

Budapest University of Technology and Economics

**Collage and Montage as Alternatives of the Creation of Pictures in
Architectural Drawing.**

PhD. Thesis

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THE AIM OF THE RESEARCH

The researcher of the architectural drawing should first determine the limits of the topic, define what and why is understood in the idea of architectural drawing.

In the interpretation of the architecture drawing we can recall Heribert Hutter's „sculptor-drawing” definition, based on the similarities of the art branches. Accordingly, it is useful to determine the architectural drawing as a collective noun for the drawing material related to the architectural design – sketches, technical presentation, perspective drawings.

Hutter also uses the definition „sculptor's drawing”, where the drawing is made by the sculptor but it is not in close relation to the formation. We can also use the expression „architect's drawing” for works executed by an architect, where the architect's vision is generally tangible.

It is important to state, that the creator of the architectural drawing is not necessarily architect as we see examples in the thesis – the topic of the drawing determines its categorisation.

The common sense, exhibition routine and partly the art history literature uses the idea „architectural graphics” summarizing the „architectural drawing” and „architect's drawing”.

The following question: why it is necessary to deal with architectural drawing, researching its history and possibilities of the representation, collecting, systematizing and presenting the works?

The question can be related to two major ideas.

The architectural drawing, as visual carrier of the ideas of the architect, has its own and important role. Pál Voit's sentences – written on baroque design – are valid for the architectural drawing of any period:

„Sketch and design, executed by the creator, are important documents of our art history. This informs us on the original intention, imagination, talent of the artist. The non executable or non executed projects are often more accurate figures of the creators talent, than the executed object itself”.

In the history of architecture, the ideas existing only in drawings can be inspiring for the posterity or can tone the judgement on the architecture of their period. So for the art history based on values can find historical values in the architectural drawing.

Nevertheless the training of architects is based on graphical communication as major channel for the master-student interaction. Students' graphical sense, visual sensibility and culture, readiness for visual expression can be developed through drawing. The architects' intentions are also transmitted through drawing towards investors and collaborating experts

All these underlines the important communicative values of architectural drawing.

The research of architectural drawing can start into two directions. On one hand there is the research based on historical view, concentrating on to the history of architecture drawing, that examines, systematize and present architectural drawing in connection with history of architecture and art.

The other direction of the research that deals with the possibility of presentation has three furthermore areas. It is an important field to deal with possibility of presentation – mainly 3D presentation – research for new methods and perfection of existing ones. The other important field is the examining stylistic questions of drawings, their relation to fine art.

The third major field of theoretical treat of architectural drawing is the research of technical possibilities of the drawings, traditional techniques – pencil, pen, aquarell, pastel – and computer techniques.

This field has been presented comprehensively and in details in the literature of the architectural drawing by nowadays, but this technical literature doesn't discuss the collage

and montage in architectural drawing. We tried to remedy this lack with the research and dissertation, presenting, interpreting and classifying the idea of montage in architectural drawing, completing our knowledge on the technical possibilities of architectural representation.

THE METHOD OF RESEARCH

Deriving from the topic of the research, there are several methods applied during the research. It is important the historical research, that is based on studying the art history literature related to collage and montage and literature on architectural drawing. It is an other important element the collecting, systemizing and treating drawing examples. It means the search for the drawing in collection of museums, and private archives of the architects. Taking into consideration the ephemerality of architectural drawing it is also important to collect drawing existing only in reproduction eg.: catalogues, periodicals, books.

However to collect the complete relevant material would far exceed the capacity of a researcher, we tried to collect a diverse – in time and in space – drawn substance to cover all the possible fields of the montage in architectural drawing, representing Hungarian and international examples, works from the masters of modern architecture and student works as well.

The third important method of the research are those visual experiments, that are executed at the Department of Design of the BUTE through student tasks.

The traditional collage works has important role in the authors courses of Architectural Representation and Presentation Techniques, the computer generated collage is the topic of Ferenc Répás' subject: Architectural Collage.

Lajos Németh writes it concerning the up to date explain of interpretation in history of art:

„The function is important not only concerning the topic but also the receptor: what question she/he asks, what she/he wants to read from the work. The work can be analysed on ideological, sociological, aesthetical, stylistic, economical base, that means it can get always into various relation – systems, that can result various meaning”.

In the present research, and afterwards in writing the dissertation our aspect was that of a teacher of architectural drawing: we try to present how the technique of montage can enrich the expression of architectural drawing, when and how it can be applied successfully. This analysis also reaches the boundaries of art history and we try to approach to our topic objectively, following the rationality in natural sciences similarly to that, that is expressed by Taine:

„My only duty is to show you facts and present how this facts got established. The modern method that I have to follow, means that works created by humans should be considered to be facts, and we have to show their characteristics and to find relations – and nothing else”.

STRUCTURE OF THE DISSERTATION

The essay consists of three chapters.

The first chapter titled *Drawing in Architecture* describes the architectural drawing in detail, approaching it from a new aspect not having been yet treated in the technical literature in this form.

The first section of the chapter is dealing with the definition of architectural drawing, as well as with its relationship to the so called *Grand Art*, i.e. fine arts. This section also includes a brief summary of the history of architectural drawing, from the Renaissance to the end of the 19th century, with the description of the main tendencies. As both the research and the thesis stress the aspect of the possibilities of an optical presentation instead of the principle of historicity, the practically contemporary architectural drawing of the 20th century is treated in a way divided into two comprehensive areas:

1. linear – abstract representation
2. plastic, material-like presentation

The second section of the chapter outlines the possibilities of an expression by means of a linear drawing, detailing the graphical possibilities provided by constructed as well as free-handed lines.

The third section is dealing with the description of a material, plastic presentation, drawing up the possibilities of the architectural drawing simulating the reality or creating its illusion, from drawings modeled by a tone surface up to the material-like imitative drawings.

A separate section within the chapter describes the importance of the sketch in architectural drawing, stressing the important of this special area that seems to have been neglected in an unjust manner in research works.

Two sections of the chapter treat the possibilities of the axonometric and perspective methods of spatial representation showing the newest achievements of research performed in this area, beyond their historic summary and a comparison of both methods based on the history of ideas.

The last section of the chapter presents a sketchy overview of the technical literature of architectural drawing, presenting English and Hungarian summarizing books from middle and the end of 20th Century and some important essays and books of this half century. The curve of the Hungarian literature are determined by Alfred Bardon's "*Az építészeti rajz*" (1956) and Dobó-Molnár-Repás-Peity's "*Valóság-Gondolat-Rajz*" (1999). In the English literature these milestones are Sherley V.Morgan's "*Architectural drawing*" (1950) and Gidding's-Horne's "*Artist's Impression in Architectural Design*" (2002).

The second chapter of the thesis titled *Collage and Montage in the Arts of the 20th Century* offers a brief but comprehensive presentation of the history of the last century, stressing innovations and expression methods of importance from the point of view of architectural drawing.

The construction of the chapters follows the traditional chronological structure and periodization used in the technical literature of the history of art, and the views generally accepted in the research in the history of art are also used as guidelines in the evaluation of individual artists, groups, and tendencies.

The first section of the Chapter is dealing with the period of the cubist collage. Concentrating on the art of Picasso and Braque, it presents the historical and artistic background of the collage as graphical technique.

The second section outlines three significant workshops of the constructivist collage, summarizing the Russian constructivist movement, as well as the collage works of the de Stijl and the Bauhaus. The “relief collage” of Tatlin, as well as works of Doesburg, Moholy-Nagy and Vordemberge-Gildewart are mentioned here.

The third section of the Chapter describes the beginnings of the Dadaist collage and in connection with it that of the photo montage, as well as their period elapsing between both world wars. The collage art of determinative personalities as Hans Arp and Kurt Schwitters are summarized and the emotional, intellectual power of the collage is discussed in this section.

The photo montage as the initial period of the promise of a “new reality” is also included in the topics of this section. Its propagandistic as well as satiric potentials are discussed through the works of artists as Raoul Hausmann, El Lissitzky, John Heartfield.

The birth of the surrealist collage is a direct consequence of the technique and dada mentality of the photo montage. Its circumstances are presented and the characteristics of the genre, style as well as period described in the fourth section of the Chapter.

Max Ernst is the unquestionably the most versatile artist of the surrealist collage, characterized by a high creative power, therefore the presentation of his art is understandably of a decisive importance within the structure of this section. The collage art of René Magritte, Georges Hugnet and Joan Miro are also described briefly, presenting the highly diversified possibilities of the surrealist collage, as well as the relationships prevailing between the traditional painting and the graphical construction of montage.

The discussion of the surrealist collage cannot be complete without mentioning the name of Lajos Vajda, being in this respect the most significant Hungarian artist of the period. His art is a delicate surrealist essence with an individual expression of the increasingly depressing atmosphere of the 1930s.

Although the most significant innovations within the genre of the montage in the visual arts of the 20th century are mostly closed down during the 30s of the century as well as with the period of the surrealist collage, the last section of the Chapter – titled “The presence of the collage in the visual arts from the 40s” – intends to demonstrate the important role played by the collage and the montage also in the arts of this period that can in general be defined as a contemporary visual art.

The collage art of Henri Matisse shall be mentioned first of all. Deviating from the original aim of the cubist collage, he uses the collage only as a new painting procedure, as a technique of “painting by scissors”.

This section presents the characteristics of the collage art of the American abstract expressionism, the most important artistic movement of the period following World War II, through the creations of Jackson Pollock, Willem de Kooning, and Franz Kline.

Concerning the European history of the collage after the war, the art of Antoni Tàpies and Eduardo Chillida is emphasized, and the life-work of the American Joseph Cornell is described, who applies the European tradition of the collage.

A repeated and currently the last significant heyday, similar to that unfolding during the cubism in the technique of the collage is the period of the “pop-art”. The presentation includes on the one hand a trend-line of the period of mainly English roots, characterized by a decisively ironic intonation, invoking the surrealist photo montage in its technique, e.g. the art of the English Richard Hamilton, as well as the American Tom Wesselmann, and on the other hand the school developing first of all in America and being hallmarked by the name of Robert Rauschenberg and Jasper Johns, to be derived from a reinterpretation of the concepts of Duchamp’s art of Dadaist origin and of a counter-art.

Although the Chapter covers the forms of appearance and expression of the collage and the montage during the 20th century mainly from the point of view of the history of art, the significant graphical parallels with architectural drawings are already referred here, too.

The third chapter of the thesis – titled “*Collage and Montage as Alternatives of the Creation of Pictures in Architectural Drawing*”- represents the center of gravity of the thesis, synthesizing on the one hand the significant elements of the previous two chapters, and treating on the other hand point for point the possibilities of appearance of the montage in architectural drawings. The first section of the chapter is dealing with the possibilities of defining montage, opening up and shading the brief and verbatim definitions of the terms collage and montage, which are formulated by Éva Forgács as follows:

„Collage is a word of French origin, originating from the verb coller = to stick. The word montage also originates from the French. It is a noun composed of the verb monter, used in the meaning of to apply, to compose, and to mount. The collage is a technique, while the montage is a principle of creation.”

Similarly to Éva Forgács, the technical literature of the history of art generally mentions the word of collage as technique, and the montage as a creation principle. However, several examples exist, in which one or the other expression refers to both procedures, as e.g. in the volume of essays of Louis Aragon titled *The Collage*, or in the book of Brandon Taylor titled *Collage, the making of modern Art*. There is also a pragmatic approach using the notion of montage in a broader sense, regarding collage as a special kind of montage, produced by means of sticking. The present thesis selected this broader construed, comprehensive meaning of montage as guideline. This decision is also supported by the fact that – as the introduced examples show – the boundary between collage and montage may be more blurred in architectural drawing than in the archetypes in fine arts, owing especially to modern technology. In the seventies Özséb Horányi attempted to define montage, mapping its characteristics, and effects: he invited for discussion in this topic the prominents of social sciences. Although this discussion did not end up with a clear exact and broad definition of montage – that would be anyhow just temporary, as montage as a living category continuously redefines itself – there are important learnings of this discussion concerning basic characteristics of and methods for examining the montage. In this section we quote important ideas of Márta Fehér, László Beke, Miklós Erdély, Ágoston Székelyhidi in connection with montage.

Basically, two kinds of opposition may be present in the montage:

- opposition in the technical plurality appearing in the work (syntactical opposition)
- opposition in the plurality of interpretation (semantic opposition)

Although the existence of semantic opposition is of primary importance for the interpretation applied in the history of arts, it seems to be more practical for a research worker systematizing and presenting architectural drawings or for a specialist teaching drawing to approach montage from the aspect of the plurality in the syntactical opposition technique and not to define the montages in architectural drawing as creations produced by means of uniform graphic procedures, where the element or elements deviating from the basic or original technique of the drawing get into a geometrical formation defined by the logic of the picture. But, it must be realized that however widely formulated this definition seems to be, it can also be excluded, because there are various examples from the architecture, in which the

experience of a semantic opposition – or more simply formulated – of a montage is produced by a uniform graphic procedure.

The second section of the chapter treats the general relationship of architecture and montage, throwing mainly on a brief flashlight at this sphere of interesting questions and this problematics, showing the necessity and possible perspectives of this subject of research.

The third section of the chapter investigates the relationship of architectural drawing and montage, presenting the advantages of the use of this technique and picture creation method for the architect preparing the drawing.

The fourth section of the chapter is dealing with the montage applied architectural drawing that is technically uniform however in the semantic field opposing, touching the thematic of visual metaphor, and that of the pseudo montage. We present and analyse here drawings by Imre Makovecz, György Jánossy, György Vadász, Michael Graves, Csaba Masznyik, Brenner and Tonon Kurokawa, Lux and Wiedemann.

The fifth section of the chapter is concentrating on the expression of architectural reality as well as real pictures in drawings, introducing its possibilities. In pictorial sense, the architectural drawing can be divided in two surfaces, fields: it consists of the surfaces of the building presented and those of the surrounding so called staffage. A real object or its real reproduction may appear on any or both of these pictorial fields, irrespective of it is a projective drawing or a 3D design.

Aragon stresses the „*lurid, provocative poverty*” of the material, consequently the importance of materiality of the element inserted into the picture especially accentuated in the architectural drawing where a plastic representation of materiality, texture and facture present a permanent challenge for the architect preparing the drawing.

Apart from the possibility of an easy solution of the problem of a material-like representation with the use of a material applied in the drawing, the surface value of the texture used may become the source of a new visual opulence.

Beyond the esthetical values, the material collage offers a significant advantage in architectural presentation, as – resulting from the thickness of the material - it enters the space from plane of the picture: it becomes a relief. The architectural drawing is a planar projection of spatial relationships; consequently each procedure being able to express such spatial relationships as trustworthily as possible highly contributes to the reading of the picture.

In case he wants “to play with the fire of reality”, the architect preparing the drawing, he cannot do it only by inserting material reality into the picture, because he can also evoke the reality by means of its reproduced picture. The application of photo surfaces shot of stone, wood, metal, concrete, brick, etc. surfaces can also produce the appearance of materiality, without losing too much time with the preparation of a hyper realistic, finely chiseled drawing from the always short time left for presentation, and avoiding the uninteresting, schematic, cold and mechanical world of canned surfaces produced so far by computerized drawing programs.

Beyond the primary conformities - when stone represents stone, brick represents brick, etc. - a graphic application of the reproduced picture of reality has a liberating effect on the visual fantasy of the architect. As shown by the archetypes in fine arts, the picture of materials having almost any texture can be used for creating the illusion of the real world. In case of such creations, the significance of the surface is defined by the context or by the imagination; therefore, the “poetry” of the montage technique is also present through the visual metaphor: it allows for association and for an active participation of the viewer in the interpretation of the surface.

An evocation of the certainty of reality does not inevitably require the material-like representation of the building, because the architectural design can also be connected to

reality by a life-like representation. The final part of the section describes the possibilities of the montage of staffage, and lists the possible relationships in the representation of building and its environment. The authors of the drawings presented in the section: Michael Graves, Hans Immer, Pál Alasztics, Zsófia Lantos Buzder, Mihály Balázs, Tamás Tarnóczy, Ágnes Hajas, Rem Koolhaas, Brenner and Tonon, Ferenc Répás, Gábor Nemes, Miklós Csúzdi, Judit Lakatos, Ferenc Callmeyer, Peter and Alison Smithson, Mies van der Rohe, Lajos Jeney, Rogers and Piano, István Balogh, Werkfabrik, Mátyás Borostyánkői, Judit Skaliczki, Szabolcs Király.

The sixth section of the chapter is dealing with the problematic of the “covert” and “open” montage, defining a montage picture aimed at the creation of the illusion of a real existing building as covert montage, and defining a montage allowing for an explicit readout of the traces of cutting and inserting from the drawing as an open montage.

While the visual illusion that is gradually improving simultaneously with the development of technology can be followed in the examples in case of covert montage, the diversified possibilities of its expression are presented in case of the open montage. The classical expression schemes of the montage as citation, waxworks, representation of various historical moments beside each other, a collective representation of spatially distant shapes, a play with the proportions, a combination of black and white as well as colored visual elements, or repetition are listed and presented by means of examples. The authors of the analysed works: Richard Rogers, Jan Ritchie, Norman Foster, Kamilla Sidó, Nagakura and Larson, Nabil Gholam, Vordemberge-Gildewart, Imre Makovecz, Ágnes Hajas, Alison and Peter Smithson, Hans Hollein, Ferenc Callmeyer, Ron Herron.

The seventh and final section reviews and presents in detail the techniques of creating a montage picture, though the works of Balázs Balogh, Ferenc Callmeyer, Mihály Balázs, Ferenc Török and referring back to formerly discussed works.

The thesis is closed with a short, thesis-like summary of recent scientific achievements.

RESULTS OF THE RESEARCH; DOCTOR'S THESES

THESIS 1

When defining a montage graphically in the architecture, it is expedient to determine the existence of a technical heterogeneity – syntactical opposition as a basic requirement.

Although it is obvious that a montage or a montage like picture – a heterogeneity of interpretation, a semantic opposition - may also be created by means of a homogenous graphical procedure, such graphical creations are construed as pseudo montages, in order to avoid the danger of an exaggerated extension of the conception, even up to indefinability. The acceptance or admission of pseudo montage as montage is based exactly on the existence of real montages.

THESIS 2

The material reality may appear in two ways in an architectural graphical montage:

- 1. By means of material surfaces included in the picture – material collage.**
- 2. By means of a reproduced picture of the reality.**

In the first case, the architectural drawing is enriched by the quality of material texture or fracture, as well as the plasticity resulting from the thickness of the material, i.e. by the relief effect. In the second case, the surface may demonstrate the material, if the photo of real, concrete architectural material surfaces is included into the picture, as well as indicate or represent a material if a free, associative, metaphorical effect inspiring the fantasy of both creator and viewer is already expected from the surface applied in the picture, rather than a clean-cut material conformity (e.g. stone corresponding to stone, wood to wood, etc.).

THESIS 3

In case of a staffage montage where the real elements are built into the picture to depict the environment of the building, three basic cases can be differentiated in the graphic relationship prevailing between the building and its environment:

- 1. The architect approaches the graphic world of the environment in the graphic presentation of the designed building, i.e. becomes assimilated with it.**
- 2. The presentation of the designed building is intentionally and categorically separated from the environment.**
- 3. Manipulating the graphic world of the environment, the architect forms it in a way that it becomes assimilated with the graphical presentation of the designed building.**

THESIS 4

According to the aim of its creation – that naturally defines also its visual picture – the architectural graphic montage can be basically divided into two groups:

- 1. Covered montage**
- 2. Open montage**

In the first case, the primary target of the architect consists of producing the illusion of the building as of a really existing one; therefore the main aim of the creator is to cover the technical traces of producing such an illusion. The second case, i.e. the “uncovered” or open montage, includes much more tinged, personal and multiple possibilities of the expression, offering an expected experience of montage, of the product of a graphical multiplication. The classical schemes of expression of the montage also often included in the montage of architectural drawings are: citation; waxworks; joint presentation of spatiotemporally distant forms or situations; a play with proportions; combination of black and white as well as colored graphical elements; repetition.

The graphical application of an open or associative montage adds in the overwhelming majority of cases a more or less surrealistic flavor to the architectural drawing.

THESIS 5

Based on the experiences gained so far, the technical procedures of creating an architectural graphical montage are:

1. drawing upon a picture

The architect draws the perspective design of the planned building upon the photo, without blocking out the original site.

2. glued picture – collage

This is the historically first and most simple procedure of creating a montage picture, based on a sequence of operations of cutting out and gluing and requiring no special technical qualification.

3. photo montage

Similarly to the photo montage applied in the fine arts, also the photo montage used in architectural drawings is performed by a joint, repeated shooting of a photo depicting the elements of the picture.

4. photocopied montage

The previously composed ensemble is united here in a picture by a light beam scanning the glass plate of the photocopying machine, and not by a camera or laboratory procedures. The technique of a photocopied montage represents a transition both historically and technical simplicity between a glued montage and a modern one made by means of a computer.

5. montage made by computer

The highest stage of the technological progress is currently represented for our purposes by the graphical computer programs, because they simplify further the procedure of preparing a montage, and enrich simultaneously the graphical effects. The montage picture is compiled on the monitor of the computer and consists of any number of elements originated from any source, resulting in a virtual ensemble that is – according to the intention of the designer – the illusion of reality having an effect approaching perfection, or a montage created with a pretension of fine arts carrying a calculated message.

MAJOR OWN PUBLICATIONS RELATED TO THE TOPIC

Szürrealizmus a magyar építészeti grafikában. *Műszaki Szemle*.(Rumania) 28\2004. 25-30.

A stílus kérdése az építészeti grafikában - Az építészeti grafika izmusai. *Műszaki Szemle*. (Rumania) 35/2007.

Application of the techniques of the traditional and modern arts in the architectural graphics and in the education thereof at the Department of Design of the Budapest Technical University. *Periodica Polytechnica Architecture*. 2008.

Alternative forms of ink and pen drawing in the contemporary Hungarian architectural graphics, *Periodica Polytechnica Ser. Civ. Eng.* vol. 50. No1.(2006) 83- 96.

A kollázs és montázs mint képkészítési eljárás változatai az építészeti grafikában. *Építés-Építészettudomány*. vol. 34.No.3-4.(2006)323-345.