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‘Another Venice in the World’ with a Different Outcome. From Tenochtitlán to the Creation of the Urban Valley of Mexico

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Notes

This lesson aims to contrast the geohydrological trajectory of Venice in the early modern period with that of another water city in the New World: the city of Mexico-Tenochtitlán. If Venice has been proposed as an Anthropocene city, the same could be said of Tenochtitlán, since both were built on artificial islands. But in the long term, the different policies of relationship between the city and its aquatic environments have produced opposite environments in both cases, for while the lagoon of Venice has been preserved, the lake of the Valley of Mexico has practically been transformed into a mega-city. This reminds us of the importance in the Anthropocene of our imaginaries of the relationship between society and the environment, and of the competing interests that can drive very different projects with contrasting outcomes for both society and the environment.

Every society has had to adapt to its particular environment, and at the same time, has altered and transformed its milieu. But there are some cases in which human intervention is more extraordinary, such as in Venice and Tenochtitlán, the Aztec capital, today Mexico City. Despite their complicated environments, respectively within a lagoon and in a high plain lake, in both cases a beautiful city was built, mainly over land reclaimed from the waters. That is, not only the city was built but even the land itself, since they were established on an archipelago of artificial islands. In this way, both are extreme instances of the interweaving of nature and culture, not only raising a city from the waters but also changing its surroundings to solve particular problems such as the scarcity of freshwater, flooding and silting. At the same time, these two cases show the impact that human decisions and projects have had on the environment, since from a similar aquatic environment they took very different historical paths, producing quite contrasting landscapes in the long term. So, although not without problems, in Venice the lagoon has been preserved, while the lakes in the Mexican watershed have almost disappeared and a huge urban region has taken their place.

We believe that comparing these two historical cases can shed some light on the environmental problems caused by humans, whose impact has reached such magnitude that, so far this century, the idea of a new geological epoch has been discussed: the Anthropocene. But if we want to understand how humans have become a geomorphic force, we must go beyond its effects, such as traces on geological strata, to recover its social causes in a *longue durée* history.

Although nowadays the anthropic impact on the environment has reached a global dimension, we must not disregard that it is not a homogeneous process, but it acquires diverse and even contrasting dynamics, intensities and temporalities in different places. In this way, historical and comparative studies have become very useful to understand the Anthropocene with its complexity and differentiated local impacts. Thus, we must take into consideration the different roles that these two aquatic cities have played within the formation of the modern world, starting from the process of early globalization and imperialism, and how this has impacted their relations with their aquatic environments.

Despite their differences and geographical distance, the likeness between these two water cities did not go unnoticed since the first reports about the capital of the Aztec empire. Their resemblance can be seen already in the first representation of Tenochtitlán, the so-called Map of Cortés of 1524. The news that the main city of the New World was also on an island, was a very suggestive image for the

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Venetian milieu. This was expressed in diverse forms, for instance, Alessandro Zorzi relied on the Map of Cortés and on the famous bird's-eye view of Venice by Jacopo de Barbari to offer a similar and beautiful perspective of Tenochtitlán and its surroundings. Likewise, these crossroads were also developed in the contemporary *isolario* genre, that is, in early modern books on islands. Since the *Book of Benedetto Bordone* in 1528, and posterior texts on islands, Venice and Tenochtitlán occupied a privileged place as the main cities located in islands. The similitude between both water cities was also explicitly highlighted in these books. For example, in 1577, Tommaso Porcacchi wrote about Tenochtitlán that "not without wonder we see another Venice in the world".[1]

Venetian authors compared and equated their own city not with the contemporary capital of New Spain, but with the previous indigenous city and its water environment. Despite the initial similarities, these representations were anachronistic precisely because the same incipient process of globalization, that allowed their mutual knowledge and comparison, had different impacts in both cities and their surroundings. The defeat of Tenochtitlán by the Spaniards and their allies provoked important changes. Not only because the city had largely been destroyed and rebuilt. But in a deeper way, in what the historian of the *Annales*, Fernand Braudel, called the structures of everyday life, with the introduction of new species and techniques that altered the traditional forms of production and consumption.

After the defeat of the Aztecs, the Spanish people introduced plowing and cattle, and increased deforestation in the basin of Mexico, which caused soil erosion that allowed the reclamation of the shallowest parts of the lagoon already in the sixteenth century. At that time, Venice was also facing silting problems, to avoid this, throughout early modernity, the courses of some rivers were diverted out of the lagoon. In the basin of Mexico, the diversion of rivers has also been practiced pre-Hispanic times but to avoid flooding, and was implemented again under Spanish rule. And this would not be the only indigenous idea to be recovered.

In 1555, the Spaniards suffered their first major flood in Mexico City. In search of a solution, the viceroy consulted different sectors of society. Two main ideas were presented. On one hand, indigenous people proposed to rebuild the old pre-Hispanic dike to protect the city, at the same time that the lake life continued as usual. We can have an idea of such a project through a contemporary indigenous map in which traditional water works and lake life are highlighted.[2] On the other hand, Spanish settlers introduced a completely different idea: to open an exit to the waters of the lakes. On that occasion, the viceregal government supported the reconstruction of the old dike, which was built and directed by indigenous people. Due to the Spanish city council refused to pay for the works, an inquiry was opened in which friars and indigenous rulers defended the importance of lagoon life and the need to preserve their waters. Thence, although the controversy between urban and lake visions and interests was already present, at first, both the importance of aquatic life and the local knowledge and experience on water management were recognized.

Yet things changed in Mexico in the seventeenth century. The indigenous population, and therefore its influence, declined, while Spanish urban settlers became stronger, as did the idea that the lake environment could be transformed to suit their vision and interests. Then, the project of opening an outlet to the waters of the lakes was revived and proposed as the only solution to keep the capital free of floods. From then onwards, it was seen only as an engineering problem in which indigenous knowledge, lake life and even local geography were disregarded since

1 "Non senza maraviglia vediamo un'altra Venitia nel mondo". Thomaso Porcacchi (1576). *L'isole piu famose del mondo*. Venezia: Simon Galignani & Girolamo Porro, 157.

2 Mainly the Map of Mexico which was erroneously attributed to the cosmographer Alonso de Santa Cruz and is kept in the Library of the University of Uppsala.

the idea was to turn the closed basin into an open valley. The project was designed and directed by Europeans while indigenous people were used only as labour in a project of no use for them, but only for urban interests. The works of drainage began in 1607 and extended for more than 13 kilometres in length, six of which was a tunnel. Despite its dimensions, through the labour of 60,000 indigenous people, in ten months an outlet to the lake waters was created. Anyway, its capacity was very limited, so, the water cycle continued working as a basin, the lakes remained, and the city continued to suffer sporadic flooding.[3]

Later, in 1637, in search of a permanent solution, it was proposed to increase its capacity by transforming the drainage tunnel into an open trench, but this was a massive and complicated work that would take more than a century and a half to accomplish since it was only finished in late eighteenth century. Geographical transformation, like the conversion of a basin into a valley, was a huge task closer to a geological process. Although generally seen as a problem for the city, this was welcomed by the surrounding areas, where the rich life of the lake was able to continue for a long time.

The confrontation between different ways of life, interests and visions about the ideal and convenient environment did not diminish after the independence from Spain. Quite the contrary, imperialistic dynamics even increased in what have been called 'internal colonialism'. Since the middle of the nineteenth century, scientific and enlightened ideas were used to justify an ideal of progress and modernization, in which the urban lifestyle was central. This caused the common good to be interpreted in the Valley of Mexico as urban interests and not as life linked to the lake environment. In this way, this hegemonic discourse gave new impetus to the drying of the lakes to protect and promote urban wealth and growing real estate businesses.

Although some more holistic projects were proposed to use the water for irrigation and navigation, in the end, the hydrophobia behind the ideal of progress and urbanization succeeded, so the works focused only on the drainage task. By the turn of the century, not without its problems, the so-called Grand Canal was built, which carried out sewage as well as rain waters. So, it was at that time when the lakes began to shrink noticeably, while the city expanded throughout the landscape once occupied by the waters. At the same time, freshwater had to be brought to the growing population, so it was taken from the south of the valley but also from the subsoil, which caused subsidence of the city, which in the long term decreased the slope and capacity of the Grand Canal. As an alternative to this problem, in the second part of the twentieth century, a new solution for the old flooding problem was developed: a deep and huge drainage system. At the same time, the city continued to expand along with the necessity of fresh water which was satisfied by bringing it in from neighbouring basins.

Today the metropolitan area of Mexico City has imposed itself not only on its own watershed but also on other adjacent ones, thereby some authors have begun to talk about a huge hydropolitan region created artificially by connecting four different basins. This system not only produces tensions with the regions from which the water is taken, but is not sustainable in the long term, since once the water has been taken and used in the megalopolis it is expelled along with rainwater without no serious attempt to treat and reuse it. Despite its dimensions, the lack of efficiency of the hydraulic system also produced tensions also within the city, mainly in the peripheral and poorest neighbourhoods which are the first to suffer the shortage of water and the floods when the capacity of the system is exceeded.

Today, overexploitation and droughts have caused the system that brings water from other basins to Mexico City to lower its levels alarmingly, along with those of

3 Among the different projects, the one elaborated by Heinrich Martin or Enrico Martinez was selected. Martínez was also in charge of directing the works.

the underground water with which the megalopolis quenches its thirst. As in other areas, nowadays in the Valley of Mexico warning voices have already been raised about the upcoming water shortage, which will become inevitable if the same hydraulic policy developed by the city for four centuries of using and evicting the waters from the watershed continues.

Despite the quite different results, in the end, the projected plans to deal with local hydro-geology succeeded in both Venice and in the Valley of Mexico. But the views on the landscape that have prevailed over the last centuries have been practically contrary in the two cases. Thereby, while in Venice the water party triumphed in preserving the lagoon over those who wanted to reclaimed land from the waters, in the Basin of Mexico the result were completely the opposite, the urban and real estate interests prevailed over those of the lakes and, still today, over the surroundings, including some others basins. This shows us an important lesson for the environmental challenges we currently face. There are no unavoidable outcomes, but rather the paths of anthropogenic landscape changes are the product of human decisions within social tensions and controversies.

Mandatory Reading

Rodríguez Camarena, O. (2022). "Transformation and Persistence of the Basin-Valley of Mexico in the 16th and 17th Centuries". *Journal of Interdisciplinary History of Ideas*, 11(22), 1-35. https://ojs.unito.it/index.php/jihi/article/view/7341

Further Optional Reading

Candiani, V. (2014). *Dreaming of Dry Land: Environmental Transformation in Colonial Mexico City.* Stanford: Stanford UP.

Davis, H.; Todd, Z. (2017). "On the Importance of a Date, or Decolonizing the Anthropocene". *ACME: An International Journal for Critical Geographies*, 16(4), 761-80.

Mundy, B. (2015). *The Death of Aztec Tenochtitlan, the Life of Mexico City.* Austin: University of Texas Press.

Pérez-Rocha, E. (1996). *Ciudad en peligro: Probanza sobre el desagüe general de la ciudad de México, 1556.* Mexico City: INAH.