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FOR PEOPLE WHO LOVE MAPS

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## ARTICLES

- 'Nuevo Mapa Geográfico de la América Septentrional':  
José Antonio de Alzate y Ramírez's remarkable map of New Spain  
Wesley Brown 11

- 'Bahriyye-i Bahr-i Siyah', 1724–1725: Ibrahim Müteferrika's map  
of the Black Sea and its copies in the Bibliothèque Nationale  
de France 29  
Kaan Ucsu

- Irrelevant and Unwanted: Early Hong Kong through the lens  
of cartography 40  
Gordian Gaeta



## REGULAR ITEMS

- A Letter from the Chairman 3

- Editorial 5

- New Members 5

- IMCoS Matters 7

- Dates for your diary 7

- ICHC 2019, Amsterdam 7

- Cartography Calendar 50

- Book Reviews 55

*Manchester: Mapping the City* by Terry Wyke, Brian Robson  
and Martin Dodge ♦ *Mapping the Airways* by Paul Jarvis, in association  
with British Airways ♦ *Victorian maps of England: the county and city  
maps of Thomas Moule* ed. and intro. by John Lee ♦ *The Welbeck Atlas:  
William Senior's maps of the estates of William Cavendish, Earl of Newcastle,  
1629–1640* ed. by Stephanos Mastoris



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**Editor** Ljiljana Ortolja-Baird, Email [Ljiljana.editor@gmail.com](mailto:Ljiljana.editor@gmail.com) 14 Hallfield, Quendon, Essex  
CB11 3XY United Kingdom **Consultant Editor** Valerie Newby **Designer** Bobby Birchall  
**Advertising Manager** Jenny Harvey, 27 Landford Road, Putney, London SW15 1AQ  
United Kingdom, Tel +44 (0)20 8789 7358, Email [jeh@harvey27.demon.co.uk](mailto:jeh@harvey27.demon.co.uk)

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# ‘NUEVO MAPA GEOGRÁFICO DE LA AMÉRICA SEPTENTRIONAL’

*José Antonio de Alzate y Ramírez’s remarkable map of New Spain*

**Wesley Brown**

In 1768, Don José Antonio de Alzate y Ramírez (1737–1799), a Mexican renaissance man (See front cover), created a large manuscript map of New Spain (defined at the time as those portions of North America controlled by Spain). This he sent to the French Royal Academy of Sciences hoping that the learned society would publish it. It was titled ‘Nuevo Mapa Geographico de la America Septentrional’ and bore the date of 1768, although it was printed sometime later. Because Spain jealously guarded its geographic knowledge about the New World and rarely allowed information to be published, this map (and its derivatives) is the only one printed of New Spain that appeared during the eighteenth century that uses Spanish information!<sup>1</sup> Regions to the north, in what would become the western United States, are rich with previously unprinted information and Alzate is distinguished as the first to apply the name Texas to the geographic region (Provincia de los Texas) to a printed map.

Questions about this map abound. When he created the map he sent to France, Alzate made critical changes from an earlier manuscript that he made for Spanish authorities in 1767. Why did he make those changes? And why send such valuable secrets to the French, rivals of the Spanish? Of the two printed editions of the map, the French was made by Philippe Buache, Royal Geographer to Louis XV, or by his successors (Fig. 1). The Spanish edition was made by Spain’s foremost mapmaker at the time, Tomás López (Fig. 2). When were these two editions printed and which came first? And why was such valuable information, which was in the possession of two of Europe’s most prolific map publishers, not disseminated more broadly? Fifteen known examples are extant; it seems odd that a map with keenly sought-after intelligence and printed in two different editions has so few surviving copies.<sup>2</sup> This brief essay, will explore the mapmaker’s life and his fascinating map and try to unravel these mysteries.

## **José Antonio de Alzate y Ramírez**

Don Antonio was born in 1737 near Mexico City in the town of Ozumba (subsequently renamed Ozumba

de Alzate in his honour) to wealthy parents. Educated in a prestigious Jesuit school, he later attended the Royal Pontifical University in Mexico City receiving a Bachelor of Theology degree in 1756. Shortly after, he joined the priesthood and then embarked on a wide range of scientific investigations, publishing on weather observation, archeological ruins, volcanos, psychedelic properties of plants, and astronomical observations during the transit of Venus. He launched *Gaceta de Literatura*, a successful gazetteer of scientific literature, which thrived between 1788 and 1795. Many of his scholarly papers were published by the Royal Academy of Sciences in Paris, perhaps then the most respected scientific body in the world. In fact, his printed map (the subject of this article) was dedicated to this august body. He became a leading advocate of enlightenment principles of scientific investigation in the New World and was elected to the Academy in 1771 becoming its New World correspondent, a great honour for a colonial. So well respected was he that in 1884, when Mexicans created a scientific group, it was called the Antonio Alzate Scientific Society, which later became the Mexican National Academy of Sciences. His name graces the title of its journal to this day: *Memorias de las Academia Nacional de Ciencias Antonio Alzate*.

## **Alzate’s surviving maps**

Alzate was not a trained cartographer, but he supplemented his geographic and astronomical evaluations with the study of official manuscript maps stored in Mexico City. However, it does not seem that he had access to the most recent records of expeditions dispatched by Spanish authorities to the north.<sup>3</sup> Even so, he was resolved to produce maps of the entirety of New Spain, a vast largely unknown area.

His first surviving manuscript map is titled ‘Nuevo Mapa Geográfico de la América Septentrional Española, dividida en Obisposados y provincias’, dated 1767 (Fig. 3). This very large map (155 x 189 cm) is bound by vignettes of wondrous animals, birds and native peoples, it has tables and descriptive text boxes



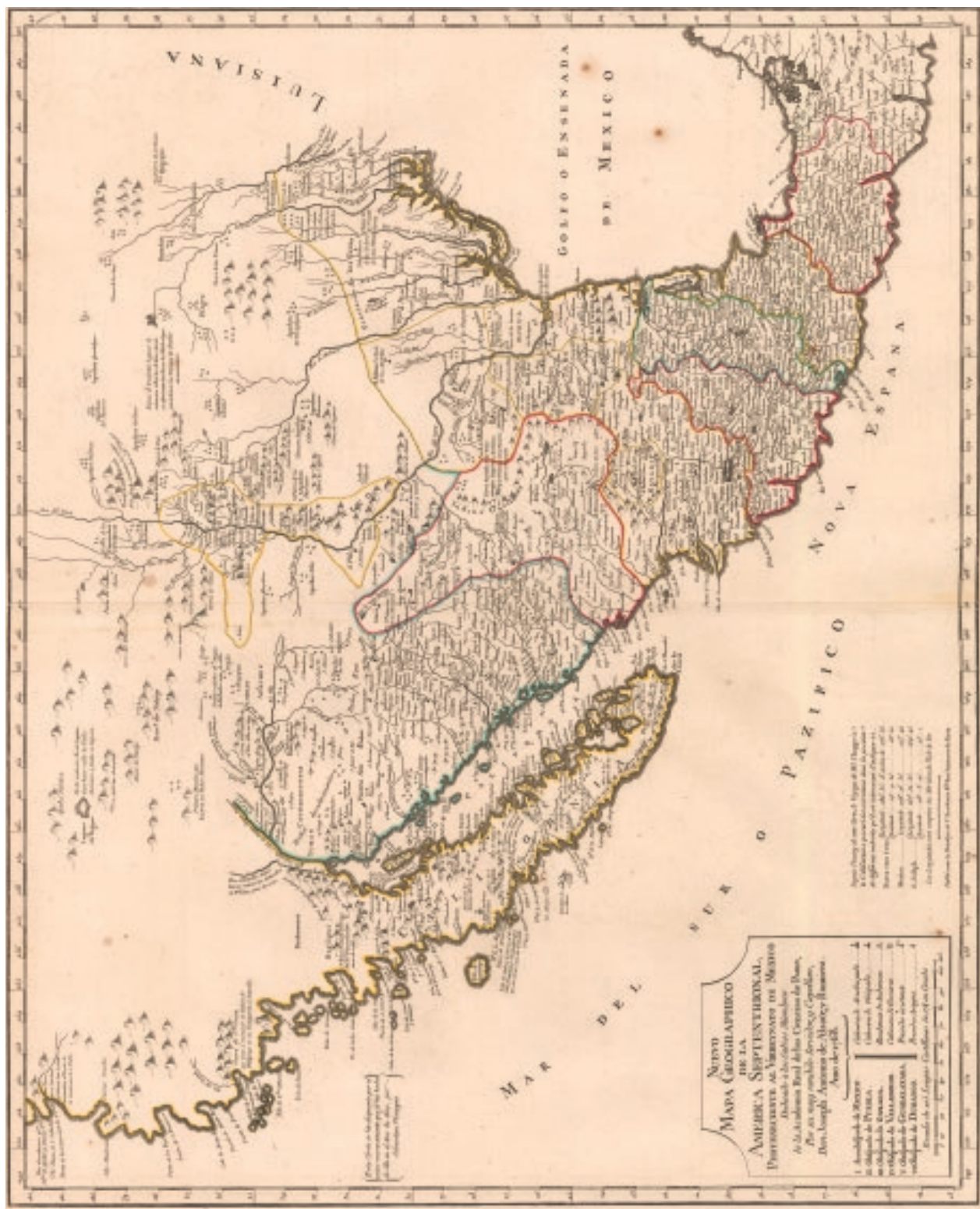


Fig. 1 Alzate y Ramirez, 'Nuevo Mapa Geographico de la America Septentrional', 1768. Printed map of New Spain. French edition. 54 x 67 cm. MacLean Collection Map Library, Illinois.



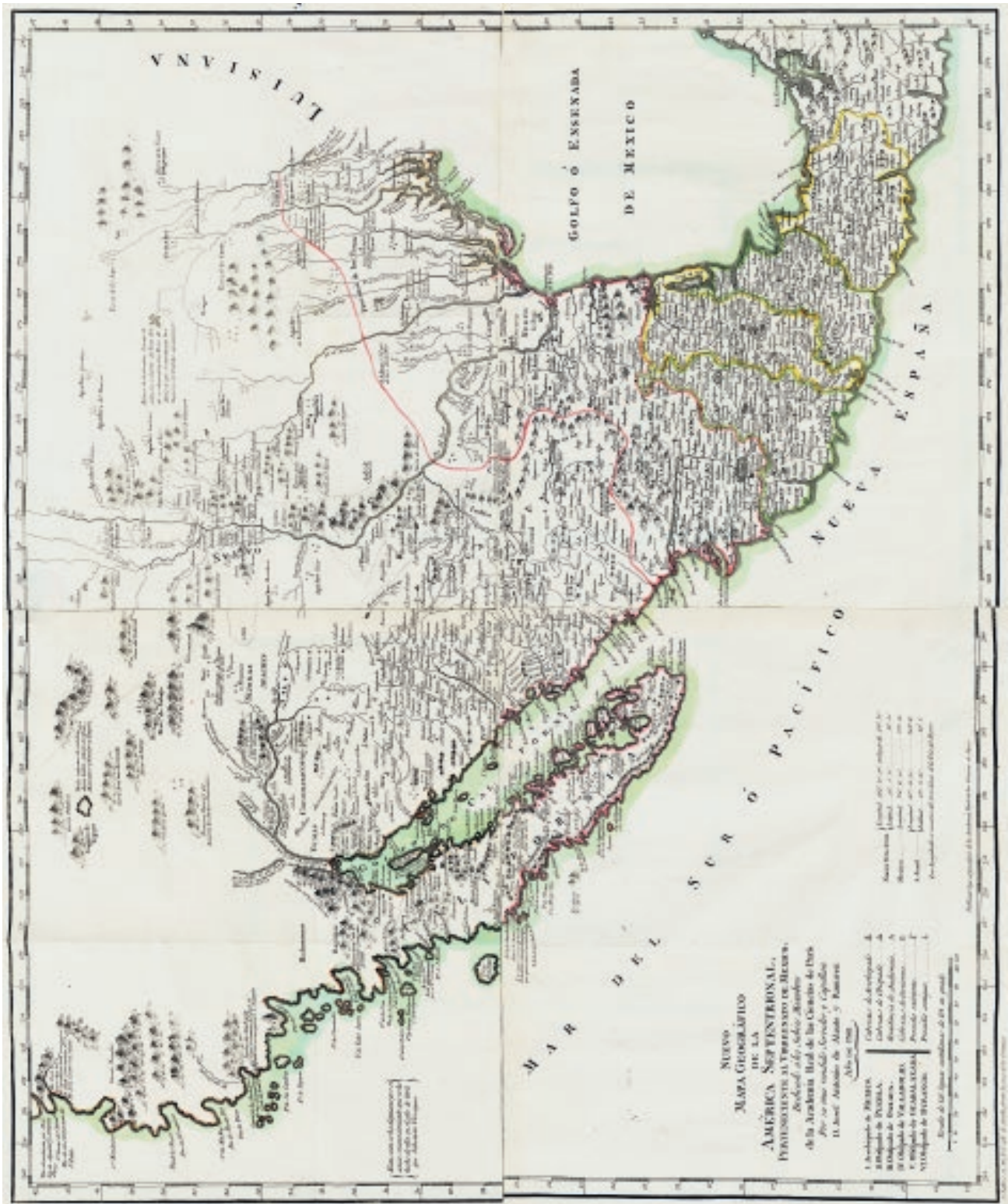


Fig. 2 Alzate y Ramirez, 'Nuevo Mapa Geográfico de la América Septentrional', 1768. Printed map of New Spain. Spanish edition. 53 x 64 cm. Collection of Wesley Brown.









and covers a vast area of North America north to the 44th parallel and east to Florida.

A second manuscript map that has survived is titled 'Plano Geográfico de la mayor parte de la América Septentrional Española' bears the date 1772. Though smaller, 88 x 107 cm, it covers the same area as the earlier manuscript but includes significant changes, especially in the upper Rio Grande Valley and Texas.

Finally, a third manuscript, dated 1775, held by the British Library, bears the title 'Plano Geográfico de la mayor parte de la América Septentrional Española'. It is very similar to the 1772 manuscript.

In addition to the printed map of 1768, Alzate produced a second printed map in 1769, 'Plano de la Nueva España', to accompany a history of New Spain by Francisco Antonio de Lorenzana, Mexico City's archbishop, published in 1770. This version shows virtually no place names in the north and eliminates California and land north of the 34th parallel.<sup>4</sup>

### The two editions of the 1768 printed map

Early in 1768 Alzate sent a manuscript map of New Spain to the Royal Academy of Sciences in Paris (different from the surviving 1767 manuscript). Although this manuscript has been lost, a manuscript copy is in the Bibliothèque Nationale in Paris (Fig. 4). Attached to this map is a handwritten note in French (translation follows):

*Copy of the new written map of New Mexico, etc., dedicated to the Royal Academy of Sciences of Paris by Mr. Joseph Antonio de Alzate y Ramirez, received in June 1768 and carried out under the supervision of Mr. Buache, First Geographer of the King, according to the deliberation of the Academy on September 6 of the above-mentioned year, to be transmitted to the Abbot Chappe d'Auteroche, who must pass constantly through this part of America. [signed] Grandjean de Fouchy, permanent secretary of the Royal Science Academy (Fig. 5).*

Philippe Buache made at least two copies of this manuscript, which are referred to as the Buache Manuscript. One, as mentioned, is at the BnF, the other was transmitted to Abbot Chappe, and will be discussed later.<sup>5</sup> The Buache Manuscript served as the basis for both a French and Spanish edition; these were printed and sold some years later. Careful comparison of the Buache Manuscript to the final printed maps shows similarities in most of

Fig. 3 Alzate y Ramirez, 'Nuevo Mapa Geográfico de la América Septentrional Española, dividida en Obispadasy Provincias', 1767. Manuscript map. 155 x 189 cm. Museo Naval, 7-A-8, Madrid.

the cartographic details. The differences are primarily decorative: such as the removal of the handsome compass from the Buache Manuscript and the simplification of the decorative frame around the title block.<sup>6</sup>

Each edition uses its respective language for major titles and the tables around the map. The geography, legends and place names are virtually identical and are printed in Spanish in both editions. The primary differences between the two are: The French edition is printed from one plate while the Spanish edition was printed from four, the separate map sheets being joined. The French title contains the word *Geographico* spelled with 'ph' while the Spanish edition uses 'f'. The name of the ocean is spelled *Pazífico* on the French edition and *Pacífico* on the Spanish. The box around the title in the French edition is not present on the Spanish.<sup>7</sup>

The French edition was published by the successors to Philippe Buache in two states, one of which includes the Dezauche imprint, contained in two text lines at the bottom centre, below the neat line.<sup>8</sup> A second state lacks this imprint. The Spanish edition, published by Tomás López, is also produced in two states.<sup>9</sup> One includes the imprint 'Se hallará en Madrid, calle de Atocha, frente las casa de los Gremios' in the bottom left, below the neat line; this is not present in the other.

### The northern geography of the printed map

Henceforth, unless specifically noted, the two editions will be referred to as one map. The map is large, detailed, clearly engraved, and most of the known examples have outline hand-colouring. It shows all the area then controlled by Spain in North America, which is divided into six bishoprics. Unlike Alazate's manuscript maps, the printed version has no decoration. It is surrounded by both latitudinal and longitude scales. The longitudinal scale uses the island of El Hierro (Ferro), the most western of the Canary Islands, as the prime meridian.

The map is unusual in that it covers the whole of New Spain, a vast area, whereas most Spanish maps made at that time focused on smaller land areas.<sup>10</sup> Most of the detail of the map is concentrated on central Mexico, which is generally accurate. In contrast, information in the map's northern portion is sparse. There is a great deal of blank space and most of the information is erroneous. Of course, there was so little known of the northern areas that even these details were considered a great improvement by contemporary users of maps and are today fascinating and worthy of study. Accordingly, this article concentrates on this region, which is today the western United States.

### Texas

The map shows four active presidios (garrisoned fortresses) in Texas, including San Antonio de Bejar, with five missions. The town of Adaes, east of the Sabine River, is shown as the regional capital (before it was moved to San Antonio in 1772). Although Guillaume Delisle's 1718 'Carte De La Louisiane' is the first to mention 'Mission de Los Tejas' on a printed map, Alzate is the first to use Texas to describe the region on a printed map, which it does with the bold legend 'Provincia de los Texas' spread across the area.<sup>11</sup> Prior to Alzate, the best printed image of Texas was Delisle's from 1718. Unfortunately, even fifty years later, Alzate's illustration of its rivers is not much improved (Fig. 6). From west to east, the Pecos River is not shown and the Nueces (perhaps confused with the Pecos) flows into the Rio Grande rather than emptying into the Gulf, as it should. The Medina is spectacularly enlarged, coursing a full 10 degrees south to the Gulf, beginning northeast of Santa Fe. The Colorado and Brazos are combined into one. Finally, the Trinity begins its flow in what would be today's state of Kansas. An overall impression of Alzate's rivers is that they flow north to south, rather than in the correct southeasterly direction.<sup>12</sup>

If the geography on the final published map is almost identical to the Buache Manuscript, presuming it is identical to the manuscript sent to France by Alzate in 1768, we would expect its geography to be very similar to Alzate's first surviving manuscript drawn just one year earlier for Spanish authorities. And this is true in many areas; for example, the region of the west coast of Alta California and the Colorado River/Gila River area are nearly identical. However, in two regions – Texas and around the upper Rio Grande of New Mexico – the manuscript sent to France was significantly modified from the 1767 manuscript. As a result, although the Texas rivers have a peculiar north-south orientation on the printed map, they have a more accurate southeastern drainage on the 1767 manuscript. How do we explain this discrepancy, and why, in Texas, does Alzate seem to have regressed?

The answer may come from Alzate's use of Francisco Álvarez Barreiro of the Spanish military as a key source for the 1768 map. Barreiro, appointed military engineer on General Martín de Alarcón's exploration, made first-hand observations of the region of Texas during his involvement between 1717 and 1720. He was also in charge of cartography on Brigadier Don Pedro de Rivera's inspection across the Texas prairies through New Mexico and to Texas in 1724. Barreiro produced





Fig. 4 'Nuevo Mapa Geographico de la America Septentrional', 1768. Phillipe Bauche's copy of Alzate manuscript sent to Paris in June 1768. Bibliothèque nationale de France, département Cartes et plans, GE B-1187 [Gallica.bnf.fr/Bibliothèque nationale de France](http://Gallica.bnf.fr/Bibliothèque nationale de France).

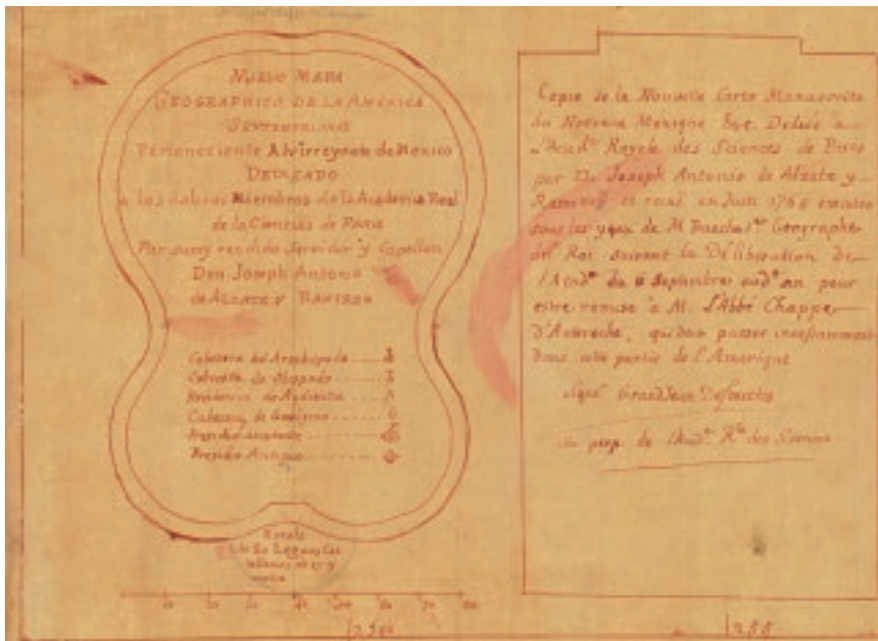


Fig. 5 Label attached to the back of Bauche's copy of Alzate's manuscript, June 1768. Bibliothèque nationale de France, département Cartes et plans, GE B-1187 [Gallica.bnf.fr/Bibliothèque nationale de France](http://Gallica.bnf.fr/Bibliothèque nationale de France).



Fig. 6 Detail of the area of Texas. Alzate y Ramirez, 'Nuevo Mapa Geográfico de la América Septentrional', 1768. Spanish edition. Collection of Wesley Brown.

five regional maps and one general map of all the northern provinces in 1729; the general map was printed in 1803 (Fig. 7). Alzate credits Barreiro as a source on his 1772 and 1775 manuscripts; presumably he was a source for the 1768 map as well.

Careful examination reveals that the Texas region on the printed Alzate map is a word-for-word reproduction of Barreiro's general manuscript map of the area, except for a few cases of new information, such as the addition of several missions near San Antonio de Bejar.<sup>13</sup> The rivers flow in a north-south direction, and the eastern edge of the maps (Alzate and Barreiro) end in the same place, just east of the Sabine River. In contrast, the Texas region shown on Alzate's 1767 manuscript is very unlike that of the printed map in which the rivers flow southeast and other features and names generally follow the French model illustrated in Delisle's 1718 map. One could postulate that, seeking to show the French Royal Society something different, Alzate did not want the Texas region to look like the

familiar Texas depicted by Delisle that had become the standard on most European maps published during the forty years following its original publication. By illustrating Texas according to Barreiro, Alzate could show the members of the French Academy something wholly Spanish and previously unknown to them.

### California and the northwest

The mapmaker's confusions about Texas are minor compared to his depiction of the far north and west where geographic uncertainty manifests (Fig. 8). Alta California shows detail only along the coast, and much of that is incorrect. No missions are shown. The term 'Sierras Nevadas' is applied to mountains indiscriminately placed inland. Describing Alzate's treatment of the northwest coast Henry Wagner writes: 'Although Alzate was at this time one of the most learned men in Mexico,

Fig. 7 Francisco Álvarez Barreiro, 'Mapa Geográfico De Las Provincias Al N. De Nueva España', 1803. Printed for Juan Lopez. Henry Taliaferro image collection.







Fig. 8 Detail of the northwest area. Alzate y Ramirez, 'Nuevo Mapa Geográfico de la América Septentrional', 1768. Spanish edition. Collection of Wesley Brown.

his map is certainly the poorest of the northwest coast ever published, whatever may be said of its value in other parts'.<sup>14</sup>

Alzate's manuscript maps of 1767 and 1772 depict a large inland body of water from the Pacific coast eastward a full 10 degrees. This 'Sea of the West' does not appear on the printed map as its northern boundary only extends to 42 degrees, just south of this sea on Alzate's manuscript maps. Only the strait that leads to the 'Sea of the West' is shown on the printed map as it moves inland to the upper border. Similar to the two manuscript maps, this strait is labeled 'Rio descubierto por Martin de Aguilar y Antonio Flores'. Philippe Buache, who oversaw the preparation of the manuscript copy from which the printed map derives, was one of the most ardent advocates of the mythical 'Sea of the West'. With both Alzate and his French publisher believing in the myth, it is surprising to see Alzate's restraint in establishing 42 degrees as the map's upper limit, and thus not showing the 'Sea of the West'. However, doubt about this myth was growing by 1768.<sup>15</sup> Perhaps Alzate did not want to gamble on this controversy with the map he submitted to the French Academy of Sciences.

The geographical feature just below this strait is a river entering the Pacific Ocean, noted in translation as ‘River Tison, which it is said to have been discovered by Juan de Oñate, as well as the Port of Saint Paul’s

Conversion'. The placement of this text constitutes one of the most remarkable 'travels' of a toponym on any map. A look at the history of the river's nomenclature might help. In 1604 Juan de Oñate led an expedition from New Mexico to the Colorado River area where it joins with the Gila and then south to the river's outlet into the Gulf of Mexico, the outlet which he named Puerto de la Conversion de San Pablo. Sixty-five years earlier Melchior Diaz named it Rio de Tizón (Firebrand). Oñate believed the Rio de Tizón (Colorado River) may have been the fabled 'River of the West' which reportedly flowed into the Gulf and ultimately the Pacific Ocean. These ideas later became confused with notions that California was an island and perhaps led to the belief that the waters of the Tizón emptied into the Pacific near the north coast of the fictitious island of California. This notion, in turn, became associated with another candidate for the famed 'River of the West', the Columbia River, and hence the place name Rio de Tizón, and the legend relating to Oñate, were transferred to the northwest coast and associated with the Puerto del Conversion de San Pablo named by Alzate. But this is not the end of the saga. After the acclaimed 1776 expedition of Silvestre Vélez de Escalante and Francisco Atanasio Dominguez, Bernardo de Miera produced his famous manuscript map of the expedition in 1777 and inserted in the northwest corner, next to the toponym Laguna de Los Timpanogos (Great Salt Lake), a large



river flowing due west to the map's border. Here Miera added the legend in translation 'this has to be the Rio del Tizón discovered long ago by the adelantado don Juan de Oñate, the one he could not cross because of its great width and depth'.<sup>16</sup> In sum, Oñate's discovery is celebrated on maps in what would become Arizona, Washington, and Utah!

### Teguayo and the Rio Grande Valley

Examining the map further inland from the Pacific coast at the 42nd parallel, there is little but fiction and open space along the northern portion as it spans to the east. Far to the north on Alzate's map is a lake named 'Laguna de Teguayo' and a legend that he copied from Barreiro that translates as 'From the environs of this lake they say the Mexican Indians set out to found their empire'.<sup>17</sup> Barreiro's map shows this lake far to the west and draining to the Pacific. Curiously, Alzate has moved it and the legend a good bit eastward, so that it is in approximately the state of Utah today. This is the

same location that Miera would locate Laguna de Los Timpanogos (Great Salt Lake) on his influential 1777 manuscript map. Decades later, Alexander von Humboldt would use this information on his renowned map of New Spain, dated 1804 but not published until 1810. Humboldt copied Miera's Laguna de Los Timpanogos adding the following text next to it: 'This Lake ... is perhaps the Teguayo Lake, from the borders of which, according to some historians, the Azteques removed to the River Gila'.<sup>18</sup> Thus, Humboldt takes the legend from Barreiro, the lake's location from Alzate and its name and shape from Miera.

Various notations to lands occupied by the Comanche, Apache and Ute Indians are placed throughout the region that would become Colorado (Fig. 9). A legend created by Alzate northeast of Taos translates as 'Pass of Don Fernando by which the Comanches penetrate into New Mexico'. Don Fernando de Chavez was a leading settler at the Taos Pueblo. In late summer of 1760 an estimated 3,000 Comanches descended on the Taos Valley



Fig. 9 Detail of the upper Rio Grande (Rio del Norte on map). Alzate y Ramirez, 'Nuevo Mapa Geográfico de la América Septentrional', 1768. Spanish edition. Collection of Wesley Brown.



Fig. 10 Detail of the northwest area. Alzate y Ramirez, 'Nuevo Mapa Geográfico de la América Septentrional', 1768. Spanish edition. Collection of Wesley Brown.

(identified by a red circle on Fig. 9), via this pass, intent on destroying the Pueblo Indians. They carried away fifty-six women and children who were never seen again.<sup>19 & 20</sup>

The upper Rio Grande Valley is solidly mapped with long-familiar place names as far north as Taos; but unlike other contemporary printed maps, Alzate's map provides details further north, many of which are fantasy.<sup>21</sup> The main body of the Rio Grande (Rio del Norte) goes directly north reaching today's state of Wyoming (rather than bending west as it should, just after entering southern Colorado). The Chama River splits from the Rio Grande to the northwest at the appropriate location and thereafter contains various imaginary river branches as it rises in the north. In the region of the upper Rio Grande and its tributaries, Alzate abandoned his depiction shown on his 1767 manuscript and instead mimics Barreiro's treatment.<sup>22</sup> However, when it comes to the details of villages, pueblos and other place names near these waterways, Alzate adds considerable detail with updated information from his 1767 manuscript and significantly

improves Barreiro's model. By showing the waterways according to Barreiro and adding new land details, Alzate produced a Rio Grande area that was very different and greatly enhanced from Delisle's model. Thus, as he had done with the region of Texas, Alzate is trying to show the Academy in Paris something unorthodox and original. Having committed to this new rendering of Texas and the upper Rio Grande on his 1768 map sent to France, Alzate substantially stayed with this new rendering on his subsequent 1772 and 1775 manuscripts, with relatively minor changes occurring on these.<sup>23</sup>

### Gila and Colorado River area

The region of the Gila River is solidly mapped for the time, ignoring Barreiro and, instead, faithfully following the information from Father Eusebio Francisco Kino (famed missionary-explorer who confirmed California was not an island) with several additions (Fig. 10). North of the junction of the Gila with the Colorado is the San Dionisio with the legend 'descubierto por el Pe. Kino año 1700'.



### Importance of key geographical coordinates

It was difficult during the eighteenth century to ascertain the correct coordinates of longitude for locations distant from Europe. Alzate was profoundly interested in this subject, which he discussed in an article regarding Mexican geography in 1772 and again on his 1775 manuscript map. In New Spain, three locations received the greatest interest from scientists: Vera Cruz on the east coast, Mexico City in the centre, and Cabo San Lucas at the tip of Baja California ('S. Josef' in the table on the printed map). Indeed, Alzate states on his 1775 manuscript: 'Thus, from these three calculations alone the true geographical position [of New Spain] can be considered certain'.<sup>24</sup>

Precise observations of the transit of Venus across the sun allow astronomers to determine the longitude of various locations. These rare transits occurred only twice during the eighteenth century: in 1761 and 1769. The Abbot Jean-Baptiste Chappe d'Auteroche (1722–1769), a gifted French astronomer, had learned on his celebrated 1761 trip to Russia to observe the transit of Venus that the selection of a warmer and drier climate would increase the probability of success. Cabo San Lucas was perfectly placed in the path of the much-anticipated 1769 transit and had these other desired features. After difficult negotiations, Charles III of Spain agreed to a joint French–Spanish expedition to Cabo San Lucas. The arrival, in June 1768, of a memoir on several natural phenomena, as well as a new manuscript map from an aspiring Mexican scientist was a stroke of good luck for France and the Royal Academy of Sciences. This rare and presumed accurate geographical information about New Spain contained in the map would be of great use to Chappe. Philippe

Buache, the Royal Geographer and a leading member of the society, hurriedly prepared a manuscript copy based on Alzate's manuscript for Chappe's expedition before it left Paris on 18 September 1768.<sup>25</sup> Thus prepared, Chappe travelled to Cabo San Lucas where he was joined by Spanish and Mexican astronomers to make vital observations on 3 June 1769.

Although successful in its observations, the trip proved disastrous for the French and Spanish scientists; Chappe and most of his companions died of a local epidemic. This resulted in a delay in preparing the results, which were not completed until 1772 in France. Once Alzate's manuscript had been copied for Chappe, its actual publication occurred on a more relaxed schedule. When it was finally published, both editions contained a new table (not on the Buache Manuscript) correcting Alzate's coordinates for the three critical locations with the new figures (Fig. 11).<sup>26</sup> The French edition also acknowledges Abbot Chappe's expedition to California to make these measurements; the Spanish edition fails to mention him. In his later writings, Alzate approves of these corrections to his calculations which he had used to create the 1768 manuscript.

With all Alzate's efforts for accuracy in these coordinates, he failed to impress Alexander von Humboldt who, more than forty years later, in his Geographical Introduction to his *Political Essay on the Kingdom of New Spain*, provides an assessment of the various calculations made by prior astronomers and geographers. There he states: 'This Mexican ecclesiastic, whom the academy of Paris named one of their correspondents, displayed more zeal than solidity in his researches; he embraced too many things at once'.<sup>27</sup> But in Alzate's defence, his calculations using inferior equipment and incorrect tables were much earlier than Humboldt's.

### When was the map printed and which edition came first?

Both the French and Spanish editions of Alzate's printed map contain the added table of coordinate corrections; thus, the printing dates could be no earlier than 1772 when this information was available.<sup>28</sup> Philippe Buache, who had produced the manuscript in 1768, was active in cartography until his death in 1773. His nephew, Jean-Nicolas Buache de la Neuville, purchased his uncle's map plates in 1773 and published maps until his death in 1780. His stock was, in turn, purchased by prolific French publisher J.A. Dezauche. Therefore the printed French state without Dezauche's imprint was most likely published between 1772 and 1780. The French state

Depuis l'ouvrage de cette Carte, le Voyage de M<sup>r</sup> Chappe à la Californie a procuré des corrections dans la position de différents endroits qu'il est intéressant d'indiquer ici.

Nueva vera Cruz	Longitude 102° 35' 25" au lieu de 101° 36'
	Latitude 21° 5' 26" ..... 21° 26'
Mexico	Longitude 101° 18' 30" ..... 101° 40'
S. Joseph	Longitude 107° 52' 30" ..... 108° 40'
	Latitude 25° 5' 26" ..... 25° 4'

Les Longitudes sont comptées du Méridien de l'Isle de Fer.

Publié sous le Privilège de l'Académie des Sciences de Paris.

Fig. 11 Detail of table of critical coordinates. Alzate y Ramirez, 'Nuevo Mapa Geographico de la America Septentrional', 1768. French edition. McLean Collection Map Library, Illinois.

referencing 'A Paris Chez DEZAUCHE' below the neat line was published sometime after 1780.

But when, within the span of 1772 and 1780, was the first French state printed? Recall that Alzate published the *Gaceta de Literatura*, a gazetteer of scientific literature from 1788 to 1795. In a January 1793 issue, he states in translation, 'I arranged for this map of America, which I conveyed in 1768 to the Royal Academy of Sciences in Paris; in 1775, by order of the same academy, the famous geographer Buache published it'.<sup>29</sup> We can conclude the first French state was published by Jean-Nicolas Buache in 1775.

What of the two states of the Spanish edition? One state bears the imprint 'Se hallará en Madrid, calle de Atacha, frente la casa de los Gremios'. Tomás López began using this address in 1783. So the Gremios state was printed after 1783.<sup>30</sup> Presumably, the state without the imprint was published sometime before 1783. Because of the rarity and importance of the map, there has been considerable interest in whether the French or Spanish edition came first.<sup>31</sup> There are several factors to consider. (1) Both French and Spanish editions state that they are published with the privilege of the Academy of Sciences of Paris. This would argue for the French edition being first. (2) The note attached to the Buache Manuscript clearly states it was 'received in June 1768 and carried out under the supervision of Mr. Buache, by September 6th of that year'. Would not Buache or his successors, who possessed it, have been the first to publish it? (3) There are six differences between the French and Spanish printed editions. How do these differences compare to the Buache Manuscript which was the original copy of Alzate's manuscript? In five of the cases where they vary, it is the French version that is the same as the Buache Manuscript; in one case, it is the Spanish.<sup>32</sup> (4) Finally, Alzate himself states the map was first published in 1775 by Buache, from which can be concluded that the French edition was first.

The Spanish state without the Gremios imprint was probably published between 1775 and 1783 and the state with the imprint after 1783. We know that the Spanish edition was in print a long time. Most interestingly, Agustin Hernando Rico reports that Alzate's map was still listed for sale by Juan López, Tomás's son, in Madrid in 1808.<sup>33</sup> In the *Gaceta* Alzate complains that the French never sent a copy of the printed map to Mexico until 1792 when Don Diego de Agreda, filled with 'patriotic devotion', arranged for fifty copies of the map to be printed and sent to Mexico's leading professionals.<sup>34</sup> Presumably these were the Spanish edition. Unfortunately, not a single

surviving copy of the printed map has, to date, been located in Mexico.

When the Spanish edition was finally made by Tomás López, with his reputation for precise work, facility with the language and familiarity with the place names, he cleaned up the errors on the French edition and produced an even finer engraving. An intriguing mistake can illustrate the sequence of the maps. Alzate on his Spanish manuscript map sent to France labeled the Colorado River, 'Rio Colorado, ó del Norte, cuyo origen se ignora', following Father Eusebio Kino's example who remarked that the upper reaches of the Colorado River above the Gila were unknown. When received by the French Society, it was copied by Buache, at which time certain spelling errors were introduced. Accordingly, the Buache Manuscript has the erroneous label 'Rio Colorado, ó del Nortecuoio Origen **Seignora**'. Jean-Nicolas Buache printed the French edition and reproduced the same erroneous label. A few years later, when Tomás López made the Spanish edition of the map, he corrected the obvious typographical errors, and, in the case of the Colorado River, the label was revised to 'Rio Colorado, ó del Norte, cuyo origen se ignora'.

### Impact of the map

During the eighteenth century Alzate's would be the only detailed printed Spanish map of New Spain and, on publication, it would have been expected that other mapmakers would, as was the common custom, copy information from such a noted and local authority as Alzate. Yet overall, it seems to have had little impact on maps published by the major European printing houses of the time. It was copied by Pierre-Marie François de Pagès to illustrate his *Voyages Autour du Monde...* (1782) and it was used as a base map for a series of regional maps of New Spain published by Juan López in 1803.<sup>35</sup> Humboldt reported that he also utilised the 1768 printed map during his investigation in the archives of Mexico City in 1803.<sup>36</sup> These are the only uses of Alzate's map by other mapmakers that have been located by the present author.

There are at least two explanations for this lack of impact. First, the map might not have been seen. The information, without approval of the Spanish authorities, might have been narrowly distributed. According to Alzate, not a single example reached Mexico until 1792. As discussed, very few of the maps survive and perhaps the print runs were too small to have an impact. An additional explanation concerns the actual date the map was printed; although it was



dated 1768, the first state was not printed until 1775, and the others much later. By the 1780s mapmakers with access to Spanish manuscripts would have been far more impressed with Nicolás de Lafora's maps of 1771 (which reflected the great northern inspection of Marqués de Rubí), Miera y Pacheco's 1777 map of the Escalante–Dominguez expedition, and the maps of Manuel Agustín Mascaró around 1782. Of course, this restricted Spanish information was not available to the European map trade. Beginning in the 1790s, important information was emerging from French and English explorations in the northwest that would be revealed in print by Aaron Arrowsmith and Victor Collot that same decade. Thus, by the time Alzate's map was finally printed, its information was no longer the best available.

A question remains as to why, in view of Spain's long tradition of secrecy, Alzate dared to send such confidential geographical information about New Spain to the French in 1768. Eager to publish his scientific papers with the prestigious French society, did he hope to impress them by including a detailed manuscript map dedicated to them? (He became a corresponding member three years later). Was this a treasonous or reckless move? The following four points explain why it was not. (1) At this time, the Bourbon King Charles III also dominated the Spanish court (as Carlos III), enabling greater cooperation between previously hostile neighbours. For example, young Spaniard Tomás López studied mapmaking in Paris under the French expert cartographer J.B.B. d'Anville. (2) Charles III, an intellectual liberal, also expanded academic and commercial freedom in France and Spain. (3) Following the Treaty of Paris in 1763, which concluded the French and Indian War, France had ceded all territory west of the Mississippi River to Spain, so the French were no longer a threat to Spain. (4) Finally, as discussed above, the information to the north was not that accurate, reflecting Spain's own lack of knowledge just before the great discoveries of the 1770s.

The inadequacies of Alzate's map are clear: the details of the northwest coast are poor, the drainage of the rivers of Texas are confused, and although the valley of the Rio Grande is well mapped, the lands north of Taos are conjecture. With the benefit of today's knowledge it is tempting to judge this map a failure. But at the time the area was essentially unknown. Alzate, who did not have formal training in cartography, used great ingenuity to piece together scraps of information for an otherwise blank canvas. Expressing humility in his 1772 geographical memoir when praising his sources, he

states: 'I am not so arrogant that among them I would number the general map of the kingdom ... which I have executed; I lack that which is most essential to give them the perfection possible'.<sup>37</sup>

No other map that survives before this date attempts to illustrate all of New Spain, and no other Mexican dared to share information that would be published in Europe. In risking the wrath of Spanish authorities, Alzate stated that 'moved by the good of the nation, [he] might try to serve it [by] reducing its geography to a better state'.<sup>38</sup> He was a scientist seeking to understand his surroundings and to bravely share this knowledge with others. With its many faults, the map was still the best information about this vast unknown land to be printed until the last decade of the eighteenth century. It is a landmark in the history of North America's southwestern cartography.

#### Notes

**1** Exceptions are Alzate's Lorenzana map published in 1770 and a map to accompany the adventures of Pierre Marie François de Pagès in 1772, both simplified copies of Alzate's 1768 printed map, and the map focusing only on California to accompany *Californias: Antigua y Nueva* by Francisco Palou in 1787.

**2** There are six copies of this very rare map known to have been sold by dealers in the past 50 years. My research has located 15 examples: French edition (no imprint): Bibliothèque Nationale de France, British Library, Frank Holcomb, Texas (Ruderman 30212). French edition (Dezauche): University of Michigan (Clements), Library of Virginia (John Carter Brown) (Streeter copy), Maclean Collection, Baylor University (Texas Collection). Spanish edition (no imprint): University of Michigan (Clements), Library of Congress, William Talbot, New Mexico (Ruderman 31332rg), Ted Lusher, Texas (Ruderman 49361). Spanish edition (Gremios): Yale, Library of Congress, Wesley Brown, Colorado, Private collector, Spain.

**3** For example, he does not seem to have consulted Miera y Pacheco's map produced in 1758 (the most advanced map of the upper Rio Grande to then) or had access to findings of the northern inspection of Marqués de Rubí who returned February 1768.

**4** For more on the 1769 map see Ben W. Huseman, *Enlightenment Mapmakers and the Southwest Borderlands*, University of Texas at Arlington, 2016, pp 28–29.

**5** Jack Jackson notes the manuscript copy in the Bibliothèque Nationale, but was apparently unaware of the attached handwritten label. Jack Jackson, *Shooting the Sun: Cartographic Results of Military Activity in Texas, 1689-1829*, Book Club of Texas, 1998, p. 134.

**6** Differences from the Buache Manuscript to the French printed edition are (1) removal of decorative compass, (2) decorative border around title simplified, (3) typo of date in legend about Sebastian Viscayano corrected from '16' to '1602,' (4) Title of Ocean changed from 'Grande Merr appellee Vulgairement Pacifique' to 'Mar Del Sur O Pacific', (5) 'Kadasiyac' added to small river flowing into Pacific, (6) list of six bishoprics added, (7) at 30<sup>th</sup> parallel, 'Angrim' and 'Ajava' changed to 'An' and 'Ajaviaamin', (8) scale bar modified, (9) east of Taos 'Sierra de Nambe' changed to 'Sierra de Namhe', (10) large text across southern Texas 'Guadalaxara' has been removed, (11) 'Nova Espana' has been added in the ocean, and (12) the table of longitudinal and latitudinal coordinates for Nueva Vera Cruz, Mexico, and St. Joseph has been added.

7 Another minor difference is that to the legend for Cabo St. Lucas is added the text 'Cabo de Ballenas' (referring to the whales present) on the Spanish edition, but not on the French.

8 'A Paris Chez DEZAUCHE Géographe Successeur et Processeur du Fond Géographique des Srs. De l'Isle of Buache Géographe du Roi, Rue des Noyers près selle des Anglois'.

9 The mountains, coastal outlines, and script are all in the style of López style who was the only active map publisher in Spain at that time; the Gremios state describes López's known work location, and the map was listed in Juan López' inventory in 1808.

10 A general map of New Spain had been produced in the late 17th century by Don Carlos de Sigüenza y Góngora whom Alzate credits as a source in his article about the 1772 manuscript; this map has not survived. Michael Frederick Weber, *Tierra Incognita: The Spanish Cartography of the American Southwest 1540-1803*. Dissertation, Albuquerque: University of New Mexico, 1986, pp. 306-07.

11 Barreiro's 1729 map has the title 'Prova. de los Tejas', likely the first such manuscript map to ascribe a regional area to the word Texas.

12 For a more detailed discussion of Alzate's mapping of Texas see Jack Jackson, *Shooting the Sun: Cartographic Results of Military Activity in Texas, 1689-1829*, Book Club of Texas, 1998, pp. 131-35.

13 In the region of Texas, another text on the 1768 printed map not found on Barreiro include the addition on the 1768 printed map under the general title Provincia de los Texas of the mission 'Nra. Sra. de los Dolores de Cenis ó Texas', probably taken from Delisle. Another is an addition on the 1768 printed map of the four additional missions of San Antonio: Concepcion, la Espada, San Jose, and San Juan de Capistrano.

14 Henry R. Wagner, *The Cartography of the Northwest Coast of America to the Year 1800*, Amsterdam: N. Israel Press, 1968, p. 153.

15 The remarkable voyages of Captain Cook along the northwest coast concluded in 1779 proving the 'Sea of the West' a fraud. Even Buache had to admit there was no such sea in this location.

Jean-Nicolas Buache's map 'Nouvelle Carte de la Partie Septentrionale du Globe comprise entre le Kamtchatka et la Californie', completely removed it in 1782.

16 John L. Kessell, *Whither the Waters*, Albuquerque: University of New Mexico Press, 2017, p. 38.

17 Kessell, p. 57.

18 Alexander von Humboldt, 'A Map of New Spain', London: Longman, Hurst, Rees, Orme and Brown Oct. 25, 1810.

19 Thanks to Angel Abbud-Madrid for this information and translation.

20 Another legend located east of the Rockies about where the Colorado-New Mexico border would be today states: *Llanos de trescientas leguas de extension cubiertos de heno donde se alimentan las Reses de Sibola de que se mantienen las Naciones de Gentiles circunvecinos* (Meadows of 300 leagues of extension covered with grass where the cattle of Sibola pasture that feed the Nations of neighboring Gentiles.) The term 'Gentiles' used throughout the Alzate map can be translated as 'Indians'.

21 Way to the north on the map is 'Sierra Azul tan decantada' (The much-praised Sierra Azul) referring to an area of rich silver mines far west of Santa Fe.

22 Specific examples of features from Barreiro include the addition of the small rivers Vermejo and Antonio, as tributaries to the Chama River and the legends at the top of the map just west of the Rio del Norte (Grande) 'Tierra de los Camanches ó Padoucas' and the legend just below Tierra de los Yutas'.

23 Although Alzate manages to incorrectly move the Trinity to the east of the combined Colorado and Brazos river on the 1772 and 1775 manuscripts.

24 Jackson, p. 138.

25 Xavier López Medellín, et al. 'The 2012 Transit of Venus Observed at Real de Santa Ana, Baja California Sur, Mexico', *Journal of San Diego History*, 2012, Vol. 58-4, pp. 275-77.

26 The translated French text is: 'Since the sending of this map, the voyage of Mr. Chappe to California has provided corrections in the position of different places which it is worthwhile to set forth below'.

27 Alexander de Humboldt, *Political Essay on the Kingdom of New Spain*, 1811, translated from French by John Black in 1811, p. xxviii.

28 The British Library that has a French edition without the Dezauche imprint, has catalogued this map as being by Phillippe Buache, printed in Paris on March 21, 1772 without explanation. Robert Sherwood states that the French edition was published in 1775 without explanation. *The Cartography of Alexander von Humboldt, Images of Enlightenment in America*, Saarbrücken: Deutsche Nationalbibliothek, 2008, p. 97.

29 I thank Martine Chomel Harent, former curator of maps at Museo Nacional de History, Mexico City, for drawing my attention to this quote in José Antonio Alzate y Ramirez, *Gaceta de Literatura de Mexico*, Puebla: 1831, Vol. 3, p. 59.

30 A. López Gómez, 'Los domicilios en Madrid y el éxito del geógrafo Tomás López (1731-1802)', in *Boletín de la Real Academia de la Historia* (BRAH), CXCVII, 2000, pp. 377-89.

31 Henry R. Wagner states the French edition was first because both French and Spanish editions state they were published under the privilege of the French Academy of Sciences. *The Cartography of the Northwest Coast of America to the Year 1800*, Vol. I, N. Amsterdam: Israel Press, 1968, p. 339.

Both Carl Wheat and Barry Ruderman (have argued for the primacy of the Spanish edition, primarily because of the spelling errors on the French. Carl Wheat, *Mapping the Transmississippi West*, Vol. 1, San Francisco: Institute of Historical Cartography, 1957, p. 218. Barry Lawrence Ruderman catalogue description 49361 for sale of Spanish edition of Alzate map, 2017, p. 5.

32 (1) In title, 'Geographico' in French and Buache Manuscript, 'Geografico' in Spanish, (2) 'Cabo de San Lucas' on French and Buache Manuscript, 'Cabo de S. Lucas o'Co. Bellanas' on Spanish, (3) box around title on French and Buache Manuscript, no box on Spanish, (4) in the language about Viscayno's voyage, 'dispuerto' (a misspelling) on French and 'dispuerto' on Buache Manuscript and Spanish, (5) in 'Pueblos rebeldes de moquis', 'rebeldes' in French and Buache Manuscript and 'rebeldes' in Spanish, (6) 'Rio Colorado, ó del Norteciuo Origen Seignora' on the French and Buache Manuscript and 'Rio Colorado, ó del Norte, cuyo origen se ignora' on the Spanish. Ruderman has enumerated several differences between the editions in his catalogue description, pp 34.

33 Agustin Hernando Rico reports that the catalogue of maps for sale by Juan López, Tomás's son, in Madrid 1808, includes 'Virreynato de Mexico, por Don Josef Antonio de Alzate y Ramirez, in four sheets at a price is 14 reales'. Agustin Hernando Rico, *El geógrafo Juan Lopez (1765-1825) y el comercio de mapas en España*, Madrid, 2008, p 5.

34 Alzate, Vol. 3, p. 59.

35 This is sensible since López had published Alzate's map. Weber, p. 312. Alzate's map was reproduced in John Howell's 1972 edition of Pedro Alonzo O'Crouley's 1774 manuscript, *The Kingdom of New Spain*, because O'Crouley's original map was lost.

36 Humboldt, p. xxvix. Thanks to Angel Abbud Madrid for pointing this out.

37 Jackson, p. 137.

38 Jackson, p. 137.

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**Wes Brown** has been a map collector for forty-five years, first starting in college. His greatest interest is in mapping the western US, especially Colorado. He also loves early world and Chinese maps. He has published many papers and is actively involved in numerous map organisations. Email: wesleybrownb@gmail.com