

THE WATERSHED OF MEXICO IN EARLY MODERNITY

Crossed perspectives and comparative historical hydrology¹

[Received November 20th 2024; accepted March 25th 2025 – DOI: 10.21463/shima.265]

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ABSTRACT: The watershed of Mexico is a noteworthy example of profound anthropogenic impact on the environment. This paper examines the early modern conceptualisation of the Basin of Mexico, linking this process to water management and, more broadly, to hydropolitics. The representation of Tenochtitlan merged practical and symbolic meanings, shaping projects that aimed to transform both society and the environment. Water management initiatives carried significant ideological and political implications, which unfolded in contested ways, reflecting competing interests and perspectives in what has come to be known as hydropolitics. Since the first European depiction of Tenochtitlan, the so-called *Map of Cortés*, symbolic strategies were employed to legitimise Spanish conquest. However, in other contexts – particularly in Venice – an alternative and more positive interpretation of Tenochtitlan emerged. Despite their differences, 16th century Venice and Tenochtitlan shared not only representational similarities but also certain water management strategies, rooted in analogous hydropolitical frameworks that considered local communities and the centrality of the lakes. While Venice has maintained this policy to the present day, the Basin of Mexico saw a shift in hydropolitical dynamics from the 17th century onward, as urban perspective and interests increasingly imposed over surrounding communities and the lake environment.

KEYWORDS: Valley of Mexico, Venetian *isolarii*, comparative waterscapes, anthropic landscapes, water-cities

The colonial view of the Basin of Mexico

From the first representation of the Basin of Mexico made after the arrival of the Spanish – the so-called Map of Cortés or Map of Nuremberg (Figure 1) – the blend of indigenous and European conceptions is evident, as is the tension between positive and negative elements of the city and its lake environment. Thus, this representation was not intended to be an

¹ This work was developed as part of my postdoctoral research in the FARE Project *EarlyGeoPraxis: Positioned Cosmology in Early Modernity - The Geo-Praxis of Water and Land Management in Venice* at the Ca' Foscari University of Venice. It was carried out in collaboration with the UNESCO Chair of Water Heritage and Sustainable Development. I would also like to acknowledge the support of the New Institute Centre for Environmental Humanities (NICHE) at Ca' Foscari, especially its director, Francesca Tarocco. **Note:** all translations from original Spanish or Venetian sources are by the author.

objective or neutral depiction; rather, it carried significant symbolic, axiological, and political implications.² Some strategic elements crucial to the conquest of the city are represented in the map, such as the water supply that Cortés cut off during the siege. Likewise, the map depicts not only the roads to the Aztec capital but also, on a different scale, the Gulf of Mexico, the main entrance to the region. At the same time, the map included symbolic elements that were equally important, as they provided justification for the material conquest. As Barbara Mundy asserts, “Cortés was concerned not merely with establishing the physical location of the city but also with creating a political space for the city within the larger realm of Habsburg Spain” (Mundy, 1998, p. 26). The emergence of this discourse justifying conquest becomes even more significant when we consider that the incorporation of Mexico-Tenochtitlan marked a strategic milestone in European imperial expansion and the dawn of the modern world, along with its practices of exploitation.



Figure 1 - Cortés Map also known as the Nuremberg Map. Courtesy of Newberry Library.

Although the map was first published in 1524, its conception is linked to Hernán Cortés's second letter, dated October 30, 1520, written after reaching the city of Tenochtitlan, the capital of the Mexica Empire, but before its conquest. Thus, the map offers a representation

² The axiological and political significance of the first representations of America has been pointed out by several authors since the second part of the 20th century. This diversity of meanings was in line with the epistemology prior to modern science, which did not separate natural discovery from human invention (Rodríguez, 2023).

of the city frozen in time, prior to its capture by the Spaniards and their indigenous allies. Therefore, the geographical and conceptual representation of these regions linked to Cortés' reports was one of the first steps towards their conquest. In both the map and the second letter, there is a tension between the exaltation and denigration of these territories and their inhabitants. Although these representations included both positive and negative elements, together they served to justify the conquest. In this way, differences from Europe in terms of nature and society were highlighted, but similarities and positive elements were also emphasised. In his second letter, Cortés asserted that "these people live almost like those in Spain, and in as much harmony and order as there, and considering that they are barbarous and so far from the knowledge of God and cut off from all civilized nations, it is truly remarkable to see what they have achieved in all things." The similarity with Spain was not only social but also natural, thus Cortes talked on the "the similarity between this country and Spain, in its fertility, its size, its climate, and in many other features". All these elements justified his proposal to name it New Spain, as "the most suitable name for this country" (Cortés, 1866, p. 156). This, of course, was not an innocent act, rather, calling those lands New Spain was already a first act of colonisation.

Within European conceptions of the time, a well-ordered city was a sign of civility and good government, elements that we find in both Cortés's letter and map of Tenochtitlan.³ At the same time, not only was the city's good order highlighted, but also its harmonious relationship with the lake environment. This was also connected to another particular element of the Nuremberg Map, which linked the city and its surroundings: the centrality of the city depicted in the middle of a circular lake.⁴ Although geographically inaccurate, this depiction reflected a notion of great importance to both indigenous and European conceptions – the idea of the *axis mundi*. Centrality was highly significant in the Mesoamerican worldview, as well as in the European tradition, which placed the "sacred city at the center of civilization" (Horodowich, 2018, p. 184). However, in the Map of Cortes, the representation of the Mexican capital was not entirely positive; rather, it included elements that contrasted with the harmony and tranquillity of the city. The centre of the city – and therefore of the entire representation – is occupied by a disproportionately large central square, where it is emphasised that human sacrifices took place. Meanwhile, on the perimeter of the lakes, the Habsburg banner is depicted as if threatening to take the city. In this way –as in Cortés's second letter – the map presented a representation of the city combining both positive and negative elements, which together served to justify its conquest. Thus, the map exemplifies the symbolic strategies employed at the dawn of early modern imperialism.

Cross perspectives: "Another Venice in the World"

News about the New World and the impressive city of Tenochtitlán, built on an artificial island, was very attractive to Europeans, who quickly found similarities between the Aztec capital and Venice. Thus, when one of the first reports of the city arrived at San Juan de Ulúa, Veracruz, in 1520, it was said that Cortés was already in Tenochtitlán, which the Spaniards called "the Rich Venice."⁵ This comparison would become common at the time. For example,

³ "For the careful urban planning seen in the map of Tenochtitlan was widely held in Europe as an index of social organization: the more planned a city, the more advanced a civilization." (Mundy, 1998, p. 26).

⁴ Since his first letter, Cortés writes that the Mexican province "is round and it is all surrounded by very high and rough mountains". (Cortés, 1866, p. 102).

⁵ "Venecia la Rica" (Vázquez, 1866, p. 43).

Bernal Díaz del Castillo wrote: “You will have heard in most of Spain, and in Christendom, that Mexico is as great a city, and populated on the water, as Venice” (quoted in Díaz, 1632, p. 8v). This comparison particularly appealed to the Venetians, who quickly identified several similarities between their city and the Aztec capital. In 1525, Gasparo Contarini, the ambassador at the court of Charles V, drew on Cortés's accounts to provide the Venetian senate with a description of the “marvellous” city of Tenochtitlan, writing that “this city is marvellous and of greatness in site and artifice, placed in the middle of a saltwater lake, which surrounds about two hundred miles, and at one point it joins with another freshwater lake; it was not very deep, and the water rises and falls twice every day, as it does here in Venice” (Contarini, 1840, p.53).

The similarities between these two water cities were also explored in new literary genres and their engravings, particularly within the vibrant Venetian printing milieu. Although these representations of Mexico-Tenochtitlan were often based on the Map of Cortés, they offered an alternative view of the city with distinct political implications. Venetian authors focused on the positive aspects of the city and its harmonious relationship with the lake environment, omitting or downplaying the negative elements that justified its conquest. In this way, Venetian drawings presented an image of Tenochtitlán that resembled their own city. By that time, the proud Republic of Venice was depicted from a bird's-eye view in Jacopo de' Barbari's impressive map, which presented the city “from the eye of God” as both an *axis mundi* and “an exemplar of divine order” (Wilson, 2005, p. 42). Similarities with the later Map of Cortés can be observed. Even Barbari's perspective was adopted by Alessandro Zorzi, who reinterpreted the Map of Cortés to offer a representation of Tenochtitlán and its surroundings that resembled Venice (Figure 2).



Figure 2 - Alessandro Zorzi, *Temixtitlan*. Courtesy of the National Central Library, Florence.

Likewise, the comparison between the two cities was developed in the contemporary *isolario* (i.e., books on islands). In fact, the first printed reproduction of Tenochtitlán after the Map of Cortés appears in in the *Libro di Benedetto Bordone* (1528), where the Aztec capital and Venice occupied a privileged place as the main island cities. Bordone omitted the violent elements and the Spanish conquest, offering an image of a peaceful and harmonious city. His positive representation of Tenochtitlan, with its symbolic and political implications, became highly influential, as it was adopted by several later authors who preferred it over the Nuremberg Map (Horodowich, 2018, pp. 184–185; Davies, 2016, pp. 228–230; López, 2014, pp. 175–178). For instance, in later *isolari* such as *L'isole piu famose del mondo* (1576), its author, Thomaso Porcacchi, wrote that Tenochtitlan is “very well praised for being beautiful, well adorned, & rich by all the writers, so that not without wonder we see another Venice in the world.” This mirrored interplay between the two cities was also explored in another genre of the time: books on cities (*civitatibus*). For example, Giulio Ballino's *De' Disegni delle piu illustri città, & fortezze del mondo* (1569) includes representations of both water cities (Wilson, 2005, p. 60). As Elizabeth Horodowich notes: “[f]or Venetian printmen, the greatest and wealthiest city in the New World was not different or unique but instead like Venice” (Horodowich, 2018, p. 189). All these engravings offer an image not of the contemporary capital of New Spain but of the pre-conquest Aztec city. In this way, they carry significant political implications, as they could be interpreted as a reclamation of the continuity of indigenous rule over the city and its lakes.



Figure 3 - Venice. *Libro di Benedetto Bordone nel qual si ragiona de tutte l'isole del mondo*, Venice 1528. Courtesy of the John Carter Brown Library



Figure 4 - Tenochtitlan. *Libro di Benedetto Bordone nel qual si ragiona de tutte l'isole del mondo*, Venice 1528. Courtesy of the John Carter Brown Library.

In books on voyages, Mexico-Tenochtitlan also occupied an important place. For instance, in *Delle Navigationi et viaggi* (Venice, 1565) by Giovanni Battista Ramusio, a positive interpretation prevailed in the various accounts of the Americas and the city of Mexico.⁶ In this way, it is said that Mexico City is “very healthy & temperate, & in the mountains, which surround the Mexican lagoon, largely similar to that of this glorious city of Venetia of ours, there are many pleasant places to go for pleasure” (Ramusio, 1565, f. iv recto). In the case of the Valley of Mexico and the city of Tenochtitlan, Ramusio included Cortés’s accounts as well as a text written by one of his companions, alongside an engraving inspired by the Nuremberg Map and the *isolarii* tradition, albeit with modifications. The map is situated within the account of a companion of Cortés and aligns with his ideas. Thus, the text mentions that the plains within the watershed of Tenochtitlán were filled with beautiful villas & villages. As in the map, the author of the text distinguishes between the saltwater lake and the freshwater lake, noting that in the latter, there were many beautiful settlements, such as Cuitlahuac (now Tláhuac), referred to at the time as “Venezuola” (Ramusio, 1556, p. 308).

⁶ For example, although Ramusio included excerpts from Gonzalo Fernández de Oviedo’s History, which was an apologist text for the conquest, the engravings had been modified, offering an American landscape where the indigenous, and not the Spaniards, were the protagonists interacting with the different objects or species of the New World (Carrillo, 2004, p. 251).

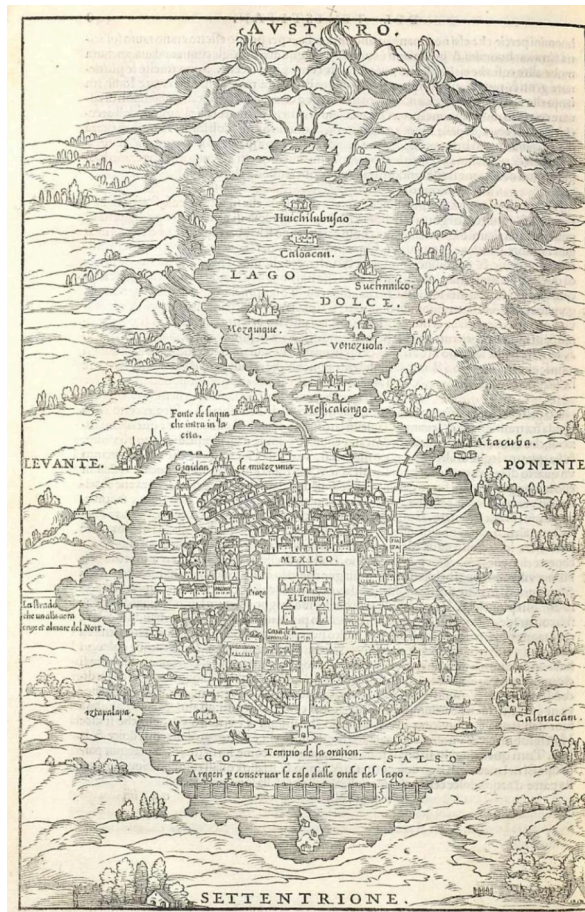


Figure 5 - Giovanni Battista Ramusio's *Delle Navigationi et viaggi* (Venice, 1556) showing the so-called “Venezuola”

Idealised cosmopolitan islands

Both Tenochtitlán and Venice were idealised at the same time that the very idea of the city was linked to insularity. Although one might think of islands as isolated and disconnected from the world, in the imagination of the time, the notion could be quite the opposite. In some cases, insularity was seen as an expression of the connections and opportunities opened by new maritime networks. This idea was expressed through dialogues that offered a positive vision of both cities and their lake environments. Likewise, they highlighted their role as *axis mundi* and, in a more practical sense, as nodes within early globalisation, where the diversity of the world can be found. For instance, Anselmo Guisconi, in the dialogue *On the Notable Things that are in Venetia* (1561) wrote, under the pseudonym of Francesco Sansovino: living “in such an illustrious and clear city as this one, which without any doubt can be called the Theatre of the World and the eye of Italy” (Sansovino, 1561, p?). That is, it not only encompassed the entire world but also, from Venice, thanks to its maritime connections, the

entire world could be seen. The ambivalence between isolation and the possibility of communication is expressed in Thomas More's *Utopia* (1516), where insularity holds a strategic place, not so much for trade but for knowledge.

The exaltation of insularity drew on classical traditions to incorporate the New World within the European framework. In this logic, within the Venetian milieu, as Giuliano Gliozzi has studied, Plato's Atlantis was revived as a tool for understanding America. In contrast to the hegemonic Spanish vision, this interpretation recognised not only the value of American products but also that of their civilisations. Thus, according to Gliozzi (1977), the Venetians developed a vision of the New World aligned with a commercial perspective, opposed to the Spanish colonial enterprise and Papal jurisdiction. Therefore, Venetian depictions of Mexico-Tenochtitlán, which emphasised the pre-Hispanic city rather than the Spanish city of the time, are consistent with the broader interpretation of America developed within the Venetian milieu.

On the other side of the Atlantic, in 1553, Francisco Cervantes de Salazar published his *Dialogues on Mexico City*, in which a settler presented the city to a newcomer. Although the conquest was justified, primarily to end human sacrifices, the dialogues presented a very positive view of the city and its lakeside surroundings. The great fertility of New Spain and the temperate climate of Mexico are highlighted (Cervantes, 2001, p. 74). Likewise, the visitor, upon seeing the city, describes the "spectacle" as "so pleasing to the eyes and the mind, and so beautifully varied, that I dare to affirm with all reason that both worlds are here reduced and encompassed, and that what the Greeks say of man, calling him a microcosm, or small world, can be said of Mexico" (p. 70).

Cervantes de Salazar also presented the lagoon in a positive light because it prevented the city from being easily conquered.

The land on which the city is now founded was once entirely water, and for this reason, the Mexicans were impregnable and superior to all other Indians... They received no harm from the enemy, and could retreat to their homes as a safe refuge, defended by nature. (Cervantes, 2001, p. 34).

The advantage of being established in a lagoon was also a claim frequently made for Venice. For example, in *The Book on the Venetian Republic* (1540), Donato Giannotti (1540) stated that Venice enjoyed a privileged location, as it could not be easily taken since large ships could not enter its shallow lagoon. One of Venice's *proti* (technical advisors), Cristoforo Sabbadino, wrote a sonnet highlighting the importance of the lagoon waters as natural walls to protect the city:

*You know how big your walls used to be, Venice;
now you see their present state.
And, if you do not repair its weakness,
You'll remain vulnerable, without walls (Omodeo et al, 2020, p. 428).*

This metaphor was even more applicable to Tenochtitlán, as it not only had the lagoon but also real walls or dikes to protect it. Although far from the sea, the Aztec capital was located in a closed basin in which minerals had accumulated over time, making the lower lake of Texcoco salty. To keep the fresh water around Tenochtitlan separated from the brackish water, indigenous people built a huge dam (Nezahualcoyotl's dike), producing the so-called called *Laguna de México* with a pleasant environment suitable to agriculture. Later, in an attempt to

protect it from flooding, a dike was built around the city – mainly in the East. Thus, the function of these dikes was not to protect the city from enemies. Despite being situated within a lake, Tenochtitlan had already been conquered by Cortés and his numerous Indigenous allies. This fact, perhaps even more than geographical particularities, constituted a major difference compared to the Serene Republic of Venice. It reminds us of the distinct political and economic roles that both cities played in the expansion of modern imperialism, which would have very different repercussions on their respective waterscapes.

Indigenous water planning in the capital of New Spain

Contrary to the idealised Venetian representation of Tenochtitlan, by that time the city and its relationship with the lakes had been profoundly altered. The conquest of the Aztec capital had a significant impact on the city and its water infrastructure. During the siege of the city, the dike that separated the waters was destroyed, causing the small freshwater lagoon of Tenochtitlan to mix with the saltwater of Lake Texcoco. After the conquest, the reconstruction of the city required large quantities of materials such as wood and stone, which were taken not only from the surrounding areas but also from Indigenous buildings and dams. Those decades were a period of moderate rains and low water levels, making the dikes seem superfluous to the Hispanic settlers. As a result, the smaller dam that surrounded and protected the city was also lost.⁷ At the same time, the introduction of cattle and plowing, along with extensive deforestation, increased soil erosion and, consequently, siltation. This, combined with the loss of the great dike, led to the disappearance of the Mexico lagoon (Candiani, 2014, p. 29; López, 2014, p. 128; Mundy, 2015, p. 194).

As in Venice, in the Basin of Mexico, Indigenous peoples had diverted rivers since pre-Hispanic times, though initially with different intentions.⁸ In the case of Venice, the river mouths had been redirected to the sea to avoid sedimentation, which at the time threatened to silt up the lagoon (Omodeo et al., 2020, p. 429). In contrast, in Tenochtitlan, the Cuauhtitlán River was diverted to Lake Zumpango in the north, preventing its waters from flowing into Lake Texcoco and thus reducing the risk of flooding the city. However, in the first decades of New Spain, Mexico City also faced sedimentation problems due to increased erosion. This, combined with the neglect of hydraulic works and a period of moderate rainfall, caused parts of the lagoon to dry up, transforming into marshes or even reclaimed land, particularly in the western zone of the city. This transformation can be seen in the so-called Santa Cruz Map (Figure 7) and is described by the conquistador Bernal Díaz del Castillo:

It was a very large town, and half of the houses were built on land and the other half in the water. Now, at this time everything is dry, and they plant crops where there used to be a lagoon. It is so changed that if I had not seen it before, I would not have said it, because it was not possible that what was once full of water is now planted with cornfields and largely lost. (Díaz, 1632, p. 65r).

⁷ It seems that even in 1531 this dam still existed, since, in 1556, a Spanish witness stated that when he arrived in the city, 25 years earlier, it was still there (Pérez-Rocha, 1996, p. 91).

⁸ As Dilip da Cunha (2019, p. 290) argues, rivers are not merely invented but also function as artifacts, a claim that can be applied to waterscapes in general, such as Venice and Tenochtitlan.



Figure 6 - The Basin of Mexico c. 1519. (Creative Commons.⁹)

The decrease in water levels affected canoe traffic, so in 1542, the first viceroy, Antonio de Mendoza, ordered the reopening of the canals between the northern lakes and Lake Texcoco. In this way, the waters of the Cuauhtitlán River once again flowed into the Mexico lagoon. These works were not only carried out by Indigenous laborers but also directed by an Indigenous ruler (Rojas, 1974, p. 108). While the reintroduction of the Cuauhtitlán River may have helped raise the lake levels, it was likely due to unusually heavy rains that in 1555 the city experienced its first major flood under Spanish rule. In this complex situation, the second viceroy, Luis de Velasco, consulted various sectors of society for a solution, not only Spaniards but also Indigenous rulers and “elders who understood these matters as natives of the land and raised in it.” He asked them for their “ancient paintings,” which showed how they had managed water in the past (Pérez-Rocha, 1556, p. 34). The Indigenous leaders proposed

⁹ https://en.m.wikipedia.org/wiki/File:Basin_of_Mexico_1519_map-en.svg

rebuilding the old dike to protect the city. On the other hand, the Spanish settlers suggested creating an outlet for the lake waters as a solution to the floods. Faced with the more disruptive ideas of the settlers, the viceroy supported the Indigenous project, as it aimed to protect the city without altering the rich life of the lakes and their benefits for the common good.

We do not know exactly what the “ancient paintings” presented by the Indigenous leaders looked like, but there is one depiction that shows the Indigenous conception of the Basin of Mexico at the time: the so-called Santa Cruz or Uppsala Map. In this painting, Indigenous hands depicted the city as the capital of New Spain, already featuring European buildings, surrounded by a vibrant life linked to the lakes and the new productive activities introduced by the Spaniards but carried out by Indigenous people. Despite these vivid representations, this depiction, contrary to how it is usually called, is not truly a map that presents the exact situation of the basin at that time. Instead, it highlights an important element lost during the conquest: the great pre-Hispanic dike that separated freshwater from brackish water. Thus, it can be linked to the Indigenous project for managing the basin’s waters, proposing not only the reconstruction of the smaller dike to protect the city but also the larger one that separated the two types of water. In this way, it can be interpreted as a proposal to restore pre-Hispanic water management practices and recover – at least in part – Mexico’s freshwater lagoon (Rodríguez, 2022, p. 14).



Figure 7 - Map of Santa Cruz. Courtesy of Uppsala University Library.

Although there was never any attempt to rebuild the large dike, thanks to the support of Viceroy Velasco, the Indigenous project of reconstructing the smaller dike to surround and protect the city achieved better luck. The viceroy decided that the Indigenous people should organise and carry out the work themselves, while he would supply the corn to feed them, and the *cabildo* (Spanish city council) or the Spanish settlers would provide the meat and necessary tools (González, 1902, pp. 59–61; Pérez-Rocha, 1996, p. 117). Despite the Spanish council's refusal to contribute its share, within three months, the labour of around six thousand Indigenous workers, directed by several Indigenous rulers, succeeded in rebuilding the dike to protect the city from floods.

Not only the viceroy but also representatives of the Crown supported the Indigenous people and their project, opposing the more disruptive ideas of the settlers. Since the Spanish council refused to pay for the construction of the dike, in 1556, the Royal Assembly (*Real Audiencia*) opened an inquiry to demand those payments, in which the importance of the lagoon for the wealth and health of the city and its surroundings was highlighted. In this way, witnesses – including Indigenous leaders, friars, and Hispanic governors – were asked if they were aware of the importance of the resources the lakes provided, such as fish, which were transported to the city by canoe. It was also noted that draining the lagoon would cause disease, as the lack of water often led to foul odours, which had even caused epidemics in the past.¹⁰ The Indigenous leaders defended the project of rebuilding the dike, arguing that, based on experience, it had previously protected the city from flooding. At the same time, they warned that the drainage project would require so many workers that it would cause Indigenous people to abandon their fields, leading to scarcity in “the republic” (Pérez-Rocha, 1996, pp. 35–36, 42–47, and 70). Around this time, in his aforementioned *Dialogue*, Cervantes de Salazar offered a very positive view not only of the city but also of its lakes and their productive fishing:

And so that there is nothing missing for this picture to exceed all in beauty, I understand that the lagoon, which extends and expands greatly from the foot of the mountains, is very abundant in fishing... it is covered with Indian boats with their fishing nets. (2001, pp. 71–72.)

Regarding commercial traffic, he wrote that there “is such an abundance of boats, such a number of cargo canoes, excellent for transporting goods, that there is no reason to miss those of Venice.” (2001, p.9).

Comparative and divergent water management

European representations not only idealised Tenochtitlan but also outlined some technical aspects of indigenous water management in the basin. Following Cortés's map, roads, canals, the large dike, and the aqueduct were illustrated. Like Venice, the Aztec capital had numerous roads, canals, and bridges, while a thriving canoe traffic developed across the lakes. But unlike Venice, the connections between Tenochtitlan and its *terra firma* (mainland) were not solely based on canoe traffic; there were also several roads that crossed the lake and led to the city, which amazed Cortés and his men and were represented in engravings of the basin. Another

¹⁰ Similarly, in Venice fishermen also advertised against water stagnation that affected not only fish population, but also “infected the air and that this constituted a public health hazard.” (Omodeo, 2023, p. 379).

important element was the double aqueduct that supplied drinking water from Chapultepec (Grasshopper Hill), ensuring a constant water supply to the city.

However, some key aspects of water management in the Basin of Mexico were misunderstood, particularly the function of the great dike and the cycles of rising and falling water levels in Lake Texcoco, the main saltwater lake. In the Nuremberg Map, it is written that the huge dam was built to protect the city from the waves of the lakes. In his second letter, Cortés stated that Lake Texcoco, like the sea, “rises and falls due to its tides,” explaining that “during each flood, the water runs from it to the freshwater lake as strongly as if it were a mighty river, and consequently, during each ebb, the freshwater flows back to the saltwater” (Cortés, 1866, p. 102-103). This comparison with sea tides led to misunderstandings about the cycles of the lakes in the Basin of Mexico, which were actually caused by the annual seasons of rain and drought. Similarly, the movement and mixing of the different waters created confusion about the type of water in which Tenochtitlan was located. Thus, Cortés claimed that the city was “located in the salty lagoon” (Cortés, 1866, p. 103), failing to understand that the large Indigenous dike was built precisely to separate freshwater from saltwater, creating the smaller freshwater lagoon of Mexico City.

After the conquest, since the large dike was destroyed during the siege of the city, it was not entirely clear to the Spaniards that its primary function was to divide the different types of waters. Without that dike, the saltwater from Lake Texcoco flowed into the Lagoon of Mexico, and, similar to what happened in Venice, the two types of water mixed. As seen in Cortés’s map and later engravings, the dike was depicted with gaps allowing water transfer according to dry and rainy seasons. However, in a more permanent way, the waters mixed after the great dike was lost, and the so-called Lagoon of Mexico became salty again. In this way, Gasparo Contarini not only echoed Cortés’s account but also later reports when he stated in 1525 that Tenochtitlán was “in the middle of a saltwater lake” (Contarini, 1840, p. 53). This idea persisted in later authors such as Giovanni Ramusio (1565, p. 309). Nevertheless, the confusion about the waters also appears in contemporary literature, as other texts present the opposite idea. i.e., that the Tenochtitlan lagoon was freshwater, as seen in the letter from Girolamo Fracastoro to Alvise Cornaro (Fracastoro, 1815, pp. 8–9).

As previously mentioned, in the tradition of Tenochtitlan engravings introduced by the Nuremberg Map and later continued in Bordone’s reinterpretation, the city was depicted within a round lake without clear differentiation between freshwater and saltwater. Later, Ramusio, in both his text and map of Tenochtitlán, corrected some of these misrepresentations. He better differentiated the shapes of the two lakes, stating that the freshwater lake is “narrow and long,” and the salty one is almost round” (Ramusio, 1565, 308). However, other errors persisted. For example, Ramusio repeated the idea that the water of the Lagoon of Mexico “rises and falls twice every day, as it does here in Venice” (Contarini, 1840, p. 53). Thus, comparisons between these water cities could also be a source of misunderstandings.

During this period, the Venetian lagoon faced sedimentation problems, and there was controversy about its future and the necessary measures to preserve it, such as diverting rivers away from the lagoon (Omodeo et al., 2020, pp. 428–430). In this context, Fracastoro wrote to Cornaro, initially in a nearly fatalistic tone, stating that, as seen in other parts of the gulf, such as Altino, siltation and the retreat of the sea would transform the Venice lagoon into a swamp.

¹¹ At that time the freshwater lakes were mainly Xochimilco and Chalco.

However, Fracastoro proposed a project aimed at bringing hope to the city and its lagoon: building a system of canals or embankments at the bottom of the lagoon to connect the flow of the rivers with the sea, directing sediments directly into the sea. Fracastoro proposed two options: keeping the top part of the embankments above water for agricultural use or submerging all the canals underwater. In the latter case, he added that Venice would return to being a “lagoon, but a freshwater lagoon, like Tenochtitlán” (Fracastoro, 1815, pp. 8-9). In either scenario, Fracastoro claimed that “the malice of the air will be removed, and the most beautiful, most pleasant city imaginable will be created,” allowing the city to be “eternally inhabited” and “called the happy and chosen of God” (Fracastoro, 1815, pp. 8-9). This idyllic project was explicitly inspired by the indigenous solution for the Basin of Mexico. It also shared with the contemporary indigenous proposal for Mexico City – depicted in the Santa Cruz Map – the objective of creating a freshwater lagoon that could even improve agriculture. But none of these projects came to fruition.

Despite Fracastoro’s imaginative proposal, efforts to prevent siltation in Venice continued with the strategy of diverting rivers away from the lagoon. Although by then claims for land reclamation had increased, other authors, such as Cristoforo Sabbadino, succeeded in promoting the preservation of the lagoon (Omodeo, 2022, p. 542). Of course, this controversy was not limited to water management, but had important political and economic implications, in other words, it was a hydropolitical issue. Sabbadino was clearly aware of the importance of the lagoon’s conservation in the face of the greed of those who sought to reclaim land from its waters. Thus, in the previously mentioned sonnet, he advised:

*Divert the rivers and curb men’s greedy
Desires so that the sea,
Left alone, will always obey you*

*If you do listen to this good advice,
The heaven, that wisely founded you
In the waters, will donate you an eternal life* (Omodeo et al, 2020, p. 428).

Venetians have heeded Sabbadino’s advice about preserving the lagoon ever since. Although this has entailed a variety of challenges and has generated no small number of problems (such as mass tourism), Venice remains the iconic water city.

In the case of Mexico City, although indigenous proposals were taken into account at the beginning – allowing the continuity not only of pre-Hispanic water management but also of the rich life of the lakes – hydropolitics and hydraulic projects would change from the beginning of the 17th century onwards. Due to several epidemics, native population declined, while the Spanish settlers and the urban interest gained strength. This also led to changes in hydro-political arrangements, as well as in water decision-making. Urban vision and interests imposed the idea that the only solution to avoid the flooding of the city was to open an outlet for the water of the lakes. Although the indigenous people were indispensable for these works, they had become only a labour force, while the planning was carried out by European technicians. Thereby, the lakes drainage project imposed itself on the surrounding communities, the aquatic environment and even the geography, transforming the closed basin into an open valley in the *longue durée*. (Rodríguez, 2022, pp. 22-24).

Similarities and divergences in comparative historical hydropolitics

This article aimed to recover the political implications of competing representations of Mexico-Tenochtitlan and the water management of its basin. As we have seen, the Map of Cortés already displayed various imperialistic strategies, both practical and symbolic, intertwined in the representation of Tenochtitlan. Positive and negative elements were combined to justify its conquest. In this depiction, classical ideas such as the *axis mundi* and microcosm were recovered, blending with Indigenous notions and representations. In the Nuremberg map, these elements had a clear political purpose: the conquest of the city. A conquest that later Spanish representations also sought to justify. But in other contexts, Cortés's map was reinterpreted to present a different image of the Aztec capital, with distinct ideological and political implications.¹² Starting with the *isolario* of Benedetto Bordone (1528), the vibrant Venetian printing milieu played a particularly significant role in creating an alternative – and more positive – representation of Tenochtitlan.

In different literary genres, both cities were idealised, drawing comparisons between them and, in this way, despite their differences, Tenochtitlán came to resemble Venice. The *isolarii* books offered cross-reflections of Venice and Mexico, portraying them as *axis mundi* of the Old and New Worlds, respectively. This idea was also expressed more literarily in dialogues that highlighted their central place, not only in a classical sense but also within early globalisation, which allowed both cities to encapsulate the emergent early modern world. According to the still dominant epistemology of the time, the conceptualisation and representation of America was not realistic at all, but had symbolic meanings with political implications (Rodríguez, 2023). As Giuliano Gliozzi pointed out regarding Venice's interpretation of the New World, similar to his own city, the Venetians offered a more positive interpretation of the Aztec capital (1997, p. 34). The contrasting representations of Mexico-Tenochtitlan had important symbolic and political intentions. While the original Map of Cortés and its later Spanish reinterpretations offered a justification for the conquest of the Aztec capital, the Venetian versions were contrary to the Spanish conquest and to papal interests.

Similar to the representation of New World landscapes, water management went beyond a mere engineering problem, but involved diverse and even conflicting perspectives, ways of life, relationships and interests about water. These differences could be cultural – as between indigenous and Spaniards in the Basin of Mexican basin – but also social in general, for example between people in the city and those on the shores of the lakes. Different social groups that inhabiting a same landscape or waterscape could have diverse “hydrocultures” with diverse practices and ideas related to water, and therefore, they promote different “hydropolitical projects” (Boelens et al, 2016, p. 1). As with the concept of colonialism, which moved from being applied to relations between nations to the study of internal colonialism within a country (González, 2006), hydropolitics was also first applied to transnational issues, but more contemporary authors have studied it within states, where different groups have different and often competing interests over water. As René Maury argues, hydropolitics should not be confused with water politics or water management but understood as “politics made with water” (2002, p. 387).

By the 16th century, in both water cities, the clash of visions and interests already gave rise to different projects: some focused on preserving the lagoon or lakes, while others prioritised

¹² As Barbara Mundy affirms, the Map of Cortés sometimes even served to alternative narratives that highlighted “the resiliency of Aztec self-conception” (1998, pp. 28-29).

land reclamation. These contrasting proposals were tied to different interests, ideals and imaginaries of these water cities. Following Carlota Favaro and Francesco Vallerani, who have studied the emotional relationship with water through the concept of *hydrophilia*, which seeks a healthy and economically viable coexistence with water, even in urban environments (Favaro & Vallerani, 2019, p. 64), we can contrast this with the term *hydrophobia* for those with the opposite attitude and projects. In other words, imaginaries and affects are not unrelated to water issues, as the history of representations of Mexico and Venice, but also of their hydropolitics, shows.

Throughout 16th century, in both cases, hydropolitics sought to consider the interests of different social sectors, meaning it addressed not only urban concerns but also those of communities dependent on lake resources. In Venice, the development of water policies involved political authorities, water officers (*savi alle acque*) and *proti* (practitioners with engineering expertise). Even fishermen were consulted through questionnaires and interviews. Thereby, as Pietro Daniel Omodeo argues, in Venice a “knowledge from below” was developed to address water issues (2022). A similar hydropolitics was also applied in Mexico City where indigenous peoples were consulted through interviews and questionnaires on the water management to be carried out. In that time, New Spain’s water policies in the Basin of Mexico were based on Indigenous expertise and proposals. (Rodríguez, 2022, p. 18). This participatory hydropolitics took into consideration not only urban interests but also those of communities connected to the lakes, thereby promoting the common good and the broader water environment. As Omodeo has noted, “the work of Venetian practitioners like Sabbadino embraced an organic understanding of the lagoon processes, one that looked at the environment as a living and interconnected whole” (2022, p. 551). Similarly, in the Basin of Mexico, during the first decades, the viceregal government sought to recover the traditional indigenous approach, which offered a holistic water management system that understood the basin as an interconnected whole. Thus, hydropolitics aimed not only to protect the city from floods but also to preserve the common resources the lakes provided for the general welfare of the city and surrounding communities.

In the case of Venice, the proposals of figures like Sabbadino, who aimed to preserve the lagoon and Venice’s insularity, triumphed not only at the time but also until today. Even when, from the 17th century onward, more narrow approaches based on scientific superiority emerged (Omodeo, 2022, pp. 551–555), respect for fishermen’s knowledge persisted, proving highly useful for monitoring changes in the lagoon and preserving it. In contrast, in Mexico City, the indigenous knowledge, more closely linked to the lakes that understood the basin in a more holistic way, began to be set aside from the 17th century onwards. Since then, a hydropolitics focused primarily on preserving and expanding urban interests has prevailed over the social and natural life of the lakes. At the same time, the expansion of the city has required more and more drinking water to be taken from the surrounding area – and even from other basins (that are drained after use) – together with rainwater from the valley. Despite being neither ecological nor sustainable, this water management has become the “dominant governance system”¹³ to this day. This hegemonic hydropolitics and water management has led to the near disappearance of the lakes today, replaced by an enormous metropolitan area in the Valley of Mexico. As a result, the need for a more comprehensive

¹³ Boelens *et al* affirm that “powerful hydrosocial territories envision to position and align humans, nature and thought within a network that aims to transform the diverse socionatural water worlds into a dominant governance system... with ‘dominance’ often characterized by divisions along ethnic, gender, class or caste lines, frequently sustained by modernist water-scientific conventions” (2016, p.6).

relationship between the city and its water environment, as well as with the surrounding communities, becomes increasingly urgent. As in the past, alternative perspectives and interests must be taken into account not only as a matter of social justice, but also for the sake of sustainability for the future.

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