

CONTEMPORARY DETAIL IN ZOOM-IN-ZOOM-OUT TECHNIQUE: GOD AND SCALE

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Abstract. *Considering both the visual and narrative character of architectural discourse it is possible to examine the capacity of a drawing as an autonomous form, but also as one assigned to it throughout the course of creation of new architecture. This paper's intent is to examine the place and the role of the architectural drawing of the detail within design research. Thematically different, the narratives are instruments used for creating a relationship between the project as a whole and its parts, while the detail defines the path from an idea to the realization of architecture, that is, from abstraction to concretization within the above-mentioned process. The notion of scalar imagination has been introduced in order to indicate the relationship between the traditional modernist understanding of the roles of detail and scale have, while the question of the real size of designed architecture has been moved aside. The scalar imagination reveals the relationships between the elements of architecture, while its visibility reveals the architect's ability to build the necessary information network while moving throughout the diverse levels of those relationships. The goal is to avoid vagueness of architecture represented by the drawing and favor the polyvalence of its meaning by presenting concrete information. In that sense, for the benefit of achieving clarity within the methodological approach, we researched the conditions of visibility within the relationship between the drawing and its meaning. Therefore, this paper focuses on the scale as a direct connection between the drawing of the detail and the continuity of the idea of architecture.*

Key words: *detail, Mies van der Rohe, scalar imagination, distance*

1. INTRODUCTION

The architectural drawing, according to Paul Emmons, represents the means through which we create and control the inferiority of our surroundings. Contrary to that, the

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purpose lies within the places superior to us. (Emmons, 2005) Just as in architectural design in general, that means creating something that does not yet exist, or at least understanding an existing notion in a new or a changed context.

2. TRANSLATION BY DRAWING

The architectural projection can be interpreted as a result in the process of continuous translation of reality, very similar to the one in linguistics. The relationship between architecture and language was more thoroughly determined in the 20th century, particularly in the sixties and seventies, when structuralism heavily influenced its redefinition. Moreover, it initialized the changes within architectural practice which resulted firstly in the deconstruction of the meaning and subsequently of the form. According to Robin Evans (1997), to translate is to convey meaning with minimal alterations. He called this process "the translatory motion", leaving an open possibility for something new, a new action. However, the problem in language translation is that it is often impossible to identically convey the meaning of certain notions or words from one language to another, which influences a loss in continuity of the meaning. A similar problem occurs in architecture, especially if we consider the relationship between the drawing and the completed architectural design. Only by assuming its unconditional and pure state, combined with the objective conditions that dominate the beginning of the translatory process, can any precise knowledge about "the patterns of deviation" be obtained (Evans, 1997). The drawing itself, that is, the idea to represent a future architectural state through a drawing, has its powers as a medium often determined in relation to the similarity, preciseness, clarity and distinctness it projects to the object of its representation. Thanks to the visual and artistic character of architecture, it is possible to understand the individual capacity of the drawing, but also the one assigned to it within the process of creating an architecture. Even though it is often pointed out as a self-created obstacle, it is a fact or a paradox that the task of architectural design is to conduct the transformation of the material reality by actualizing itself through the virtual media. It seems like that is an indirect way of actualization. In most cases, it is precisely the drawing that appears to be the document of projection in the relationships between the architect, the imagined object and the idea of its future realization. However, this does not exclude certain narratives which can follow that process, as well as the narratives in the form of a drawing which is tangential to the process itself throughout its entire course. Preliminary sketches and working models focus the attention on the task at hand, and therefore contribute to the further development of the design process. However, according to Evans, the difference between the drawing as a medium on one hand, and the sketches and models on the other, lies precisely in the process of the development and the formulation of an idea. The architectural drawing has an informative role, it must possess all the necessary information, which must show a complete determination, and be precise and formally rounded (including the above-mentioned patterns of deviation), in order to consider the beginning of the finalization of what was before a mere architectural projection. Based on their role in the design process and in relation to the method applied in the process of their creation, the architectural drawings can be generally divided into the following three groups:

- a) Sections / analytical drawings / horizontal and vertical plans
- b) Elevations / synthetic drawings / axonometric and perspective drawings
- c) Diagrams / generic drawings / programmatic, spatial and formal schematics

The analyses mean, above all, moving through the diverse scales of a project. That way analytical drawings, with added scale, become sections of the same projection from different positions. The selection of these positions relates directly to the survival, or else the consistency, of architecture in the future. The goal is to penetrate the content of the architectural projection and to move forward towards its reality. Therefore, the closer we are to the details, the closer we are to the truth: "The architecture is a great product of imagination based on the truth in the detail." (Maekawa, 1985, *Cosmos and Method*). There is a dominant holistic approach in architectural theory and practice that considers parts to be subordinate to the whole and claims that every architectural detail by default carries the dominant idea within. If that is really the case, then a mere connection of an idea with the actual measurements of the physical reality embodies a series of relationships which must be defined in advance, so that the process of their realization can begin. The direct medium used at the beginning of that realization is the architectural drawing either through internal comparison, the creation of hierarchy, or the selection and display of details. It is the representation through drawing that leads to the final concretization of an idea, more specifically, through the constitution of stable capacities, decisions about graphic representations, constructive and spatial conditions and precise differentiation.

In the process of formation of the drawings, the synthesis appears as the unifying instrument for the analytical and the narrative parts of a project. As the most concrete representation of a whole in relation to the architectural spatial reality, synthetic drawings do not contain scaling as a methodological necessity. That is because their relation to space is not a result of spatial control, but on the contrary, their concrete and abstract potential is being exhausted within the spatial effect:

"Conceptual space lies between the eye and the hand, and is in continuous negotiation and movement in which there is an exchange between sight and touch." (Wingham, 2013, *The Mediating lines*).

In this case, the presentation technique becomes subordinate to the spatiality of the synthetic drawing and at the expense of the project's actual spatiality. The generic drawings are positioned between the analytical and the synthetic drawing in the form of direct relation, as well as in the relation itself. Their materiality is consumed through self-representation, regardless of whether they formally appear as dimensional drawings or as schemes in which dimensions are stretched in order to enhance clarity of the represented relationship.

They represent a coordinating system of a sort within the project as they contain its semantics, programmatic and spatial framework. That is why the formal character of a drawing can be taken as a generic basis, if and when necessary, regardless of the final outcome in the process of architectural design and realization: "This abstract machine is defined by its functioning in unformed matter, as a series of processes that are neither mechanical nor organic." (Eisenman, 1999, *Diagram Diaries*) „The task here is to attribute architectural properties to the diagram introducing parameters of material, program, and context" (Vyzoviti, 2009, *Transition 4*).

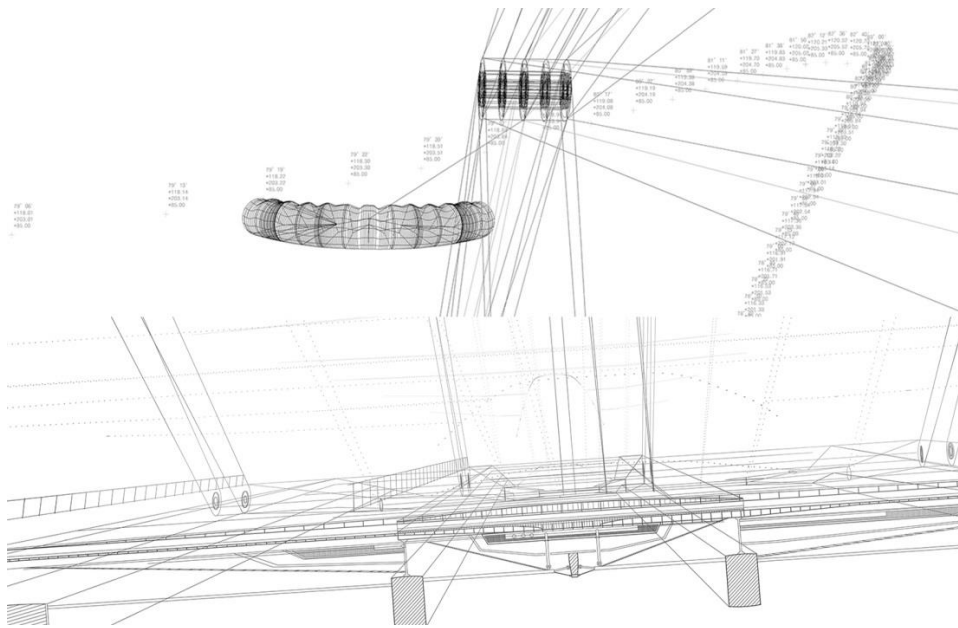


Fig. 1 An applied method.

Miloš Kostić. Zero Gravity. Belgrade 2100: Dream Apartment. M5 Studio Project.

UBAF, 2013, mentor: V. Milenković, PhD Arch, associate prof. / Within that context, the skill of architectural design includes in principle the simultaneousness of similar and different program and spatial sequences and it perfects itself through intervention within free or else natural or else artificial or else digital space defined by the time distance from current real to the current virtual world of (our) everyday life.

3. SCALAR IMAGINATION

The association between the idea of a space and the actual measurements of physical reality is achieved through internal comparison of the details, establishment of hierarchy among them, their assortment and presentation. The quality and the precision in representations of details are directly proportional to the difference in size that separates us from it. Based on a sense of control, which has to be involved, we build a controlled closeness with the subject of the work. The control is then considered to be the means of operation, not the final goal. Therefore, drawings can be seen as singular sets of information required to form a complete idea about the object of architecture. According to Susan Hedges the drawing points directly to flows and processes of thought, so she defines them as "tangible suppositions" (2009). The tangibility of a design process does not necessarily illustrate only empirically based methods through the drawing, but also those which rely on intuition and imagination as the intangible dimensions of thought. Therefore, the drawing becomes a material recording - a proof or an instrument of the most direct way of architecture translated into a direct experience. Since the architecture must show nothing but the representation of itself in reality, the scale becomes an

important instrument for building a relationship between that representation and the material world.

Methodologically speaking, it is possible to move through a project horizontally and vertically. The horizontal motion implies the definition of positions which contain its selected projections. Location and information condition each other and become a part of a sequence through which we reach continuity of a project. That sequence most closely resembles a mathematical function, while the visual capacity is to be interpreted within the architectural discourse. On the other hand, the vertical motion, which is very important for the purpose of this research, connects the different levels of a project by changing the scale within the process that is already simultaneous in its nature. The result is found in a comparison of different values while the change of scale proves the possibility of their coordination. So what the scale represents here is an instrument of control in design, so that the continuity of relationship between the whole and the detail becomes its goal. Both the added and the predetermined narrative, when considered separately from the notion of scale, point only to the visibility of the space in which the detail's value can be evidenced, while the association with the idea is achieved through the detail's drawing in scale. Scalar imagination consists of the following components:

- a) line, which relates directly to the representation of space, then
- b) scale, which controls the space and
- c) narrative, which is embedded in the form of spatial content

The representation of space in visual arts has experienced radical changes with the introduction of linear perspective in the renaissance. The infinity, where all the lines constituting spatial relations – converge, redefined the notion of line by adding to it the idea of movement (Wingham, 2013). A part of its endless (virtual) extension is actualized through the materiality of the object it defines. With the development of analytical geometry and the idea that parallel lines intersect at one infinite dot, the idea that each body could be represented by a line plexus is born. That is where the actual difference between an architectural drawing and the one in visual arts lies. Each drawing which contains certain spatial transformations within the reality it represents can be defined as the architectural drawing, regardless of its visual capacities.

The lines build spatial plexuses as they move towards infinity, thus they become instruments for representation of this 'other' reality, incorporated in the drawing. If we try to understand the line in terms of linguistics, then it corresponds to a word, whose spatial, that is, semantic potential depends on the interaction with other words, or in our case with other lines. The line can be defined as the oldest architectural convention, because it embodies both accuracy and immateriality at the same time.

The term 'scale' has its etymological origin in the Latin word *scalae* which means stairs, ladder or movement. In a contemporary context, the notion of scale can be defined as a system of linked measurements which determine the size, the length or the distance ratio. The scale represents the key factor for overcoming the limited accuracy of a drawing, and, as pointed out by Hedges, for "understanding the drawn worlds". The architectural drawing can be understood through scale as a reduced representation of actual architecture, with a generally stable relationship with reality. Once determined, the scale simultaneously defines the relationship between the idea, its realization and the future size of architecture, but also the context to which it belongs and through which it is being perceived. In this way, the scalar imagination also becomes the ability of an

architect to understand space by positioning himself within that space, regardless of the scale through which it is displayed. Therefore, the scale becomes "an invitation to inhabit the drawing", that is - the announcement of its future occupancy. The closer we get to the detailed representation of the drawing, the closer we are to "capturing" it. Architectural drawings are transforming into a means through which the architecture builds its future strategy for the capture of space, thus solving the problem it carries within. The notion of scalar imagination can be interpreted as the reverse of the interpretations made by Susan Stuart based on the scalarity of imagination and of Paul Emmons based on the (empathic) bodily projection. These interpretations are largely based on the principles of humanism and according to them man represents the ultimate measure of space. Le Corbusier's Harmonic measure to the human scale, universally applicable to architecture and mechanics (Modulor) points out the requirement to overcome the conventionality of both the metric system and its opposed local measurement systems. The purpose of criticism of abstract mathematical conventions was to point out the lack of human scale in architecture as a technical means of introducing order, between the signifier and the signified. Le Corbusier uses the drawing to directly measure space by experimenting with a four-meter scale on the wall of his atelier. Unlike him, Mies van der Rohe uses an object (of his imagination), a steel I-beam he held on his desk for understanding the reality of a projection, more specifically, the Seagram building. He moves further into the process of translation of reality by "continuously drawing" the linearity of spatial details to the extent of rendering it invisible. While Le Corbusier's space is physically scalar, Mies's is designed as such.

If scale is considered to be a process of constructing relationships between architectural elements, and between architecture and its assigned context (for example, the table where Mies kept his steel I-beam), then scalar imagination can be understood as the ability of an architect to build a complex network of information by moving through the diverse levels of those relationships. The information network is used as a more detailed description of the space - it represents an instrumentalisation of the desired control of its projection. In that way the scale, regardless of its precision and conventionality, also implies the capacity of imagination. The goal is to achieve a simple (almost literal) exchange of information between different levels of architectural representations as well as for them to become comprehensive (Tab. 2). The architectural drawing also uses conventional elements, such as lines, dimensions, description, etc. which all influence the level of precision in a spatial representation. The scalar imagination is, therefore, a prerequisite for building a relationship between the whole and its details, between the idea of architecture and the architecture itself and between imagination and reality: „Scaling of an idea can reveal the clarity needed for the idea to move into the built world.” (Hedges, 2009). The adoption of scale is directly connected to the selection of information to be presented. A unique synopsis of the architectural drawing is created based on that information, and the creative intention becomes visible through that synopsis. The relationship between the narrative and the spatial content can be defined dually. The basic difference between the definitions is that according to one the narrative is the result of applied actions, while according to the other it appears as the outcome of an already completed process of an assignment of meaning to architecture. Considering that on this occasion the research focuses on the projection of architecture, the spatial content that assigns meaning to the detail is at the same time the proof of the finished analytical

process between the abstracted reality and the frame which articulates the space for the narrative description.

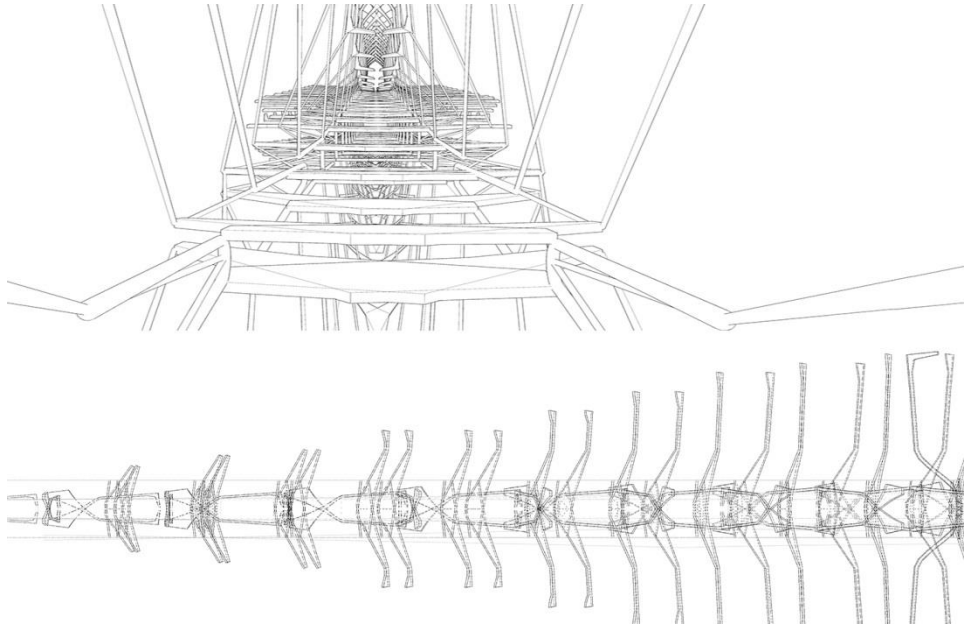


Fig. 2 The place of scaling.

Miloš Kostić. Alter Horizon. Almost Transparent Blue: Hotel Belgrade on the Coast. M9 Master Project. UBAF, 2014. Panel: V. Milenković, PhD Arch, associate prof., mentor, V. Đokić, PhD Arch, professor, B. Sudimac, MSc Arch, assistant prof. / The instability of the contemporary architectural professional field engages a variety of design principles that, in this project, range from a fully aesthetic autonomy of its formal appearance to an erasure of authentic domains of its physical outlines, set of different elements and their contextual relations / <https://almostblue.alloyou.net/2572459/alter-horizon>

The projection of architecture, understood as a translation by drawing, is not a one-way process of transferring ideas into the material world. The bidirectionality of translation in architectural design is achieved by reduction of its meaning both in the direction of the material reality and vice versa. Ontologically speaking, the selection of constitutive ideas about architecture is indirectly achieved by focusing on the meaning through the drawing. In relation to translation, the abstraction represents a way of understanding architecture on a formal level, by dealing with the question of its own form, as well as its necessity and freedom in context as an evaluation method of its physical, social and cultural surroundings. The goal of abstraction is not to move away from reality but to understand the relationships that influence the idea of the whole and the ways through which it can be physically achieved. The abstraction is, therefore, both an analytical and synthetic process that precedes the projection of architecture. It is a prerequisite for concretization of architecture in relation to the context in which it builds a

complete self-representation. When considered in relation to the drawing, both the choice of design and the intentionally omitted spatial relationships shown through an architectural representation, simultaneously become altered (new) realities, inseparable from the process of design and realization of architecture (Tab. 3). Between the Platonic idea of ideal and the Aristotelian idea of essence, an object of architectural projection takes a crucial role in creating new ideas, while its trace is none other than the architectural drawing. The drawing represents either the process of emphasis or else the formal shaping of relationships between the elements that "inhabit" the space. In that sense, the translation by drawing is in itself the process of architectural articulation, where the role of the drawing is to produce quality through materialization of an idea.

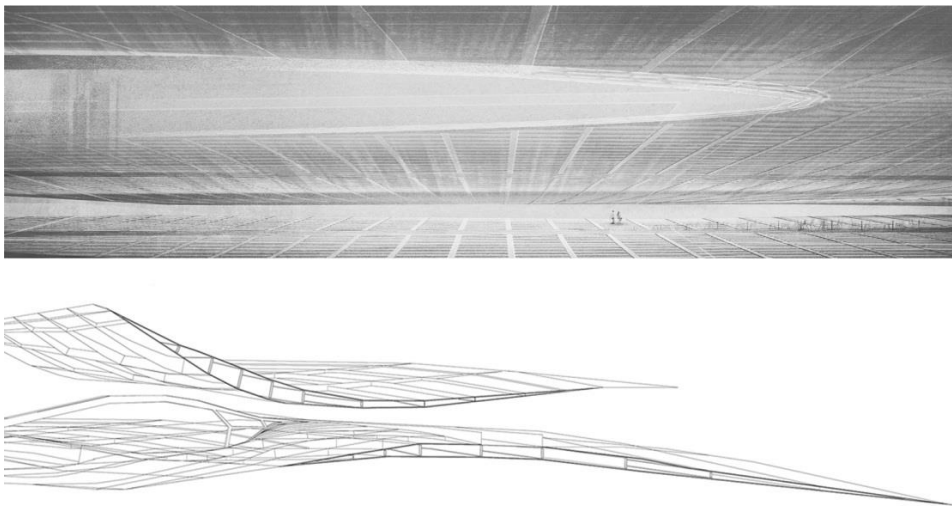


Fig. 3 Continuity of an idea.

Milos Kostic. Culinary Academy: Hanging Gardens of Bezanjska Kosa, New Belgrade. M4 Studio Project. UBAF, 2012. mentor: V. Milenkovic, PhD Arch, associate prof. / The landscape content should be formulated as the architectural incidence of selected morphological characteristics that manifest themselves in terms of theme, spatially or else programmatically or else philosophically. The goal is to examine the capacity of contemporary architecture in answering the questions of contemporaneity, programmatic sufficiency, ecological justifiability, and general sustainability within its own variability.

4. DRAWING THE DISTANCE

The dominant modernist understanding of the conditionality between the detail and the whole throughout the design process fails to take into account the analytical character of the detail as the architectural drawing. Since the theory of architecture has taken a linguistic turn, there has been an inclination towards interpreting the detail as a sign or a

symbol, without considering its place in the projection of architecture as its inalienable part. The denotation of the detail becomes a part of the process of accepting architecture both as an idea and a material practice. In order to prove the analytical character of the process between the abstracted reality and the actual space it refers to, the detail can be considered in terms of translation by drawing, by using the zoom-in command, while conditioned by the defined spatial content in the zoom-out overview. The scalar imagination through the scope of this technique completes the Frascari's idea of the detail as a minimal unit of signification and an outcome of a projected image of architecture, that takes it closer to its complete determination. The detail articulates the architectural idea in the most direct way by bringing order into the spatial line plexuses and through a precise determination of the connection between layers, elements, materials, and resulting effects. Details, more or less, represent a form of intentional results of imaginary relationships. Their role in the analytical process remains connected both to the projection of the whole and to the articulation of position, becoming that way the means of bringing order into the architectural content. According to Mies, the detail represents a technical means by which architecture achieves its absolute formal completeness, together with every pattern of deviation throughout its duration, as much as the drawing as a medium allows for it.

The reduction of meaning it sustains throughout the process of architectural design renders the detail the final unit of representation of the architectural idea and the beginning of the end of the architectural projection. In the wake of *Husserl's* idea about the visibility of time, we deal with reality only if we change it, observe it or reflect upon its notion. Therefore, at a certain point the reality could become visible as a distance from an architectural idea, determined by time and objectivity, and as such it would have to be followed by a precise drawing of its spatial definition. The contemporaneity of architecture, even though incomprehensible without being translated into an object of our reality, at a certain point can become an object of design in a way which involves the invisibility of time unless it is also a part of an overlapping space. It is, without a doubt, an important notion for understanding the scale of our occupation. The fact that a certain notion is not obvious but has importance does not reduce its value, on the contrary, it increases it since the awareness of its invisibility becomes more important than the notion itself. On the other hand, the contemporaneity of an architectural technique lies in the precision of its definition considering the imprecise space it is being designed for. In relation to the architectural detail, this would represent the instrumentalization of its direct visibility within the architectural method (Milenkovic, 2015). Aside from the illusion of simplicity in such situation, the lack of security with which the projection of the detail positions itself between the abstract and the real, leaves the question of completeness open. It is not the completeness of the actual drawing of a detail we refer to but the one that displays the degree of its openness to potential patterns of deviation. In other words, it is the explanation which would document the notion which made us decide to reach it - the narrative of what, up to that moment, kept us distant from the place of its articulation.

REFERENCES

1. A.Perez-Gomez, "Questions of representation: The poetic origin of architecture", *Architectural Research Quarterly*, vol. 5, pp. 217-225.
2. D. Mertins, *The presence of Mies*, New York: Princeton Architectural Press, 1996.
3. D.Mertins, *Modernity unbound: Other histories of architectural modernity*, London: Architectural Association, 2011.
4. Đ. Šušnjić, *Metodologija: kritika nauke*, Beograd: Čigoja štampa, 2007.
5. E. Huserl, *Ideja fenomenologije*, Beograd: Beogradski izdavačko-grafički zavod, 1975.
6. D.Buntrock, *Japanese Architecture as a Collaborative Process: opportunities in a flexible construction culture*, New York: Routlage, 2014.
7. I.Wingham, "Mediating lines", in *Mobility of the line*, I. Wingham, ed. Basel: Birkhäuser, 2013, pp. 106-118.
8. J.C. Jones, *Design methods*, London: David Fulton Publishers, 1992.
9. Le Corbusier, *Modulor: Harmonične mere prema ljudskom obimu univerzalno primenljive u arhitekturi i mašinstvu*. Belgrade: Jesen:Lisina, 2002.
10. M.Carlo, *The alphabet and the algorithm*. Massachusetts: MIT Press, 2011.
11. M. Frascari, "The tell-the-tail detail", in *VIA*, vol. 7, 1984, pp. 22-37.
12. M. Frascari, *Eleven exercises in the art of architectural drawing: Slow food for the architects imagination*. Oxon: Routlege, 2011.
13. P. Emmons, "Size matters: Virtual scale and bodily imagination in architectural drawing", in *Architectural Research Quarterly*, vol.9, 2005, pp. 227-235.
14. R. Evans, *Translation from building to drawing*. Cambridge: MIT Press, 1997.
15. S. Hedges, "Scale as the representation of an idea, the dream of architecture and the unraveling of a surface", in *Interstices: A journal of architecture and related arts*, vol.11, 2010, pp. 72-81.
16. S. Lavin, *Flash in the pan*, London: Architectural Association, 2014.
17. S. Vyzoviti, *Folding architecture: Spatial, structural and organizational diagrams*, Amsterdam: BIS Publisher, 2004.
18. V. Milenković, *Forma prati temu: petodelni metodološki esej*, Belgrade: Faculty of architecture University of Belgrade: Museum of applied arts, 2015.
19. V. Milenković, "Contingency of architectural critical approach", *Serbian Architectural Journal*, iss. 3, 2011, pp. 200-213.

SAVREMENI DETALJ U ZOOM-IN-ZOOM-OUT TEHNICI: BOG I RAZMERA

Imajući u vidu i vizuelni i narativni karakter arhitektonskog diskursa moguće je ispitivati kapacitet koji crtež ima kao autonomna forma, ali i onaj koji mu se pretpostavlja tokom postupka stvaranja nove arhitekture. Namera je da se ovim radom ispita mesto i uloga crteža arhitektonskog detalja u istraživačkom projektovanju. Tematski odvojeno, narativi su instrumentalizovani kao konstruisanje odnosa između celine i delova projekta, dok se detaljem definiše put od ideje do realizacije arhitekture, odnosno od apstrakcije do konkretizacije unutar pomenutog postupka. Skalarna imaginacija pojmovno je uvedena kao veza između tradicionalno modernistički shvaćenih uloga detalja i razmere, dok je pitanje realne veličine projektovane arhitekture pomereno u stranu. Skalarana imaginacija je uzeta za manifestaciju odnosa između elemenata arhitekture, a njena vidljivost za sposobnost arhitekta da, krećući se kroz različite nivoe tih odnosa, gradi neophodnu mrežu informacija. Cilj je da se konkretnošću informacija izbegne zamagljenost crtežom predstavljene arhitekture u korist polivalentnosti njenih značenja. U tom smislu, zarad jasnoće metodološkog postupka, istraženi su uslovi vidljivosti veze između nacrtanog i označenog, a ovaj rad u fokus stavlja razmeravanje kao direktnu konekciju između nacrtanog detalja i kontinuiteta ideje o jednoj arhitekturi.

Ključne reči: *detalj, Mis van der Roe, skalarna imaginacija, distanca*