

KRZYSZTOF KOSZEWSKI\*

## WHY DO ARCHITECTS STILL DRAW (USING COMPUTER)? REMARKS ON TECHNIQUES COEXISTENCE

### DLACZEGO ARCHITEKCI WCIAŻ RYSUJĄ (UŻYWAJĄC KOMPUTERA)? REFLEKSJE NA TEMAT WSPÓLISTNIENIA TECHNIK

#### Abstract

As a discipline, architecture constantly needs to take on new challenges. Currently, a significant share of them regards presenting architectural ideas in the face of the IT revolution. In this context, it is reasonable to return to the question of why architects (still) draw. What – especially now – really is architectural drawing? What is the array of its unique features like in comparison with computer techniques? What is the unique potential of the latter, and is there a choice between them or are they mutually exclusive? One of the provided answers is to indicate a need for a critical analysis of the methods to present design ideas, regardless of the means used.

*Keywords: architectural drawing, IT in design, architectural visualisations*

#### Streszczenie

Architektura jako dyscyplina charakteryzuje się koniecznością podejmowania wciąż nowych wyzwań. Istotną ich część dotyczy obecnie przekazu idei architektonicznej w obliczu wyzwań rewolucji informatycznej. W tym kontekście zasadny jest powrót do pytania: dlaczego architekci (wciąż) rysują? Czym jest – zwłaszcza obecnie – rysunek architektoniczny? Jaki jest katalog jego unikalnych wartości w zestawieniu z technikami komputerowymi? Jaki jest z kolei niepowtarzalny potencjał tych ostatnich i czy rzeczywiście istnieje pomiędzy nimi wybór w postaci alternatywy wykluczającej? Czy i w jakich warunkach można mówić raczej o niezbędnej koniunkcji? Jedną z przytoczonych odpowiedzi jest wskazanie konieczności krytycznej analizy formy przekazu, niezależnie od stosowanych środków.

*Słowa kluczowe: rysunek architektoniczny, techniki komputerowe w projektowaniu, wizualizacje architektoniczne*

---

\* Ph.D. Arch. Krzysztof Koszewski, Chair of Architectural Design, Faculty of Architecture, Warsaw University of Technology.

Why do architects (still) draw? This question, asked in the age of dynamic changes leading to a knowledge-based society, indirectly shows the particular division between the traditional and modern forms of communication in architecture. The fact that the question has been asked is significant in itself (is it not obvious?); on the other hand, the question has its thesis: if it is asked, this means that in fact architects really draw. The word *still* suggest remaining within the tradition. It has been taken from the title of Paolo Belardi's book *Why architects still draw*, in which he discusses the state of the drawing in the age of inevitable presence of digital tools [1].

When attempting to analyse the junction between the traditional (pen and paper) and the new (digital) presentation techniques in architecture, one needs to ask some systematizing questions. When beginning to define the architectural drawing<sup>1</sup>, one could ask what is its nature? Is it, as the conference theses stated, both a drawing presenting architecture and a drawing made by an architect? Let us trace the possibilities to define this notion – as in every discourse, precision is of utmost importance. The purpose of these deliberations will not be to present a definition – which seems to be significantly difficult – but to indicate features in the light of which new forms of presentation may be analysed.

The first possibility is to look for a classification criterion for an image that has already been created. We can do that by asking: who? or more precisely: who is the author? Unfortunately, it is not a strict criterion. A definition built on this basis may become too narrow or too imprecise. Who is an architect? One who designs buildings? One who drives at the design taking a real form by giving it a form of a work? One who received proper education? Or maybe one who has the skill to understand the complicated structure of space and is able to show it? On the other hand, said definition may appear too wide, especially when architects go outside the set borders of their profession. Without referring to Renaissance artists who worked in various fields such as architecture, painting or sculpting, let us mention some of the more modern ones. One can list many names and works, from paintings by Le Corbusier, through works of Oskar Hansen and Will Alsop, to finish with the drawings by Janusz Kapusta or posters by Rafał Olbiński and many, many more. These would always be works that do not directly refer to architecture but were made by architects<sup>2</sup>.

Another question one might face when defining architectural drawing is: what? What is in the picture? Going for the most obvious answer, again we are faced with problems. A countless number of works show architecture without them being architectural drawings. Just look at splendid pictures that comprise travel notes and you can immediately see the difference in the approach to presenting architecture when done by architects, painters,

---

<sup>1</sup> Keeping in mind the possibilities for comparison of techniques, in this text, I am using the phrase *architectural drawing* in its broad meaning that does not only refer to the linear technique of putting the value onto a plane by leaving a mark from the tool. This includes all traditional methods of imaging connected with architecture (including painting techniques).

<sup>2</sup> It does not only include architects who work in the profession. In this case, the criterion was the architectural education which undoubtedly leaves a mark in the form of a particular view on the world.

graphic designers<sup>3</sup> [7]. However, the definition made on the basis of the content of a drawing may not only become too wide, but also too narrow. When drawing a human figure, a machine or even a landscape – all in all, not architecture – architects deal less with likeness, but rather with a spatial and functional structure of the object, and draw from the areas of its morphology or even its genetic features.

Therefore, maybe one should ask: why? The Meaning built in this fashion focuses on the features of the drawing and sets aside its content or its creator (although, not depriving them of any significance). However, there is a problem in forming a set of features that would define such picture in a clear way, define it among the sea of others, bring out the features that are unique only to that picture. It is a question about the view on the world that goes beyond the frames of professional, technical or formal matching. This question may be most accurate among the ones mentioned here, but it is still open. Defining the mentioned features would be an ambitious task that exceeds the confines of this text; therefore, let us remain with the references to the structure and morphology of the subject.

Another way is to ask not about the characteristics or the driving force, but about the purpose behind making the drawing. This refers more to the process rather than the artefact. This is a path set by a question of why architects draw. It does not lead directly towards a definition, but it seems to show the nature of the architectural drawing. In this context, the question about the purpose could refer to the use of digital techniques, thus allowing for a comparative analysis.

It seems that the purposes may be three: one draws to record, to understand and to communicate. These purposes are not disjunctive, particular ones only seem to dominate in the intention of the message itself. And thus: the record is a personal form of expression that takes the shape of a drawing whose purpose is to preserve the observed reality – often in order to use its elements in a later process of creation. Secondly, the need to understand the object that is being presented, the introduction of a rational element – that is the fabric of architectural drawing. However, here, the order is somewhat reversed: an apt graphic artist often draws to understand, to find threads in his or her message that would lead to unobvious, often concealed connections, dependencies, determinants. Finally, the third purpose – communication – is maybe the most obvious, but if one treats a drawing as a message, it allows for further analyses. The message always has its sender and a receiver (who especially can be one and the same person – as in the case of design sketches made during the process of creation). The key to the message's effectiveness is that the latter interprets the former's intention in the same way. In this context, a drawing may be understood as a model (as seen by the systems theory) based on a part of reality presented in a simplified way which brings out the features that are important for the presented aspect, so that it can be easily understood.

This method of modelling the reality is very important. Most often we deal with a synthesis, a metaphor or a transformation. The first is connected with the craft, the nature

---

<sup>3</sup> E. Salavisa, *Diários de viagem desenhos do quotidiano: 35 autores contemporâneos*, Lisboa 2008. Among 35 artists included in the book by Eduardo Salavisa we can find i.a. 5 architects, 7 painters, 11 illustrators/graphic designers, an interior architect, a landscape architect, 3 designers, a sculptor, an anthropologist, a geologist and others.

of a drawing – it requires the artist to select elements that are important, since it is impossible to show their whole abundance (whether it is a real scene or a design idea). Therefore, what is recorded is the most important and that which exists in a given object, item or scene. Thus, a type of reduction happens; however the reduction concerns the form rather than the content. The second method – a metaphor – is based on extracting the meaningful threads that do not need to be formally present in an object, but carry semantic information. This way the Ronchamp chapel becomes a sailing ship, and the Sidney opera transforms into swollen sails (or a group of nuns fighting). Both form (usually refers to the existing one) and the content are metaphoric. Finally, transformation that uses a certain type of an act of creation that is – somewhat accidentally – a carrier of the message content. These are sketches bordering with unintelligible forms (doodles), visions basing on interpretation of the geometry which exists (or could exist) in space and has been deformed, as well as purposeful transformations and reinterpretations of the known forms and meanings (like the works of Lebbeus Woods or drawings by Daniel Libeskind). Drawings belonging to the last group make the most subjective message that does not say anything about the imaged reality, but about the creator's approach presented by its transformation, or simply the creator's attitude. They become somewhat autonomous and have the features of both the message and the work of art in its own right<sup>4</sup> [5].

We summarise these deliberations on the nature of architectural drawings in the context of the motivation for their creation by indicating three purposes:

- to record
- to understand
- to communicate

The architectural drawing as a message (or to go further – a model) can be created by using:

- synthesis
- metaphor
- transformation.

As said before, in all cases these areas are inseparable.

Considering such a description (yet not taxonomy) of architectural drawings, one may attempt to answer the question about the nature of digital techniques in imaging. This attempt will juxtapose the criteria for the purpose and the method for reaching it with images created using a computer.

How are the digital techniques used to record? – that includes recording objects in space. The simplest answer would be to indicate tools that use digital techniques – both those that record a moment, and changeability throughout time. However, there arises a question of their specific character that distinguishes them from the long-known techniques which use analogue recording methods. Here, one could notice two fundamental issues: universality and availability of the tools, and the nature of recording itself. The universality

---

<sup>4</sup> Architectural drawings free of connections with creation of a work of architecture are covered in: Maluga, A., *Autonomiczne rysunki architektoniczne*, Wrocław 2006, where the author analysed in detail both the contents and the creators' intentions.

refers to the unification of devices which allow for recording both static and moving images in practically all conditions, while the technology itself becomes “transparent” – all-present, immediate and easy to use. The second feature refers to the nature of the digital recording, which processes the continuous reality into a discreet form, which results in easiness to be edited. Both features mentioned – quickness and availability, and easiness to be edited – can be treated (and often are) as flaws in the context of the use of traditional techniques which require the knowledge of the subject as well as thought. Such judgment is not the aim of this article. Here we deal with two recording methods that significantly differ in certain fields, while the question that needs to be asked regards proper use of the potential of those differences.

Another purpose mentioned is to understand the nature and structure of objects in space. Digital techniques can contribute to such understanding when their potential is used in simulations. These are design visions rather than a recording of physical reality. This may refer to an image which is not an attempt to create a photo-realistic plate of a potential form, but rather a tool used to explore and verify various possibilities, a tool for experimentation. Effectiveness of digital methods for creating images in terms of modifying their features (and the features of the image presented) may be used in a creative process as an instrument for understanding and valuing the selected aspects of a concept.

The third purpose – to communicate – seems the most obvious in terms of computer techniques. However, it is worth stating that this obviousness is misleading as it is mostly associated with digitally-generated images of a synthetic reality, which is mainly a marketing message. The form in which the project is recorded – currently, completely digital – is a premise for using computer techniques when visualising ideas. However, one should mention that the technological advancement has exceeded the forming of image poetics proper for this<sup>5</sup> [4]. Nevertheless, it is not impossible to find creative analogies to modern visualisations of idea in the area of history of architectural communication<sup>6</sup> [2].

Considering the methods used in digitally-generated image communication, in analogy to the drawing – synthesis, metaphor and transformation – one must say that these are areas that witness development; however, the process of creation itself is limited by the aspects of the user interacting with the machine. This especially regards the intuitive synthesis proper for a sketch drawing, for example, at the early stages of the designing process. In case of a metaphor which is mostly connected with semantics rather than tools, there are probably no significant differences. However, the transformation – both as a method of communicating and a tool in the designing process – has significant potential in the context of digital techniques. Needless to say, it has a possibility for real-time parametric control – not only of the form. One could provide examples of Marcos Novak, Greg Lynn, Stephen Perelli. It is surprising that some of those works (although made completely independently) are formally close to the visions of Lebbeus Woods (made without using

---

<sup>5</sup> See: K. Koszewski, *Widzenie niedoskonałe – w poszukiwaniu języka wyrazu obrazów architektury*, [w:] *Definiowanie przestrzeni architektonicznej. Zapis przestrzeni architektonicznej*. Praca zbiorowa, t. 2, M. Misiągiewicz, D. Kozłowski, Kraków 2013, pp. 252-257.

<sup>6</sup> Peter Cook calls some analogies between collage and computer techniques, see: P. Cook, *Drawing: The Motive Force of Architecture*, Chichester 2008, pp. 22-23.

a computer). It is also possible to find a similar parallel with illustrations-paintings of Zaha Hadid which present formal consistency regardless of how they were created<sup>7</sup> [2].

It is easy to indicate a seeming gap in the deliberations above that omit the method of mimetic recreation of reality without any syntheses, metaphors or transformations. Although that approach is popular, it seems that regardless of the tool used, it is an aspiration that is doomed to fail<sup>8</sup>. What is more, because it concentrates on the formal aspects of an idea, it impoverishes it. The craftsmanship in reproducing, although valuable, is secondary to the idea itself.

It seems that the question asked in the title: why do architects still draw (using a computer) may be answered: because they use all available tools to record, understand and communicate what surrounds them, and what they can add to the surroundings. Each technique with its specific nature may find appropriate use. It is necessary to critically evaluate each technique's potential in the context of changing conditions. Wrong use of each of them shows a lack of such analysis or a lack of skill in using the technique itself (more often the former).

To summarise our deliberations, one should quote Gottfried Semper: "The work of art will be seen as a result of all the factors involved in its creation. Technique will therefore be a very important issue to consider, but only insofar as it affects the principle of art's creation"<sup>9</sup> [8]. If we assume that this concerns not only the technique in which the art itself is created, but also the technique used to communicate the idea about it (considering all the factors of art's creation mentioned by Semper, and following the nature of work of architecture<sup>10</sup>), one could also interpret this quote in the context of the variety of representation techniques. Reversing the quote, one could say that the technique is important as long as it reflects the rules of creating art accurately and clearly. As long as it is at one with the art influencing its nature, but not distorting the message.

## References

- [1] Belardi P., *Why architects still draw: two lectures on architectural drawing*, tłum Z. Nowak, The MIT Press, Cambridge 2014.
- [2] Cook P., *Drawing: The Motive Force of Architecture*, Wiley, Chichester 2008.
- [3] Evans R., *Architectural Projection*, [w:] *Architecture and its Image*, E. Blau, E. Kaufman (red.), The MIT Press, Cambridge 1989, p. 19-35.

<sup>7</sup> See: P. Cook, *op. cit.*, p. 63.

<sup>8</sup> Deliberating on complicated issues of relationship between the image and the reality exceeds the limits of this article, what can be mentioned is the allegory of the Plato's Cave and the notes on the imitation from *Politeia*, see: Plato, *The Republic*, Polish translation by W. Witwicki, Warszawa 2008, remarks on imitation p. 408.

<sup>9</sup> G. Semper, *Style in the technical and tectonic arts or Practical aesthetics*, transl. H.F. Mallgrave, M. Robinson, Los Angeles 2004, p. 72

<sup>10</sup> Aptly phrased by Robert Evans who said that "Architects don't make buildings; they make drawings of buildings", see: R. Evans, *Architectural Projection* [in:] *Architecture and its Image*, E. Blau, E. Kaufman (red.), Cambridge 1989, p. 21.

- [4] Koszewski K., *Widzenie niedoskonałe – w poszukiwaniu języka wyrazu obrazów architektury*, [w:] *Definiowanie przestrzeni architektonicznej. Zapis przestrzeni architektonicznej. Praca zbiorowa*, t. 2, M. Misiągiewicz, D. Kozłowski (red.), Wydawnictwo Politechniki Krakowskiej, Kraków 2013, s. 252-257.
- [5] Maluga L., *Autonomiczne rysunki architektoniczne*, Oficyna Wydawnicza Politechniki Wrocławskiej, Wrocław 2006.
- [6] Platon, *Państwo*, tłum. W. Witwicki, Wydawnictwo Naukowe PWN, Warszawa 2010.
- [7] Salavisa E., *Diários de viagem desenhos do quotidiano: 35 autores contemporâneos*, Quimera Editores, Lisboa 2008.
- [8] Semper G., *Style in the technical and tectonic arts or Practical aesthetics*, tłum. H. F. Mallgrave, M. Robinson, Getty Research Institute, Los Angeles 2004.

