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Why photograph architecture?
From architectural photography to visualization

The history of photography goes back to the first half of the 19th century. The first known permanent rendition of reality is "View from the Window at Le Gras" (Fig. 1) made by a pioneer of photography, French inventor Joseph N. Niépce in 1826. The quality of that photograph was, however, very poor and that is why it is considered that photography was invented in 1839 when Louis J.M. Daguerre presented his invention, which is called after his name Daguerrotype, to the French Academy of Sciences. The quality of the image in a daguerrotype is very high and it renders a lot of details but it cannot be reproduced. At the same time an English scientist William H.F. Talbot was working on a competitive method of 'recording'. The method developed by him was the beginning of what today is known as positive–negative photography. Talbotype, or calotype, enabled the reproduction of many copies and despite lower quality of fixed images it became more popular. William Herschel was the first to call the new technique of 'recording' photography which soon grew popular among both professionals and amateurs and quickly became a new field of art. Both methods required a very long exposure of a photosensitive material to light and that is why architecture and its static character was an ideal subject of artistic works in the new era [1], [3], [5].
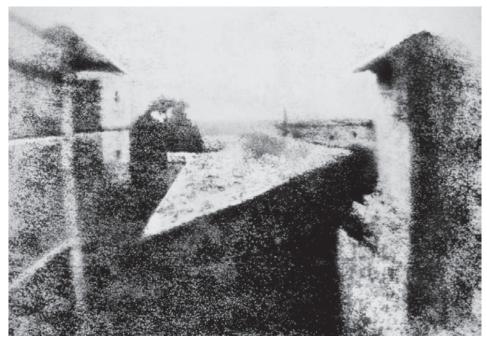
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Fig. 1. *View from the Window at Le Gras*, Joseph Nicéphore Niépce. Source: http://commons.wikimedia.org/wiki/File:View_from_the_Window_at_Le_Gras,_Joseph_Nic%C3%A9phore_Ni%C3%A9pce.jpg (access date October 2010)

Fig. 2. "Little Italy 1925".
Source: http://www.stevestenzel.com/portfolio/rephotography/
bridge2large.html

Fig. 3. "Upper Landing 2003".
Source: http://www.stevestenzel.com/portfolio/rephotography/
bridge2large.html

In their book *Architecture Transformed: A History of Photography of Buildings from 1893 to the Present* Robinson and Herschman wrote that originally two styles prevailed in photography of architecture. The first of them: "the elevation" consisted in photographing a building from an elevation to illustrate detail as precisely as possible and render the character of the building, especially its facade. This method showed architecture almost in the same way as an architectural drawing and the photographs were essentially two-dimensional images. The other method: "the perspective" focused on capturing the spatial character of the buildings and emphasizing their three-dimensionality. Buildings were photographed from a corner to show their whole structure. This way of taking photographs stimulated greater creativity, although in the first decades after its discovery photography was treated as a documentation tool and it complemented architectural drawings [5]. As a result of the development of the technique and especially the development of the technology which enabled the reduction of exposure times, it was possible to use photography more freely and more creatively but the photographers were still interested in architecture which was either their main subject or the background in the photographs showing human life. These two examples of use of photography in portraying architecture provoke reflection on how to render in a two-dimensional visual representation of architecture what it really is? Indeed architecture is not only individual buildings but first of all a character of the city, its architectural and non-architectural climate. Architecture is not only the solids, details or proportions captured in a picture; it's also the spatial relations, atmosphere and impressions which architecture evokes in the viewers as well as the relations with the surrounding area. Jan Gehl wrote that *life between buildings is both more relevant and more interesting to look at in the long run*

than are any combination of colored concrete and staggered building form [2]. A question arises then: How to render what is happening in space, and perhaps more importantly, what is happening in time? What we see today is not the same as what it will be tomorrow, and the place where we stood a moment ago provides us with an opportunity to look at the 'building' from a totally different perspective than the place where we are going to stand in an hour, a minute or even a second. The contemporary photography of architecture is not only the professional, graphically perfect pictures published in architecture magazines and albums but first of all hundreds of thousands of pictures taken every day by anonymous tourists that are an attempt at capturing architecture as a 'process'. It's no coincidence that a lot of cities have special places from where tourists can take pictures or photograph the city skyline. The cognitive value of such pictures sometimes seems greater than that of professional pictures which, as a result of professional 'enhancement' treatment, do not show the buildings as they really are, and when we see them in reality our impressions are totally different than those which we have when we look at them in the pictures. When photographing architecture everybody perceives the building which is being framed individually, post-projecting it in their own unique way.

Since the moment when photography was invented not only has the technology changed but first of the very architecture changed. New trends made photographers change the way they look at objects they photograph. Furthermore, many new applications of photography emerged, making it a useful tool in the hands of architects and space explorers. Today, photography is used both as a form of documentation and as an independent method supporting designing and analyzing architecture. Good examples of that would include such independent fields as

orthophotography[1] or photogrammetry[2] as well as the use of photography in qualitative research of human habitat[3]. The Rephotographic Survey Project is an interesting example of the use of photography[4]. This undertaking shall enable the observation and assessment of visual changes which took place in urban space as well as those which take place in front of our eyes (Figs. 2, 3). This kind of initiatives are much appreciated both in Poland[5] and abroad[6] by architects as well as by heritage sites explorers, urban planners, urban sociologists and other researchers of urban life changes.

The development of photography of architecture is not only new applications of a known tool but also great changes in perception and presentation of architecture. The architect has always been required to present the design both technically – with the use of a drawing e.g. a view or a cross section, and as an idea or impression – in the form of a three-dimensional representation. Photography, especially digital photography, has become an excellent tool which is useful in preparing sketches, scale models or ultimately visualizations[7]. Today, visualizations can be treated as a kind of extension of photography and a form of portraying architecture. Today's technology enables the creation of digital models of designed buildings and faithful rendition of their shape, details, texture of used materials and context of the surrounding area. It is also possible to simulate the behavior of buildings both in respect of passing time and changing weather and climate conditions, and even in respect of the masses of people flowing through them. Along with further development of technology the virtual models will surely be more and more precise, which will make it possible to better analyze the impact of planned investments on the surrounding area and possibly on individual users as well. These types of simulations undoubtedly provide a great opportunity to test and experiment with the designed building, improving and adjusting it to meet the needs of future users.

Let's focus, however, on the purely visual aspect of the design process and the perception of digital architecture. The viewers of virtual projects often have doubts whether they see visualizations or pictures of actually existing buildings. The advantages of contemporary digital models and their visualizations include relatively short time needed to make them in comparison with such traditional techniques as sketches or scale models as well as in relation to modern techniques of 3D projection[8]. Additionally, it is relatively easy to modify them, which is their another great advantage. Undoubtedly, such an impression-oriented 'projection' significantly facilitates contact between architects and customers for whom a view or a cross-section is often too complicated to understand.

However, the creation of visualizations which are ubiquitous in today's design process is connected with a serious risk. Digital models and their final visual representation can be easily distorted. It is possible to locate the designed buildings in any place and simulate the context of their surroundings or sun exposure which is impossible in reality. Obviously, this provides unlimited design possibilities but at the same time poses a lot of threat to 'real' design. The viewers of contemporary architecture who are exposed to hundreds of colorful images seem to care less and less for the quality of architecture in respect of technical and functional aspects, focusing more on impressions and merely aesthetic perception of presented buildings. It is disturbing that this issue is also present in architectural competitions where it happens that a properly prepared visualization is a significant advantage.

As a result of introduction of computer aided techniques into the design process, the creation of architecture can be today compared to taking hundreds of photographic shots of an existing building. However, despite its graphic perfection the architectural visualization has some imperfections in comparison to photography of architecture. Visualization seems to be a contradiction of photography which in its original form tried to show the world as it is, whereas visualization has no material representation in real space. It is worth, then, considering if, when designing with the use of modern techniques of visualization, we create places worth being photographed or rather places that only seem to be worth being photographed. A question arises if such a virtual 'building' is indeed architecture, which itself has as many meanings as there are

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[1] Orthophotography is used e.g. in the creation of orthophotographic maps which are terrain images obtained by processing a set of photogrammetric pictures (ortophotography) without errors connected with different scale application resulting from vertical deviation of optical axis of the photographic camera and from differences in elevation of different points of the terrain being mapped.

Source: http://encyklopedia.pwn.pl/haslo.php?id=3951990 (access date October 2010).

[2] Photogrammetry is a field of technical sciences dealing with gathering, processing, presentation and storing information (quantitative and qualitative) regarding a given building on the basis of photogrammetric images (photograms) and its digital representation.

Source: http://encyklopedia.pwn.pl/haslo.php?id=3902234 (access date October 2010.)

[3] Compare research in environmental psychology e.g. Augustyn Bańka, *Społeczna psychologia środowiskowa. Wykłady z psychologii* – volume 9, Scholar, Warszawa, 2003.

[4] Rephotography is the act of repeat and comparison photography of the same site with a time lag between the two images. The first documented project in the field of rephotography was "Second View: The Rephotographic Survey Project" by an American photographer Mark Klett in 1977.

Source: http://en.wikipedia.org/wiki/Rephotography (access date October 2010).

[5] http://repoznan2012.pl (access date October 2010).

[6] http://stevestenzel.com/portfolio/rephotography (access date October 2010).

[7] For the purpose of this article it was assumed that architectural visualization is the way of presenting an architectural design with the use of computer projection of reality with the use of three-dimensional graphics tools and software in order to present the vision of a complete project.

[8] This issue requires further explanation; the following technologies can be given as examples: 3D building projection or Virtual Building Explorer.

Source: http://www.projectiononbuildings.com/ (access date October 2010).

Source: http://www.graphisoft.com/products/virtual-building-explorer (access date October 2010).

architects. It is impossible to unequivocally claim that architecture is exclusively an art of shaping space but it is also impossible to extend that term indefinitely. As Kester Rattenbury put it [4], it is worth asking the question if architecture is what actually exists in space, which can be described and photographed, or also what exists only on paper in the form of views, cross sections, models and visualizations. Is what is not subjected to the experiment of being used also architecture? This question, just like the one included in the title, is left without an answer, provoking further deliberations about the cultural significance of images of architecture in the changing world.

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Po co fotografować architekturę? Od fotografii architektury do wizualizacji

Przedmiotem artykułu jest zjawisko „fotografowania" architektury. Nowoczesne metody, takie jak modele 3D i wizualizacje, mogą być pomocne w prezentacji architektury oraz komunikacji pomiędzy architektem a odbiorcą na poziomie pomysłu. Pozostaje jednak pytanie, jak na dwuwymiarowym zdjęciu przekazać to, co dzieje się w trójwymiarowej przestrzeni, a może przede wszystkim w czasie. Jak ukazać ideę dzieła w formie pojedynczego kadru i jak wykorzystać nowoczesne środki przekazu wizualnego do prezentacji architektury jako zagadnienia społecznie istotnego. Co zrobić by promować „dobrą" architekturę wśród „zwykłych" odbiorców i jak ukazać to, co niewidoczne w kontakcie z architekturą.

Keywords: architectural photography, visualization

Słowa kluczowe: fotografia architektury, wizualizacja