

OPEN-AIR CITIES: COMMON APPROACHES FOR BUILDING, LANDSCAPE AND URBAN-SCAPE DESIGN - THE CONCEPT OF DESIGN SCHEMATIZATION

DOI: 10.26341/issn.2241-4010-2025-4a-1-K02025

Dr. Konstantinos Moraitis

Professor Emeritus N.T.U.A.

mor@arsisarc.gr

Abstract

It is normal to present, in conferences like the one under the subject "Open-Air Cities," completed design or built projects. We scarcely discuss methodologies that could offer a didactic approach for students or professional architects. It is against this approach that we shall propose a methodology that could help designers, experienced in architectural projects, to transform their skills and compose, in a way analogous to their building-design awareness, landscape formations with intense plantation 'green' identity. To this first approach, we shall add a second one, insisting on the fact that building envelopes may be formed as continuations of the surface of the surrounding landscape. They may be conceived as a "metaphor" of topological folds that could compose open-air landscape formations and building or hard-scape urban structures as well.

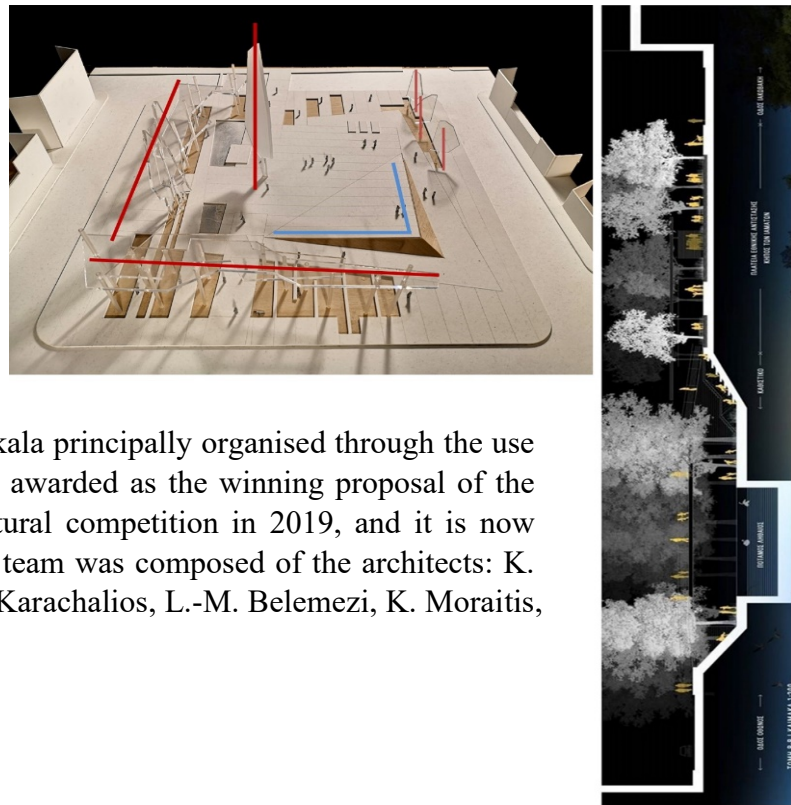
The concept underlying the previous didactic or auto-didactic approach has to do with the idea that we do not design and compose reality in its full detailed complexity: building reality, landscape reality or urban-scape reality. What we design and compose is a structured, "schematized" interpretation of the real place formations, an "abstract" schematized interpretation of it; unimportant details have been abstracted, and the remaining principal important characteristics have been restructured in a new conceivable and trustworthy to be applied form.

Moreover, we shall insist in our presentation on the idea that abstract schemes, in all previous design cases and all previous thematic and scale design approaches, may have common formal references. Building design, landscape design or urban design may be composed on a common or relative conceptual ground of abstract schematized principles, able to produce our "Open-Air Cities" context of compound "landscape urbanism."

Plus, a final comment: In which way urban landscape schematization may be positively transformed?

Keywords: *Schematism, Schematization, abstraction, architectural design, urban design, landscape design, landscape urbanism, didactic methodologies, theory of knowledge, expressive metaphor.*

It is normal to present, in conferences like the one under the subject ‘Open-Air Cities’, completed design or built projects. We scarcely discuss methodologies that could offer a didactic approach for students or professional architects. It is against this approach that we shall propose a methodology that could help designers, experienced in architectural projects, to transform their skills and compose, in a way analogous to their building-design awareness, landscape formations with intense plantation ‘green’ identity. Or we may extend this methodological approach and refer to the earth surface and extend it to create building shells, building envelopes, in a compositional approach analogous to that applied in open-air design projects.



Img. 1: A central square in Trikala principally organised through the use of plantations. The project was awarded as the winning proposal of the respective panhellenic architectural competition in 2019, and it is now under construction. The design team was composed of the architects: K. Apostolidis, T. Karachalios, S. Karachalios, L.-M. Belemezi, K. Moraitis, K. Helidoni.

The concept underlying the previous didactic or auto-didactic approach has to do with the idea that we do not design and compose reality in its full detailed complexity: building reality, landscape reality or urban-scape reality. What we design and compose is a structured, “schematized” interpretation of the real place formations, an “abstract” schematized interpretation of it; unimportant details have been abstracted, and the remaining principal important characteristics have been restructured in a new conceivable and trustworthy to be applied form.

Initial introductory comments

Moreover, we shall insist, in our presentation, on the idea that abstract schemes, in all previous design cases, and all previous thematic and scale design approaches, may have common formal references. Building design, landscape design or urban design may be composed on a common or relative conceptual ground of abstract schematized principles, able to produce our “Open-Air Cities” context of compound “landscape urbanism.”

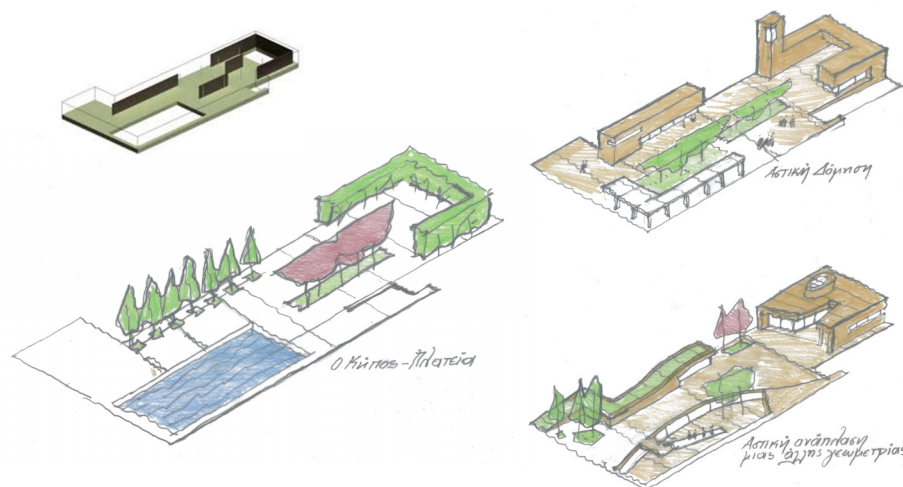
Plus, one additional introductory comment: In which way urban landscape schematization may be positively transformed?

In which way a supposedly “enclosed” formation, what we describe as “a building,” could be open to the surrounding “open-air” urban scape. In our next image [Image 2], we refer to two emblematic structures by Ludwig Mies Van der Rohe. The *Neue Nationalgalerie of Berlin*, on the left, a cultural building that intended to be open to the city, and on the right, his initial approach of an analogous intention, the famous early 20th century avant-garde proposal of the *Barcelona Pavilion*. Insisting on the second project, I may ask: is it a building or a landscape formation, pre-iconizing the contemporary design term “landscape formation” that is used under different formal approaches in closer to us architectonic proposals?



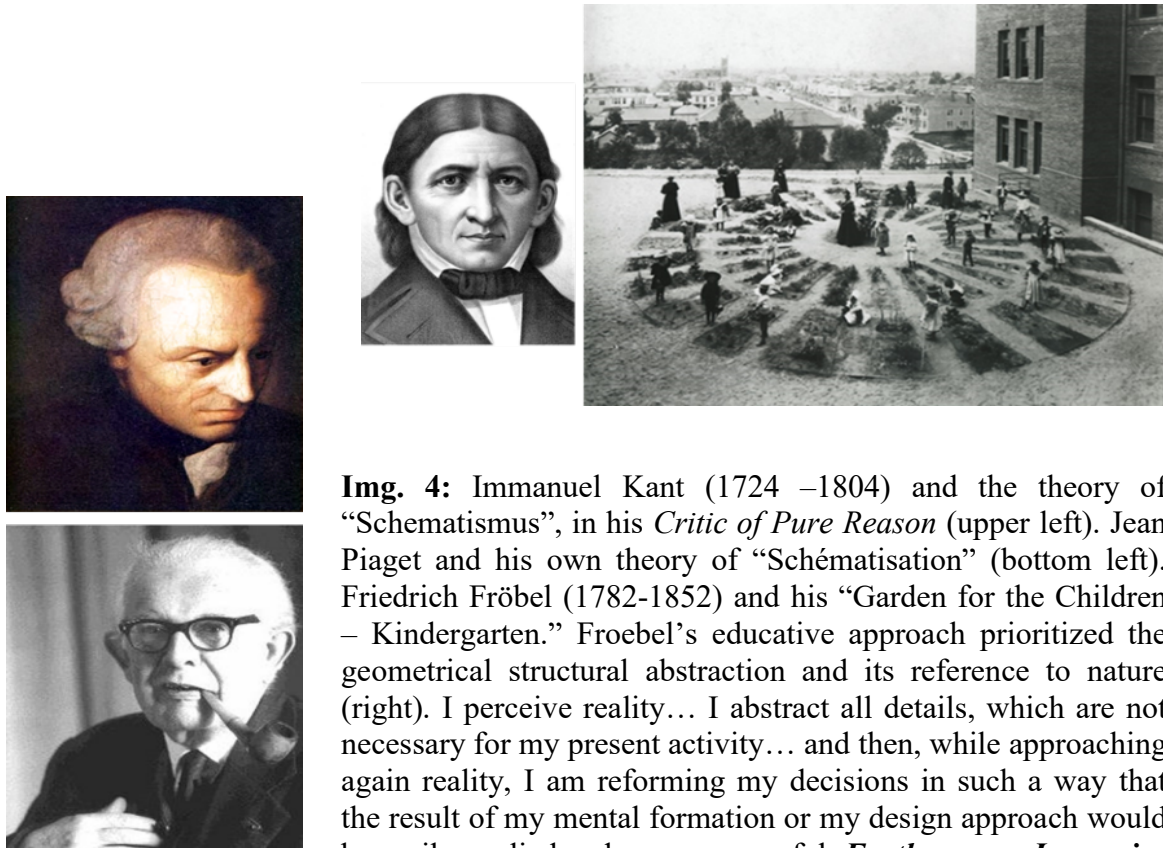
Img. 2: The house (or rather the building), as the city, as the landscape. The *Neue Nationalgalerie of Berlin* by Ludwig Mies Van der Rohe (on the left) and the early 20th century avant-garde proposal of the *Barcelona Pavilion*, again by Mies Van der Rohe (on the right). The Pavilion could surely be described, using closer to us terms, as a “landscape formation.”

In the next image [Image 3], I insist on the structural decomposition of the Barcelona Pavilion in correlation with a strangestatement by Leon Battista Alberti: “... *as philosophers also admit, the city could be compared to a large house, and the house, in its own turn, could be compared to a small town...*” I could add, “*as architects may also admit.*” How can I decipher the previous statement? Probably insisting on the fact that we may find common schematized, abstract design principles, under the compositional approaches of differentiated design subjects of different scales. In an arrogant way, I have tried to transform the initial design scheme of the Pavilion project into a garden-like proposal or into two hard-scape urban scape proposals of differentiated geometry. Under all three experimental approaches, a common initial abstract schematized reference exists.



Img. 3: In this image, I have tried to transform the initial design scheme of the Pavilion project (upper left), in a garden-like proposal (bottom left), or in two hard-scape urban scape proposals of differentiated geometry (right side of the image).

Immanuel Kant and Jean Piaget, each one in his own way, explained this mental achievement of abstraction and schematism or schematization, and Friedrich Froebel, the initiator of the "Kindergarten," tried to use this theoretical approach, concerning cognitive abstraction and schematization, as a didactic method for the education of the young children.

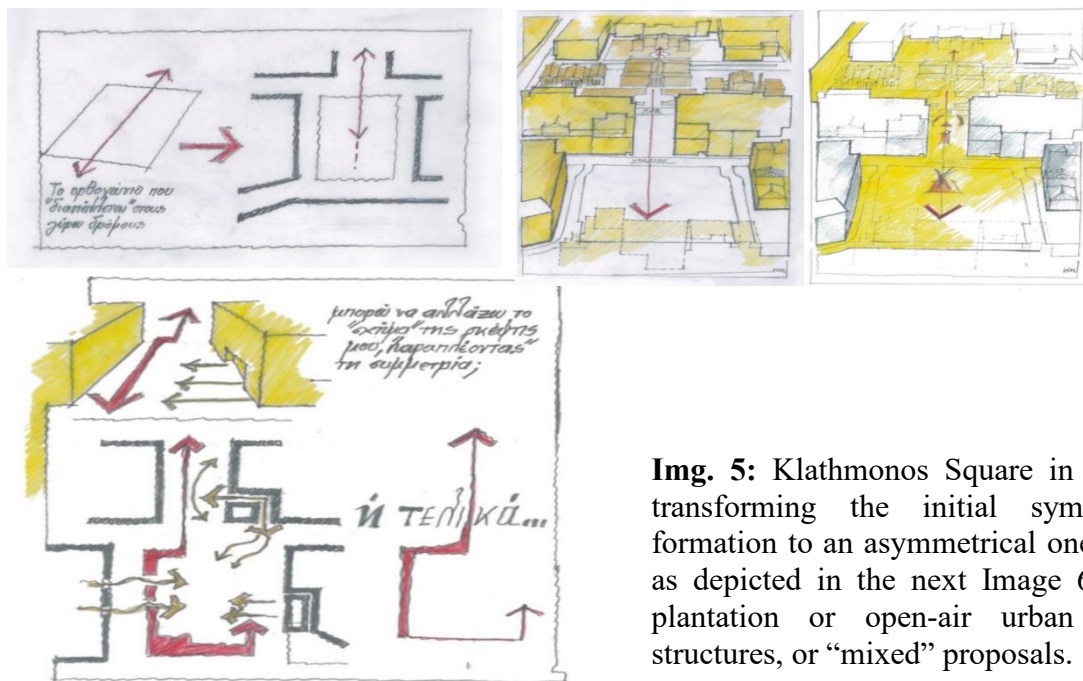


Img. 4: Immanuel Kant (1724 –1804) and the theory of “Schematismus”, in his *Critic of Pure Reason* (upper left). Jean Piaget and his own theory of “Schématisation” (bottom left). Friedrich Fröbel (1782-1852) and his “Garden for the Children – Kindergarten.” Froebel’s educative approach prioritized the geometrical structural abstraction and its reference to nature (right). I perceive reality... I abstract all details, which are not necessary for my present activity... and then, while approaching again reality, I am reforming my decisions in such a way that the result of my mental formation or my design approach would be easily applied and more successful. ***Furthermore, I conceive the house, as the city, as the landscape, probably in the same way that I try to conceive cosmic totality.***

A number of important modern painters or architects were taught or instructed on a methodology for the creation of abstract and schematized forms, through the didactic methods of Fröbel’s kindergarten. We may enumerate Wassily Kandinsky, Frank Lloyd Wright and Le Corbusier. Piet Mondrian was an instructor in a Froebelian kindergarten, as was Johannes Itten, who organized his “Vorkurs,” his introductory lessons for Bauhaus first-year students, in accordance with Froebel’s didactics.

My motive

...has to do with the design of landscape in the same schematized and abstracted way that I design buildings. Thus, my motive refers to an autodidactic method, for landscape or urban-scape design, in accordance with what I already know: building architectural composition. It is surely important to participate in high-level conferences, presenting high-level texts about “open-air” public places, or final well-promoted projects in seductive 3D presentations, BUT how can I teach myself about the central compositional approaches? My text displays a didactic proposal, which I have introduced firstly in my postgraduate courses at N.T.U.A. and, afterward, after the theoretical formation of my approach, in the undergraduate program of the School of Architecture at N.T.U.A.



Img. 5: Klathmonos Square in Athens: transforming the initial symmetrical formation to an asymmetrical one, using, as depicted in the next Image 6, urban plantation or open-air urban “hard” structures, or “mixed” proposals.

Exemplary students’ projects, in undergraduate design lessons

Let us offer a simplified approach to this methodology, as introduced in an undergraduate lesson, concerning the intervention at the Klathmonos Square in Athens. You may see abstract diagrammatic analyses of the place [Image 5], and a sketch of a compositional comparison between abstract geometrical forms and compositional formations of plantation, of different volumes and colours - *different volumes and colours composed* [Image 6].

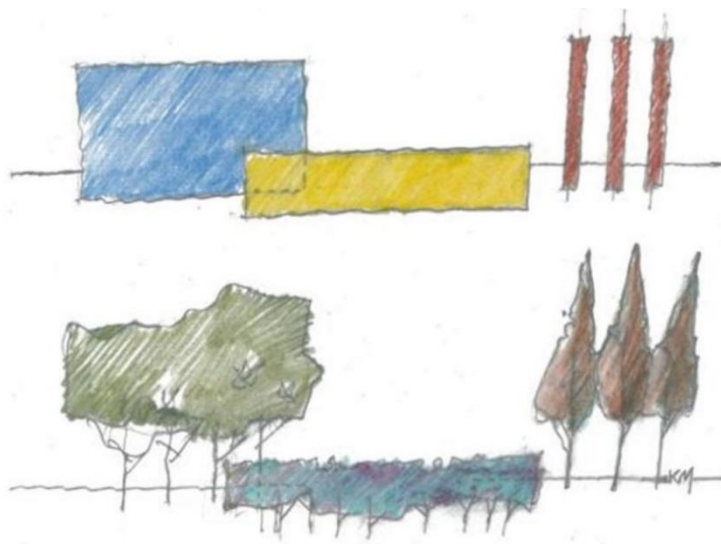


Img. 6: Usage of urban plantation or open-air urban “hard” structures (upper exemplary sketches), or “mixed” proposals (bottom sketch), to transform the initial symmetrical formation to an asymmetrical one,

Let us insist on the previous diagrammatic approaches of the square using urban plantation or open-air urban “hard” structures, or “mixed” proposals, and compare them to an exemplary students’ proposal for the square insisting on the flooring material structure of the square AND on the composed plantation formations of it [Image 7] ¹.



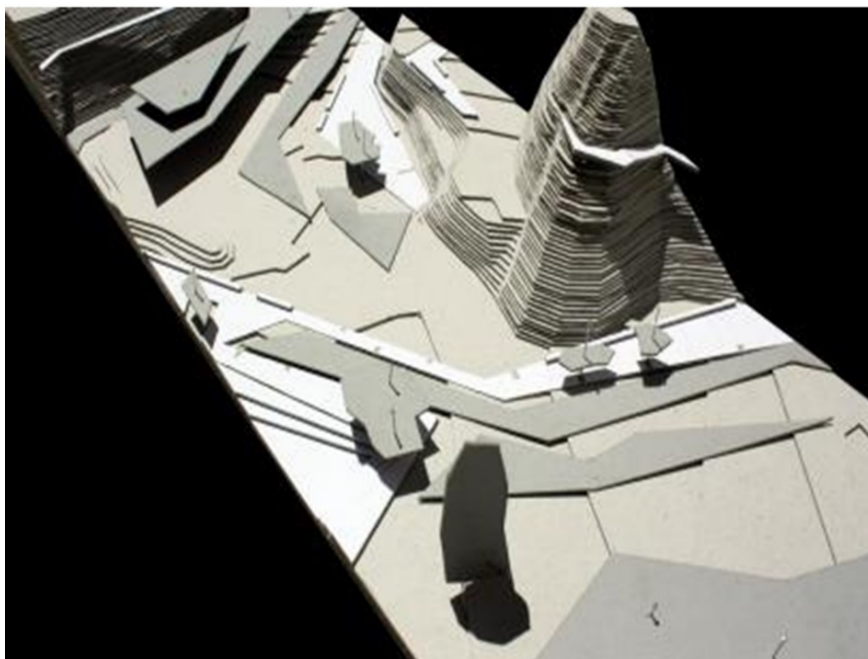
Img. 7: Re-designing Klathmonos Square, using urban plantation and flooring material.



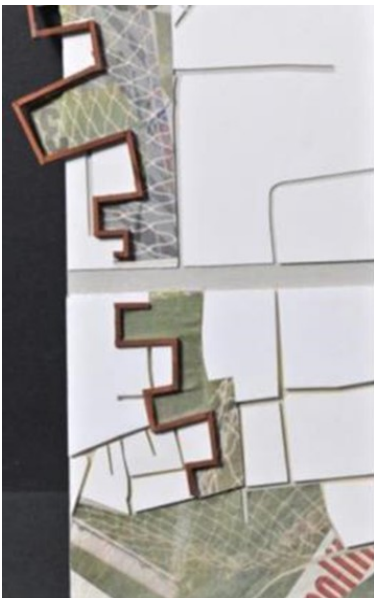
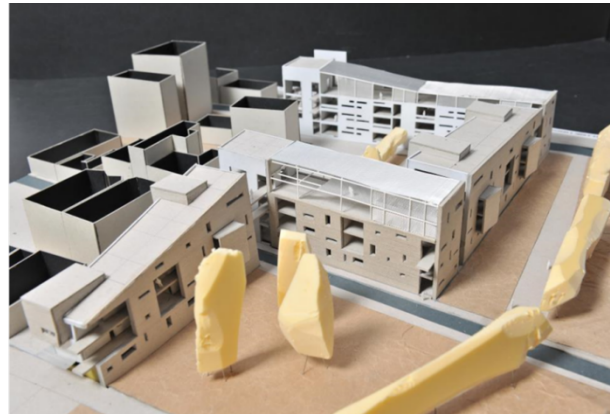
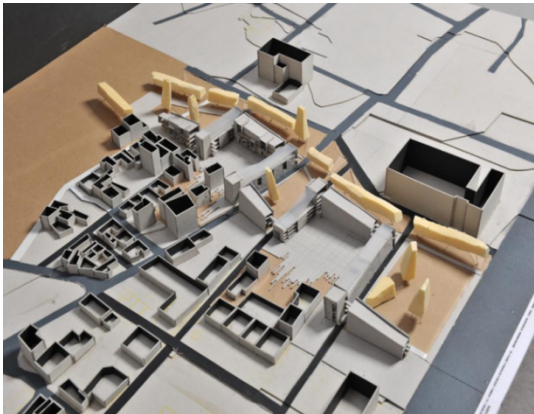
Img. 8: A diagrammatic explanation of the methodology proposed: abstract schematized forms (upper sketch) may be transformed into a composition of different vegetal species presenting different plantation volumes and colours. The same diagrammatic sketch could represent two building volumes, a blue and a yellow one (left and middle part of the sketch), associated with three chimney-like vertical red structures (right part of the sketch).

¹ Klathmonos Square in Athens. Pre-graduate project by K. Lambrou, A. Drivas, A. Lekou. Tutors: Prof. N. Belavillas, Prof. K. Moraitis, acad. year. 2012-2013.

In Image 9, we present analogous schematized approaches, concerning a building-oriented urban-scape design (on the left), and open-air landscape design using schematization of plantation elements (on the right). We may go on and present a combination, a combined compositional effect, a compositional synergy between hard building urban scape, and urban plantation. *Hard scape building formations and green-scape formations may be correlated and composed in an analogous schematized way [Image 10], as presented in the example of a 9th semester lesson concerning urban intervention at the territory of Plato's Academy.*



Img 9: Analogous schematized approaches applied in pre-graduate students' proposals in the School of Architecture at N.T.U.A. Building oriented design of “hard scape” composition (upper example – 7th and 8th semester lesson), and open-air landscape design using schematization of plantation elements (bottom example - 7th and 8th semester lesson).



Img. 10: Urban intervention at the territory of Plato's Academy – 9th semester, 2012-2013: Hard scape building formations and green scape formations are composed in an analogous schematized way. Moreover, the plantation's compositional contour duplicates and strengthens the compositional form of the buildings' structure. Proposal by pre-graduate students S. Anagnostopoulou, H. Ziova, A. Kyriakou. The lesson was organized by professors, H. Chaniotou, D. Isaias, V. Karvoutzi, K. Moraitis.



Img 11:Trans-thematic and trans-scale design approaches by Zaha Hadid and Zaha Hadid Architects. A sequence of design experiments on different scales of approach, indicating common design principles, a common expressive code of design response. Upper row from left to right - *The Peak Leisure Club* in Hong Kong, China (1983), *Landscape Formation One*, a garden pavilion, in the city of Weil am Rhein in Germany, (1999) and *The Masterplan of the City of Appur* in India (2008). Bottom row from left to right - *Stuart Weitzman Flagship Store*, Milan, Italy (2013) and *Celeste Necklace and Cuff*, designed for atelier Swarovski (2008).

Trans-thematic and trans-scale design approaches and their correlation with the conceptual and expressive procedure of “metaphor”

In reference *to landscape formations and topological folding forms*, Zaha Hadid Architects have presented an extended number of *trans-thematic and trans-scale design approaches* (Moraitis, 2019: p. 24). In accordance with this multi-thematic formal experimentation, we shall introduce the important methodological term “metaphor” as a possibility of inspiration, transcending different expressive structured systems. We strongly believe, this is a central theoretical statement of ours, that metaphor is not an expressive condition associated with literature and poetic approaches solely. It is not solely a figure of speech (de Man, 1978 & 1999) that, for rhetorical reasons, directly refers to one thing by mentioning another. In a much more extended connotational approach, metaphoric transcription may bring together concepts from different conceptual domains, from different domains of cultural expression and activity.

It is in the previous interpretative context that the French psychoanalyst Jacques Lacan, follows the definition of the term by the pioneer linguist and literary theorist Roman Jakobson, and accepts metaphor as the substitution of one signifier for another. We could thus identify metaphor “with the substitutive axis of language” (Evans, 1996: p. 114), and further explain that it provides a formula of the trans-conceptual and trans-expressive formation of individual cognition, as well as an important theoretical approach of the possible multiple reciprocal exchanges among different versions of the collective cultural activity. It is in the same context

that we could also describe our methodological didactic approach of abstraction and schematization, as a conscious or unconscious process that underlies our expressive compositional and design correlations and produces conscious or unconscious “metaphors” between different design topics. We could be even more radical in our theoretical statement and speak about conceptual exchanges between representational practices, theoretical influences and, even, general socio-political approaches. In the case of Renaissance garden art, a constitutive economic and political change, triggered a new approach of the agrarian economy escorted by an innovative apperception of the out-of-town landscape. It was in correlation with this cultural framework that the garden art asked for its formative inspiration in the architectural building design, creating the prototype of the “stanza garden,” a vegetal room-like structure without a roof; “stanza” being the Italian term for the room, the chamber². Analogous comments may be presented in association with the 17th Dutch apperception of the landscape or the formation of the 18th formation of the British landscape architecture.

A metaphor may thus create new links between otherwise distinct conceptual domains,³ between formal approaches of different expressive activities. For example, between landscape painting and landscape architectural compositional approaches, or, as in the case of Zaha Hadid Architects, among landscape formations, building design, urban design or even interior architecture and object design. Nevertheless, an even more important metaphor, in the case of Zaha Hadid Architects, correlates all those design approaches with topological mathematics. I refer to a central contemporary epistemological and cultural tendency, “epistemic” in Michel Foucault’s terms (Foucault, 1966, 1986 & 1994)⁴, which characterizes scientific and expressive design domains as well. In the case of Bernard Cache’s theoretical approach (Cache, 1983 & 1995) it correlates landscape perception and landscape design, with object and furniture design and, furthermore, with topological mathematics and their computational design application. An even more revealing metaphoric connection may refer to the theoretical intersection of the topological mathematical conception with the historic-philosophical concern of the Baroque 17th century, as epitomized by Gottfried Wilhelm Leibniz’s early topological anxiety. We may expand this theoretical approach, as presented by Gilles Deleuze in his book, *Fold. Leibniz and Baroque – Le Pli. Leibniz et le Baroque* in its initial French title (Deleuze, 1988, 1993 & 2004). We may additionally refer to the deliberate deformations of the earth bas-relief of the baroque gardens in order to produce the “trompe d’aeil” results of the illusionary perspective known as “anamorphosis” (Moraitis, 2017 & Moraitis, 2024: p. 89). Let us comment that the previous book constitutes a well-known reference for contemporary architects and landscape architects.

Three Projects of personal design involvement, correlating building structures with landscape formations

In reference to the concept of the folding forms that may create a structural continuity between earth surface and building envelope, we shall dare to present three analogous proposals, three projects in which we have participated in the past. They concern *a building imitating landscape formation* [Image 12], *the concept of the continuity of the earth surface on the building structure* [Image 13 and Image 14], *and an analogous landscape folding*

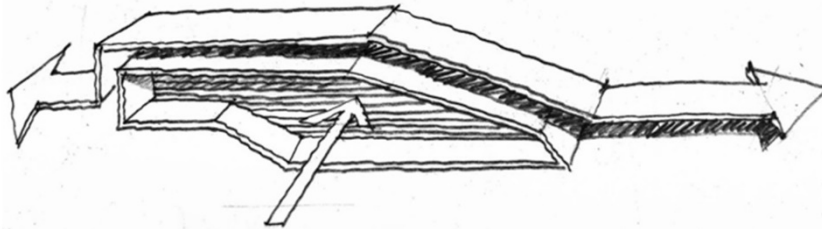
² It also refers, figuratively, to a self-contained part of a poem, including connected thoughts.

³ Whereas, another expressive correlative formation, “metonymy” relies on pre-existent links within such domains.

⁴ “Epistemic”, in reference to the term “épistémè”, used by Foucault to express not scientific approaches solely but, moreover, the general cultural conditions, which contribute to the formation of social expression and cognition or knowledge at a given historic period.

formation applied to a building approach as a continuity to the surrounding urban scape [Image 15].

The first project refers to the architectural proposal for the town hall for the municipality of Vocha, in Corinthia, Greece.⁵ The town hall, proposed to be constructed at the boundary of the built area of the town of Vocha, directs its principal façade towards an extended agricultural territory, planted with orange trees. Out of this landscape of arboreal delights, the earth's surface arises; it folds up in a horizontal direction to form the building shell. At the upper part of Image 12, a 3D aspect of the building is depicted, captured towards its principal façade. At the bottom part of the image, the idea of the schematized folding form, creating the building shell, is explained.



Img 12: A town hall of the municipality of Vocha, in Corinthia Greece – a proposal of a folding form, insisting on the concept of the continuity of the earth surface on a folded building structure, a building alleging that was conceived in continuity to the surrounding landscape.

The second project is presented in Image 13 and Image 14. It was proposed in the context of an international architectural competition,⁶ concerning the design of a building complex for the reception and information facilities provided for the visitors, at the territory of the Giants' Causeway in Ireland. We have to remind you that the Giant's Causeway,⁷ located in County Antrim on the north coast of Northern Ireland, is an area of forty thousand interlocking basalt columns, produced by an ancient volcanic fissure eruption. In association with this primordial volcanic earth bas-relief, the architects' design team decided that a building formation, would have to prove its respect to the identity of the exceptional Irish landscape. Thus, the reception and information complex for the visitors, was envisaged as a compound structure of two separate building wings, came forth from the surrounding terrain, their roofs described as planted surfaces.

⁵ Designed by the members of the architectural team "Arsis Architects" (A. Chelidoni, K. Moraitis, P. Nikolaidis), in 2001-2002.

⁶ Designed by architects S. Mavrommati, A. Moraiti, K. Moraitis, M. Voreakou, in 2005. The competition was organized under the auspices of U.I.A. (International Union of Architects)

⁷ In Irish, Clochán an Aifir.



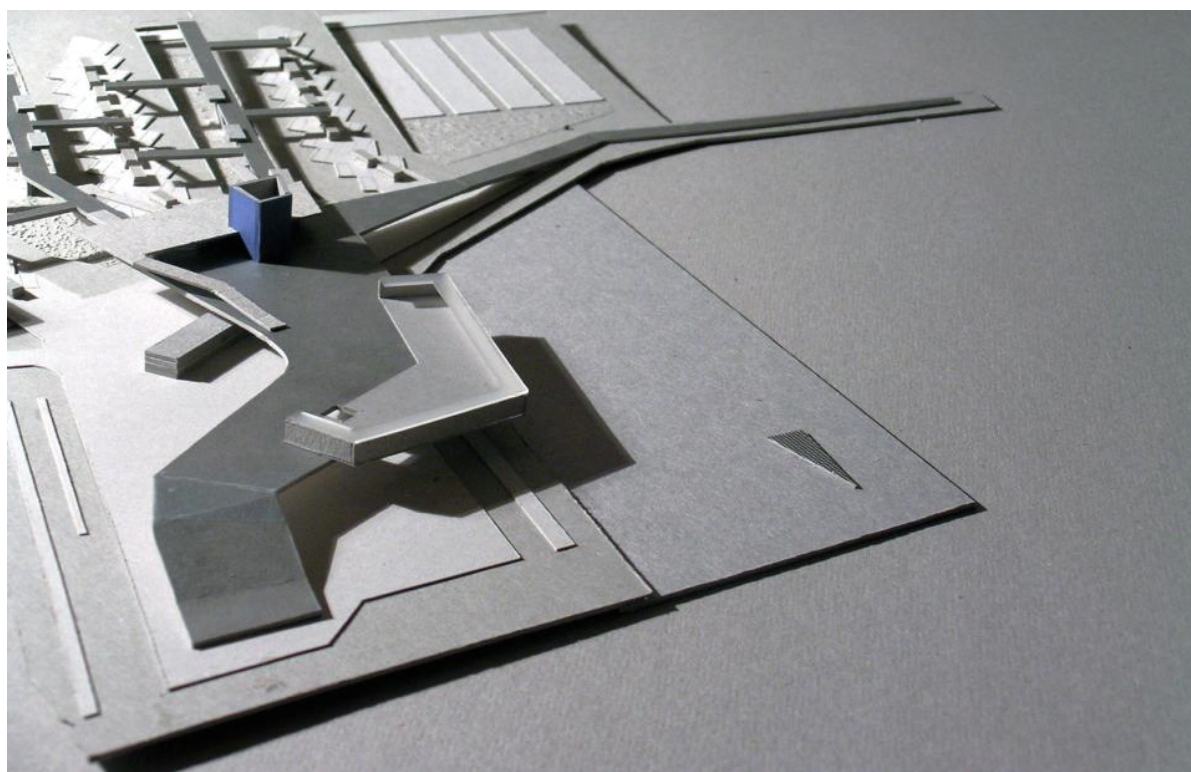
Img 13: Visitors' building for Giants' Causeway in Ireland; insisting on the concept of the continuity of the earth surface on the building structure. The roofs of the two separate building wings of the visitors' facilities complex were designed as planted surfaces, as parts of the surrounding landscape, as a continuity of the green surrounding terrain.

The third exemplary project is presented in Image 15. It refers to a building complex, proposed for the Intercity Bus Station at the territory of Eleonas in Athens, Greece.⁸

⁸ The version of the building complex presented is the result of a preparatory architectural study, produced in the context of a research program, organized by the School of Architecture of the National Technical University of Athens (N.T.U.A.) and the Hellenic Metro S.A. in 2003. The proposal was designed by the architects G. Tsolakis and K. Moraitis



Img. 14: The masterplan of the Giants' Causeway territory, where the visitors' facilities building for Giants' Causeway would be located. The two-wing building complex is indicated by a yellow arrow; it is veiled under its planted terraces and attempts to be assimilated in the surrounding green scape, presented as part of the landscape, as part of its bas-relief continuity.



Img 15: A landscape folding formation, analogous to the two previously presented exemplary projects, was applied to the proposal for a building complex, proposed for the Intercity Bus Station at the territory of Eleonas, in Athens. The complex is presented as the result of the detachment of two surface layers, coming out of the surrounding urban scape, in a way that would facilitate the continuous approach and circulation, on different levels, of vehicles and passengers.

Conclusive remarks: the contemporary reference to natural landscape as an extended expressive and “epistemic” metaphor transcending different cultural domains

According to the French mathematician, expert in topology (Thom, 1972 & 1975) and founder of the “Catastrophe Theory,” René Frédéric Thom, natural landscape may offer a satisfactory formal paradigm of reference for the description of the topological formations. *The landscape surface, the earth bas-relief under transformation, are they necessary as references to the continuous change of forms, to the “animate” forms* (Lynn, 1999)? Finally: *Is the form of landscape useful, as a visualized reference, in all research approaches interested in trans-formational and morphogenetic procedures?*

It is in this context that reference to natural landscape constitutes an extended expressive and “epistemic” metaphor transcending different cultural domains. Its correlation to building structures designed as “landscape formations” presents an analogous expressive example, important for our design interest, an expressive up-to-date example that, nevertheless, may be regarded as a current extension of our initial proposal concerning the common abstract schemes underlying building and landscape design. Common abstract schemes, which enable the expressive metaphors among building design, insist on the concepts of the topological transformation and the folding forms.

References

- Cache, B. (1983): *Terre Meuble*. Paris: Éd. HX. Engl. transl. (1995): *Earth Moves. The furnishing of Territories*. Cambridge: MIT Press.
- Deleuze, G. (1988): *Le pli. Leibniz et le Baroque*. Paris: Les éditions de Minuit. Engl. transl. (1993): *The fold. Leibniz and the Baroque*. Minneapolis: University of Minnesota Press. Greek transl. (2004): *Η Πτύχωση. Ο Λάμπνιτς και το Μπαρόκ*. Athens: Plethron edit.
- De Man, P. (1978): "The Epistemology of Metaphor". In, *Critical Inquiry* 5 (1): pp. 13 - 30. Greek transl. (1999): *Η Επιστημολογία της Μεταφοράς. Ανθρωπομορφισμός και Τρόπος στη Λυρική Ποίηση*. Athens: Agra edit.
- Evans, D. (1996): *An Introductory Dictionary of Lacanian Psychoanalysis*. New York: Routledge publ.
- Foucault, M. (1966): *Les Mots et les Choses. Une archéologie des sciences humaines*. Paris: Édit. Gallimard. Engl. transl. (1994): *The Order of Things: An Archaeology of the Human Sciences*. New York: Vintage publ. Greek transl. (1986): *Οι λέξεις και τα πράγματα. Μια αρχαιολογία των επιστημών του ανθρώπου*. Athens: Gnosi edit.
- Lynn, G. (1999): *Animate Form*. New York: Princeton Architectural Press.
- Moraitis, K. (2018): "Design of earth movement. Objects, buildings, environment conceived as landscape formations". In, Boundas, C. N. & Tentokali, V. (edit.) *Architectural and Urban Reflections after Deleuze and Guattari*. London: Rowman and Littlefield, pp. 163 – 178.
- Moraitis, K. (2019): "Informal Ethics, Ethics of Transformation: Political and Landscape Urbanity". In, Moraitis, K. & Rassia, S. (edit.): *Urban Ethics under Conditions of Crisis. Politics, Architecture, Landscape Sustainability and Multidisciplinary Engineering*. Singapore: World Scientific Publ., pp. 3 - 29.
- Moraitis, K. (2024): *Acteon's Marriage. Texts on Landscape, its cultural apperception and its design*. Published in Greek, under the title: *Ακταίωνος Γάμοι. Κείμενα για το Τοπίο, την Πολιτισμική του Προσέγγιση και τον Σχεδιασμό του*. Thessaloniki: Tziolas publications.
- Thom, R. (1972): *Stabilité structurelle et morphogénèse: Essai d'une théorie générale des modèles*. Engl. transl. (1975) *Structural Stability and Morphogenesis: An Outline of a General Theory of Models*. Massachusetts: V.A. Benjamin.

Images Attributions:

Image 1: Author's ownership.

Image 2: (FAL, A. Savin -

https://en.wikipedia.org/wiki/Neue_Nationalgalerie#/media/File:Berlin_Neue_Nationalgalerie_asv2021-11_img1.jpg – 3/15/2025), (CC BY 3.0, Ashley Pomeroy -

https://en.wikipedia.org/wiki/Barcelona_Pavilion#/media/File:The_Barcelona_Pavilion,_Barcelona,_2010.jpg – 3/15/2025).

Image 3: Sketches by the author.

Image 4: (Public Domain -

https://en.wikipedia.org/wiki/Immanuel_Kant#/media/File:Immanuel_Kant_portrait_c1790.jpg – 4/2/2025), (<https://allpsych.com/biographies/piaget/> - 4/2/2025), (Public Domain -

https://en.wikipedia.org/wiki/Friedrich_Fröbel#/media/File:Frederick-Froebel-Bardeen.jpeg – 4/2/2025), (<https://www.cabinetmagazine.org/issues/9/brosterman.php> - 6/1/2023).

Image 5 - Image 6: Sketches by the author.

Image 7: Author's ownership.

Image 8: Sketches by the author.

Image 9: Author's ownership.

Image 10: Author's ownership.

Image 11: (<https://www.nda.ac.uk/blog/theme-of-the-month-april-2016-dame-zaha-hadid/> - 9/24/2023), (<https://archichoong.blogspot.com/2010/09/land-formation-one.html> - 4/2/2025), (<https://gr.pinterest.com/pin/92534967314092250/> - 4/2/2025), (https://www.zaha-hadid.com/interior_design/stuart-weitzman-flagship-store/ - 4/2/2025), (<https://www.e-architect.com/products/celeste-neckpiece-swarovski> - 4/2/2025).

Image 12, Image 13, Image 14, Image 15: Images by the author.