purchasing actual globes." A consultant to the East India Company, his work was known by the British Board of Longitude (an organization formed in 1714), and he frequently visited the Royal Society. In 1763 he gave up his post at Ormond House when he married a widow named Harrison who operated a girls' school at Brompton Park near Kensington. Her school, Dunn soon learned, was heavily in debt. Despite financial problems, Dunn's reputation in nautical astronomy nevertheless continued to grow as he took on private pupils from the nobility. His friends and acquaintances included Benjamin Franklin and Astronomer Royal Nevil Maskelyne. From 1767-1771 Dunn was among a small selection of teachers in Britain authorized by the Admiralty to sign ships' masters certificates. Dunn's services to the East India Company continued to grow: from 1780 he edited the *New Directory of the East-Indies*, and in 1788 the Company engaged him as an examiner in mathematics for their cadets. Although Dunn made repeated unsuccessful attempts to become a Fellow in the Royal Society, he proudly claimed membership in the Philosophical Society of Philadelphia.

Gordon Goodwin, "Dunn, Samuel (d.1794)," *Dictionary of National Biography*, vol. 16, 1885-1900; Nick Heard, "Samuel Dunn" in "Heard Family History," <http://www.heardfamilyhistory.org.uk/Samuel%20Dunn.html>, accessed 7/22/2016.

Samuel Dunn after Jonathan Carver and others
*A New Map of the United States of North America
 with the British Dominions on that Continent*

Engraving, 1794, in Samuel Dunn, *A New Atlas of the Mundane System: or, of Geography and Cosmography...* 4th ed., with additions, corrections, and very great improvements. (London: R. Laurie and J. Whittle, 1796).

G1015.D85 1796 SpCo Oversize

Dunn's *New Atlas of the Mundane System...* was a beautifully-produced atlas with sixty-two copperplate engravings compiled by Dunn and originally published in London in 1774. The atlas went through several editions that were published by Laurie & Whittle. Dunn and Laurie & Whittle credited this map, dated 1794, the year of his death, as "improved from the surveys of Capt. Carver" – giving the main source of his map as a map that appeared in one of the numerous editions of Jonathan Carver's *Travels through the Interior Parts of North America in the Years 1766, 1767, and 1768* (London, first published 1778). Carver (1710-1780), a British Colonial soldier, explorer, author, and mapmaker, was one of the first English-speaking white men to enter and write about the area beyond the upper Mississippi. A native of Weymouth, Massachusetts, he served throughout the French and Indian War with provincial troops, and following the end of the war, Major Robert Rogers, commander at Mackinac Island, sent Carver to explore and map the rivers of what became Wisconsin and Minnesota. Interestingly, the southwestern portion of Dunn's map, however, still contains nomenclature dating back to Delisle and French maps from the beginning of the century.

Aaron Arrowsmith Sr. (1750-1823)



Aaron Arrowsmith Sr.
 Engraving by T.A. Dean -after Henry
 William Pickersgill

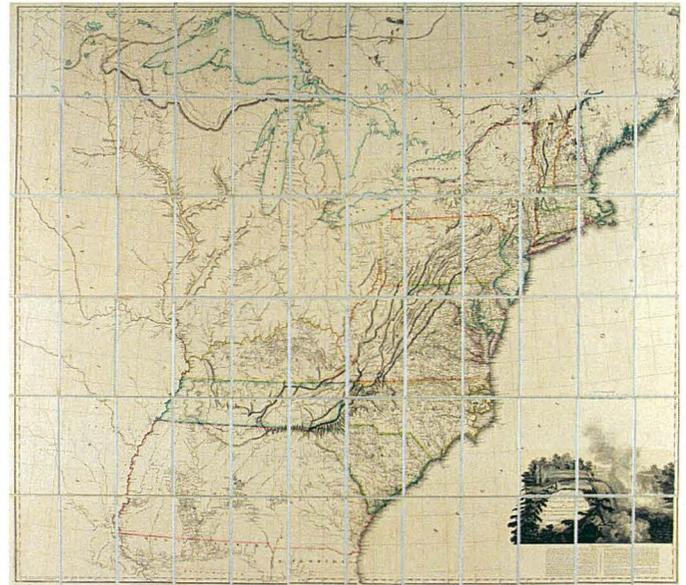
Acknowledged by R. V. Tooley as "easily the foremost cartographer of his time," Aaron Arrowsmith Sr. was also an engraver, publisher, globemaker, and surveyor. From about 1810 he served as Hydrographer to the Prince of Wales and, after the latter ascended the throne as George IV in 1820, as Hydrographer to the King. Arrowsmith was born at Winston, Durham, in 1750. Largely self-taught, he may have studied mathematics with William Emerson. In the 1770s

Arrowsmith worked in London, probably

for engraver, surveyor, publisher, printer, map, and printseller Andrew Dury, whose will he witnessed in 1777. He may have also worked for **William Faden**. Arrowsmith married Catherine Sophia Palmer in 1780 at St. Martin in the Fields, and between 1786 and 1800 they had seven daughters. From 1780 Arrowsmith worked for London engraver, cartographer, globemaker, surveyor, mapseller, printseller, and publisher John Cary as a surveyor and was listed in directories for 1785 and 1790 as a land-surveyor. He established his own business in 1785 or 1786 and soon gained an international reputation in 1790 with the publication of a large 11-sheet world map, the first of several large maps that incorporated recent discoveries made by important

British explorers such as Captain James Cook. In 1801 Arrowsmith married Sarah Hare at St. Marleybone. Their five children together included sons Aaron Arrowsmith the younger (1802-1854) and Samuel Arrowsmith (1805-1839) who both became cartographers along with a nephew John Arrowsmith (1790-1873).

Worms and Baynton-Williams, *British Map Engravers*, pp. 25-29; Elizabeth Baigent, 'Arrowsmith, Aaron, the elder (1750-1823)', *Oxford Dictionary of National Biography*, Oxford University Press, 2004 [<http://www.oxforddnb.com/view/article/698>, accessed July 15, 2016]; Bendall et al., *Dictionary of Land Surveyors and Local Map-Makers of Great Britain and Ireland, 1530-1850* (2nd ed. 2 vols.; London: British Library, 1997), vol. 2, p. 13.



Aaron Arrowsmith, Sr.

A Map of the United States of North America: Drawn from a Number of Critical Researches by A. Arrowsmith

Engraving and etching (with hand-colored outlines) on paper mounted on linen, 123 x 141 cm. (London: Arrowsmith, Jany. 1st 1796, with additions to 1802).

130054 (framed) 97/1 210022 Case in map annex

Arrowsmith's map documents the United States' expansion in the late eighteenth century following the War of Independence. President Thomas Jefferson ordered a copy of this 1802 edition and used it in preparation for the 1803 Louisiana Purchase. There are here sixteen states instead of thirteen, with the addition of the new states of Vermont (1791), Kentucky (1792), and Tennessee (1796). Arrowsmith's map still shows Georgia extending to the Mississippi, although the new Mississippi Territory had been formed in 1798. The watersheds of several southern rivers such as the Tennessee, "Tombeebchbee," and Coosa are shown in considerable detail. Images of the wonders of the Natural Arch in Virginia and Niagara Falls form the cartouche with no attribution to the designer.

The Dutch

Just as the seventeenth century has been called the Dutch “golden age” in terms of commercial, political, military, and cultural power and influence, the period from 1630 to 1700 has been termed “the golden age of Dutch cartography.” By the eighteenth century, however, French and British competitors began to threaten Dutch dominance of the map trade just as their fleets and armies brought serious restraints to Dutch trade in much of the world. The printing quality of Dutch maps did not decline so much as their access to new geographical information. While Dutch cartographers were no longer spearheading the mapping of Asian and American areas, this did not mean that they quit producing such maps – far from it. The 1685 Revocation of the Edict of Nantes actually boosted Dutch mapmaking as another wave of French Protestant Huguenot refugees came to the Netherlands, bringing their knowledge and skills. The 1690s to 1710s witnessed a big demand for French books and maps, and many collectors preferred quantity over quality with regard to their maps. Dutch-based booksellers and mapmakers were ready and willing to comply by copying the latest maps from France as well as maps from other foreign sources. Many years later, Dutch cartographic historian Cornelis Koeman would refer to the eighteenth century as a time of Dutch “overproduction” of maps. However, several of the real cartographic contributions of the Dutch in this period were the creation of workable business models for the map business, the dissemination of geographic knowledge, and the democratization of maps – meaning more people, including people of lower social and economic backgrounds – had greater access to maps.

See Marco van Egmond, *Covens & Mortier: A Map Publishing House in Amsterdam, 1685-1866* (Houten, Netherlands: Hes & De Graaf, 2009), particularly pp. 19-21, who also cites and translates appropriate portions of Cornelis Koeman's *Het beginsel van communicatie in de kartografie: rede uitgesproken bij de aanvaarding van het ambt van Gewoon Hoogleraar in de Kartografie aan de Rijksuniversiteit te Utrecht op 19 mei 1969* (Amsterdam: Theatrum Orbis Terrarum, 1969), pp. 14-15.

Pieter (Pierre) van der Aa (1659-1733) and Family

The Dutch Van der Aa family were book publishers, book and mapsellers, engravers and mapmakers centered in Leiden, located about 25 miles southwest of Amsterdam. From 1682 until 1733 the firm's founder Pieter van der Aa produced a large quantity of publications ranging from maps and atlases to books on science and the classics. Over the next century the business grew in part from his acquisition of legacy stock from mapmakers and map publishers Carel Allard and Frederik de Wit. Van der Aa's most famous publications are massive: *Naaukeurige versameling der gedenkwaardigste zee- en land-reysen* (a collection of travels and voyages produced in 1706-1708) – comprises 28 volumes with many maps, and *La galerie agréable du monde* (1729) – comprises 66 parts bound in over twenty volumes containing approximately 3,000 maps, engravings, and portraits. Van der Aa maps were often derivative with geographical and scientific data carelessly altered to present a more agreeable aesthetic composition.

Pieter (Pierre) van der Aa, the head of the family, was born in 1659 in Leiden, where his father was a stone-cutter and sculptor from Holstein. Pieter, the oldest son of eight children all baptized Lutheran, was apprenticed in the Leiden Booksellers Guild as early as 1668. Apparently industrious, Pieter owned a bookshop and auction house with three employees by 1682. Sometime after this, he married and in 1685 took over his mother's house. By 1686 he was a father and living in the St. Pieterskerkooersteg, but by 1714 he had moved his family to a house on the Rapenburg near the University. Pieter had at least two brothers in the business, Boudewijn or Boudewyn van der Aa (active ca. 1701) and Hildebrand van der Aa, and a nephew Janssoons van der Aa (active 1726-1735). A Cornelis van der Aa (1749-1816) was a bookseller at Haarlem and Utrecht.

Cornelisz. Koeman, *Atlantes Neerlandici: Bibliography of Terrestrial, Maritime and Celestial Atlases and Pilot Books published in the Netherlands up to 1880* (5 vols; Amsterdam: Theatrum Orbis Terrarum, 1967), vol. I, pp. 1-3; Marco van Egmond, *Covens & Mortier: A Map Publishing House in Amsterdam, 1685-1866* (Houten:

Hes & De Graaf, 2009), pp. 46, cites P.G. Hofstijzer, *Pieter van der Aa (1659-1733): Leids drukker en boekverkoper* (Hilversum: Verloren, 1999); Tooley's Dictionary of Mapmakers (1999), vol. 1, p. 1.

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Pieter van der Aa

'T Amerikaans Gewest van Florida door Ferdinand de Soto nader Ontdekt en groot deels Bemagtigt

Engraving and etching on paper, 16.5 x 22.5 cm., in *De Gedenkwaardige Voyagie van Don Ferdinand de Soto, no Florida, en Desselfs Ontdekking van de Landen in dat Gewest, met al wat Aanmerkenswaardig op die Vierjarige Reyse is Voorgevallen*. (Leyden: Pieter Vander Aa, 1706), betw. pp. 3 and 4. Part of *Naaukeurige Versameling der Gedenkwaardigste Zee- en Land-Reysen* (Leyden: Pieter Vander Aa, 1706-1708). 129/9 00819

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Pieter van der Aa

Land Togten door Ferdinand Cortes aan de Golf van Nieuw Spanje, ter Bamagtiging van Tlascalte Mexico en Aangrenzende Landschappen gedaan

Engraving, in Antonio Herrera y Tordesillas, *Heldhaftige Reys-Togten, te land deer Ferdinand Cortes, in Nieuw-Spanje, ter Belegering der Koninglijke Hoofd-stad Mexico, van Tlaskala ondernoomen in't Jaar 1519* (Leyden: Pieter Vander Aa, 1707), opp. p. 1. Part of *Naaukeurige Versameling der Gedenkwaardigste Zee- en Land-Reysen* (Leyden: Pieter Vander Aa, 1706-1708). E141 .H5752 1707 SpCo

These maps in the accounts of Ferdinand de Soto's and Ferdinand Cortes' exploits were part of Van der Aa's massive *Naaukeurige Versameling der Gedenkwaardigste Zee- en Land-Reysen* – a collection of sea voyages and land travels published by Van der Aa from 1706-1708. Several engravers worked on the project for Van der Aa, including Romeyn de Hooghe.

Pieter van der Aa

Mexique ou Nouvelle Espagne, Suivant les Nouvelles Observations de Messrs. de l'Academie Royale des Sciences, etc. Augmentees de Nouveau. A Leide, chez Pierre Vander Aa

Engraving, in Abraham Du Bois, *Geographie Moderne, Naturelle, Historique & Politique, dans une Methode Nouvelle & Aisee* (3 vols.; Leiden: Pierre Vander Aa, 1729), vol. 3, opp. p. 830. G114 .D8 1729, v. 3

Henri Abraham Châtelain (1684-1743)
Zacharias Châtelain (active 1728-1740)
François l'Honoré (1672-1746) and Family
 (See page 5)



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Henri Abraham Châtelain, Zacharias Châtelain, François l'Honoré
Carte de la Nouvelle France, où se voit le cours des Grandes Rivieres de S. Laurent & de Mississipi... Dressée sur les memoires les plus nouveaux recueillis pour l'établissement de la Compagnie Française Occident

Engraving and etching (hand colored) on paper, 42.5 x 48.5 cm., by Bernard Picart, from *Atlas Historique* (7 vols.; Amsterdam: Chez Châtelain & Honoré Libraires, 1719-1732), vol. 6, no. 23, p. 91. 135/4 00651 bibId=868210

The Châtelains compiled their map “from recent reports on the establishment of the French West India Company” but also copied maps by Nicolas de Fer and Guillaume Delisle. The top left portion of the map is actually an inset – deceptively bounded by acanthus leaves in the Baroque fashion – showing the mouth of the Mississippi River before the establishment of New Orleans. These features and the beautiful inset view of Quebec and the plan of the Environs of Quebec were probably engraved by Bernard Picart or his workshop. Jean-Baptiste-Louis Franquelin’s map of North America of 1699 had a similar view of the city from the same angle but with fewer steeples, suggesting considerable growth in the intervening years. The map is quite similar to a map by Matthäus Seutter of Nuremberg (see no. 75). It is difficult to tell which came first.

Koeman II p. 33; Jan W. van Waning, “Châtelain’s *Atlas Historique* New Evidence of Its Authorship” *Journal of the International Map Collectors’ Society* 120 (Spring 2010): 7-15; Franquelin’s Quebec view is illustrated in Litalien, Palomino and Vaugeois, *Mapping a Continent* (2007), pp. 104-105.

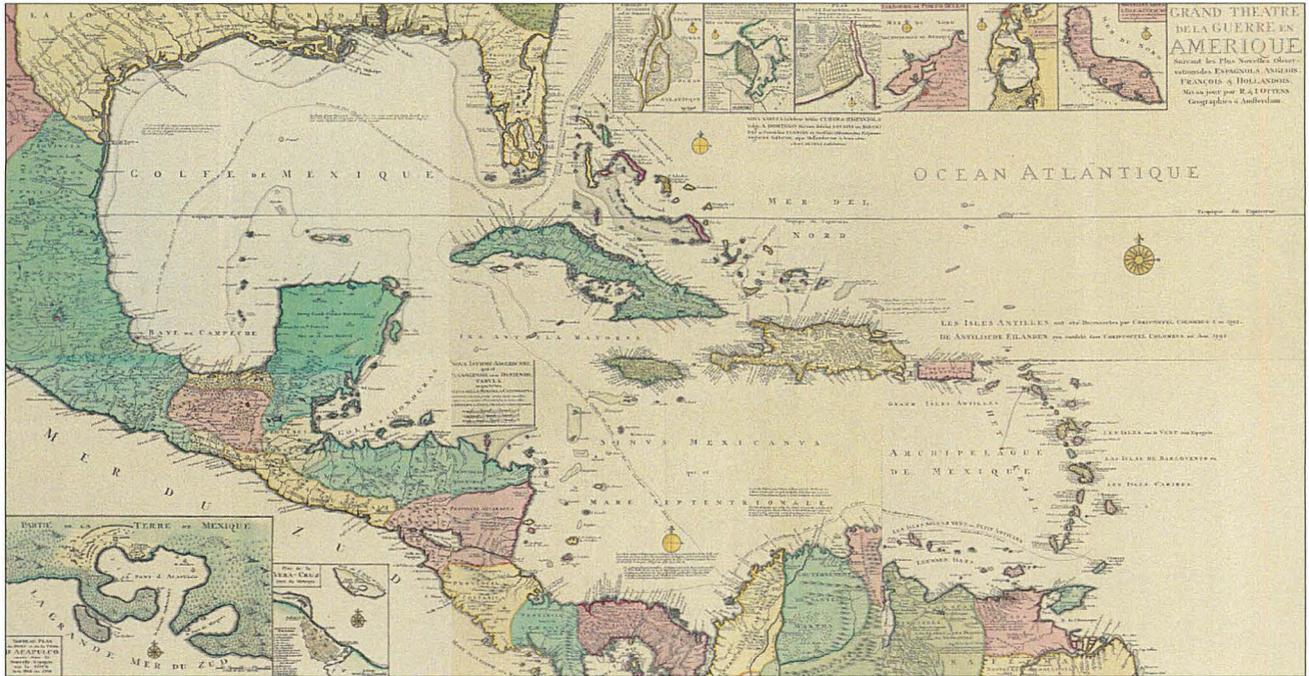
Covens & Mortier

In terms of quantity, the publishing house of Covens & Mortier was “by far the most important commercial map producer” in the Netherlands of the eighteenth century, according to cartographic historian Marco van Egmond. Often far removed from the latest source material, Covens & Mortier made exact copies in large quantities of the best foreign maps they could purchase. While this was denounced by foreign mapmakers, the consumer benefitted in the short term since they could purchase an acceptable product – often virtually of the same quality as the original version of a product – at a relatively low price. In addition, Covens & Mortier found creative ways of extending the life of their copperplates in order to further boost production and cut costs. More affordable maps resulted in the democratization of maps: such materials were now available to more people, including people of lower social and economic levels. The firm is also credited with the idea of making maps of “theatres of war,” which fueled a new trend in news cartography. They introduced atlases in elephant folio form, produced and distributed topographic maps of Dutch regions, came up with new ideas for the construction of pairs of globes, and occupied a leading position as a central map store for the Dutch Republic from about 1750 until well into the 1800s.

Pieter Mortier (1661-1711), the founder of the publishing dynasty, was born in Leiden and was a third-generation descendant of a French Huguenot refugee. His family moved to Amsterdam when he was an infant. In 1681 he went to Paris to learn the book trade (and perhaps copperplate engraving), returning to Amsterdam and opening a small bookshop just a few months prior to Louis XIV’s infamous “revocation” Edict of 17 October 1685. Already by August of that year, Pieter was living on the Vijgendam and had become a member of the city’s Book, Art Sellers’ and Printers’ guild. Apparently a shrewd, hardworking, and tough personality, Mortier’s book business flourished, and, beginning in 1690, he began publishing large quantities of maps and atlases in addition to books and sheet music. For the next two decades he compiled huge amounts of cartographic materials and employed many engravers. Such was his success that by 1706 he owned three houses that bordered each other, and he soon tore one of them down to construct a five-storey structure that served as the firm’s shop, business, and residence for over a century. Unfortunately, Pieter only lived and worked there a short time before his death.

In 1711 Pieter’s widow, **Amelia ‘s-Gravesande** (1666-1719) continued the business by holding auctions of the vast stock that her husband had amassed. These auctions attracted competitors like François l’Honoré and Zacharie Châtelain. In 1712 Amelia received assistance from her brother-in-law (one of Pieter’s younger brothers) **David Mortier** (1673-ca.1733) who had until recently been a book, map, and printseller and publisher in London. After Amelia’s death, David and Amsterdam printer and engraver Gerard Valck (1652-1726) served as guardians until her children could assume positions in the family business or find other employment. David soon returned to his business in London.

In 1721 Pieter and Amelia’s son **Cornelis Mortier** (1699-1783) began selling books and maps with **Johannes Covens** (1697-1774), thus beginning the partnership of Covens & Mortier. Covens managed the cash and the bookkeeping, and another successful but more gradual expansion of cartographic stock resulted. For a short time Cornelis’ younger brother **Pieter Mortier II** (1704-1754) worked with the firm, mainly with book sales, but he went his separate way in 1729. By 1742 Johannes Covens & Cornelis Mortier had the highest assessed incomes of all Amsterdam map sellers. Meanwhile, Covens’ son **Johannes Covens Jr.** (1722-1794) was also learning the business and, as early as



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1748, was selling maps. By 1762 he was one of the senior members of the Book and Art Dealers and Book Printing Guild. Eventually, his son Cornelis Covens (1764-1825) became involved in the business shortly after Cornelis Mortier's death in 1783, so the company name changed to "J. Covens & Zoon." However, customers apparently respected the Mortier name such that by the 1790s the company name changed once again to "Mortier, Covens et Fils" and the Dutch version "Mortier, Covens & Zoon." Cornelis' son Cornelis Joannes Covens (1806-1890) extended the business well into the nineteenth century, finally ending with the latter's retirement in 1866.

See Marco van Egmond, *Covens & Mortier: A Map Publishing House in Amsterdam, 1685-1866* (Houten, Netherlands: Hes & De Graaf, 2009), especially pp. 292-300; Marco van Egmond, "The Secrets of a Long Life: The Dutch Firm of Covens & Mortier (1685-1866)," *Imago Mundi* 54 (2002): 67-86; C. Koeman, *Atlantes Neerlandici* (1967-1971), vol. 3, pp. 4-21.

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Covens & Mortier

L'Amérique septentrionale dressée sur les mémoires le plus récents des meilleurs géographes & publiée par Covens & Mortier, 1757

Engraving and etching (hand colored) on paper, 47 x 61 cm. (Amsterdam: Covens & Mortier, 1757). 135/1 00460 bibId=868838

From 1857 the Covens & Mortier firm replaced older Delisle-based maps of North America in their publications with this new map. The principal sources were by d'Anville. Tooley suggested that the Covens & Mortier map was then copied by other cartographers including the R. & J. Ottens and Lotter Family firms.

Marco van Egmond, *Covens & Mortier* (2009), pp. 292, 425, no. 47, cites Tooley, *French Mapping of the Americas: the Delisle, Buache, Dezauche Succession* (Map Collector's Circle no. 33).

R. & J. Ottens Family

The Ottens Family of Amsterdam can trace its beginning to engraver, print, and mapseller **Joachim Ottens** (1663-1719). A copperplate engraver, Joachim obtained Amsterdam citizenship and married **Aaltje Fredericks van der Linden** (1665/66-1725) in 1690, then joined the art and printsellers guild in 1710. Oldest son Frederick became a copperplate engraver, but his connection with the family firm is not certain. Sons **Reinier Ottens I** (1698-1750) and **Josua Ottens** (1704-1765) helped their mother continue the business at a house on the Nieuwendijk after Joachim passed away in 1719. The firm was known from 1719-1725 as "Widow of J. Ottens & Zoonen." In 1726 the two brothers, Reinier Ottens I and Josua Ottens, officially formed a partnership but maintained separate workshops after Josua married and moved to a house on the Nieuwezijds Achterburgwal. In 1742 Reinier I moved to the Kalverstraat, and, when he died without children there in 1750, Josua and his wife Johanna de Lint Ottens (1708-ca.1780) and their family moved in. From 1750 the firm consisted of Josua and **Reinier Ottens II** until Josua's death in 1765. From that year until the firm's liquidation around 1780 and the death of Johanna de Lint Ottens, it was known as "Widow of J. Ottens & Zoon." In terms of map production, the best work of the Ottens family came from the era of Reinier I and Josua. While they compiled a few hundred of their own maps from a variety of sources, they also copied a considerable number of French maps by Jaillot and Delisle.

Marco van Egmond, *Covens & Mortier* (2009), pp. 47, 48, 71, 557; Koeman, *Atlantes Neerlandici* (1967-1971), III, pp. 85-93; Tooley's *Dictionary of Mapmakers* Rev. Ed. (2003), vol. 3, p. 362.

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Reiner Ottens I, Josua Ottens et al.

Grand Theatre de la Guerre en Amerique Suivant les Plus Nouvelles Observations des Espagnols, Anglois, François & Hollandois mis au jour par R. & J. Ottens

Engraving and etching (hand colored) on 6 sheets, each approximately 53 x 65 cm. or smaller (Amsterdam : R & J. Ottens, 1725-1745). 134/2.00711

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Josua Ottens and Reiner Ottens II after John Mitchell

Carte des Possessions Angloises & Françaises du Continent de l'Amérique Septentrionale. Kaart van de Engelsche en Fransche Bezittingen in het Vaste Land van Noord America, 1755

Engraving (hand colored) on paper, 40 x 56 cm. (Amsterdam: Chez R. et J. Ottens, Géographes, 1755). 133/4.00477 bibId=868166

Ottens' map copied and reduced Mitchell's important eight-sheet North America map of 1755 to one sheet.

Isaak Tirion (ca.1705-1765)

Johanna Koster Tirion (active ca.1737- ca.1775)

In 1744 Amsterdam bookseller and publisher Isaak Tirion published his *Nieuwe en Beknopte Handatlas [New and Concise Handatlas]* – the first new Dutch world atlas since Joan Blaeu's *Atlas Maior of the seventeenth century*. With continuous additions to keep them up to date, Tirion's atlases and maps became models for Dutch commercial cartography into the next century. A native of Utrecht, Tirion may have moved to Amsterdam around 1725 for an apprenticeship since his name appeared on the records of the booksellers guild for the first time two years later. He bought a house on the Kalverstraat in 1742 and was apparently successful in business, serving as a boardmember of the bookseller's guild. Tirion married twice, first in 1730 to a Johanna Fries of Haarlem, then, after her death, to a Johanna Koster of Alkmaar in 1737. The latter continued his business for about ten years after his death in 1765. She and the Compagnie van Boekverkoopers published two further editions of Tirion's *Handatlas* between his death and the year 1800; after 1808 the Covens & Mortier firm continued to publish it with additional maps and modifications until ca.1828.

Koeman, *Atlantes Neerlandici*, pp. 126-135; Marco van Egmond, Covens & Mortier (2009), pp. 47, 48, cites Antoinette Clay, "Na druk volgt vreudje": de Amsterdamse boekverkooper Isaak Tirion (1705-1765)" University of Amsterdam thesis, 1997.

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Isaak Tirion

Kaart van het Westelyk Gedeelte van Nieuw Mexico en van California volgens de laatste Ontdekkingen der Jesuiten en anderen [Map of the Western Part of New Mexico and California, according to the latest discoveries of the Jesuits and others] (Amsterdam: Isaak Tirion, 1765)

Engraving on paper, in Thomas Salmon, *Hedendaagsche Historie of Tegenwoordige Staat van Amerika [Modern History and Present State of America]* (3 vols.; Amsterdam: Isaak Tirion, 1766-1769), vol. 1, opp. p. 243.

Jan Barent (Barend) Elwe (1746-1816)

Amsterdam bookseller and publisher Elwe specialized in reissuing maps from old plates and re-selling old stock. He first appeared ca. 1780 as a partner with D. M. Langeveld, producing new impressions of Sanson & Jaillot's *Atlas François*. Some Covens & Mortier maps after Delisle were copied by Hendrik de Leth in the mid-eighteenth century, and these were then issued and re-issued by Elwe & Langeveld. The latter firm also published a *Compleete Zak-Atlas van de zeventien Nederlandsche Provincien...[Complete Pocket Atlas of the Seventeen Netherlandish Provinces...]*(1785). Elwe published *Volkomen Reisatlas van geheel Duitschland...[Complete Travel Atlas of Germany...]* (1791) with several maps credited after Delisle and *Beknopte Beschryving van de Geheele Wereld [Brief Description of the Whole World]* (1792) with maps identical to those of R. & I. Ottens except that the Ottens' names were rubbed out and replaced by "I. B. Elwe." For these and other questionable transgressions Elwe received criticism from at least one of his fellow book publishers who anonymously published a satirical pamphlet about him titled *Leeven en character schets van den Amsteldamsche boekverkooper J...B...E...[Life and Character Sketch of the Amsterdam Bookseller J...B...E...]* (1809).

Koeman, *Atlas Neerlandici*, vol. II, pp. 104-108, believed Elwe "most probably of foreign origin.;"*Van Egmond, *Covens & Mortier*, pp. 120, 125, 131, gives Elwe's birth and death dates but offers no sources for this.



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Jan Barend Elwe

Amerique Septentrionale Divisée en ses Principales Parties, MDCCXCII

1 map : col. ; 46 x 57 cm. (Amsterdam: Chés Ian Bt. Elwe, 1792). 133/3.00457

Ninety-two years after it was first issued (!), Elwe's 1792 copy of Delisle's 1700 map of North America aptly demonstrates the influence of French cartographers over the course of the eighteenth century. Moreover, the faint impression suggests that Elwe's copperplate was already worn out.

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Jan Barend Elwe

De Golf van Mexico de Eilanden en het omleggende Land Zaamengesteld en op nieuw gecorrigeerd volgens de beste Waarnemingen

Engraving (hand colored) on paper, 48.5 x 58 cm. (Amsterdam: Ian Baret Elwe, 1792). Bin 13.240082

The Germans

Following the Thirty Years War (1618-1648), the southern imperial cities of Nuremberg and Augsburg in the politically-splintered German-speaking lands gradually recovered their importance as centers for the book and publishing trade of Central Europe while German printers, engravers, and art dealers also revived and advanced. During the eighteenth century, the Homann mapmaking firm flourished, producing quality maps, establishing good marketing strategies, and operating a stable business. It was eventually joined by publishing houses that produced maps in several other cities. Since these cities attracted large numbers of skilled engravers and graphic artists, maps produced by German firms like Homann often had decorative cartouches of high quality.

German astronomers, mathematicians, geographers, and historians working in expanding universities also contributed to the increasing quality of German cartographic products during the century. As in other countries, the Hapsburg Emperors awarded the title *Kaiserlicher Geograph* (Imperial Geographer) and printing privileges to mapmakers, and several states and principalities supported various cartographic endeavors. The Prussian Academy of Sciences, founded in Berlin in 1700, counted several cartographers among its members as well as French *philosophes* and *encyclopédistes*. King Frederick II “The Great,” ruler of Prussia from 1740-1786, employed the great mathematician and sometime cartographer Leonhard Euler at his court from 1741 to 1766. Frederick was the very model of an “enlightened despot,” adopting French culture, styles, and ideas to his own kingdom, including French advances in the sciences.

While German base maps of Central and Eastern Europe increasingly became the models for the rest of Europe to copy, the Germans, like the Dutch and the English, generally had to rely for the most part on secondhand information for geographic information about the Southwest borderlands of North America. During the eighteenth century, mapmakers in Nuremberg, Augsburg, Berlin, and Vienna all copied and imitated foreign, usually French, maps of North America. However, by the middle of the nineteenth century, German centers of geographic information and cartographic production in places like Berlin, Vienna, Weimar, and Leipzig would grow to such extent that they soon rivaled the British and surpassed the French. This cartographic prominence would also extend to their knowledge of the Southwest Borderlands.

Marco van Egmond, *Covens & Mortier* (2009), pp. 51-54; Michael Ritter, *Die Welt aus Augsburg: Landkarten von Tobias Conrad Lotter (1717-1777) und seine Nachfolger* (Augsburg: Anton Lotter, Kunstsammlungen und Museen Augsburg; and Berlin and Munich: Deutscher Kunstverlag GmbH, 2014).

Johann Baptist Homann (1664-1724) and Heirs



Johann Baptist Homann
Engraving, by Johann Wilhelm
Winter after Joannes Kenckel
(Nuremberg, 1715-1722).
City Museum, Nuremberg

For years the Homann firm was virtually the only publishing house exclusively dedicated to maps in the German-speaking world; it flourished throughout the eighteenth and into the nineteenth centuries.

Interestingly, more is known about the firm's founder Johann Baptist Homann and his private affairs than is often the case with eighteenth-century cartographers thanks to civil records from the city of Nuremberg and the work of scholars Christian Sandler and Markus Heinz. Homann was born in Oberkammlach near Mindelheim, approximately thirty-seven miles southwest of Augsburg. He passed through several

grades of a Catholic education and was reportedly on track to become a Dominican monk at a monastery at Würzburg but left this behind in 1687 when he presented himself before the Nuremberg town council as an unemployed twenty-three-year-old with the intention to become a Protestant. They provided shelter and paid for his conversion classes. His pastoral instructor found him to be an “eager learner and of upright character,” and by March 1688 he had completed his formal conversion. Homann soon found temporary work hand coloring

engravings, but as of January the next year he still required public assistance. By 1690 when he married Susanna Felicitas Ströbel, the daughter of a Protestant minister, Homann had found employment as a notary public. He continued to practice engraving and taught himself lettering or calligraphy on copperplate at which he excelled. His first known engraved map dates from 1692.

In the following years Homann increasingly specialized in cartography, working for various publishers in and outside Nuremberg whereby he gained experience and knowledge in the fields of engraving and publishing. His most important employers were the publisher Jakob von Sandrart (1630-1708) and David Funck (1642-1709). Meanwhile, Homann's conversion to Protestantism was difficult with him at one point publicly expressing his regret for conversion and remorse about leaving the monastery. This, and his insistence upon giving his eldest son a Catholic education in nearby Allersberg, brought him into conflict with the Nuremberg authorities from 1693 until 1697, including an arrest and brief detention in April 1694 and a short period of exile 1696-1697 in Leipzig where he visited a father confessor. In the end, Homann was warned about further contact with “Papists,” and after February 1698 he retained his rights of citizenship.

In 1702 Homann independently published his first map from the Nuremberg address of his late father-in-law Ströbel in the

Judengasse. At this time he worked tirelessly on the maps for his own first complete German atlas *Atlas über die gantze Welt* (1707) as well as for works by other authors. Like the maps of many foreign contemporaries, Homann's maps were topographical but also referenced the political and military situations of the period. In addition he included celestial maps, probably thanks to the suggestions of a very important collaborator, the Nuremberg astronomer, natural scientist, mathematician, and biographer Johann Gabriel Doppelmayr (1677-1750) who wrote a forty-page introduction to Homann's atlas. The atlas and maps sold very well partly thanks to marketing strategies that included: regional and historical vignettes in the cartouches, the option to buy maps separately or in atlases, customized title pages and indexes, and Latin titles (since Latin was then a universal language among the educated and would reach an even wider audience). Homann soon made plans to produce more maps for two pioneering school atlases from 1710 by Johann Hübner (1668-1731), a geography teacher from Merseburg (near Leipzig). Meanwhile, Homann's wife had passed away in 1705, and he had soon remarried.

Homann's success allowed him to expand and brought increasing recognition. In 1712 he acquired his own publishing house and residence on the Kornmarkt (today at Josephsplatz 2, south of the Pegnitz). In 1715 he was accepted into the Royal Prussian Academy of Sciences and also named an *Kaiserlicher Geograph* (Imperial Geographer). For the latter honor he dedicated his next and most important atlas *Großen Atlas über die gantze Welt* (1716) to Holy Roman Emperor Charles VI. At this point he had little competition from mapmakers in the German-speaking world, and he and many of his contemporaries recognized that he should not just be copying maps by others, but that cartographic studies and surveys should receive serious financial backing. As a result of his reputation, the Russian Court contacted Homann and furnished him with material for new maps of the Caspian Sea and Kamtschatka Peninsula. Ironically, given Homann's beginnings, in 1723, a year before his death, the city of Nuremberg honored him as a member of their grand town council.

Homann's firmly-established business and map plates passed to a younger son from his first marriage, **Johann Christoph Homann** (1703-1730), who was then a medical student in Halle. While Johann Christoph completed his studies and educational travels, the business was continued by Johann Baptist's step son-in-law (who had married a daughter of Johann Baptist's second wife by a previous marriage), **Johann Georg Ebersberger** (1695-1760), an experienced copperplate engraver. After Johann Christoph returned to Nuremberg, he made new initiatives. Johann Christoph sought an imperial privilege to continue production of maps, retaining the first date of appearance on the sheets. In 1730 Johann Christoph died unexpectedly, and his will divided the business between Ebersberger and a friend from his student days in Halle, Johann Michael Franz (1730-1759), under the name "Homännischen Erben" (**Homann Heirs**).

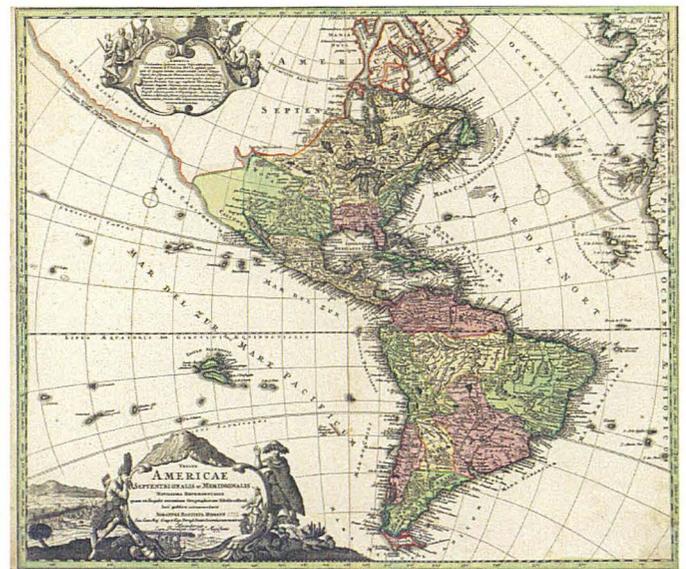
The Homann heirs soon purchased (in 1734) a fine house, located on the north side of the Pegnitz just south of the city's fortress, in which the two families – the Ebersbergers and the Franzes – could live on separate floors and also have plenty of spaces for an engraving workshop, a sales shop, and offices. They worked to improve their maps through critical analysis of available sources and made good decisions that helped them maintain market dominance in much of Central Europe. Important assistance came from mathematician and historian Johann Matthias Hase (1684-1742), a professor in Wittenberg, and later from Georg Moritz Lowitz (1722-1774), August Gottlob Boehme (171-1797), and Tobias Mayer (1723-1762) (regularly

employed by the firm after 1746). Franz even founded a private group called the "*Kosmographische Gesellschaft*" (Cosmographic Society) to increase awareness and convince governments about the need for more accurate maps of German lands. Most members in this small group drew maps for the Homann firm and also published their own *Gesellschaftsatlas* (1747) and news journal beginning in 1750. Although the effort to establish state support for this failed, the Homann firm continued to produce and distribute maps for much of Europe with the added assistance of the Parisian publisher Roch-Joseph Julien (active 1740-1777) and despite the fact that Mayer, Lowitz, and even heir Johann Michael Franz left Nuremberg having received appointments at the University of Göttingen. Franz's absence was controversial and expensive, and he was forced to sell his share in the firm to his younger brother **Jacob Heinrich Franz** (1713-1769).

From 1760 to about 1775 or 1780 new map production declined and the Franz family's contribution minimized to some extent, but the Ebersberger half of the firm apparently managed to remain debt free and keep the business afloat. The few individual new maps were drawn by Matthäus Ferdinand Cnopf (1715-1771) and sometimes contained painful mistakes that government officials required be corrected.

For several years in the last quarter of the century the mapmaking firm's owners were women: Anna Felicitas Franz (1769-1799), widow of Jacob Heinrich Franz, and Barbara Dorothea Ebersberger Monath (1760-1791), wife of Georg Peter Monath, who may have only been in charge of publications. In the last quarter of the century, many of the maps were drawn by Franz Ludwig Güssefeld (1744-1808). The firm continued on into the next century in the same location and was purchased by the Fembo family. Despite the devastation of World War II, the Homann firm's building still stands in Nuremberg and is today known as the Fembo Haus and contains the City Museum.

See Christian Sandler, Johannes Baptista Homann, *die Homännischen Erben, Matthäus Seutter und ihre Landkarten : Beiträge zur Geschichte der Kartographie* (Amsterdam : Meridian Pub. Co., 1979), especially pp. 42-48, which cites the *Nürnbergischer Rathsverlass* for the years 1687-1696; also see Markus Heinz's thorough and excellent, "Die Geschichte des Homannischen Verlages," in "*auserlesene und allerneueste Landkarten*" *Der Verlag Homann in Nürnberg 1702-1848* (Nürnberg: Stadtmuseums Fembohaus and W. Tümmels Buchdruckerei und Verlag GmbH & Co., 2002).



Johann Baptist Homann

Totius Americae Septentrionalis et Meridionalis Novissima Repraesentatio: quam ex singulis recentium Geographorum Tabulis collectā luci publicae accomodavit Iohannes Baptista Homann

Engraving with etching (hand colored), 49 x 57 cm. (Nuremberg: Johann Baptist Homann, 1712 or later). Bin 13 190039

Homann's sources included French maps by Delisle and de Fer, and this particular map shows California as a peninsula rather than as an island. Homann's maps always included cartouches that reproduced images related to the geographic area depicted. Often these were based upon the imaginations of European artists who only had primary written sources and secondary visual sources to work with, not primary visual ones such as sketches by eyewitnesses. In this case, some of the pagan "Aztec" images had first appeared in Dutch books on Cortez and the Indies.



Johann Baptist Homann and Heirs, *Regni Mexicani seu Novae Hispaniae, Ludovicianae, N. Angliae, Carolinae, Virginiae, Pennsylvaniae, necnon Insularum Archipelagi Mexicani in America Septentrionali accurata Tabula exhibita a Ioh. Baptista Homanno*

Engraving with etching (hand colored) on paper, 48 x 57 cm. (Nuremberg: Homann Heirs, between 1712 and 1730) 135/1 00478

Homann issued this copy of Delisle's 1703 *Carte du Mexique et de la Floride* without mentioning Delisle. Some of the more visible differences were the cartouches, the use of Latin instead of French, and Homann's inclusion of the shipping tracks off the Atlantic, Caribbean, and Gulf coasts.

Johann Baptist Homann

Amplissimae Regionis Mississippi seu Provinciae Ludovicianae a R. P. Ludovico Hennepin Francisc Miss in America Septentrionali Anno 1687. detectae, nunc Gallorum Coloniis et Actionum Negotiis toto Orbe celeberrimae Nova Tabula

Engraving with etching (hand colored) on paper, 47 x 57 cm. (Nuremberg: J. B. Homann, ca.1720) 134/8 00675

Homann copied Delisle's 1718 *Carte de la Louisiane* without citing his source. The Nuremberg mapmaker did add a distinctive baroque cartouche and insets, but even these were highly derivative. In the upper left, the cartouche designer added a French missionary, probably intended to represent Father Hennepin, and below this a portion of Niagara Falls which Father Hennepin was the first to sketch. Homann may have turned to Herman Moll's map of North America for this image since it also had the view of the falls with the beaver scene ultimately dating back to Guérard's vignettes for La Fer's 1698 wall map. European printed images of American bison or buffalo had a long pedigree dating as far back as the image of one in López de Gómara's book of 1555.

Matthäus Seutter the Elder (1678-1757) and Family



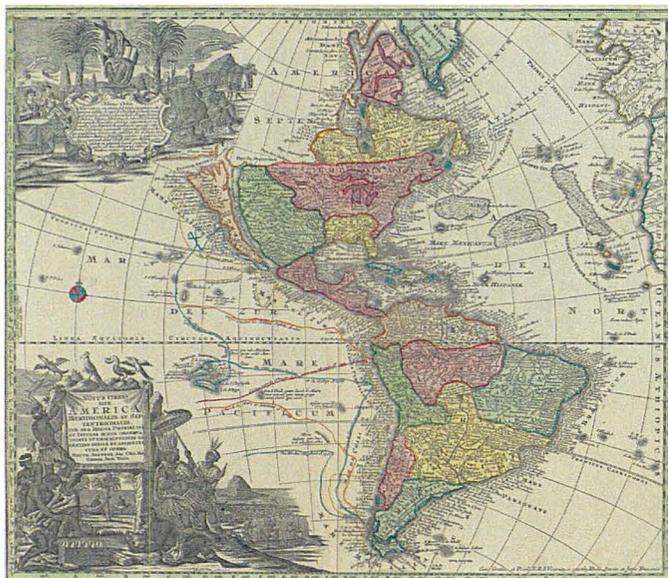
Matthäus Seutter the Elder
Engraving with mezzotint?
Location unknown, possibly
from the City Museum,
Nuremberg

While the Homann firm was the most important map publisher in the German-speaking world, Johann Baptist Homann's pupil and imitator Matthäus Seutter the Elder managed a similar business in the imperial city of Augsburg. Seutter's firm was never entirely devoted to maps as was the Homann firm, and originally his maps were largely derived from the maps of others – especially Homann and Delisle. Seutter was a native of Augsburg and the son of a goldsmith. He quit an apprenticeship as a brewer to learn engraving from Johann Baptist Homann in Nuremberg. Returning to Augsburg, Seutter married a goldsmith's daughter, Maria Barbara Gaap, in 1707 and found employment engraving maps and other subjects for prominent art publisher Jeremias Wolff (1663-1724), whose grandchildren would eventually intermarry with Seutter's. Within a year of his marriage Seutter began independently publishing maps of various kinds, including topographical, regional, world, celestial, historical, thematic, postal-route, and fantasy as well as town plans, views, distance, and genealogical tables, and globes. Beginning in 1720, his maps appeared in several atlases of varying sizes. Seutter engraved many of his own maps and decorative cartouches, but he also employed other Augsburg engravers including Abraham Drentwett, Gottfried Rogg, Gottfried Eichler, and Andreas Silbereisen. Later Seutter employed his own sons. Unlike many of his competitors, Seutter did not have a strong, scientifically-active academic community to work with in Augsburg, and his maps, while often beautifully engraved, sometimes reflect this in their lack of scientific underpinnings. Nevertheless, Holy Roman Emperor Karl VI awarded Seutter the title of *Kaiserlicher Geograph* (imperial geographer) in 1731 or 1732 and a printing privilege for his maps in 1741.

Seutter had four children that reached adulthood, and their succession is complicated but somewhat interesting for understanding the German map business. Seutter's oldest son **Georg Matthäus** (b. 1710)

worked for Seutter as an engraver but left Augsburg before 1729, and his oldest daughter **Euphrosina** (1709-1784) married **Tobias Conrad Lotter** who was then working for her father as an engraver. Daughter **Anna Sabina** (1731-1782) first married Augsburg engraver Christoph Gustav Kilian in 1746, but they divorced, and then in 1754 she married **Georg Balthasar Probst**, also an engraver and a grandson of Jeremias Wolff. Seutter's son Albrecht Carl Seutter (1722-1762) married Jacobina Regina Probst (sister of Georg Balthasar) in 1746, but she died in 1757 – the same year Albrecht Carl Seutter inherited his father's firm. After Albrecht Carl's death in 1762, his widow sold half of the business to **Johann Michael Probst** (another Probst brother and Wolff grandson), and another went to **Tobias Lotter**. The Probst family remained prominent in the Augsburg engraving business throughout the century, selling a variety of prints and maps including Seutter maps. After Johann Michael Probst's death in 1776, his sons, Johann Michael the Younger (1757-1809), Johann Georg (1759-1809), and Johann Conrad (1762-1820), updated Seutter's maps and engraved newer ones, compiling them into atlases. The business closed in 1809 with the deaths of the two older brothers who had never married.

Michael Ritter, "Seutter, Probst and Lotter: An Eighteenth-Century Map Publishing House in Germany," *Imago Mundi* 53 (2002): 130-135; Christian Sandler, *Johannes Baptista Homann, die Homännischen Erben, Matthäus Seutter und ihre Landkarten: Beiträge zur Geschichte der Kartographie* (Amsterdam: Meridian Pub. Co., 1979).



74

Matthäus Seutter the Elder and Family

Novus Orbis sive America Meridionalis et Septentrionalis: per sua Regna Provincias et Insulas iuxta Observationes et Descriptiones Recentiss Divisa et Adornata Cura et Opera Matth. Seutter

Engraving with etching (hand colored) on paper, 50 x 58 cm. (Augsburg: Seutter, ca.1731)

134/8 00703

75

Matthäus Seutter the Elder (1678-1757) and Family
Accurata delineatio celeberrimæ Regionis Ludovicianæ vel Gallicæ Louisiane ot. Canadæ et Floridæ adpellatione in Septemtrionali America descriptæ quæ hodie nomine fluminis Mississippi vel St. Louis ... edita cura et manu Matthæi Seutteri, Chalcog. Augustan

Engraving with etching (hand colored) on paper, 50 x 57 cm. Cartouche by Gottfried Rogg, engraved by M. Rhein (Augsburg: Seutter, ca.1720-1734)

133/4 00475 OR Bin 5 210034

This map of North America and its inset of the Mississippi mouth are very similar to a map published by the Châtelain Family of Amsterdam (see no. 64). Seutter's inset is easier to read since it does not include a baroque acanthus leaf border as seen on the Châtelain version. In Gottfried Rogg's allegorical *Aureum Seculum* (Golden Age) cartouche design, the figure of Fortune showers riches upon hopeful investors at left, while others at right have been reduced to hopeless paupers and debtors. Meanwhile, *Kinder* blow bubbles in the foreground. This is undoubtedly an allusion to the 1720 stock crash known as the "Mississippi Bubble."

Tobias Conrad Lotter (1717-1777) and Family

The Lotter family cartographic business began with Tobias Conrad Lotter who was born in Augsburg in 1717 and baptized in the Barfüsserkirche. His father was a baker and later musketeer in the municipal guard. Virtually nothing is known about Tobias Conrad's early life or how he came to be employed as an engraver for **Matthäus Seutter the Elder** before 1740 when Lotter married Seutter's daughter **Euphrosina** (1709-1784) in the Lutheran St. Anne's Church located a few steps from Seutter's workshop. Lotter was a talented engraver and occasionally worked for others as well as for his father-in-law. Although he became Seutter's best and most productive map engraver, he apparently also desired his independence. As late as 1749 he published and sold materials from the St.-Anna-Platz (today Martin-Luther-Platz). Two years later, in 1751, he had a new address a few blocks east on the Mittlerer Lech where he was apparently careful not to become a direct competitor before the death of Seutter the Elder in 1757. When Seutter's son and heir Albrecht Carl Seutter died in 1762, Lotter was financially able to acquire approximately half of the business. Like Johann Michael Probst, who acquired the other half, Lotter continued to publish and sell Seutter's maps. Whenever Lotter updated or reworked them, he would replace Seutter's name with his own. Working independently, Lotter became highly respected in the map business, producing new maps and a wide variety of maps in many subject areas.

Lotter worked for the most part alone until the mid-1760s when the names of his sons **Matthäus (Matthias) Albrecht Lotter** (1741-1810), **Georg Friedrich Lotter the Elder** (1744-1801), and **Gustav Conrad Lotter** (1746-1776) began to appear on more and more of the maps. Unfortunately, Gustav Conrad died in 1776 and the father Tobias Conrad, the next year. The inheritance was split three ways, with Gustav Conrad's widow and infant son's portion being acquired by auction by Johann Martin Will (1727-1806) and his son-in-law Johannes Walch (1757-1815). They continued a map business under Walch's name that lasted into the mid-nineteenth century. Tobias Conrad's two surviving sons, Matthias Albrecht and Georg Friedrich the Elder, continued their father's business with their shares. They no longer employed the decorative baroque decorations and used German, French, and English titles instead of Latin. Unfortunately, the business began a slow decline

as new rising centers for the map trade in Berlin, Weimar, and Vienna increasingly cut into their business. Compounding their problems were a large number of new boundaries that made their old stock obsolete. A third generation of the family did not work hard at the business and apparently retired early:

Michael Ritter et al, *Die Welt aus Augsburg: Landkarten von Tobias Conrad Lotter (1717-1777) und seinen Nachfolgern*, ed. by Anton Lotter and Christof Trepesch (Berlin and Munchen: Deutscher Kunstverlag, 2014).

76

Tobias Conrad Lotter, Jeremias Wolff after Guillaume Delisle
America Septentrionalis, Concinnata juxta Observationes Dñi Academiae Regalis Scientiarum et nonnullorum aliorum, et juxta annotationes recentissimas Per G. de L'Isle, Geographum; apud Tobiam Conr. Lotter, calcographum

Engraving with etching (hand colored) on paper, 44 x 59 cm. (Augsburg: Tobias Conrad Lotter, 1762 or later; first published by Jeremias Wolff, ca.1705). Bin 12 900032

Lotter's map is a direct copy of Delisle's 1700 map of North America, including the cartouche design with baroque half shell, Neptune, and a river god. In a somewhat unusual gesture for its time, Lotter added a title in the cartouche that acknowledged information from Delisle and the French Royal Academy of Sciences. Lotter acquired the plate for this map in 1762 along with his purchase of a portion of the Probst-Seutter family's holdings. It was originally copied and produced for the Probsts' maternal grandfather and Augsburg publisher Jeremias Wolff.

Michael Ritter et al, *Die Welt aus Augsburg: Landkarten von Tobias Conrad Lotter* (2014), pp. 48, 49.



77

Tobias Conrad Lotter
America Septentrionalis, Concinnata juxta Observationes Dñi Academiae Regalis Scientiarum et nonnullorum aliorum, et juxta annotationes recentissimas Per G. de L'Isle, geographum

Engraving with etching (hand colored) on paper, 47 x 58 cm. (Augsburg: Tobias Conrad Lotter, 1762 -1778). 141/3 00470 Bibid=898048

Tobias Conrad Lotter's three sons, Matthaues Albrecht, Georg Friedrich, and Gustav Conrad Lotter, replaced worn-out plates that had been printed repeatedly. Such was the case with Lotter's copy of Delisle's 1700 map of North America. In this version, engraved by Georg Friedrich Lotter, the firm substituted an asymmetrical rococo cartouche for the earlier baroque one. They did not update the map itself.

Leonhard Euler (1702-1783)



Leonhard Euler, 20th-century Soviet postage stamp, based upon a contemporary portrait

Considered one of the greatest mathematicians of all time, Leonhard Euler was also a cartographer who prepared maps and atlases. He also wrote about and devised map projections. His contemporaries referred to him as "analysis incarnate," and he has been acknowledged as "the most prolific mathematician in history." Euler made pioneering contributions in infinitesimal calculus, graph theory, topology, and analytic number theory but also worked in mechanics, fluid dynamics, optics, astronomy, and music theory in addition to cartography.

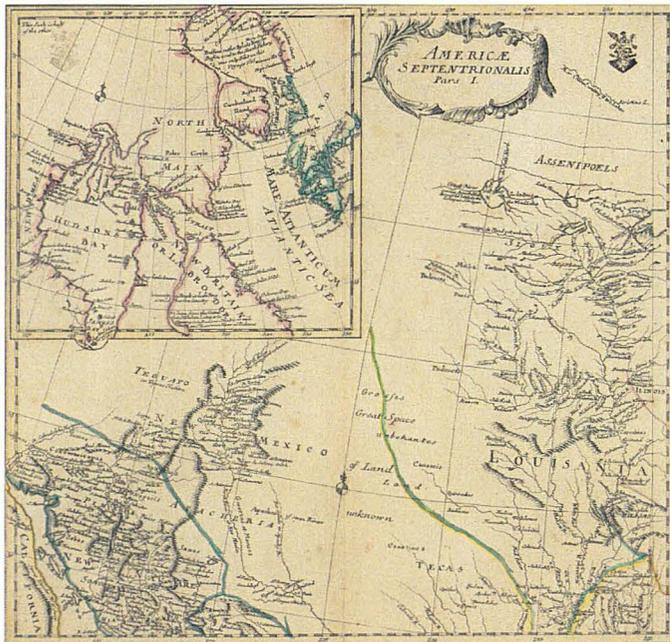
A native of Basle, Switzerland, Euler was the oldest son of Calvinist minister Paul Euler who himself was a mathematician and a former pupil of the great mathematician Jacob Bernoulli and friends with the Bernoulli family. In 1720 thirteen-year-old Leonhard entered the University of Basle to study theology and Hebrew, while at the same time taking private math lessons from Johann Bernoulli. Euler earned his Master's degree in 1723 with a thesis comparing the philosophies of Descartes and Newton. Bernoulli soon convinced Euler's father that his son would make a greater contribution as a mathematician than as a clergyman. Euler completed a dissertation on the propagation of sound in 1726 and the next year entered a prize competition to determine the ideal arrangement of ship masts sponsored by the Paris Académie des Sciences. On this occasion, Euler came in second, but he would eventually win their annual prize ten times.

Meanwhile, two of Johann Bernoulli's sons had accepted scientific posts at the Russian Imperial Academy at St. Petersburg. When one of them died, the surviving son, Daniel, invited Euler to come and fill his brother's place. Euler accepted and arrived at St. Petersburg in 1727. Euler worked at positions in both the medical and mathematics departments – even for a time as a Russian Navy medic – before he became professor of physics in 1731 and succeeded Bernoulli as professor of mathematics in 1733. (Daniel Bernoulli had returned to Basle as professor of medicine.) In 1734 Euler married Katharine Gsell (1707-1773), the daughter of the Swiss-born artist, art consultant, and art dealer George Gsell, the first curator of the Russian Imperial art gallery founded in 1720. Interestingly, Euler's new wife's grandmother was the renowned botanical artist, entomologist, and engraver Maria Sibylla Merian (1647-1717). The Eulers moved to a house on the Neva River and raised five children that survived to adulthood. While in St. Petersburg at this time, Euler supervised the preparations for *Atlas Russicus*, the first printed Russian atlas, together with Joseph Nicolas Delisle and M.V. Lomonosov. Euler blamed the eyestrain from this for the beginnings of his degenerating eyesight.

In 1741 Euler accepted Prussian King Frederick the Great's invitation to come to Berlin to serve in a reorganized Berlin Academy. Here, Euler wrote 380 essays, articles, and books (including *Lettres à une princesse d'Allemagne sur divers sujets de physique et de philosophie* which, after its publication in 1768-1772, became an international best-seller). Also in Berlin Euler produced a number of maps and atlases that appeared between 1750 and 1760. Anecdotes abound about Euler's years in Prussia's court full of French philosophes where he came to be considered somewhat of a bumpkin by the king and others. In 1760 during the Seven Years' War, Russian troops ransacked Euler's farm. After Russian officials, including Tsarina Elisabeth, learned of this, they not only paid Euler for damages but also gave

him exorbitant compensation. Later, Catherine the Great of Russia invited Euler to return to Russia for a post at the St. Petersburg Academy and made him and his sons such generous terms that he could not refuse. He returned there in 1766, just as he lost his sight in both eyes. Nonetheless, his condition apparently did not hamper his productivity, but other problems proved more tragic. His home burned in 1771, and his wife Katharine died in 1773. In 1776 he married her half sister and died of a brain hemorrhage in 1783.

A P Youschkevitch, "Euler, Leonhard," in *Dictionary of Scientific Biography* (New York 1970-1990); J. J. O'Connor and E. F. Robertson, *MacTutor History of Mathematics*, September 1988, [<http://www-history.mcs.st-andrews.ac.uk/Biographies/Euler.html>], accessed 08/08/2016.



78

Leonhard Euler

Americae Septentrionalis, Pars I

Engraving and etching (with hand-colored outlines) on paper, 36 x 37.5 cm., part one of four-part composite map titled *Mappa Geographica Americae Septentrionalis ad emendatiora Exemplaria...*, from *Atlas Geographicus omnes Orbis Terrarum ...* (Berlin: Prussian Royal Academy of Sciences, 1753).
Bin 12 900033 Bibid= 1590212

Euler intended this map, copied from d'Anville and Delisle, as an instructional aid for teachers. The stamp at upper right belonged to the publishers: the Prussian Royal Academy of Sciences.

The full map may be seen at David Rumsey Map Collection, List no. 11392.054, accessed 9-20-16.

The Weigel Family



Christoph Weigel the Elder
Mezzotint engraving

The Weigel family of engravers, publishers, and art and print dealers were second to Homann in the production of maps and atlases in Nuremberg. Two brothers, **Christoph Weigel the Elder** (1654-1725) and **Johann Christoph Weigel** (1661-1726), founded separate businesses that continued throughout the eighteenth century. Christoph the Elder served an apprenticeship as a goldsmith, worked in Jena with his relative, the mathematician Erhard Weigel (1625-1699), learned copperplate engraving in Augsburg, and was active in Vienna, Frankfurt, Augsburg, and Regensburg before settling in Nuremberg in 1698 as a successful art dealer and burger. Artists working for him included Caspar Luyken and Michael Kauffer, and the engraver Bernhard Vogel was a pupil. Subjects produced by Weigel included portraits, fashion plates, calligraphy books, and small format maps and atlases. From 1710 he worked and resided in a house on the "Kornmarkt" across from the imperial post office near Johann Baptist Homann with whom he occasionally co-published. Interestingly, Weigel's daughter Barbara Sibylla married his co-worker, the Augsburg painter and engraver Johann Kenckel (1688-1722), who created the only known authentic portrait of Johann Baptist Homann. Christoph the Elder was honored by appointment to the Nuremberg grand town council in 1716. Following his death, his widow Magdalena Esther Weigel (1679-1748) continued the business. After son-in-law Kenckel's death, daughter Barbara Sibylla remarried in 1729, this time to the engraver Martin Tyroff (1704-1759), and he lead the business, succeeded by his eldest son Johann David Tyroff (1733-1770) and later successors. In 1805 the firm merged with the Homann firm.

As already mentioned, Christoph the Elder's younger brother **Johann Christoph Weigel** (1661-1726) founded a separate firm. He arrived in Nuremberg in 1700 as a copperplate engraver and received *Bürgerrecht* (citizenship). After 1714 he was listed as an art director and, like his brother, was soon named to the greater town council. He published a small format atlas, maps, costume prints, and other items. From around 1710 the business was in the *Neuen Gasse am Spitalhofkirche*. After his death in 1726, his widow Barbara Magdalena continued it with their son Christoph Weigel the Younger (1702-1777) taking it over as *Kunstführer* (art director) in 1734. Since the latter had no heirs, he sold the firm in 1776 to the book dealer Johann August Werlisch, who died in 1779. His widow married again, to the book dealer **Adam Gottlieb Schneider** (1745-1815), and the publishing house became known as "Schneider und Weigel." This firm published hundreds of maps and eventually published from the house "across from the Imperial Post Office" – the same house that had belonged to Christoph Weigel the Elder. The art dealer business continued throughout the nineteenth and twentieth centuries, with a vestige surviving today as a non-profit under the name "*Kunsthandlung Heinrich Schrag*."

Friedrich von Hagen, "Nürnberg Verleger kartographischer Produkte von späten 17. bis zur Mitte des 19. Jahrhunderts," in "*auserlesene und allerneueste Landkarten*" *Der Verlag Homann in Nürnberg...* (2002), pp. 52-53; Tooley's Revised Edition, vol. 4 (2004), pp. 366-367. Note: A better portrait is reproduced in Tooley's.

Christoph Weigel the Elder after Guillaume Delisle
*Novissima Tabula Regionis Ludovicianae Gallice dictae La
 Louisiane iam olim quidem sub Canadæ et Floridæ nomine in
 America Septentrionali notæ nunc vero sub auspiciis sereniss:
 Ducis Aurelianensis maxime inclarescentis Colonie Gallicæ,
 delineata ex recentissimis itinerariis et commentariis Gallicis
 à Guil; Insulano Geographo et Socio Regiæ Scientiarum
 Academiæ et recognita a Chr: Weigelio, Nor.*

Engraving with etching (hand colored) on paper, 32 x 42 cm.
 (Nuremberg : C. Weigel, ca.1720) 129/4 00774 bibId=974844

Weigel gave full credit in Latin to Guil. *Insulano* (Guillaume Delisle) in this fine copy of Delisle's 1718 map of Louisiane.

After Nicolas Bellin
*Karte von Luisiana, dem Laufe des Mississippi und den
 benachbarten Laendern Durch N. Bellin Ingenieur de la
 Marine*

Engraving on paper, possibly from Johann Friedrich Schröter, Joseph-François Lafitau, and Pierre-Françoise-Xavier de Charlevoix, *Allgemeine Geschichte der Länder und Völker von America nebst einer Vorrede Siegmund Jacob Baumgartens; mit vielen Kupfern.* (Halle: bey J. J. Gebauer, 1752-1753). 129/8 00816

Franz Johann Joseph von Reilly (1766-1820)

Book dealer, publisher, cartographer, and author Franz von Reilly was born in Vienna, the son of Johann Reilly, a *Hofmeister* (steward or household manager) who had been brought from Russia. According to biographer Johannes Dörflinger, after three years of unremunerative civil service, Franz invested the sum he inherited from his father in the publication of cartographic engravings. Reilly's inspiration may have come from the example of Franz Anton Schrämbel (1751-1803) who, beginning in 1786, was publishing a large-format world atlas (the first atlas printed in Austria) at first from Troppau (today Opava, located in Moravian Silesia in the Czech Republic) and later from Vienna. Unlike Schrämbel's, Reilly's project was titled *Schauplatz der fünf Theile der Welt [Theatre of the Five Parts of the World]* and would be in a smaller format in order to cater to buyer preferences. From 1789 until discontinued in 1806 – with the exception of an interruption due to the Napoleonic Wars during 1802-1803 – Reilly published each week a folio-size map for this atlas. While it only covered Europe, it included 830 maps, making it one of the most comprehensive geographical atlases in the world. Along with this, Reilly advertised a *Landkarten- und Kunstwerke-Verschleiß-Komptoir* (map and artwork retail shop), established in 1792, and later known as a *Geographisches Verschleiß-Komptoir* (geographic retail shop). His main publications included a large-format *Großer Deutscher Atlas* (1794-96), the first Austrian school atlas (1791-1792), a postal-route atlas titled *Allgemeiner Postatlas* (1799), and *Atlas von Deutschland* (1803). Following the deaths of his son and wife and the publication in 1809 of a pro-Napoleonic pamphlet critical of the Austrian government that was attributed to him, Reilly turned to historical and literary pursuits.

Johannes Dörflinger, "Reilly, Franz Johann Joseph," in *Neue Deutsche Biographie* 21 (2003): 234 [Onlinefassung], <http://www.deutsche-biographie.de/pnd118748017.html>, accessed August 8, -2016; Johannes Dörflinger, "The First Austrian World Atlases: Schrambl and Reilly," *Imago Mundi* 33 (1981): 65-71; K. Adel, Reilly, Franz

Johann Josef (von)," in *Österreichisches Biographisches Lexikon 1815-1950*, vol. 9 (Vienna: Verlag der Österreichischen Akademie der Wissenschaften, 1988), pp. 39-40, online http://www.biographien.ac.at/oebL_9/39.pdf, accessed August 8, 2016; also see Johannes Dörflinger, *Die Österreichische Kartographie im 18. Und zu Beginn des 19. Jahrhunderts unter besonderer Berücksichtigung der Privatkartographie zwischen 1780 und 1820* 2 vols. (Vienna: Österreichische Akademie der Wissenschaften, 1984, 1988).

Kilian Ponheimer the Elder (1757-1828)

The son of a Viennese court musician, Kilian Ponheimer the Elder was an Austrian engraver employed at times by Austrian cartographers Franz von Reilly and Franz Anton Schrämbel. In 1774 Kilian was a student at the *Akademie der bildenden Künste* (Viennese Academy of Art) studying there under Friedrich August Brand and, later, Jacob Matthias Schmutzer. In addition to maps, Ponheimer was noted for landscape engraving, and he also engraved plates for books on human anatomy and surgery. He had three daughters and three sons, including the Austrian painter and engraver Kilian Ponheimer the Younger (1788-1829).

"Kilian Ponheimer, der Ältere (1757-1828)," in Wikipedia.de, https://de.wikipedia.org/wiki/Kilian_Ponheimer_der_Ältere, accessed 8/9/2016; *Tooley's Dictionary of Mapmakers*, Revised Edition, vol. 3, p. 127.



Franz Johann Joseph von Reilly
*Karte von Amerika nach D'Anville und Pownall Neu
 verzeichnet herausgegeben von Franz Joh. Jos. von Reilly*

Engraving (hand colored) on paper, 59.5 x 77 cm. Engraved by Kilian Ponheimer the Elder (Vienna: Reilly, 1795). 142/10 00464

Reilly drew upon French and British maps to produce this fine composite map of North America with insets of Alaska, the United States, and the areas surrounding the northwestern Atlantic. In addition to maps by d'Anville, Reilly credited "Pownall" – an indication that he used at least one of the maps bearing the name of Thomas Pownall (1722-1805) – a member of the British Parliament and the former Colonial Massachusetts Governor from 1757 to 1760 and contributor of information to the British Board of Trade. Pownall edited or sponsored a number of surveys and maps produced from at least as early as 1776, including Sayer & Bennett's 1777, 1783, and perhaps other later versions of Bowen's map of North America. Undoubtedly, Reilly had access to Franz Anton Schrämbel's version(s) of these maps and to information about Alaska and Pacific Northwest Coast information from Cook's third voyage.

The Italians

After the publication of Coronelli's works at the end of the seventeenth century, Italian cartography entered a period of decline. Italians, both important individuals and institutions, were generally content to purchase copies of French, Dutch and German maps and atlases. Political and economic conditions in the Italian peninsula during the first half of the century made it difficult for enterprising entrepreneurs to risk investing in the commercial engraving of maps despite the fact that there were plenty of excellent Italian engravers. The first new atlas produced in Italy during the century appeared in 1740. Although not particularly profitable and not that innovative (many of the maps were copied from the French Delisle family and the Dutchman Isaak Tirion), it nevertheless served as the beginning of a new Italian interest in maps, atlases, geographies, and other cartographic-related materials. Italian cartographic scholar Vladimiro Valerio identified more than forty different atlases alone produced in Italy between 1770 and 1830, employing as many as seventy people including a female map engraver from the eighteenth century, Violante Vanni (ca.1732-1778).

Vladimiro Valerio, "Late Eighteenth- and Early Nineteenth-Century Italian Atlases," in John A. Wolter and Ronald E. Grim, *Images of the World: The Atlas Through History* (Washington, D.C.: Library of Congress, 1997), pp. 257-300; Vladimiro Valerio, "Italian atlases and their makers 1770-1830," *Map Collector* 45 (Winter 1988): 10-18.

Giambattista Albrizzi (1698-1777)



Giambattista Albrizzi
Engraving, ca. 1740s National
Portrait Gallery, London

Albrizzi was an Italian publisher and journalist in Venice who produced a two-volume *Atlante Novissimo* [*New Atlas*] in 1740 (volume one) and 1750 (volume two). According to Vladimiro Valerio, Albrizzi copied the text for the atlas from Nicolas Sanson and the maps from those of Isaak Tirion and Guillaume Delisle. Some of the same engraved maps for Albrizzi's atlas volumes also appeared in the multi-volume Italian edition of Thomas Salmon's *Modern History, or the Present State of All Nations....* that

appeared in Venice from 1731-1762. Re-using the maps undoubtedly helped compensate Albrizzi for his investment in the atlas project, which was not spectacularly profitable. He had probably employed several engravers on the atlas project, including Giuliano Giampiccoli (1703-1759) who engraved the frontispiece for the atlas from a design by Giovanni Battista Piazzetta. It is likely that Albrizzi and Piazzetta knew each other well since there is an engraved portrait by Marco Alvise Pitteri after a painted portrait of Albrizzi by Piazzetta.

Vladimiro Valerio, "Late Eighteenth- and Early Nineteenth-Century Italian Atlases," in John A. Wolter and Ronald E. Grim, *Images of the World: The Atlas through History* (Washington, D.C.: Library of Congress, 1997), p.260; Vladimiro Valerio, "Italian atlases and their makers 1770-1830," *Map Collector* 45 (Winter 1988): 10-18.

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Giambattista Albrizzi

Carta Geografica del Messico o sia della Nuova Spagna

Engraving and etching on paper, 33 x 43 cm., probably from *Atlante Novissimo* (2 vols.; Venezia: Giambattista Albrizzi, 1740 or 1750). 129/8 00813

Antonio Zatta (ca.1822-1804) and Sons

Very little biographical information is currently available on Antonio Zatta, a scholarly book publisher and printer in Venice, who produced a four-volume *Atlante novissimo...[New Atlas...]* (1779-1785) containing 240 maps, some of which were copied from Robert de Vaugondy. Much of the lettering for this atlas was done by Giovanni

Pitteri, son of the better-known Venetian engraver Marco Alvise Pitteri. *Zatta e figli* (Zatta and Sons) competed doggedly with the Santinis, Remondini, and others in the Italian map and atlas business in the latter part of the eighteenth century.

Tooley's Revised Edition, vol. 4 (2004), pp. 366-367; Vladimiro Valerio, "Late Eighteenth- and Early Nineteenth-Century Italian Atlases," in John A. Wolter and Ronald E. Grim, *Images of the World: The Atlas through History* (Washington, D.C.: Library of Congress, 1997), pp. 262-264.



83

Antonio Zatta and Sons

Messico, ouvero Nuova-Spagna: che contiene il Nuovo Messico, la California con una parte de' paesi adjacenti

Engraving with etching (hand colored) on paper, 32 x 42 cm., with lettering by Giovanni Pitteri, 1785, possibly from *Atlante Novissimo* (Venice: Antonio Zatta and Sons 1775-1785). Bin 13 190033

Likely sources for Zatta's map were works by Robert de Vaugondy, d'Anville, and Bellin.

Paolo Santini (ca.1729-1793)

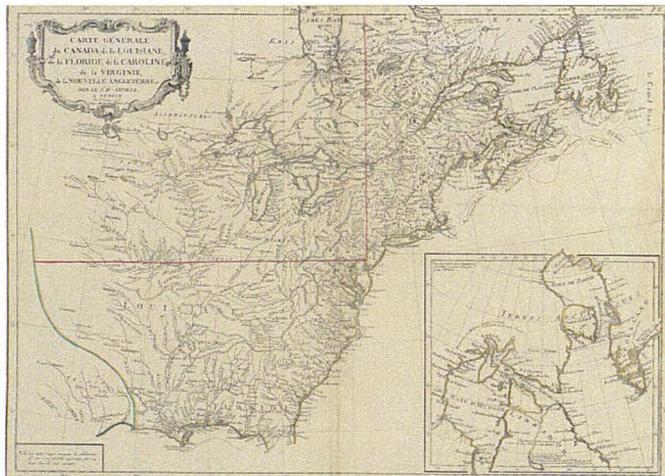
Francesco Santini (active ca.1776-1780)

Giuseppe Antonio Remondini (1747-1811)

Paolo Santini was born in Venice around 1729. An engraver and mapmaker, he was also a professor of design in the public school of Venice and possibly identified with an abbot there also named Paolo Santini. He and Francesco Santini, a Venetian publisher and merchant, may have been related since together they cooperated to produce in 1776 the first volume and in 1780 the second volume of their *Atlas Universel*, with many maps and even the frontispiece copied from Gilles and Didier Robert de Vaugondy's own *Atlas Universel*, which first appeared in 1757. The Santinis' atlas included some extra maps of Italy, and it is important to note they did not remove the names of the original mapmakers from the maps in their atlas. In addition to Robert de Vaugondy, these included European and foreign maps copied from such mapmakers as Rigobert Bonne, Jean Baptiste Bourguignon d'Anville, and Johann Baptist Homann and his heirs. In 1781 the Santinis sold their atlas and its plates to Giuseppe Antonio Remondini. Paolo Santini also produced a couple of smaller atlases in 1783 and 1788-1793. The Santinis employed several engravers in their projects, including Domenico Baratti (who was the son of engraver Antonio Baratti and did not sign his work), Giovanni Maria dal Pian (1764-1800), Pietro Antonio Novelli (1729-1804), Giovanni Pitteri, and Giuliano Zuliani (ca.1730-1814).

Remondini was the highly successful proprietor of a long-established family-owned art, print, and book publishing house in Bassano and Venice that was renowned throughout Europe. The atlas business was profitable for the Remondinis, who had over the years acquired paper mills, spinning mills, landed estates, a foundry for typography, and a workshop for training engravers. The Remondinis manufactured decorative wallpaper and produced prints in many genres, from religious prints to fine art. Their venture into the atlas business was reportedly successful. In 1784 they reprinted the Santini's atlas, adding a dozen map plates, and in 1804 reissued the atlas. They also produced a smaller format atlas and a school atlas in 1801. Their firm persisted through the first half of the nineteenth century.

Vladimiro Valerio, "Late Eighteenth- and Early Nineteenth-Century Italian Atlases," in John A. Wolter and Ronald E. Grim, *Images of the World: The Atlas through History* (Washington, D.C.: Library of Congress, 1997), pp.260-263; Vladimiro Valerio, "Italian atlases and their makers 1770-1830," *Map Collector* 45 (Winter 1988): 11,14,16,17.



84

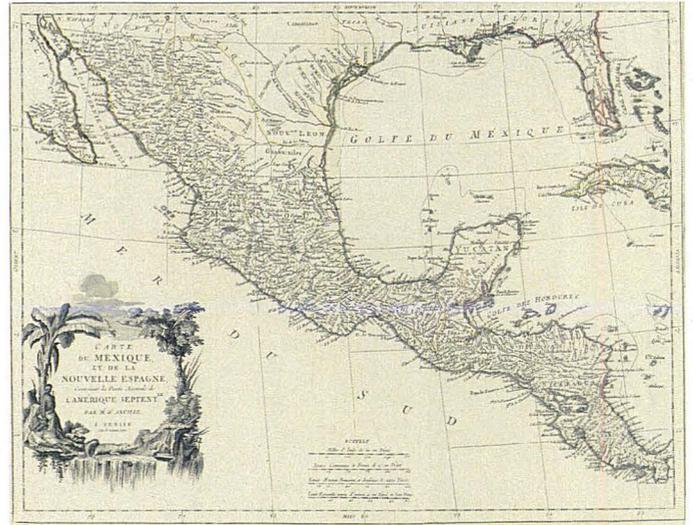
84

Paolo Santini, Francesco Santini, Giuseppe Antonio Remondini after Jean Baptiste Bourguignon d'Anville

Carte générale du Canada, de la Louisiane, de la Floride, de la Caroline, de la Virginie, de la Nouvelle Angleterre, etc. Par le Sr. d'Anville

Engraving 48 x 66 cm. Venice: P. Santini, Chez Mr. Remondini, 1776.

Bin 12 700012



85

Paolo Santini, Francesco Santini, after Jean Baptiste Bourguignon d'Anville

Carte du Mexique et de la Nouvelle Espagne: contenant la Partie Australe de l'Amérique Septentrionale. par Mr. D'Anville

Engraving with etching (with hand-colored outlines) on paper, 45 x 58 cm. (Venice: Paolo Santini, 1779).

134/9 00778

The Americans

When the thirteen British Colonies declared their independence in 1776, there were skilled mapmakers and surveyors in the colonies, but no major cartographic publishing houses as in Europe. A whole class of scientific craftsmen with expertise in mathematics had already developed in the colonies to service utilitarian needs. These included instrument makers, surveyors, navigators, astronomers, mechanics, and cartographers. However, as cartographic scholar David Bosse noted, if a map or chart was published and sold in the United States, the chances were very high that only one or two people had been the compiler, engraver, printer, publisher, and seller. For years British colonists had depended upon Britain for much of their high quality goods, including maps, and now they suddenly found their own resources and skills lacking. In the former British American colonies there were shortages of skilled engravers and materials such as copperplates, inks, and papers. While Americans produced numerous printed maps to address local needs, the quality was often not very high. Reviewers complained of the carelessness and sloppiness exercised by American map engravers, not only by failing to even attempt to meet minimum standards of scientific accuracy but also by failing to properly clean their copper plates between strikes. Fortunately, despite such criticism, American firms persisted in practicing and perfecting their craft, and by the end of the eighteenth century the situation was improving – a fact important for United States' security, commerce, and national pride.

David Bosse, "The Boston Map Trade of the Eighteenth Century," in Alex Krieger and David Cobb, eds., *Mapping Boston* (Cambridge: MIT Press, 1999):36-55; See also James Clement Wheat and Christian F. Brun, *Maps and Charts Published in America Before 1800: A Bibliography* (New Haven and London: Yale University Press, 1969).

John Norman (ca.1748-1817)

A native of Britain, John Norman was an American engraver, printer, publisher, and bookseller active in Philadelphia and Boston. From 1777 he produced a number of maps and charts for the American trade, many of which found their way into the international market. While most were largely derivative, his work was important in establishing the United States as a producer of printed maps and coastal charts.

John Norman was the son of Hugh Norman, a painter-stainer of Blackfriars, London, who passed away before June 3, 1766. At that time John was apprenticed through the Stationers Company guild to the London printer and publisher William Faden (1711-1783), father of the more famous London engraver, cartographer, mapseller, and publisher **William Faden** (1749-1836). While Norman learned printing and publishing from his master, it is not known how much experience and knowledge of engraving he gained. After Norman was released from his apprenticeship in October 1773, he immigrated to America. In Philadelphia, he announced his arrival in the *Pennsylvania Journal* on May 11, 1774. John formed several short-lived business partnerships there between 1774 and 1780 at locations on Front Street and Second Street. His first known map, published in 1777, attempted to show the theatre of war in the American colonies. Around 1780 he moved to Boston, where he worked at various addresses until 1816. There, Norman collaborated with **Osgood Carleton**, a Boston surveyor, cartographer, astronomer, and teacher of mathematics, whose endorsements lent legitimacy to Norman's charts and maps. Norman's son William Norman (d. 1807) worked as a printer, bookseller, engraver, and stationer in Boston, and he succeeded his father in the business, continuing the association with Carleton.

Worms and Baynton-Williams, *British Map Engravers*, pp. 496-497; Peter J. Guthorn, *United States Coastal Charts 1783-1861* (Exton, Pennsylvania: Schiffer Publishing, 1984), pp. 7-8; David Bosse, "The Boston Map Trade of the Eighteenth Century," in Alex Krieger and David Cobb, eds., *Mapping Boston* (Cambridge: MIT Press, 1999):36-55.

Osgood Carleton (1741-1816)

In the years following the American Revolution, American mathematician, astronomer, surveyor, teacher, military veteran, and cartographer Osgood Carleton collaborated with **John Norman** to produce coastal charts of the Caribbean, the American east coast, and other parts for *The American Pilot* (1791 and later editions), *A Pilot for the West Indies* (1795), *The New West-India Pilot* (1803), and *The New East-India Pilot* (1804). They also produced important maps of the United States, Massachusetts, Maine, and Boston. Carleton also drew cadastral maps and conducted surveys in and around Boston where his membership in the Society of Cincinnati and Boston Marine Society brought him commissions and enhanced his reputation. A commercial mapmaker but not an engraver or printer, he is considered "one of the first professional American cartographers."

Carleton was born in Nottingham West, New Hampshire. Not much is known for certain about him before May 1758, when he joined the local militia to serve with New England troops for the invasion of Canada during the Seven Years' (French and Indian) War. At the time of his enlistment, Carleton gave his previous residence as Litchfield, New Hampshire. Carleton participated in the siege and occupation of the French Fortress of Louisbourg on Cape Breton Island, Nova Scotia, and at some point during this time came to the attention of British Royal Army Colonel John Henry Bastide (ca.1700-1770), chief engineer of the King's ordinance at Louisbourg and Annapolis. Carleton reportedly served for five years in Bastide's entourage, both as a clerk and in his household. Undoubtedly, during this time Carleton learned practical mathematical skills and knowledge that would serve his later career. Carleton's later claims to have had "several years experience in the practice of navigation at sea" may refer to his time with Bastide who traveled frequently to inspect fortifications throughout Nova Scotia, Canada, and New England before his retirement to England in October 1762. In February 1763 Carleton married and settled down as a "yeoman" in Liverpool, Nova Scotia, where he was involved in mercantile ventures. He was back

in New Hampshire at Lyndeborough working as a “House Wright” or carpenter in 1768 and was soon engaged in surveying various properties, town lots, and roads for landowner Benjamin Lynde. Carleton profited, too, for he soon was able to purchase properties of his own.

At the outbreak of the American War of Independence in May 1775, Carleton, now a resident of Newbury, New Hampshire, enlisted in a company of infantry from Hillsborough County, New Hampshire that soon became part of the Massachusetts Regiment and which was later reorganized as the 16th Continental Regiment. He was regimental quartermaster, advancing from sergeant to lieutenant, and escorted pay shipments. His health was such that he received a transfer to the Invalid Corps in December 1778 and spent most of the war in and around Boston. At the time of his discharge in April 1783, he was quartermaster for the Invalid Corps.

After his discharge, Carleton moved with his second wife from Newbury, New Hampshire, to her home in Haverhill, Massachusetts. They resided there until 1787 when they moved to Boston. There Carleton began giving lectures on astronomy, charging minimal fees for these courses. His success convinced him to begin offering regular courses in practical mathematics and astronomy, subjects outside the normal public school curriculum of the time. Carleton soon opened a school at Oliver’s Dock where he taught algebra, navigation, surveying, astronomy, geography, the use of globes, and how to determine longitude at sea. By 1791 he made accommodations for both older and younger students at various hours of the day and added other practical courses in “mensuration,” “gauging” (how to determine the capacity of a vessel or the volume of its contents), and “dialing” (use of a compass) as well as gunnery, accounting, and architecture. He remained teaching at various addresses in Boston from 1788 until 1808 except for brief residences in Otisfield, Maine, from 1799-1800 and 1801. Carleton published dozens of ephemerides (charts or tables for ascertaining positions of celestial bodies), almanacs, and even advertised and sold a powder that he claimed “cures cancers.” Despite such diverse endeavours, and perhaps partly due to a recession in the United States from 1802 to 1804, Carleton apparently had difficulty earning a living for in January 1803 he declared bankruptcy. Carleton died at the home of his son in Litchfield, New Hampshire.

David Bosse, “Osgood Carleton, Mathematical Practitioner of Boston,” in *Proceedings of the Massachusetts Historical Society*, Third Series 107 (1995): 141-164.



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John Norman and Osgood Carleton
A New General Chart of the West Indies From the latest Marine Journals and Surveys, Regulated and Ascertained by Astronomical Observations. I, the subscriber, do certify that I have carefully examined this chart copied from a London publication agreeable to Act of Parliament and find it a true and accurate copy of the original [by] Osgood Carleton, Teacher of Navigation and other Branches of the Mathematics. Dec. 28, 1789

Engraving on paper, 69 x 100 cm., (Boston: Printed & sold by J. Norman, 1789), second state, with minor alterations, from John Norman, *The American Pilot* (Boston: William Norman, 1794; first published by J. Norman in 1791).
 104/6 2009-152

When advertised on January 1, 1790, in the *Boston Gazette*, John Norman’s chart of the West Indies was the first sea chart of the Gulf of Mexico published in the United States. Later included in Norman’s marine atlas *The American Pilot* (Boston, 1791), this is the second state impression with minor alterations, issued by his son William Norman for the 1794 edition of the *Pilot*. Norman’s charts and atlases were part of a patriotic attempt to make the United States more self-sufficient and less dependant upon Europe, and particularly upon the British. A few years earlier, on January 31, 1785, the same *Boston Gazette* had urged merchants to “cease to import goods from that imperious, insolent, debauched and intriguing [sic] Kingdom of Great Britain.”

See David Bosse, “‘To Promote Useful Knowledge’: An Accurate Map of the Four New England States by John Norman and John Coles,” *Imago Mundi* 52 (2000): 143-157, in particular p. 144-145.

Summary and Postlude

Throughout much of the eighteenth century, French cartographers and French maps were the envy of much of the world. For many years French mapmakers enjoyed a level of state support not found in other nations. The French *geographes des cabinets* had revolutionized the science of cartography, insisting upon not mere copying or compiling quantities of source materials, but also careful reading and vetting of these sources, and proofing and revising, limiting what was included on the map, and adding *mémoires* or commentaries for each map produced. While they still made glaring errors, these were often on the edges or in areas that had not been properly explored, and where there were not yet enough sources to counter the mistakes.

Wars, economies, access to technologies, and geography itself shaped what nations could challenge the French in their mapping prowess. French involvement in wars drove the need for maps but also led to costly defeats and victories. Without international copyrights, mapmakers in nations such as Great Britain and the German states could obtain printed maps from the French, copy them, and improve them without much of the research costs inherent with innovation. For their part, the French also copied maps by the British and others whenever they were unable to obtain information directly from field surveys of their own. By the end of the century the British and Germans were poised to become the new cartographic leaders and innovators of the nineteenth century. And soon into the next century, the United States government would be leading what has been called the second great age of discovery and exploration in the Southwest Borderlands and American mapmakers would join the elite circle of cartographic innovators with new scientific survey technology, new reprographic processes, and innovative business methods to reach the masses.



Map 42 (for description see page 35)

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