Sunset at Dignidad Square in the midst of the social outbreak.

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To take decolonial theory seriously inevitably confronts us with the origin story of our discipline. In what should be a mandatory reading of any architectural history course, this text reassesses the role the ‘discovery of America’ had on Renaissance thinkers and thus architecture. Abstraction, the ability to separate lived from planned space, which gives rise to the architectural discipline as we know it, is inseparable from the exploitation of America by Europeans. In this way, our discipline was not created within an Italian studio but in the violent encounters between European colonizers and Indigenous Americans.

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June 30, 2020, marked the 500th anniversary of the Sad Night, the evening when Hernán Cortés, in a precarious position after Moctezuma’s murder and the massacre of most of his soldiers and horses, was forced to leave Tenochtitlán. We know that a little later that same year, Cortés returned from Tlaxcala with reinforcements to take the city, conquering it for the Kingdom of Spain, forever changing the history of both sides of the Atlantic. Scholars of the events that took place in Tenochtitlán between 1519 and 1521 have focused too much on the visible effects of the looting during conquest: the exploitation of resources and labor, and the control of territory, as painted by Diego Rivera in 1929. Much less attention has been given to the invisible treasures: the circulation of ideas, knowledge, and concepts. I chose the 500th anniversary of the conquest of Tenochtitlán to begin this essay, not because of its widely debated details, but because the impact of the conquest of America on the birth of architecture as a discipline is not being discussed at all.

Most studies on sixteenth-century architecture completely ignore the impact that the invasion and occupation of the American continent have had on the theory of European architecture, despite the central role our discipline has played in the Atlantic world after 1492. Spiro Kostof, in his classic book of architectural history studies, A History of Architecture: Settings and Rituals, states that “the rediscovery of the classical past was one of the two great adventures that informed the Renaissance. The other was the exploration and the conquest of America” (Kostof, 1985:433). This statement is more than any other author has ever said about the relationship between the European occupation of the Americas and the Renaissance, and consequently, about the emergence of architecture as an autonomous practice. Most of the thought developed in our discipline up until very recently has completely ignored the Atlantic encounter or has minimized its role in European development.

Since the 1990s, scholars such as Aníbal Quijano, Walter Mignolo, Enrique Dussel, and Arturo Escobar have debated the reading of the world’s history through the lenses of decolonial theory and the concepts of Modernity/Coloniality. Recently, Juan Luis Burke (2019) has shown how architectural treatises worked as tools of colonization. But what we haven’t discussed yet is how the occupation of the Americas collaborted in the birth of architecture as a discipline. In the pioneering words of Quijano and Wallerstein (1992:549), “the Americas were not incorporated into an already existing capitalist world-economy,” since “there could not have been a capitalist world-economy without the Americas.” Ricardo Padrón (2004), Jorge Cañizares-Esguerra (2006), and Ramón Grosfoguel (2013) have taken it further by unveiling how many of the new concepts and inventions celebrated as products of European modernity were actually the result of the American occupation, when not taken directly from México and Perú.

In this essay, I argue that the rise of architecture as a single discipline and the conquest of the American continent are not just chronological coincidences but interdependent variables of the same process of modernization. Traditional architectural scholarship has not discussed these parallel events at all. Meanwhile, architecture history and theory still treat the occupation of the Americas as a consequence of the European Renaissance and modernization, despite a few decades of scholarly literature in related disciplines questioning such assumptions. Even Alberto Pérez-Gómez – who in his book Architecture and the Crisis of Modern Science (1985) gave us one of the most complete analyses of the rise of architecture as a discipline from the fifteenth to the eighteenth century – completely ignored the impact that his native land of Mexico might have had in this development. All those authors were deeply embedded in the traditional European narrative about the Americas being a secondary outcome of European modernity, and therefore not worthy of much attention. The fact that Kostof did not ignore it was in itself an advancement, although in a paragraph below, he held his Eurocentrism steady by elaborating that:

> These newfound cultures should have proved that the worth of Western achievement was only relative, and forced it into fresh channels. They did not. The riches of the conquered New World added nothing to the enrichment of the Christian west except in the material sense (Kostof, 1985:433).

My argument centers on the fact that the material riches mentioned by Kostof are only the visible tip of a tectonic shift that occurred in the Atlantic world in the sixteenth century. The work of Escobar (2007), Mignolo (2011), Dussel (1980), Cañizares-Esguerra (2004, 2005, 2006), Grosfoguel (2013), Seed (1995), Massey (2005), and Padrón (2004) demonstrate that the encounter of 1492 and the territorial occupation that followed played a central role in the development of Western culture in general, allowing me to extrapolate that to the architectural discipline in particular. The rise of architecture as we know it is intimately linked to the advent of abstract thought, which in turn is connected to the European occupation of the Americas. The invisible treasure of such tectonic rearrangement is far more important than the tons of gold and silver that were shipped from our continent to Europe.

The Rise of Architecture as the Rise of Abstraction

A quick summary of the emergence of architecture as a discipline in the late fifteenth and early sixteenth centuries takes us from Brunelleschi’s Ospedale degli Innocenti (1419-1445) toAlberti’s De Re Aedificatoria (printed in 1485) to Bramante’s plans for the Tempietto (1502) and St. Peter in Rome (1506), to Michelangelo’s Duomo (1546), ending with Palladio (1550-1580). All scholarship credits this moment as the point of rupture between architecture and construction, between practical knowledge and abstract design. A History of Architecture on the Comparative Method by Banister Fletcher (1896:439) already discusses the idea of the late Renaissance as a break from tradition, a concept that dominated every subsequent interpretation since.

More recently, Liane Lefaivre and Alexander Tzonis (2004:53) located the start of modern architecture around the year 1500 with “the rise of a culture of luxury [that] was possible because of improvements in productivity, stimulating the expansion of commerce and the need to advance industry to produce those goods.” They do not mention that such increase in productivity and commerce was fueled by the colonial appropriation of resources from the Crusades, as well as from the central valley of Mexico and the Peruvian Andes, supporting the exponential growth of global commerce of which Europe had a monopoly in the Atlantic and most of the Pacific Ocean at the time (Mann, 2012). Nor did they elaborate on the relationship between abstraction and coloniality that only recently has entered the discussion (Lara, 2021). Of course, Lefaivre and Tzonis (2004) write about this moment as one that is innovatively risky, systematic, and coherent in its practical tools and ideas, which continue to inform contemporary architectural practices.

In the words of Joseph Rykwert (1988:X), when introducing his translation of De Re Aedificatoria, “the essential difference between Alberti and Vitruvius is therefore that the ancient writer tells you how the buildings that you may admire as you read him were built, while Alberti is prescribing how the buildings of the future are to be built.” This difference is crucial for my argument that the Americas had a significant impact on the history of Western architecture as early as the sixteenth century. It was here that a whole ‘new world’ was built as prescribed by Alberti, Andrea Palladio, and Sebastiano Serlio, sometimes before their European counterparts, and often at a much larger scale.

Only seven years separate the publication of De Re Aedificatoria from the arrival of Christopher Columbus in the Caribbean. The impact of such an event was tremendous, although downplayed by a Eurocentric...
narrative that insists on confining the encounter to a simple consequence of European modernization. Let us consider for a moment that perhaps the encounter was the cause and not the consequence of such European modernization.

In 1958, Edmundo O’Gorman published La invención de América: Investigación acerca de la estructura histórica del Nuevo Mundo y del sentido de su devenir [The Invention of America: Research on the Historical Structure of the New World and the Meaning of its Becoming]. In this book, he uses cartographic information to demonstrate that it was the encounter with the Americas that triggered modernization in Europe and not the other way around. Most of his argument is that America was invented as an otherness that allowed Europe to place itself as a center. The world for Europeans in the fifteenth century was formed of three landmasses – Europe, Africa, Asia – surrounded by the Mare Oceanum. Analyzing the medieval idea of Orbis Terrarum (earth island) in opposition to orbis alterius (other possible islands inhabited by unknown creatures), O’Gorman argues that the possibility of other inhabitable lands was deemed unacceptable by Christianity for it implied that the Bible was wrong on several accounts.

The shock of such understanding triggered a whole epistemological revolution in Europe. It is as if we wake up tomorrow with news that NASA, ESA, or CNSA found life on another planet. We would be forced to rethink everything we believe about ourselves. Such was the impact of the encounter with the Americas in the European consciousness of the early sixteenth century. Simply put, if the Bible contained no mention of this other landmass, perhaps the Bible should not be taken literally. It is not hard to imagine the impact of this paradigmatic shift in the works of Erasmus, Descartes, and Martin Luther.

O’Gorman explains that the invention of America tears down the medieval notion of the Orbis Terrarum, the inhabitable world, as an insular entity closely bounded by a menacing ocean and replaces it with an image of the world as a fully masterable terraqueous globe. Here I need to highlight the concept of masterable. As synthesized by Descartes in the separation between res cogitans (mind) from res extensa (everything else), the minds of European men were now “masters” of everything else that is not only land and resources but also all women and all non-European men. For Descartes, there is no soul or mind in nature, only in men, angels, and God. This synthesis made Descartes second only to Plato in the Western tradition. Influenced by ancient, medieval, and scholastic sources, Descartes managed to break away from those traditions, thus influencing other early modern thinkers to emulate the break. Interestingly enough, no one asked why he thought of breaking with previous traditions, assuming that such epistemological rupture was based on his genius or the zeitgeist of the early sixteenth century (Grosfoguel, 2013).

What exactly was the zeitgeist of the early sixteenth century, if not the ripple effect of the occupation of the Americas since 1492? Moreover, the fact that Descartes studied Logica Mexicana, published by Antonio Rubio in 1603, during his studies at the Jesuit college of La Fleche is never more than a footnote in books about his work. Mauricio Beuchot, in Filosofía y lenguaje en la Nueva España, discusses Rubio’s work exactly from the perspective of the emergence of abstract thinking as a necessary concept. Rubio (1605:55, quoted in Beuchot, 2011:73) writes: “What is universal in an object does not come before the intellectual operation but through the work of abstraction that the intellect performs.” Considering that both Descartes and Leibniz mention Rubio profusely, it is astonishing to realize that the French man is still celebrated as someone that achieved such a break by the power of his mind only. According to 400 years of Cartesian followers, the fact that the world around him was changing fast, due to the encounter with a whole range of civilizations and their alternative logical systems, had nothing to do with it.

The remaking of the world, according to its own technical ability as proposed by O’Gorman, was triggered by the encounter with the Americas and implemented simultaneously on both sides of the Atlantic. However, chronological parallelism does not mean symmetry. It was in the Americas that the project of modernity encompassed the scale of a whole continent, from the first Spanish settlements of the last decade of the fifteenth century to the Jeffersonian grid of the early nineteenth century and the Argentine law of Avellaneda of 1876. It was here that space, both real and abstract, acquired a central position in the transformation that we call modernity.

The American Influence on the Rise of Abstract Space
In the early seventeenth century, Descartes combined Euclidean geometry with algebra, thus making a coordinate system. The ability to locate a point in space using mathematical formulas was fundamental to the hegemony of abstract space over relational space. Abstract space was also a fundamental tool of territorial control. However, as in Edmund O’Gorman’s work in which the order of factors makes all the difference, were Europeans able to reach the Americas because they were modernizing, or was modernity initiated by such an encounter? We need to ask ourselves whether Europeans used the Cartesian system to impose their colonial control or whether it was Descartes who invented that system as a result of the many bits of knowledge brought home by those transoceanic incursions.

My colleague at the University of Texas, Jorge Cañizares-Esguerra, has dedicated his academic life to finding an answer to this question: What was the real contribution of the American Iberian and colonial sciences to the Renaissance and after, considering that much of this exchange was erased or appropriated by Anglo-Saxon academia? At the beginning of the year 2000, Cañizares-Esguerra (2004:86) was working on scientific discoveries, convinced that:

The contributions of Portuguese and Spaniards to science and technology in the sixteenth century, in fields such as metallurgy, medicine, agriculture, surgery, meteorology, cosmography, cartography, navigation, military technology, and urban engineering in its full scope, have been excluded from most descriptions of the scientific revolution.

In fact, it is not difficult to understand the double coloniality of this case. The Iberian Peninsula was, in the eyes of seventeenth-century Anglo-German scholars, on the periphery of knowledge production; thus, the Americas were on the periphery of the periphery. This explains the case of treatises such as that of Francisco Hernández de Toledo, who cataloged and systematized three thousand species of plants in México in 1570. At a time when European botanists knew 600 species, Hernández de Toledo worked with Nahua intellectuals making use of their millenary knowledge (Cañizares-Esguerra, 2005:65). However, the world knew nothing about Hernández de Toledo and his Nahua collaborators; instead, it celebrated Alexander von Humboldt, who, 250 years later, did less fieldwork but a more evident appropriation.

Philosophers of the seventeenth and eighteenth centuries, from Descartes to Leibniz, posed places as momentary subdivisions of a universal and homogeneous space. For this to happen, space had to be dissociated from the bodies that occupied it. Such a separation of mind and body – synthesized by Descartes – was fundamental to the development of architectural drawing and perspective. Pérez-Gómez (1983:174) reinforced this argument by explaining that the artificialis perspectiva became popular among artists only when man began to see himself as a subject and an external reality.

Architecture was and still is an important component of such conceptual machinery. One uncharted question remains: What was the impact of the encounter and the consequent emergence of abstract thought on post-1492 architectural theories?
Writing in 1983 – decades before most books by Dussel, Mignolo, and Escobar but decades after O’Gorman –, Alberto Pérez-Gómez locates a sense of crisis in the architecture of the sixteenth and seventeenth centuries as it abandoned any trace of higher meaning to become increasingly abstract and operational. In the words of Pérez-Gómez, architecture was following Descartes, Galileo, and Newton with the rise of algebraization, functionalization, and technological rules. With Galileo, geometry and numbers were able to become instruments for the technical control of practical operations and, eventually, for an effective technological domination of the world. In Sir Isaac Newton’s philosophy, absolute time and space were not mere mathematical entities implicit in the experimental method but transcendental manifestations of God’s omnipresence (Pérez-Gómez, 1983:78).

Pérez-Gómez – in similar words to those of O’Gorman – explains that medieval Christianity held heaven as a prototype of truth. Thus, when its superiority was rejected by the new science, Earth became the field of exact science. As O’Gorman discussed seven decades ago, it was the encounter/invention of the Americas what triggered the idea of a planet at the disposal of humankind. Before this, it was “sacrilegious to imagine that the world could be improved by human actions” (Pérez-Gómez, 1983:166). We could probably all agree that, on the European side of the Atlantic, Earth was first turned into an object susceptible to improvement by human action.

From recent scholarship stitching together the contributions of Descartes, Leibniz, and Newton (Mignolo & Escobar, 2013; Cañizares-Esguerra, 2006; Grosfoguel, 2012), we learned that the rise of abstraction is an index for the Modernity/Coloniality project, which points to the following question: How did the Americas participate in the development of abstract space? Let us remember that this last construct supports modernity or, as Escobar reminds us, supports both modernity and coloniality, two sides of the same coin. Architecture has played a central role in this construction (Lara, 2021), which we have only now begun to study properly through the lenses of Modernity/Coloniality.

**NOTES**

1. An extended version of this article was published as “American Mirror: The Occupation of the New World and the Rise of Architecture as We Know It”. The Plan Journal 5 (2020): 77-88.
2. See Fanon (1960); Said (1978); Dussel (1980); Bhabha (1987); Escobar (1994).
3. Pérez-Gómez certainly knew the work of the historian Edmundo O’Gorman, not only for being the brother of the architect Juan O’Gorman but also because he proposed the thesis on the ‘Invention of America’ – published in 1958 – and its impact on European development.

**BIBLIOGRAFÍA / BIBLIOGRAPHY**


