On Style: Through Architectural Model

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ABSTRACT

Conceived as an agent to the spatial experience in the architectural design, style constitutes an important means of architectural modeling. Exceedingly the spatial organizations are tempted to be reached through three dimensional communicative tools such as free-hand sketches, technical drawings or by models. While approaching to design strategies via these techniques, a closer relation is emerged with the user or the reader, who as a "perceiving subject", gets involved into the three dimensional environment. "Through architectural model" tends to scrutinize the labeling of the modeled spaces under the grand set of style.

KEYWORDS: style, architectural model, representation mode, pradeigma

1   INTRODUCTION

Through a brief understanding of architectural models' significance as a representational tool and as a vehicle which endorses perception as a three dimensional representative, this research paper aims to study the generation of "the modeled design", and its probable promotion to the "modeled style architecture". Recently architectural scale models, either physical or digital, appear to have composed an important function not only in architectural educational but also in its professional medium. While finished models get used by many architects for presentations, competitions and exhibitions, sketch models are preferred as generative instruments during the design process.

The development of this study is outlined with attention paid to the historical role from Greek architectural models, Alberti, to the Bauhaus education and its reforms. The idea on that of this method of communication in architecture, which allows a unique way of approach to architectural end product and thus its relations leading to "modeled style space", will be supported by theoretical definitions of "style" by art critic Heinrich Wölfflin, art historian Ernst Gombrich and architectural historian James Ackerman. While trying to define the historical involvement of the architectural models I will refer to the architectural theorists Mark Morris' "Models: Architecture and the Miniature" and Albert C. Smith's "Architectural Models as Machines: a New View of Models from Antiquity to the Present Day" books.

2   REPRESENTATION MODE

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Architects developing new ideas apply different modes for transforming them into a physical medium. Drawings are the most widely used representational techniques. Because drawings cover a wide scalar range, they become indispensable from the beginning of the design process, from the conceptual maturation to the design's presentation by communicating all needed specifications. Among drawings, the orthographic set - plan, section and elevation - aim giving more technical information. These representational techniques are less clear for a layman project reader. Three dimensional drawings – orthographic projection, perspective and free hand – because of giving a closer image to the future building, communicate better with a "perceiving subject". Yet drawings, let it be two or three dimensional, are an instant abstract view of the project reduced on a two dimensional medium. This reduction of three dimensional medium into two dimensional representations does not always help in the configuration of the object as a whole.

According to the research made by Albert C. Smith, another mode appeared in the fourteenth century in Italy as a form of representation where architectural designs were represented through three dimensional crafting products - architectural scale models.[1] Smith goes further claiming that the Renaissance was the first period when architectural models were part of the design process and that models were made not only to develop the main ideas but also to explore the construction techniques. Brunelleschi's (1377-1446) cupola small scale models were used to solve problems not usually encountered by designers. For example, Brunelleschi built certain small scale models specifically in order to explain his vaulting technique.[2]

It seems that Renaissance introduced the architects with a new tool in order to manifest their artifact. While Heinrich Wölfflin (1864-1945) raises the discussion of universal forms of representation he distinguishes "the mode of perception which lies at the root of the representative arts in the various centuries" according to five conceptual tools.[3] According to Wölfflin, via these basic conceptual tools one can read the difference among two styles. The tools he uses are: development from linear to painterly, from plane to depth, from closed form to open form, from multiplicity to unity and the contrast from clarity to obscurity.[4] The differences that he captures and which accepts to be determinant, formulate units of style which, even Wölfflin carry them discharged from qualitative properties, are indicators of a "rational psychological process".[5]

Seen from this spectrum, it appears that the insertion of architectural model as a tool in representative art, certainly not in case during the Renaissance, may be conceived as an instrument revealed as the following step of the "rational psychological process", subsequent to the two dimensional drawing. It may be understood as a basic conceptual tool for the development from two- to three dimensional medium, from perspective to architectural model respectively. Again speaking in the terms of Wölfflin, the utilization of the architectural model may not imply a more qualified way to represent the architectural project, but it certainly may be a useful vehicle in approaching spatial and structural solutions. It should be stressed that if we accept the probable development to architectural model as a conceptual tool, according to Wölfflin categorization, we may claim that architectural models play an important role in promoting style. The development of architectural model may not be that pretentious such as to distinguish the Renaissance style from the Baroque, but I believe it can certainly carry the potentials to formulate a different way of conceptualizing and visualizing design as a problem, as a process and as an end product.

3   GREEK *PARADEIGMA*

"In its established usage, a paradigm is an accepted model or pattern, and that aspect of its meaning has enabled me, lacking a better word, to 'appropriate' paradigm here."[6] Thomas Kuhn, The Structure of Scientific Revolutions, p.23

Referring to paradigm definition as the scientific historian Thomas Kuhn (1922-1996) labels it, "an accepted model or pattern", charges the field of art history to raise arguments within its analytical realm. One of these arguments is related to the way how art historians and critics have been discussing on the

methods being used while defining and distinguishing style in time. In Kuhnian terms, Wölfflin's morphological distinction ends up being a "model" for the descriptive methods on defining style.

Referring to "model" Oxford Dictionary defines it as, model: in its first meaning as `a particular design or type of product`. Or, in its second meaning it is refereed as 'a description of a typology used for explaining how something works`.[7]

Interesting it is how this literal reference of paradigm composes a dual juxtaposition related to the Greek *Paradeigma*, a discovery of Greek architecture historian J.J. Coulton which is introduced by Albert C. Smith in his book "Architectural Model as a Machine". First, this connection consists, though in a widely reduced manner, in the usage of Greek *Paradeigma* as "an accepted model [or typology]" for following architectural applications. This type of relation is argued by Coulton. Second, if we narrow more Kuhn's definition of paradigm as "an accepted model", after learning that the Greek *Paradeigma* is an architectural model, interestingly we find this "model" word relation in both indications. Thus the architectural model turn out to be an accepted model, which according to Coulton, becomes a case lasting for centuries not only in Greek architecture but also in the Roman period.

Smith points to the relationship between Greek *Paradeigma* and the paradigm. Smith supports his idea by referring to Coulton who in his book *Ancient Greek Architects at Work* points out that rather than the design concern, the ancient Greek architects' aim was to develop eternally valid standards of form and proportion.[8] According to Coulton Greek architects themselves cultivated a deep respect for the past tradition and that is why he comes to a conclusion that ancient civilizations had a great effect on Greek architecture. Moreover, Coulton states that rather than design challenging, the Greek architects' concern was the imitation and the refinement in craftsmanship. So when starting a design the architect used full size specimens and mainly dealt with the refinement of details.[9] Because of such a method, claims Coulton, the utilization of architectural models was never found necessary in ancient Greek architecture. J.J. Coulton writes in *Ancient Greek Architects at Work*,

`*The general form of a Greek Temple was firmly established by convention and, therefore, needed no plan, while the ways in which one temple differed from others of the same period and area were subtle curvatures, slight variations in column sizes and spacing, small additional moldings in new places, and so on, and the effect of these could not be easily demonstrated or appreciated at a small scale, particularly when the necessarily equipment was far from the perfect. Scale drawings and scale models would, therefore, not be helpful. Indeed Greek architects normally used different proportions in buildings of different sizes and might well have found scale models positively misleading.*[10]

Architectural design small scale models were of little importance because the basic form of a Greek temple had been previously defined. Still there was a scale architectural model which was important to Greeks: the *paradeigma*. A *paradeigma* was a three dimensional architectural scale model being used as a sample to be studied and re-used by the architects. The *paradeigma* consisted of qualified spatial compositions such as *agora* and *stoae*, up to decorative elements such as *triglyphs* and *capitals*.[11] J.J. Coulton explains *paradeigma*,

`The use of full-size specimens in this way raises a question of the architect's responsibility for the design. There is evidence of specimens not made by the architect, but none of specimens made by him (as one might expect by him training a craftsman); since questions of detail are so important to Greek architecture, does this not mean that the craftsmen who made the specimens were the real designers?...The responsibility for supplying specimens was the architect's, however, and as the man in charge of construction he would naturally approve, or even initiate, innovations, although he might not impose his own local style on another area. At the least, the architect must have determined the dimensions, of the part in question, so that it would fit its place in the whole building.

With one exception references to a *paradeigma* before the Hellenistic period involve only a single element or detail…for the word 'paradeigman' does not carry the implications of small scale that model often carries in English, and there is no clear evidence that the concept of working to scale was current in Greece before the Hellenistic period`.[12]

Based on the Coulton's research we may argue that the non-utilization of architectural model has played an important role in the insistence of re-accepting, re-fining and re-using the traditional pattern for

centuries in the Classic period. It seems that the Greek *Paradeigma* constituted the spirit of the Classic style in architecture as it formed the constant three dimensional spatial characteristics of public spaces and buildings and let no place for innovation. Hence, if we have to apply Wölfflin's morphological distinction, or at least his "model", during these analyses while distinguishing styles, we may argue that the Greek *Paradeigma* as a typology has been determinant for the birth, inheritance and preservation of the Classic style. Meanwhile, style itself could be conceived as an agent to define paradigm. Thus we may set the boundaries or we can characterize the - "[over] accepted model or pattern"- , in this particular case, through the style which, in this particular case, is promoted due to the typological use of Greek *Paradeigma* architectural model.

Referring to style Meyer Schapiro defines it,

`*By style is meant the constant form—and sometimes the constant elements, qualities, and expression—in the art of an individual or a group.*

But style is, above all, a system of forms with a quality and a meaningful expression through which the responsibility of the artist and the broad outlook of a group are visible. It is also a vehicle of expression within the group, communicating and fixing certain values of religious, social, moral life through the emotional suggestiveness of forms. It is, besides, a common ground against which innovations and individuality of particular works may be measured. `[13]

It appears that working with the *paradeigma* prevented the Greeks to achieve the interaction between the model and the designer. The over accepted pattern of the *paradeigma* for centuries could be a confirmation of that. As a matter of fact the shallow interpretations of the *paradeigma* model promoted a style if we have to speak in Schapiro's terms. The *Zeitgeist* of the Greek civilization gives the impression to search for the constant qualities, elements, and expression. Whether the style created was a means of expression due to certain values of religion, social or moral life through the proportional refinement or decorative slenderness, as Schapiro pretends, we may not be sure of. But at this point it seems to me that the rupture among the designer and the model, experienced by the architectural model paradeigma, lead to the creation of a "modeled style expression or forms". An architectural system of expressive forms being produced and re-accepted over centuries by means of values derived from *paradeigma*. Even not in its most innovative way, we see that the model, as a design instrument, has played its determinant role in the constitution of, as Schapiro states, a system of forms with a quality and a meaningful expression - style.

4   ON PROMOTION OF STYLE

As it is observed, at least principally as a representational mode or at *paradeigma*, though as a non-innovative tool, it seems to be possible to reveal certain definition of style endorsed by model.

Based on works of and architecture theorist Mark Morris in "Architecture and the Miniature", as design instruments, it appears that models have had their rise and fall in different periods of architecture history.[14] Morris states that while the Egyptians were interested in only the model part, they believed that scale models could be used to magically control nature.[15] Meanwhile we observed through Coulton research that the classical Greeks did not take much use of architectural model as they 'respected' already traditionally defined designs. Albert Smith claims that in Middle Ages engineering became a tool to introduce models in the society as Vitruvius connects the concept of scale models with machinery. The treatise of Renaissance architect Alberti describe the renewed influence of scale models in defining the concept of the designer.[16] Interpreted differently in different periods, by innovative applications or not, or even not being applied at all, architectural models have composed can be considered as media able to contribute to the emergence of style in architectural contexts.

So far we examined the definition of style under the analysis of Wölfflin and Schapiro. Arguments have been raised related to the way how art historians and critics have been discussing on the methods being used while defining and distinguishing style in time. For example, Wölfflin's approach to define style is not confirmed by art historian Ernst Gombrich (1909-2001). In Gombrich words, by means of morphological distinction, Wölfflin creates *a* "model" in his analysis. A "model" of transition - from let's

say Classic Art to Baroque – which seemingly may introduce prospective roots to other related cases such as the comparisons between the Neo-Classical and the Modern Art.[17] This paradigmatic situation is sharply contested by Gombrich. He does not share the same belief that nature "could be represented as well in sharp pencil lines as in broad brushstrokes, in the plane and in the depth".[18] Wölfflin ignores the development of the later period art in accordance with the previous ones, by just showing it simply as a different way of representing nature. According to Gombrich this model of analysis creates a normative connotation, as he accuses Wölfflin's method of thinking in polarities to be very restricted. Gombrich argues that, the habit of describing a form in nature by using the terms 'less linear' raises the idea of a norm to which this form is 'less linear' or 'more painterly'.[19] This academic discussion could help us redefine style convergences created by the way model has found usage in different architectural periods.

Gombrich refers to style briefly as, `*Style is any distinctive and therefore recognizable way in which an act is performed or an artifact is made or ought to be performed and made.*`[20]

Although this is a very brief fragment from Gombrich consideration of style, I think it may help perceiving to distinguish it with other definitions. In order to have a better understanding of accepting "style as a distinctive way in which an act is performed" we may analyze the Renaissance architects and their relation with the models.

According to Smith's research architectural small-scale models and Italian architecture becomes a discursive agent when an argument regards the Renaissance. Smith states that the renaissance was the period when architectural models were part of the design process. Models were made not only to develop the main ideas but also to explore the construction techniques. Brunelleschi's (1377-1446) cupola small scale models were used to solve problems not usually encountered by designers, claims Smith. For example, Brunelleschi built certain small scale models specifically in order to explain his vaulting technique.[21] As stated by Smith Michelangelo (1475-1564) made clay architectural scale models in order to study the three dimensional effect of the building. During the design process he rarely made perspective drawings as he thought the viewer is always in a continuous movement, not standing statically at a certain point.[22]

The importance of architectural scale models and the encouragement to reach to the design through them is strongly sustained by Leone Battista Alberti (1404-1472), also known as the Renaissance man. Again in his research "Architectural Model as Machine", Smith points out Alberti's discussion on the necessity of architectural model in his treatise "On the Art of Building in Ten Books" where Alberti is mainly concerned with the patron architect dialogue. Regarded with the necessity of model, which Alberti continuously holds, he relates a story from ancient Rome.[23]

`*Suetonius tells us that Julius Caesar completely demolished a house on his estate at Nemi because it did not totally meet with his approval although he had begun it from the foundation and had it finished at vast expense. In this he deserves censure even from us, descendants, either for his failure to take sufficient prior account of the relevant considerations, or perhaps for his fickleness, which allowed him to dislike an executed building, although it had been correctly constructed.*

For this reason I will always commend the time honored custom, practiced by the best builders, of preparing not only drawings or sketches but also models of wood or any other materials.`[24]

In this citation Alberti differently from Vitruvius values the importance of the architectural model for in terms of architect builder rather than architect design. He states that models would have been more easily perceived by the patrons such as Caesar in order to transmit a clearer image for the future building. Besides being a defender of the model as representational instrument, Alberti is considered as the earliest advocate of the model as a design tool. "This use of the small scale model was not new, as Alberti states, since the small scale model was used during the Gothic period. The difference was that architects were again given freedom of interpretation, by changing philosophical standards of the period. Ideas developed through scale models were not so strictly controlled by the organization of the church or the guilds as they had been during the Gothic period."[25] It appears that the architects of the Renaissance period were donated this new freedom to interpret the divine message by architectural models. In a way interpretation shifts lead to unique or "distinctive and recognizable way" if we speak in terms of Schapiro. Due to this shift in interpretation model constituted an important role in spatial and structural design. This distinctive

way of interpretation may give a clue to understand the change in style with reference to the ancient Greek period.

`The Renaissance is the period when architects set the stage for our current relationship with the architectural models` states Smith at Architecture Model as Machine.

The context where freedom in interpretation developed became a tool, and it looks like the renaissance architects used that tool in different ways. Thus several different categories of models have been discussed. While Alberti used models to discuss design Michelangelo used them to challenge the structural design. Whereas Filarete and Brunelleschi, advocated the presentation model where among them should be added also Michelangelo's first model of St. Peter's to gain the pope's approval. Further, models of details, either scaled or full size were used during construction.[26]

Renaissance architects were the first to achieve a place under the set of style through architectural model. Ackerman cites "the technique or the process by which matter is given form [can be defined as style]"[27]. Via architectural models Renaissance architects managed to promote style in unique presentation methods, design processes and construction techniques. The technique Michelangelo used and the process Alberti developed seems to have promoted not only a style but the set of a pattern for change in styles for the following artists.

5   PERCEPTION PROMOTING DEVICE

As a mode of representation, architectural model due to its three dimensional qualities creates a direct impact on human perception. This impact is achieved via different means, which compose the components of a model. In its morphology, an architectural model may not only carry a future building character, but it may also be regarded as a medium of spatial expression, as a result attributable to unique construction technique or as a perception promoting device. Considered as a medium where spatial qualities are manifested, the model manages to transmit to the reader the complexity of the project. It can achieve this transmission by the instant appearance of three main architectural drawing set: plan, section and elevation. Seen as a product due to construction technique, the model may put the reader of the project one step further in order to juxtapose the already possessed knowledge with the new coming details of the future building. Furthermore, it may also give information related with the context and the preference of those new details in that context.

While these two characters of the model seem to bear a didactic way of communicating with the reader, the third one, the model accepted as a perception promoting device, attempts to generate an interactive way of communication between the model and the reader. The visual "contact" with the model of a project may help the reader as a "perceiving subject" to have a different understanding of the object. Due to this unique understanding the reader as a subject may go further on developing its perception by contributing to the solution of problems that the new image created by the model may need. Thus the subject reader is not only as such, but becomes a designer in the backstage. We may clarify this, if we may call it assumption, by examining a concrete example. As this interactive relation, among the model as an object and reader as a subject, leads to developing results we should take into consideration examples belonging at close periods of time. Examples from the same architect Le Corbusier's Villa Savoye and Villa Le Schwob could be a helpful comparison. Although these buildings are made in a relatively close period of time to each other and by the same architect, their morphological languages differ in many aspects. Once one becomes part of a visual communicative environment with Villa Savoye's model, once perceiving its aesthetic features and spatial values, one would settle default values that would not easily accept the mentioned features at Villa Le Schwob. The model's contribution would be, thus, to the subject reader and make him part of a process.   One's perception start acting not only as receiver but also as supplier, acting as a contributor due to the dialogue with the three dimensional data. In this aspect models may be named as a device of promoting perception skills.

`In the study of arts, works – not institutions or people – are the primary data; in them we must find certain characteristics that are more or less stable, in the sense that they appear in other products of the same artist(s), era or locale, and flexible, in the sense that they change according to a definable pattern when observed in instances chosen from sufficiently extensive spans of time or of geographical distance. A distinguishable ensemble of such characteristics we call a style.[28]

Accepting models as the tool and including the designer as the perceiving and supplying actor in the process of design provides us with two interdependent variables. According to this interactive method of working in the design process, not only the work but also the designer becomes the primary data. If this technique finds application in a broader context it could define a pattern where, because of the variables, it can change in extensive spans of time or geographical distances. The piece of art created could promote what James Ackerman calls, a style. In this sense I believe that the interactive method would fulfill also Ackerman's stress on the individual work of art while examining the creative process.

I would like to illustrate this part of this research paper by giving brief information related to the role of architectural model in two subsequent, but opposed architectural educational systems, Ecole des Beaux-Arts and the Bauhaus. I think the methods and the structures of these schools have played an indispensable role in the constructing a background that permits the formation, preservation and change in style. While making trying to explore the divergences that the two schools revealed I will refer to the work of Marc Morris "Architecture and the Miniature*".*

6   "FRENCH *PARADEIGMA*"

Based on Morris' research, the Albertian project of reaching to design through modeling appears to be unfinished until the twentieth century. Renaissance principles held on interpreted but the struggles of Vitruvius, Michelangelo's working methods and above all Alberti's preachment on the spatial qualities that are gained through architectural modeling and the results of its end product seem to be rejected by the most prestigious academic institution L'Ecole des Beaux-Arts during the High Renaissance period, as is stated by Morris. The Academy of Paris came as e result of the merge of The Académie Royale de Peinture et de Sculpture and the Académie Royal d'Architecture.[29] Its standards had set its hegemony in Europe. As models did not take part in these standards, according to the academy drawings and especially perspective, were the indispensable tools for architectural representation.[30] Alberti and friends' mission started to get realized with the emerge of the German revolutionary school, Bauhaus. Mark Morris in "Architecture and the Miniature*"* points out a note of Colin Rowe considering these two poles that shaped architectural representative norms for decades.

`According to present critical patterns the first influence is now condemned and the second is identified with the Enlightenment and progress. In the general understanding the first is associated with a derivative classicism and the second with the authentic tradition of modern architecture. Such an interpretation should not impede an analysis of their respective merits.[31]

According to Morris although the two opposed pedagogical systems have had different curricula, the architectural schools of the twentieth century managed to meld these to two systems. The best example is the architectural system applied in Anglo-American schools which is an invention drawn from aristocratic French and innovative German basis.[22] Yet such an integration had to wait for more than two hundred years where the French Academy ruled architectural training. Moreover he argues that based on Renaissance ideals the idea of Ecole des Beaux-Arts was to set up a medieval system including disciplines such as architecture, painting and sculpture. Interesting is the fact that the architectural models which found the most active advocates during the Renaissance period came to be ignored in a system founded on principles of this epoch.

Consequently Alberti's, Michelangelo's and Brunelleschi's, the Renaissance men's, passion on the developing of new products based on architectural models' implementation in the design, got disregarded by L'Ecole. Thus the academy forced a pressure to detach the architect from the dirtiness that caused craftsmanship of model making and construction techniques, states Morris. The ideal representation could

only be transmitted through two dimensional drawings, and the professionals' - the architects' - environment could only be as pure as a painting studio.[32]

However, the blind belief of L'Ecole des Beaux-Arts that there exists only one truth, as Morris observes, and that could only be represented by Neoclassic elements - columns, cornices, pediments – had to face with the requirements of the late nineteenth century buildings. Morris continues, "Because Greco-Romanism had its roots on refinement rather than experimentation, it hardly could give solutions to railway or factory designs. Due to the Neoclassicism fidelity, the need for spatial invention and decorative challenge was never felt and as a result the need for a model was never perceived".[33] Neglecting the architectural model, identifying the Renaissance with the drawing and the model making with the sculpture brought the academy to an unavoidable or maybe desirable disassociation resulting in professional elitism.[24]

7   THE REVOLUTION

In the post World War I years, L'Ecole des Beaux-Arts in Paris reached its highest international influence.[25] In the meantime in Germany, due to structural system variation the situation grew differently. Unlike in France, as Rosemarie Haag Bletter notes meticulously in the introduction of Adolf Behne's "The Modern Functional Building", "in Germany the struggle for control between the older and the newer academies was not change by the fiat of a powerful monarch. Debates about the respective merit of each continued into early 1920s and the beginning years of the Bauhaus, when the school vacillated between being a lodge for artisans and an elite academy turning out designers for industry." [25]

Bauhaus was founded by Walter Gropius (1883-1969) in 1919 in the emerging Weimar Republic. Gropius who was persuaded by Henri van de Velde (1863-1957) to take over the Weimar School of Arts and Crafts, along with the Academy of Fine Arts established Bauhaus.[25] Gropius himself, the Swiss architect Hennes Meyer (1889-1954) and Ludwig Mies van der Rohe (1886-1969) were the first respectively directed the innovative architectural school till 1933 when it was closed by the Nazi regime. From the start architectural model became part of the revolutionary foundation manifesto.[26] Morris notes a statement of Gropius from "The New Architecture and Bauhaus",

`*The tool of the spirit of yesterday was the 'academy'. Academic training, however, brought about the development of a great proletariat destined to social misery. But the academy was too firmly established: practical training never advanced beyond dilettantism, and rendered 'design' remained in the foreground…*

The hand masters matter through the crafts, and with the help of tools and machinery. Conception and visualization are always simultaneous. Intellectual education runs parallel to manual training. Instruction in the theory of form is carried on in close contact with the manual training. `[27]

As stated by Morris, product design became a main concern at the Bauhaus foundation which was applied to architecture as a matter of course. Crafting models were assigned half of the time, claims Morris, and an innovation of the Bauhaus included partnership with industry and production of prototype objects which were all creations made through scale models. "Lastly, there was the concept of the model as offered by [the Swiss expressionist designer, Johannes] Itten [1888-1967] as a vehicle for pure creativity. This type of model hovered between the sculptural and the architectural, much like the *Prouns* of [the Jewish Russia born constructivist architect] El Lissitzky [1890-1941] who urged, 'Don't Read! Take papers, blocks, wood pieces; build, paint, construct!'."[28] Though to its fourteen short life span Bauhaus is mentioned as the most important design school of the twentieth century. The two- and three-dimensional output: graphic work, product design and models and the invention of *Vorkurs,* a workshop method, constituted in the worldwide celebration of the school.[29]

In his research Morris maintains that, yet Bauhaus fame and influence was not only a result of internal developments. A series of events and architectural activists contributed in other parts of Europe and the United States to inherit Bauhaus principles and course methods. The settlement of Gropius at Harvard and of Mies at Armour Institute, later to become Illinois Institute of Technology (IIT), were the

meaningful steps to document Bauhaus methods to a larger world. Last but not least should be considered the efforts of Philip Johnson (1905-2005), the director of the Department of Architecture at the Museum of Modern Art in New York, who endorsed Mies and the Bauhaus in the States through exhibitions and catalogues.[30] Hence the academic influence in the United States was carried by Harvard, IIT and Black Mountain College where emerged the *Vorkurs* design lab, focused on structural transformation with folding and cutting resulting in free form sculpture, structures and models, methods practiced by Johnson inserted Bauhaus staff, Josef and Anni Albers.[31]

`*The peculiar nature of the work of the Ecole was ostensibly the grounds for protest by the founding fathers of the Modern Movement: for instance Le Corbusier's response to the invitation to teach at the Ecole des Beaux-Arts was to say that the whole institution should be razed to the ground and salt sprinkled on the site as a ritual purification!*`[32]

Bauhaus staffed schools strived tirelessly to complete the Albertian project, but still the scale models of an architectural idea rarely were used to be generated throughout the design process, states Morris. In 1969 sparks of change were seen with the opening of MoMA exhibition again organized by Philip Johnson. The exhibitions actors were five architects and their works – Peter Eisenman, Michael Graves, Charles Gwathmey, John Hejduk and Richard Meier – selected by Johnson as representatives of Modernism strain. The exhibition was broadly successful and ended with the publication of the book *Five Architects* in 1975. "The year after "Five Architects*"* was published, Eisenman organized (with Johnson's blessing) 'Idea as Model' as part of the Institute for Architecture and Urban Studies, the first exhibition solely devoted to the scale model as an index of process and a site for theoretical inquiry."[33]

Morris ends its argument by claiming that, Bauhaus concepts can be said to have generated Modernism's roots in architecture. The products which were developed and ended by those principles were gathered under the same set which after the MoMA exhibition of 1932 Johnson defined it as "International Style".[34]

8   CONCLUSION

Many researchers have created discussions related to the set that covered these end products. Recently Modernism is discussed as not even a style but rather is perceived as a discourse by Sara W. Goldhaagen.[35] However, this research paper does not aim the involvement in such arguments. Rather, it has a tendency to investigate the attachment of models as a tool in the promotion of style and it seems that the Bauhaus methods gave way to produce the being of a style. Models constituted the major role in these methods. Via *Vorkurs* working means the model was not only "a tool of communication", but also "an aesthetic object"[35]. Bauhaus knew how to benefit from the interactive process between designer and the model. It achieved to use the model as a tool to solve design problems, to challenge construction techniques by elaborating also aesthetical values. Just like the Renaissance masters had preached for. The model was used to arrive at formalistic solution as vehicle. The implication of the models constituted the required forces for the formation of a change process in style. Ackerman defines the process of change in style as "[w]hat is called evolution in the arts should not be regarded as a succession of steps towards a solution to given problem, but as a succession of steps away from one or more original statements of a problem."[36]

At this point, I believe that designing through models exalts what Ackerman refers at evolution in arts. The models have composed not only the solutions to given problems, but also have been fundamental on stating more original problems. The Greek *Paradeigma* failed to define patterns for the definition of new problems due to the accepting of the already defined spatial exemplar. Renaissance masters were aware of this key and managed to infiltrate it in their works. Though they did not predict the following ignorance to this program of originality, they succeeded in settling the basis of such steps on how to re-define solution-problem issue in the artifacts. Modernism applauded the project and developed it even further by inserting conceptual means to an already well defined index. Due to this well defined index architectural models could be seen as agent in order to define spatial relations. Design through

modeling could be used as a means of exploring conceptual diagrams, as a device to solve structural solution and reveal functional relations. Through architectural models and Bauhaus methods we may detect "modeled architecture", which carries potentials to promote a style. That distinctive way of producing architecture through models, could be called "modeled style architecture".

9   ACKNOWLEDGEMENTS

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