

# ARCHITECTURAL MODERNISM: A PRECURSOR OF CULTURAL GLOBALISATION?

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**Abstract:** This paper argues that the roots of present-day economic and cultural globalisation could be recognised in 20<sup>th</sup> century modern architecture, which incorporated thoughts and forms from the Buddhist civilisation, Muslim-Arab World, Jewish/Judaic thought and experience, Black African and Pre-Columbian American cultures, and implemented them along its own Greco-Christian traditions.<sup>1</sup>

It also argues that, while modernism presented itself as the epitome of western rationalism of the Enlightenment tradition, it actually also relied on other civilisations, including their metaphysics, and thus cannot be fully considered rational.

This critique argues that two most striking innovations of architectural modernism, the introduction of the flat and undecorated façade surfaces, i.e. the avoidance of the traditional façade-discourse (decoration), and the promotion of architectural space vis-à-vis building material, are related mainly to non-Western religions and to modern physics.

The author is aware of the dangers that such a comprehensive subject elaborated in a relatively short paper poses, but he is willing to take the risks in order to get insight into the intercultural exchange between the West and the rest of the world in 20<sup>th</sup> century architecture.

**Keywords:** Globalisation, Modernism, Buddhist Thought and Architecture, Islamic Thought and Art, Judaism and Einstein, Black African Art, Cubism, Pre-Columbian American Art

## INTRODUCTION

Some hundred years ago, when 20<sup>th</sup> century modernism came into being, the cultural and economic supremacy of the West was still unchallenged, but its art

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<sup>1</sup> For the 19<sup>th</sup> century influence, see: Klein, *Oriental-Style Synagogues in Austria-Hungary: Philosophy and Historical Significance*, In: *Ars Judaica*, Volume 2, 2006, 117–134.

and architecture started to foreshadow the foray of ideas and forms of non-Western cultures. Although World War I has realigned Europe – exemplified in the fall of the four dominant empires of the continent, the Austro-Hungarian, the German, the Russian and the Ottoman –, its relationship to other civilisations remained largely the same, as the British Empire and the French Republic persisted in dominating the world, at least culturally, until de-colonisation in the 1950s.

Some thinkers argued that the aforementioned changes in European arts were harbingers of the Fall of the West, as Oswald Spengler formulated in his *Das Untergang des Abendlandes*<sup>2</sup> or *the demise of the Greco-Christian civilisation*. I consider these views narrow, because the model of cultural circles (*Kulturkreis*) and their cycles, as espoused both by Oswald Spengler and much more prominent Arnold Toynbee, have their serious shortcomings.<sup>3</sup>

I argue that the aforementioned European spiritual *tabula rasa* created by World War I accelerated the spread of non-Western arts and thought into the mainstream that started in the 19<sup>th</sup> century, contributing to modernism. Still, modernists often emphasised only Western roots. Sigfried Giedion defined modern architecture as a synthesis of the bodily character of Greek and spatial character of Gothic architecture.<sup>4</sup> Many others emphasised new materials and structures – rationalism, as decisive factors creating modernism. Both views are only partially true.

I also argue that some modernists just paid lip service to the aforementioned goals, as modernism, besides answering the call of function and technology (introduction of cast iron, steel and reinforced concrete structures, shell and mixed structures up to the use of synthetic materials), actually incorporated western<sup>5</sup> and non-western historic elements and traditions: the heritage of Islamic, Buddhist and Judaist cultures. (There were other non-Western influences, as the one of Mazdazdan of the early Bauhaus via Johannes Itten, or some facets of Anthroposophy of Rudolf Steiner, as well as numerous others, not dealt with in this paper).<sup>6</sup> All this heralded artistic globalisation, much before actual economic globalisation appeared.

In concrete visual terms, the 20<sup>th</sup> century modern architecture has evolved along two ideological/strategic principles: (1) Avoiding figural discourse, i.e. communication with conventional anthropomorphic or zoomorphic as well as floral symbols, that is, eliminating *symbolic writing* on the façade surface, fighting the idea of *meaning* beyond architecture's own realm. (2) Promoting space as the main constituent and the ultimate reality of architecture. Both propositions have deep roots

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2 In English: *The Decline of the West*, actually *The Downfall of the Occident*, published in German, in 1918 (Vol. I); 1922 (Vol. II).

3 For instance, the 'Jewish culture' – whatever it means – defied Toynbee's circles, as it represents a continuity of several millennia and, thus, surpasses his cyclical models' life-span. Therefore, he declared Jews as a 'fossil civilisation', a bold statement that later he had to revoke. See: Abba Eban and Natan Aridan, The Toynbee Heresy, In: *Israel Studies*, Vol. 11, No. 1 (Spring, 2006), pp. 91–107.

4 Giedion, *Space, Time and Architecture. The Growth of a New Tradition*. (The Charles Eliot Norton Lectures for 1938–1939), published by Harvard University Press, Cambridge, MA, 1942.

5 Modernist architects, like Le Corbusier, often revived Renaissance elements in the plan of his villas. See: Colin Rowe, The Mathematics of the Ideal Villa: Palladio and Le Corbusier compared, In: *The Architectural Review*, 31 March 1947, pp. 101–104.

6 It has been often argued that modernist thinking did incorporate Christian influences as well, particularly Protestant ones in emphasising the ethical-functional facet of modernism and its purism. See: Brent C. Brolin, *The Failure of Modern Architecture*, Van Nostrand Reinhold Co; 1976.

in non-Western religions, mystical teachings and their modern re-readings in 20<sup>th</sup> century philosophy or science.

## HISTORIC PERSPECTIVE

Due to its innate dynamics and the influence of non-Western religions/cultures, 19<sup>th</sup> century Western art gradually abandoned the naturalist paradigm, which contradicted the image-ban of Islam, the image-reluctance of Judaism and open-endedness of Buddhism. Similarly, to the arts, Western architecture was based hitherto on Greco-Christian tradition, tectonic narrative, structural ornament and in effect on Aristotle's aesthetics.<sup>7</sup> Until modernism, architectural theories were reflective, like Vitruvius', Alberti's and partially Semper's *Bekleidungstheorie* as well.<sup>8</sup> However, as modernism refused tradition, at least declaratively, prospective theories and ideologies took the lead in architectural theory and practice.

I argue, that this is the moment, when the influence of non-Western cultural traditions rose significantly. Non-Christian religious traditions impacted Western architecture either indirectly, through the mediation of non-Western art and architecture – Islamic, Buddhist, etc. – or directly, by incorporating religious or mystical elements into Western architecture theory and practice. This impact occurred as evolution during the 19<sup>th</sup> century, and as revolution in the 20<sup>th</sup> century. In both cases there were two pivotal innovations prompted by non-Western influence: the acceptance of the *void* (emptiness) and the *refusal of narrative content* on the wall surface. The acceptance of the void was fostered by Sufism and Jewish mysticism – God as space or all-encompassing entity – as well as on the idea of the *holy vacancy* in Buddhism as the ultimate reality. The acceptance of non-discursive surface, the refusal of the anthropomorphic representation of architecture, the face-façade metaphor (as well as head-capital, backbone-chimney, eyes-windows, mouth-door) relate to the image ban in Islam, rooted in Judaism.<sup>9</sup>

## THE INFLUENCE OF ISLAMIC THOUGHT AND ARCHITECTURE ON WESTERN MODERNISM

Islamic architecture started to influence European buildings at least in the late Romanesque and Gothic period, when parallel to crusades striped façades appeared on the cathedral in Speyer<sup>10</sup> and later pointed arches on Venetian architecture.<sup>11</sup> In the 19<sup>th</sup> century it served as a basis for Gottfried Semper's *Bekleidungstheorie*

7 In his *Metaphysics*, Aristotle wrote that “the primary features of beauty are *taxis*, *synmetria* and *horismmenon*, and that they can be expressed mathematically”. *Taxis* meant order, which implied hierarchy as well. The *synmetria* often meant axial symmetry. The word itself derived from *syn*, meaning common, and *metreo*, meaning measurement; *sinmetria* means a systematic division of a piece of art into equal measures or quantities. The third element, *Horismmenon*, meaning limit, was an element which mostly determined architectural space, and was conceivable only as limited.

8 Semper was the first to usher non-Western ideas in his *Bekleidungstheorie*, which can be related to the Islamic tradition. See footnotes 18 and 19.

9 Judaism was due to the Second Commandment rather reluctant to tackle the issue of visibility, being less strict than Islam, but also less willing to confront the problem of representation or non-representation.

10 The original Westwork did not survive in its entirety, but Heinrich Hübsch's neo-Romanesque renovation, 1854–1858, should have been based on the original version, including the polychrome stonework in sandstone yellow and rust.

11 Howard, Venice and Islam in the Middle Ages: Some Observations on the Question of Architectural Influence, In: *Architectural History*, Vol. 34 (1991), pp. 59–74.



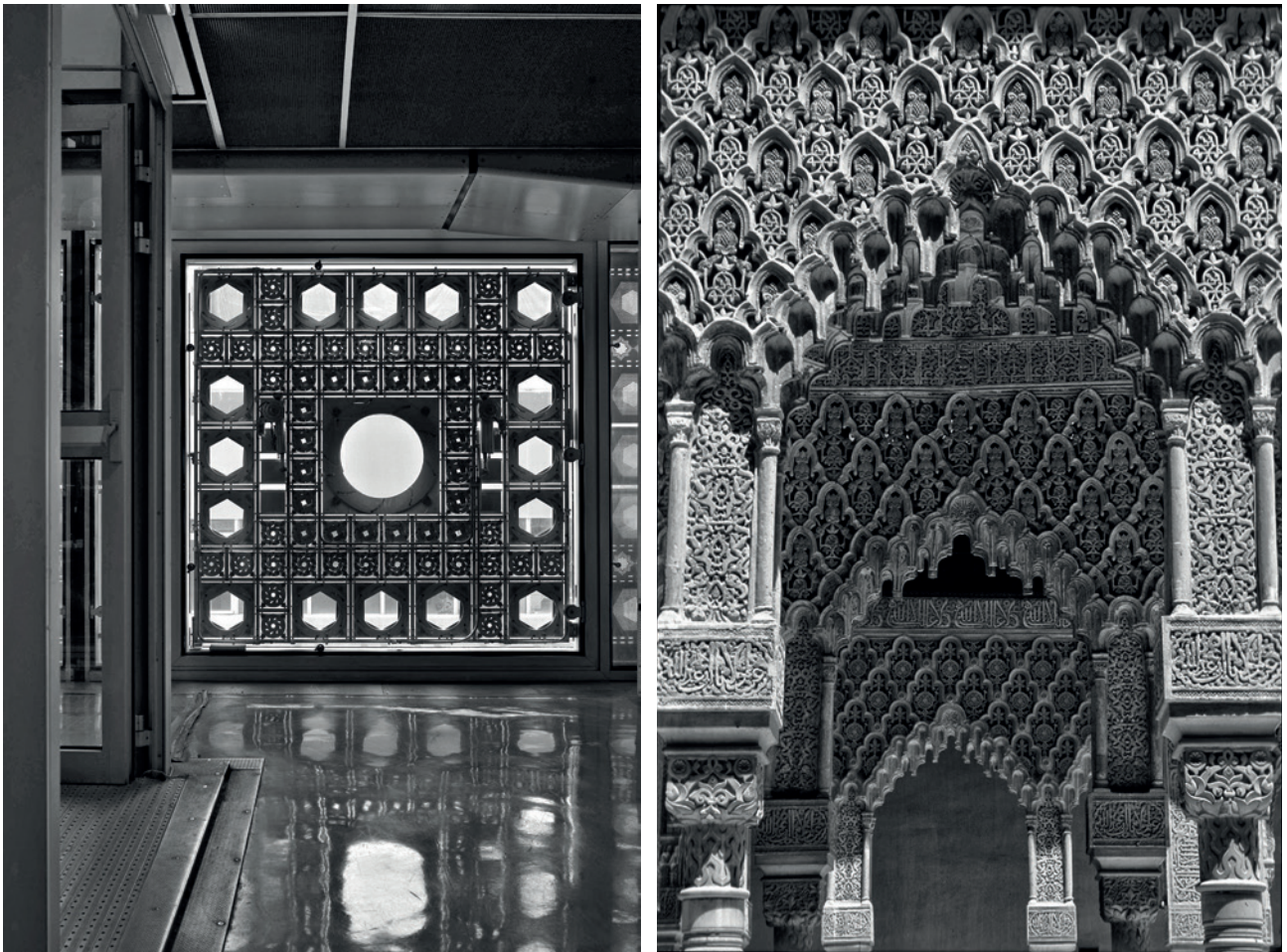


Fig. 5+6

(Theory of Cladding) and for the so-called Moorish Style, as well as for orientalism in general,<sup>12</sup> sequelised in 20<sup>th</sup> century as skin architecture of Jacques Herzog and Pierre de Meuron, Jean Nouvell, etc.

Islam as a religion and visual culture developed effective strategies to overcome the discursive character of the buildings' façades either by introducing an independent layer of geometric surface decoration over structural reality (load bearing walls, pillars), or by turning walls into a geometric 'lace'. These geometrical elements in Islamic architecture foster meditation on the greatness of the Lord, actually eliminating corporeality and the fear from idolism that it may induce, while Judaism left visuality largely out of the system. The non-discursive surface or surface with open-ended meaning is also a strategy of Zen Buddhist art and architecture. Numerous Zen interiors and gardens account for the strategy of meditation, closing the visual channels in order to enable to "see" via alternative channels. Judaism and Jewish mysticism, on the other hand, have been effective in establishing space-centeredness and the involvement of time into modern architecture.

19<sup>th</sup> century Western acceptance of Islamic architectural tradition was prompted by the need to decorate cast iron, the new structural material. It was Sir Christopher Paxton who commissioned Robert Owen Jones to decorate his Chrystal Palace (1851), in order to make its sheer structure aesthetically acceptable for the period public. Jones, the author of the influential book *The Grammar of Ornament* (1856),

<sup>12</sup> Klein, op. cit. pp. 117–134.

utilized Islamic visual heritage for the needs of period modern architecture. Sufism's insistence on the void, actually space, combined with Western rationality (the industrial production of cast iron) represented a 'marriage of convenience', becoming a milestone of modern architecture and one of the first major steps in cultural globalisation.<sup>13</sup> Soon after "oriental style", which was actually a free mix of mainly Islamic decoration, often joined by Byzantine ones, started its triumphal march in Western cities carried by the architecture of synagogues, buildings of entertainment, zoos, all of which used modern metal bearing structure.<sup>14</sup> (Figure 5+6)

Islam, and Orientalism as its Western projection, provided the emancipated Jews with a viable option for achieving a special kind of 'idol-free' or 'idol-proof' expression for their synagogues, for the first time. Islamic architecture, as an expression of a monotheistic faith other than Christianity and Judaism, offered a strategy for de-materialisation<sup>15</sup> and de-signification<sup>16</sup>. It did not strive always for actual de-materialisation by reducing material, but more often settled for the mere impression of it, by covering up the structure with a textile-like layer of decoration. This procedure of virtual dematerialisation aims at concealing structural material, the tectonic reality of architecture.<sup>17</sup> Islamic architecture may have been the inspiration to Gottfried Semper's<sup>18</sup> *Bekleidungstheorie* – one of the basics of nineteenth century architectural

13 There have been earlier 'cultural borrowings,' like Johann Fischer von Erlach's use of the minaret in his Karlskirche in Vienna (1717–37), or the Royal Pavilion in Brighton of John Nash (1787–1823).

14 Some Orthodox churches built in Catholic environment also used some oriental elements in the Habsburg Empire, as for instance the Holy Trinity Greek Orthodox Church (*Griechenkirche zur Heiligen Dreifaltigkeit*), by architect Theofil Hansen in 1858.

15 I use the term de-materialisation to denote the gradual process of the reduction of building material in the evolution of historic styles. This process can be extrapolated to the history of architecture as a whole, Western and Far Eastern alike. Not only did the quantity of material diminish from the Egyptian pyramids to Ludwig Mies van der Rohe's Friedrichstraße Skyscraper project in Berlin in the 1920s, but also did its prominence and expressive power. I argue that this is not only the outcome of technical progress, but also the spiritual, the shift from the touchable sacred entity to the abstract, along the evolution of civilisations. This could be related to the evolution of religious thought from animism and polytheism to monotheism and atheism (in its Western or Zen Buddhist version, for instance).

16 Parallel to the process of dematerialisation, de-signification runs, in which architecture gradually loses its power to represent external and internal contents, which produces more simulacra with references further removed, until the extreme concept of non-referentiality. The joint effect of dematerialisation and de-signification can be described as de-idolisation of architecture, a process, which distances architecture from the idol, or the material manifestation of the sacred. De-idolisation or the idol-free expression (actually non-expression) has implications for sacred architecture.

17 Period critics stressed 'restless spirit' of oriental style as opposed to Western solid tectonic and the concept of *eidos* behind it. See: Rosenthal, "In welchem Style sollen wir bauen?" In: *Zeitschrift für praktische Baukunst*, (4/1844): 23–27. The author of the paper adds that this style misses any Christian element and architectural character, being merely decoration and play.

18 Gottfried Semper (1803, Hamburg – 1879, Rome), the most prominent German architect of mid-19<sup>th</sup> century, created the Dresden synagogue (1838–40), a turning point in this genre. He wrote the most profound theoretical treatise of the century titled *Der Stil in den technischen und tektonischen Künsten* (1860–63; "Style in the Technical and Tectonic Arts") advocating for a rational interpretation of techniques as a source of style, and recommended the use of colour in decorative arts and architecture, which with his *Bekleidungstheorie* (theory of cladding), served as the theoretical justification of the Oriental style.

theory, although usually colours in Greek architecture are mentioned<sup>19</sup> as his main inspiration.<sup>20</sup> It is hard to believe, however, that Greek architecture with the painted structural ornament could have led to the idea of independent dressing over the structure and the idea of architecture as textile – *Wand* and *Gewand* in German.

In Islamic architecture, the surface turns out to be the primary bearer of contents and not the bodily constituent of architecture, its tectonics and 'structural discourse'. The surface, often abstracted from the building's bearing structure, becomes a 'book', onto which outside (non-architectural, often textual) contents are applied: the brick or stone structure is clad with shiny ceramics carrying repetitive ornament or calligraphy. With that architecture automatically de-signifies itself: the surface detached from architecture's internal contents (structure, static, etc.), becomes a textual attachment, conveying sacred script or neutral geometrical decoration. The body of the building ceases to emanate the "*visible presence of the divine in a work of man*" as Hegel and Winkelman defined the arts and, therefore, from an Islamic and Judaic point of view, it avoids falling into idolism.

Regarding the significance of space versus corporeality, Seyyed Hossein Nasr writes:

"...the positive significance of the void in the Islamic religious consciousness, was thus able to create a space in which the very absence of corporeality led to inwardness and contemplation... ...The void then plays a positive role in both Islamic art and architecture by making matter transparent and revealing its impermanent nature... ...Because in Islam the Divinity was never identified with any descent or concrete manifestation or incarnated in a specific form, it has remained always in the Islamic consciousness as absolute and infinite... ... It appears from the point of view of men living in the domain of corporeality as a reality so transcendent and beyond the material that its presence can be felt in the corporeal world only with the help of the void. The use of the void in Islamic art thus became, along with the use of geometric and other forms of abstract symbolism, the only way to indicate through the means of art and architecture the *Unity* which is at once everywhere and beyond all things..."<sup>21</sup>

The architectural outcome of Islam coincides with the Hebrew Bible's preference for text, vis-à-vis image, although architecture related to Jews and Judaism did not follow the Islamic technique until mid-19<sup>th</sup> century.

Regarding meanings in art and architecture, Oleg Grabar emphasizes in Islamic culture the "rejection of mimetic representation in anything official or formal", which elevates writing into the main vehicle for signs of belief, power, legitimacy, and any one of the functions for which images were used elsewhere"<sup>22</sup>. As a matter of fact, writing and geometrical ornament, actually another type of writing according to

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19 In 1834 Semper published his book *Vorläufigen Bemerkungen über bemalte Architektur und Plastik bei den Alten* in which he analysed the question of polychromy in antiquity with some references to medieval and Renaissance architecture. Following many other scholars, Hanno-Walter Kruft concludes that polychromy has led Semper to the idea of the 'theory of cladding'. ("Die Polychromie wird für ihn zum Ausgangspunkt seiner später entwickelten Bekleidungstheorie.") See: Kruft, *Geschichte der Architekturtheorie*, (München, 1985) 356.

20 The proof for this is the interior of his synagogue in Dresden, where oriental style was used in the interior only. Later, mainly after the revolutions in 1848, codification in architecture loosened and opened the way to new languages in Central Europe. The first large scale 'oriental style' synagogues started to appear in the 1850s.

21 See: Nasr, *Islamic Art and Spirituality*, 190.

22 Grabar: *The Mediation of Ornament*, Princeton University Press, 1992, 63.



Grabar, conquered the surface of buildings. He explains that “geometry is a perfect intermediary, for it attracts not to itself but to other places or to other functions than itself,”<sup>23</sup> thus, not directly to ‘idolized’ contents. However, this type of geometry is far from the Greek idea of “*geo-metry*,” measuring the Earth, to establish an underlying meta-system. Grabar continues:

“In all cases, the geometry is a passage, at best a magnet, to something else that it does not identify with, but which the culture deems desirable... . On the other hand, some geometric designs are an end in themselves, which, endowed or not with identifiable connotative meanings, become their own objects of contemplation. At times, as in the Alhambra, they even acquire signs, poems in this case, indicative of their specificity. At this relatively rare level, the intermediate geometry becomes the object of emotional or psychic involvement. Within this scheme, geometry is not different from writing. It, too, is a system of arbitrary rules manipulated for culturally significant purpose other than itself and ending up, because of this manipulation, by occasionally producing works of art.”<sup>24</sup>

Later this ‘book’ on the surface will be abolished, aided also by Buddhism and Judaism, creating undecorated, white modernist walls.

### BUDDHIST INFLUENCE ON WESTERN MODERNISM

Buddhism’s main contribution to modern architecture, similarly to Islam, manifests itself in the positive view on the void, as *absolute nothingness*, the *sunyata* from the Mahayama Buddhism. Such a view easily translates to architectural space, and to a space which is not the absence of material – interval between columns and walls, but as a positive entity, a content and a starting point of thinking and architectural design.

For the Bible and Western metaphysics, nothingness is the beginning. In the Bible, the creation begins with overcoming (*Überwindung*) nothingness; the critical point is when God’s idea starts to materialize. The resonance of two words, which are basically of similar literary meaning, the *vacuum* and the *nirvana* (extinguish), illustrates the different attitude of the West and East towards nothingness. The void (vacuum) in the Greco-Christian world has a negative connotation, echoed in the Latin formulation *horror vacui* or its Greek counterpart *cenophobia* (fear of the empty), both applied primarily to the filling of the entire surface of a space or an artwork with detail. The reason for the void to create horror is that emptiness (the *nihilum*) negates the *raison d’être* of Western civilisation, the ideal of *homo faber*, the active creator man. On the other hand, Buddhism sees purification, enlightenment and redemption in nothingness.

As mentioned earlier, Buddhism did not deliver the theoretical ground for modernism only in terms of space, but also in avoiding surface discourse, the decorated façade too, as Buddhism touches upon the idea of non-cognitive knowledge and communication, i.e., meditation and the meditative experience vis-à-vis Western cognitive – verbal/textual and visual experience. (Figure 1+2)

*Zazen*, the subjectless and objectless meditation of Zen, means that one unites with the world around oneself. As a person becomes one with the world around him, there is no need for any cognitive discourse or logical construct in order to experience the world. Thus, the *pure experience* is the refusal of cognitive knowledge, or

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23 Grabar, *The Mediation of Ornament*, 151.

24 Grabar, *The Mediation of Ornament*, 152.



Fig. 1+2



knowledge gathered by conventional Western differentiation between subject and object, using cognitive apparatus, which reads the surface in architecture. The role of architecture is just the opposite: it is not going to convey meanings, but helps in closing the eyes in order to enable to see. In other words, architecture becomes a trigger for meditation.

While in Muslim architecture the void simply exists (I mean statically as Seyyed Hossein Nasr had defined), in Buddhist architecture it is paired with the idea of *indeterminism*, i.e. *passing time*, from which Japanese *movement space* emerges, which will be in close relationship with the *space-time* concept in Jewish Mysticism updated by Einstein's and Minkowski's space-time and 4D space, all resulting in modern architectural space.

The other most important contribution of the Buddhist teachings to Western modernism is indeterminism. Jewish-Christian concepts of time (and historic dimension) are determined – mankind is waiting for the Messiah to come. It is not known when, but there is the idea of the *end of times* at a certain point, which easily translates into architecture as a point, a spot, a centre, towards which *via sacra* of any church heads, marked by the altar (in traditional synagogues this axiality is much less expressed, but still often existent).<sup>25</sup> The Buddhist time is not heading to any end, any firm point, it just *flows endlessly*. (Figure 3+4)

However, Buddhism impacted modern architecture mainly indirectly through Buddhist architecture, since Buddhism works primarily not on a cognitive but in intuitive way, so it is more easily conveyed to the West through pieces of art than philosophically. In this context the most prominent influence came via Japanese arts and architecture as exemplified in the work of Frank Lloyd Wright, Adolf Loos, de Stijl, and later Ludwig Mies van der Rohe, Alvar Aalto, Carlo Scarpa, etc. They took over Japanese spatial principles and some ideas of detailing.

## JUDAIC/JEWISH INFLUENCE ON MODERN ARCHITECTURE

As shown in this paper, Buddhism contributed to the space-centred concept of modern architecture. Still, as Buddhism did not furnish precise theories of architecture readable to the Westerners, its influence on Western theories remained limited to the visual: Buddhism via its edifices inspired practical architectural design in the West, leaving to Judaism to operationalize the primacy of space over material and the removal of decoration from the buildings' surface. It was Einstein's physics, rooted in Judaic thought<sup>26</sup>, that helped Adolf Loos to formulate his concept of *Raumplan* (space-plan, space-design) and facilitated Siegfried Gidion's conceptualization of *Raumzeit* (space-time). Moreover, Judaic image-ban encouraged the avoidance of ornament in modernism and prompted the introduction of purist white, unadorned façades as expressed in Adolf Loos's essay *Ornament and Crime*.<sup>27</sup>

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25 It does not imply temporality directly, but rather the direction of the Holy City. See: Keßler. *Ritus und Raum der Synagoge – Liturgische und religionsgesetzliche Voraussetzungen für den Synagogenbau in Mitteleuropa*, Michael Imhof Verlag, 2007, and Klein, *Synagogues in Hungary 1782–1918 – Genealogy, Typology and Architectural Significance*, Budapest, Terc Publishers, 2017.

26 Albert Einstein originated from a German Jewish family and he was familiar with Judaic thought and interpreted it similarly to Baruch Spinoza. Einstein was sympathetic towards Buddhism, but his insistence on God is explicitly Jewish. See: Rudolf Klein: Judaism, Einstein and Modern Architecture, In: *Prostor*, 2[44] 20[2012] 220–235.

27 Loos, a gentile surrounded by Jewish intellectuals, explicitly mentions the 'white walls of Zion' to justify the avoidance of ornament, related to the Jewish iconophobia.



Fig. 3+4

Albert Einstein published “On the Electrodynamics of Moving Bodies” in 1905, connecting *time*, *distance*, *mass* and *energy* – notions that inspired the most important catchwords of modern architecture. Einstein’s preoccupation with *space-time* relationship reflects some ideas of the Medieval Jewish thinker Maimonides. Einstein’s former teacher and friend, Hermann Minkowski<sup>28</sup> realized by 1907 that the special theory of relativity could be best understood in a *four-dimensional space*, since known as “Minkowski spacetime”, in which *time* and *space* are not separated entities, but intermingled in a *four-dimensional space-time*. By his scientific intuition, he created a hypothesis of the space and time unity, to determine a geometric structure of that space-time unity. Minkowski stated that in the four-dimensional world one point has four coordinates: three of them are space coordinates, which define the event location, and the fourth coordinate defines the time of that event. This four-dimensional space is called an *event space* or *Minkowski space*.

This is a fundamental change in conceiving space. By linking space to time instead of place (space around something or between) – *topos* has been successfully eliminated from cosmology and architecture. Similarly, *limitation* has also lost its significance – no wall limits space anymore; space becomes limitless, infinite, or to use a traditional Hebrew notion *Eyn Sof* (no end, i.e. endlessness), one of the most important attributes of God as conceived in Judaism. Hence, the most basic ideological elements of modernism, placelessness and unlimited/endless space, are closely related to the Jewish heritage.

Einstein formulated the quantum in 1909, an understanding of *waves* and *particles* together, touching upon the Jewish tradition. Einstein’s suggestion that light possesses a dual nature, i.e. the unification, in one entity of two opposite concepts of a particle of matter and of a wavy motion, resembles teachings of Jewish mysticism. Kabbalah uses light as a metaphor for the power of G–d. It speaks in terms of the *Or Eyn Sof* – the Infinite Light.<sup>29</sup> One of the principles of faith is that G–d is omnipotent and may carry opposites. Light that possesses a dual nature and can carry an opposite makes it the perfect metaphor for Divine energy. In this third stage of the development of the light theory it becomes apparent that this unification of the two concepts underlines the unity of G–d within creation.<sup>30</sup> This new idea became the basis of the new fundamental theory of quantum mechanics from which architectural ideologies profited greatly in the early modern period.

In 1915, with his theory of general relativity, Einstein transformed space into time, or the ‘spatialized’ time and spoke of a ‘space-time continuum.’ Relativists no longer referred to a ‘universal time’ and an ‘absolute space.’ The properties of *space-time* depend on the *speed* at which a moving object travels, and at speeds approaching the speed of light, space-time ‘contracts’ around the moving object. Yet the time of relativity, like that of classical physics, remains reversible.

Einstein’s ideas could not remain in the domain of physics in an age when architectural theory yearned for ideatic input. Adolf Loos was the first who translated the

<sup>28</sup> Minkowski (1864–1909), mathematician, was born into a Lithuanian Jewish family, but he was secular.

<sup>29</sup> Einstein’s quantum theory for which he obtained the Nobel Prize is often related to Jewish mysticism. Kabbalah sees the universe as little bits of dark matter which are surrounded and held together by a light called in Hebrew *Eyn Sof*; quantum theory sees universe as little particles with positive and negative and neutral charge which are surrounded by and held together by 4 forces: gravity, electromagnetism, strong, and weak.

<sup>30</sup> See for Judaic roots of Einstein: Gimbel. *Einstein’s Jewish Science: Physics at the Intersection of Politics and Religion*, The Johns Hopkins University Press, Baltimore, 2012.



idea of *space-centred view* into architecture with his notion of *Raumplan*, as early as 1912, which would be the tenor of modernism after World War I. The concept of *Raumplan* means that the architect is primarily concerned with creating space – not façades, columns, arches, decorations, etc., and leading/moving people through this space. Space is not just an interval, as between two Greek columns, but becomes a positive ‘tangible entity’, which is then wrapped up by material. Interestingly, furnishing the interior space in Loos’s villas is centrifugal, activities shift into the perimeter of this space, living the centre empty, or ‘spatial’ and emphasizing the *emptiness* as the most important feature, similarly to the emptiness in Japanese architecture. Movements in this space are not axial any more, as before, but rather informal, labyrinthine. Sometimes interior space spills over from the perimeter of the building, bulges out from the façade, as in Villa Moller, letting space to come to the fore, as an independent entity, which may be followed by bearing structure or may not.<sup>31</sup>

In architectural, structural terms *Raumplan* meant that the regular rhythm of walls and ceilings is abandoned, space tailored freely, according to the function, or the concept of the architect – walls, usually undecorated and white, serve only as limiting elements of space. It is not only the width and the depth of space that varied in the plan, but the height too. In terms of significance, the bearing structure and the decoration were relegated behind space, which became the most important element. Moreover, the *Raumplan* was Loos’s effort to rethink the traditional 2D plan-based configuration of space within a predetermined volume and to extend it to a free 3D disposition. Loos tried to design each room individually, with the height most appropriate for it. The result was a 3D spatial plan that consisted of small, volumetric rooms connected by short staircases and corridors, a sort of spatial labyrinth that could be comprehended only in time – there was no other way to understand space than to move through it, i.e. to involve time into the architectural experience. This is a great historical innovation of modern architecture. It is true that historical architectural spaces also involved time, like Gothic churches, which required walking through the nave and transept in order to reach the apex of spatial experience. However, even without this going along, one would get a good guess about a church just looking from a vantage point into the nave and isles. However, in order to experience Loos’s spaces one must pass through all corridors/staircases and stationary spaces – architecture becomes a spatial experience, a concept that would be taken by Le Corbusier’s villas in the 1920s and 1930s, albeit without the variable height of the interior.

While Loos’s space-time was still ‘slow’ – he did not play with the idea of approaching the speeds that would change the constants of space-time – the Jewish-born modernist, Erich Mendelsohn went further and increasingly spoke about speed, the 4th dimension of his space. The idea of speed was somehow around in the period of World War I; futurism and expressionism used that notion quite frequently. However, Mendelsohn, having personal contacts with Einstein, went much further. The equation of matter and energy ( $E = mc^2$ ) had captured his imagination and since then he would explain his concepts by the latent energy of

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<sup>31</sup> Of course, space has always played an important role in architecture, particularly in such spiritual periods as the Gothic or the Baroque. Even then, space was an integral part of planning in which structural elements were drawn and designed carefully. Space was treated as something in-between and not as an independent entity.

the masses and volumes.<sup>32</sup> He was also fond of speed, as mentioned, and used to express it in connection with his project Mosse-Haus in Berlin and the Einstein Tower in Potsdam.<sup>33</sup> The latter became a paradigmatic building that linked state of the art physics to modern architecture.

Following Mendelssohn, it was Sigfried Giedion<sup>34</sup>, the Czech-Jewish-born Swiss art historian, the most important theoretician of early modern architecture, who summarized many theoretical achievements of the period in order to create an ideological base for architectural practice. He emphasized the significance of space-time for modern architecture, which largely followed Einstein's and Minkowski's ideas and he also found the fourth dimension of Cubist painting in architecture while explaining the corner of the Bauhaus workshop wing by Walter Gropius.<sup>35</sup>

In his book *Space, Time, Architecture* under the subtitle *The Termination of the Perspective*, Giedion celebrates the departure from the traditional 3D representation in painting since Renaissance, the philosophy of *centre* of the viewer and the vanishing points. His de-centring of the universe is related to the Einsteinian view. Giedion maintains that the essence of space is not in the *optical infinity* of the Gardens of Versailles, but in the infinite possibilities of its *internal relationships* – an almost structuralist idea, rooted in the Jewish and Eastern (Buddhist) thinking. He upholds that in order to understand space, one must move through it.

Sigfried Giedion echoes Judaic thought and Einstein's theories when he stresses that space in modern architecture becomes comprehensible only vis-à-vis a *moving vantage point* and not as an absolutely static unity of Newton's Baroque system. The prominent Swiss art historian finds the roots of modern art and architecture in the idea of simultaneity based on Einstein's *Electrodynamics of Moving Bodies* (1905) and the quoted work of Minkowski on space-time, actually the ideas of Maimonides and the Kabbalah. Giedion's standpoints dominated a good part of the theory of architecture until the onset of Deconstruction.<sup>36</sup>

However, it should be noted that modernism was not the only "stylistic" option in the interwar period Europe and even less so in the Americas. Modernism was the Avant-garde in art and architecture, the most famous, but just the tip of the iceberg. In many countries it was accepted, but paralleled with some other direc-

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32 Mendelssohn's wife's friend, Erwin Finlay-Freundlich was one of the first to learn about and support Einstein's endeavours. He planned to measure the bending of light during a solar eclipse and published the first book on relativity in 1916.

33 Theoreticians considered in the 1920s and 1930s Mendelssohn's early opus to be expressionistic, which may be true, but the ideological impact was undeniable and absolutely necessary for the further course of architectural modernism.

34 Sigfried Giedion (Prague, 14 April 1888 – 10 April 1968 in Zürich) (sometimes misspelled Siegfried Giedion) was a pupil of Heinrich Wölfflin, but soon adopted modern thinking in cosmology, physics of Einstein. As the first secretary-general of the *Congrès International d'Architecture Moderne*, he was extremely influential in the evolution and spread of modernism.

35 Although influential, this connection between the Bauhaus' corner and cubist paintings of Braque and Picasso is a bit problematic, and it reflects Giedion's view of architecture from an art historian's perspective.

36 Deconstruction will not be discussed in this paper as its elaboration would need a disproportionately large space in the course of civilisational interactions in architecture, which is the main line of this paper. For a detailed analysis, see: Kunszt and Klein. *Peter Eisenman – From Deconstruction to Folding, A dekonstruktivizmustól a foldingig*, Budapest, Akadémiai Kiadó, 1999.

tions – conservative neo-eclecticism/historicism, deco style and national idioms.<sup>37</sup> In some countries, the officialdom showed explicit hostility towards modernism, particularly in post-Weimar, National Socialist Germany and the Soviet Union.<sup>38</sup> The bureaucracy of these countries implicitly refused modern art and modern architecture on diverse grounds. The ‘Dictatorship of the Proletariat’ (1922–88) embraced the aesthetics of Social Realism, a blunt anti-modern movement in art and architecture, labelling the Avant Garde as bourgeois and formalistic. The Third Reich (1933–45) branded modernism as non-German, leftist, Jewish and degenerate. German National Socialists directly accused the Jews of undermining Western culture with modern art. It was the great German truth-seeker, Martin Heidegger, who gave coherent philosophical base to these ideas. Heidegger accused the “Jews of the World” (*Weltjudentum*) of “uprooting everything that exists from being as a ‘world-historical’ task”, in original: *Entwurzelung alles Seienden aus dem Sein als ‘weltgeschichtliche’ Aufgabe*.<sup>39</sup> Heidegger reiterated the idea of rootedness (*Verwurzeltheit*) lifelong, both the physical-geographical and spiritual. For Heidegger, Modernism was solely a “Jewish business,” because he disregarded Islamic and Buddhist influences elaborated in this paper. Thus, even after the denazification of Germany, he did not change his standpoints regarding rootedness, as can be read from his influential lecture/essay titled *Bauen, Wohnen, Denken* of 1951.<sup>40</sup> However, while often quoted by some Post-World-War II architectural theoreticians, like for instance Christian Norberg Schulz, Heidegger’s ideas never got substantiated properly in practical architectural design of late modernism.

## THE INFLUENCE OF BLACK AFRICAN CULTURE ON WESTERN MODERNISM

While the influence of Islam and Buddhism was two-channelled – visual and theoretical at the same time, based on rich intellectual traditions and works of fine arts and architecture, the impact of Judaism was almost entirely theoretical.<sup>41</sup> In the case of Black Africa and Pre-Columbian America the inspiration was mainly visual.<sup>42</sup> Black African art and architecture became relevant for modernism from about 1906 to 1909, and again in the 1950s and 1960s. In the first period it communicated via painting, the second was a more complex matter that besides visuality included some ideas and practices of primeval societies (the noble savages, or *le bon sauvage* in French) interpreted by the structuralist thought of Claude Lévi-Strauss.<sup>43</sup>

37 National idioms were the most widespread in Hungary and Romania. In Serbia there was a wave of Neo-Byzantine revival style that expressed religious roots of Serbian culture, thus national in a special way.

38 It should be noted that also in the so-called half-democratic countries in the interwar period there were anti-Modern movements, but they more or less tolerated modernism – Hungary, Poland, the Balkan Countries, etc.

39 See: Christoph Jamme, Heideggers “Schwarze Hefte” In: Christoph Jamme, Kristin Drechsler, (Eds), *10 Minuten Philosophie*, Fink, 2019, pp.63–65.

40 Heidegger, *Bauen Wohnen Denken*. In: *Vorträge und Aufsätze*, Neue Darmstädter Verlagsanstalt, 1952.

41 The anti-visual position and text-centredness of Judaism prevented the development of a genuine visual continuity and based Jewish pieces of art from Solomon’s Temple to modern synagogues on the artistic traditions of the neighbouring people’s art and architecture.

42 Mayan hieroglyphics were deciphered only in the 1960s, so the influence on Western culture, including architecture, remained largely visual.

43 Lévi-Strauss, *La Pensée du Sauvage*, Plon, 1962.



It was Pablo Picasso and some other cubist painters who integrated Black African forms into Western modern art. The shape of the African Fang mask that Picasso saw in Paris resurfaced in the portrait of Gertrude Stein, the Jewish-American art connoisseur (1905–6), in his famous painting of *Les Femmes d'Alger* (1907), and in the painter's self-portrait of 1907. They are all characterized by a geometrized representation of human head and body similar to crystalline forms. Interestingly, this influence coincided with some Western theoretical endeavours, mainly the representation of the aforementioned modern 4-D space. Maurice Princet brought to the attention of Picasso, Metzinger and other painters, a book by Esprit Jouffret titled, *Traité élémentaire de géométrie à quatre dimensions* (Elementary Treatise on the Geometry of Four Dimensions, 1903), a popularisation of Poincaré's *Science and Hypothesis* (1902) in which crystalline forms appeared as representations of the 4-D space.

Picasso soon transferred this geometrical representation of human body to a landscape, *Paysage aux deux figures*, 1908 (oil on canvas, Musée Picasso, Paris) and depiction of architecture, *L'Usine, Horta de Ebro*, 1909 (oil on canvas, The State Hermitage Museum, Saint Petersburg) and *Maisons à Horta*, 1909 (oil on canvas, private collection). The influence of Picasso's forms rippled throughout Europe, including the period of Bohemia (then part of the Austro-Hungarian Empire), where it turned into architecture, called Czech Cubism. The most important examples include Josef Chochol's Villa Kovařovic, 1912–13 and Hodek Apartment Building, 1913–14, as well as Josef Gočár's corner house, called *U Černé Matky Boží* (The Black Madonna), 1912, all in Prague. These crystalline forms then enjoyed a long afterlife in German Expressionist architecture with ramifications into American deco style skyscrapers.

Black African influence on modern architecture re-emerged in the 1960s, facilitated by ideas of Structuralism.<sup>44</sup> However, structuralist thought permeated not only architectural design, i.e. formal similarities with African architecture, but had a social agenda to transfer the experience of primeval societies to the West, to re-establish organic communities in the times of modern alienation on the basis of tribal life in Black Africa and elsewhere in the so-called Third World. Architectural determinism, the idea that architecture has an active role in fostering community life, helped the transfer of forms and spaces from primitive societies to the developed West.

Structuralism originated from structural linguistics of Ferdinand de Saussure during early 20<sup>th</sup> century, later becoming a universalistic theory and method in sociology, anthropology, archaeology, history, philosophy, a sort of general theory of culture. It was its universalism that raised the possibility of the kinship to Jewish thought. Jerome M. Levi argues "that Kabbalah, the generic term for Jewish mysticism, and Structuralism, as articulated in anthropology by Claude Lévi-Strauss, share a number of unexpected theoretical Foundations."<sup>45</sup> Levi suggests that the idea of 'surface diversity' which conceals an 'underlying unity' i.e. that the truth is

44 Besides Black African some other primeval societies and vernacular traditions impacted architecture of the 1960s, as domestic buildings of Pueblo Indians, some Chinese settlements and even Tel Aviv's vernacularisation of interwar period modernism according to Hermann Herzberger. See: Arnulf Lüchinger, *Structuralism in Architecture and Urban Planning – Developments in the Netherlands – Introduction of the Term*, In: Tomas Valena (ed.) with Tom Avermaete and Georg Vrachliotis, *Structuralism Reloaded – Rule-Based Design in Architecture and Urbanism*, pp. 87–95, Stuttgart-London 2011.

45 Jerome M. Levi, op. cit. p. 929.

hidden within a layered model of reality, relates structuralism to the Jewish thought. He maintains that Claude Lévi-Strauss was Jewish-born and must have been exposed to Jewish thought as his maternal grandfather was the rabbi of the synagogue of Versailles, regardless of the fact that he was not a 'practicing Jew', meaning that he was secular.

The aforementioned *underlying unity*, or the principle of *totality* in structuralism, is the tenor of Israeli structuralist architecture in the 1970s, a sort of national idiom, propagated by the Technion professor Alfred Neumann and his followers, Zvi Hecker<sup>46</sup> and Eldar Sharon. They all created larger ensembles by aggregating smaller, individualised units, a principle of structuralist architecture, which interestingly showed up earlier in Tel Aviv's International Style period architecture. Returning to the basic principles of Structuralism, one may observe that the other two principles, *autoregulation* and *transformation* are also related to Jewish historical experience, the existence of independent Jewish communities in the diaspora and their architectural output.

The Dutch branch of structuralist architecture, highlighted by Aldo van Eyck, Piet Blom and Hermann Herzberger, relied in terms of form on Black African and other non-Western sources. Van Eyck's Dutch buildings are based on Black African traditions, the buildings of Dogon People in Mali and indigenous architecture of Upper Ogol. His Municipal Orphanage in Amsterdam (1959–60) follows the forms of African tribal architecture. However, both this orphanage and Herman Herzberger's Centraal Beheer office building (1968–72, UNESCO World Heritage Site) turned out to be failures in the long run: owners would like to get rid of them, but it is difficult to find buyers for these edifices.

## THE INFLUENCE OF PRE-COLUMBIAN AMERICAN CULTURE ON MODERNISM

Mesoamerican architecture influenced Western modernism since about 1900. The most famous architect to take inspiration from Mesoamerican architecture was Frank Lloyd Wright, who visited World's Columbian Exposition in 1893, where he encountered plaster replicas of the ruins of so-called Nunnery at Uxmal, a major archaeological zone located in Yucatan. He also saw photographs of Mayan buildings. In his quest to attain a genuinely American architecture, Frank Lloyd Wright readily abandoned European forms and turned to non-Western civilisations, Japanese and ancient Mayan. This is how an indigenous Mesoamerican civilisation influenced an architectural idiom called 'Prairie School' style of architecture, in the American Midwest. Wright's other source of inspiration in creating Prairie Houses was Japanese – dominant roofs, pronounced horizontality, zig-zag path in the interior, flowing space and openness towards nature. Later, in *The Future of Architecture*, Wright wrote that in Mayan architecture, "we see a grand simplicity and concept of form. Probably it is greater elemental architecture than anything remaining on record."<sup>47</sup> The Hollyhock House in Los Angeles, 1921, is probably the most monumental evocation of Mayan architecture, but many other prominent buildings show

<sup>46</sup> See: Klein, Zvi Hecker – *Oltre il riconoscibile*, Torino, Testo & Immagine, 2004, enlarged English/Hungarian edition: Zvi Hecker, Mundus Kiadó, Budapest, 2009

<sup>47</sup> See: Hammond, *The Prairie School's Mexican Connection: How Ancient Mayan Architecture Shaped Frank Lloyd Wright*, 2017, last download 25/08/2021: <https://design.newcity.com/2017/10/01/impact-of-the-indigenous-on-wrights-prairie-school-how-ancient-mayan-architecture-shaped-frank-lloyd-wright/>





Fig. 7+8



some of these elements in their spaces and details, such as the famous Falling Water. Flat roofs and stucco surfaces in Wright's buildings are Mayan elements, as are dominant horizontal lines of Prairie Houses and organic connection to the land, two features that corroborate with Japanese tradition.

We may conclude that while European architects, Adolf Loos, Ludwig Mies van der Rohe, Alvar Aalto and Carlo Scarpa, tried to introduce non-Western elements into European architecture, without abandoning its principles entirely, Frank Lloyd Wright did his best to turn his back to European architectural heritage in the pursuit of creating 'American architecture.' In these endeavours, he was ready to accept traditions that to a certain extent contradict each other, like the massive Mayan and the airy Japanese buildings. In some of his edifices, Wright achieved a masterful synthesis of these two non-Western traditions. (Figure 7+8)

The 'Mayan Revival' of the 1920s and 1930s overlapped with the Art Deco movement exemplified in the Mayan Theatre in Denver (1930) and the Fisher Building in Detroit (1928), which reflect both the iconography and decoration of ancient Mayan buildings and the streamlined forms of Art Deco. In Miami Beach, the Mayan-Deco synthesis created a charming urban *couleur locale*, where numerous buildings showed either some Mesoamerican details or compositional principles.

The Mayan influence could also be found in Central Europe before the widespread of Deco Style. Architect Béla Lajta, who had some information about the World's Columbian Exposition in 1893, used the aforementioned decorative surfaces resembling Pre-Columbian architecture in his Trade School in Vass Street (Széchenyi István Kereskedelmi Iskola, 1910–11) and the Bank of Elisabeth-Town (Erzsébetvárosi Bank, 1911–12), both in central Budapest.

## CONCLUSION

In this paper, we have seen that modernism relied on wider and more diverse cultural foundations than usually thought. The dominant West, facing the others, could not filter out their influence despite their lag in economic and political development vis-à-vis developed countries. Breaking with the past, at least declaratively, Modernism created a *tabula rasa*, an ideatic and formal/visual vacuum, which opened the door for ideas and forms from Islam, Buddhism, Judaism, modern physics and mathematics, paired up with the use of modern materials and technologies.

Such a wide platform, the large number of amassed non-Western ideas and forms has led to a sort of artistic globalization, by allowing some Asian, African and American sources into the scene of modern European architecture. The cumulation of sources did not create a firm paradigm, a sort of amalgamation of cultures, but rather clusters of opportunities for combinations, from which prominent architects created their own language of architecture. The reason was the lack of precise rules how to operationalise Chinese, Japanese, Islamic or Mesoamerican ideas and elements in the context of Western architecture. Thus, for instance, Frank Lloyd Wright resuscitated simultaneously both the Mayan and Japanese traditions, cherry-picking from each the ideas and forms that he found suitable to create an 'American architecture'. Later, in the interwar period he dropped many Japanese elements and retained the Mayan ones, pairing them up with organic forms obtained from nature that would lead to his late masterpiece, the Guggenheim Museum in the Central Park in NYC. Similarly, Ludwig Mies van der Rohe adopted Japanese space conception in the Barcelona Pavilion and in a somewhat attenuated

edition in the Villa Tugendhat, while later, starting with the Reichsbank project he began to return to the German Neo-Classical tradition. The Crown Building of the IIT complex in Chicago mixes two contradictory traditions: Japanese transparency and the composition of closed masses from Friedrich Schinkel's Altes Museum in Berlin, a glass box version of this icon of early 19<sup>th</sup> century architecture in Germany. Not unlike Wright and Mies, Le Corbusier combined his airy, 'liberal' *plain libre* with Palladio's symmetrical villa floor plan schemes.

Still, when the buildings of the great modernist masters "meet", as in the Weißenhofsiedlung in Stuttgart, with a simple regulation of Ludwig Mies van der Rohe, a common denominator has been created between them, a convergence of ideas and forms of different civilisations. The Weißenhofsiedlung represents a magnificent unity, made possible by accepting two tenets and visual basics of modernism: (1) The primacy of space, based on teachings about the void, the absolute nothingness, God-as-space, space-time, de-centring, open structural-internal relationships, dialogue with the environment; (2) Unadorned white walls, based on the image-ban, the refusal of visual cognition, meanings and contents outside of architecture. These two fundamental tenets blended and processed created a strong modernist theory and practice, which swept away anything that did not fit into its framework. As we have seen, these simple principles came into being due to globalisation, some cultural contents coming together, metaphysics of different cultures in Europe, the Americas, Asia and in Africa, as well as modern science and technology. As a result, the language of Modern Architecture was implemented worldwide as an epitome of modern life and convergence of civilisations. Thus, modern architecture is a child of early or pre-globalisation.

## ILLUSTRATIONS

1 + 2: Frank Lloyd Wright, the Winslow House, River Forest, 1893–94 + Building in the Toji Temple complex, Kyoto, 17<sup>th</sup> C.

Frank Lloyd Wright took from the building in Toji complex the proportions of the whole edifice, the large and dominant roof, the horizontal division of the façades into 2/3+1/3 zones, large eaves that cast shadows.

Френк Лојд Рајт, кућа Винслоу, Ривер Форест, 1893–94 + Зграда у комплексу храма Тођи, Кјото, 17. век. Френк Лојд Рајт је од зграде у комплексу Тођи преузео пропорције целог здања, велики и доминантни кров, хоризонталну поделу фасада на зоне 2/3+1/3, велике стрехе које бацају сенке.

3 + 4: Ludwig Mies van der Rohe, Barcelona Pavilion, 1929 + Ryo-an-ji Temple, Kyoto, cca. 1450.

Ludwig Mies van der Rohe took from Ryo-an-ji Temple's interior asymmetry, skeletal structure with very light space modulating elements, freely flowing space.

Лудвиг Мис ван дер Рое, павиљон Барселоне, 1929 + Храм Рјо-ан-ђи, Кјото, око 1450.

Лудвиг Мис ван дер Рое је преузео унутрашњу асиметрију храма Рјо-ан-ђи, скелетну структуру са врло лаганим елементима којима се мења облик просторија, простор који слободно тече.

5 + 6: Jean Nouvel, L'institut du Monde Arabe, Paris, 1988 + Court of the Lions, Alhambra, 1362–91.

Jean Nouvel took from the Alhambra the idea of perforating the wall, the primacy of space over material.

Жан Нувел, Институт арапског света, Париз, 1988. + Двор лавова, Алхамбра, 1362–91.

Жан Нувел је од Алхамбре преузео идеју перфорираног зида, примат простора над материјалом.

7 + 8: Frank Lloyd Wright, The Hollyhock House, East Hollywood, LA, 1922 + Remains of the Palace of Sayil, Yucatán, about 900 A.D.

The massing of Hollyhock House, the contrast of closed walls and openings as well as the application of plastic decoration over the façades recall Mayan architectural elements.

Франк Лојд Рајт, кућа Холихок, Источни Холивуд, Лос Анђелес, 1922. + Остаци палате Сајил, Јукатан, око 900. године.

Габарити куће Холихок, контраст затворених зидова и отвора, као и примена пластичне декорације на фасадама подсећају на елементе Мајанске архитектуре.

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Рудолф КЛАЈН

#### АРХИТЕКТОНСКИ МОДЕРНИЗАМ: ПРЕТХОДНИК КУЛТУРНЕ ГЛОБАЛИЗАЦИЈЕ?

**Резиме:** Овај рад тврди да би се корени данашње економске и културне глобализације могли препознати у модерној архитектури 20. века, која је укључивала мисли и облике из будистичке цивилизације, муслиманско-арапског света, јеврејско/јудаистичку мисао и искуство, црну Африку и преколумбијске америчке културе и које су модернисти примењивали у складу са својим грчко-хришћанским традицијама. Он такође тврди да се, иако се модернизам представио као оличење западног рационализма просветитељске традиције, заправо ослањао и на друге цивилизације, укључујући њихову метафизику, па се стога не може у потпуности сматрати рационалним. Ова критика тврди да су две најупечатљивије иновације архитектонског модернизма, увођење равних и не украшених фасадних површина, односно избегавање традиционалног фасадног дискурса (декорација) и промоција архитектонског простора у односу на грађевински материјал, повезане углавном незападним религијама и савременом физиком. Аутор је свестан опасности које представља тако свеобухватна тема разрађена у релативно кратком раду, али је спреман да преузме ризике како би добио увид у међукултурну размену између Запада и остатка света у архитектури 20. века.

**Кључне речи:** модернизам, исламска и будистичка уметност, јудаизам и Ајнштајн, црна афричка уметност, кубизам, претколумбовска америчка уметност.