

Using 2D photography as a 3D constructional tool within the Second Life environment

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Abstract

Photography is a powerful 2D representation tool to document 3D volumes like architecture. It is possible to manipulate photos with 2D tools like Photoshop in order to suggest new 3D re/formations and re/interpret architecture. One can alternatively use 2D textures as mappings to create realistic 3D model renderings. This project is a combination of these two approaches: photographing architecture, turning the resulting photos into transparent PNGs and then mapping these photos onto 3D volumes in order to create a 'new' architecture from an 'existing' architecture...

One of the advantages of using photographs to create architecture is that your photo pool can easily be composed of visuals from various cultures and you may end up using an amalgam of visuals from, say, two supposedly 'opposite' cultures. This possibility reminds the peaceful collaboration of musicians from different cultures to create a unique music. In addition, this act can also be taken as a migration of media through appropriation of photography for 3D volume creation and re/presentation. At this point, we are talking about a double representation, since photography is a representation tool already and it gains another representational dimension when it is re-mapped onto 3D volumes for the construction of an alternative reality.

This paper concentrates on using a representation tool (photography) to construct a 3D space (architecture) within a virtual 3D environment (Second Life). During the process; the concepts of perception, reality, cultural context, re/presentation and appropriation will be examined.

Introduction

As digital photography became more accepted, influential and widespread, artists / designers started to take advantage of photos to create novel 2D / 3D entities.

Panoramic photography, photo-mosaics, stop-motion studies are examples of 2D creations using numerous photographs. Microsoft's Photosynth, PhotoModeler, DigiCad, ImageModeler are some software where one can employ photographs to create 3D scenes and environments. In such cases photos mostly act as planar surface information to be used as mappings onto volumetric faces and they provide valuable knowledge / detail on the identity of a particular entity.



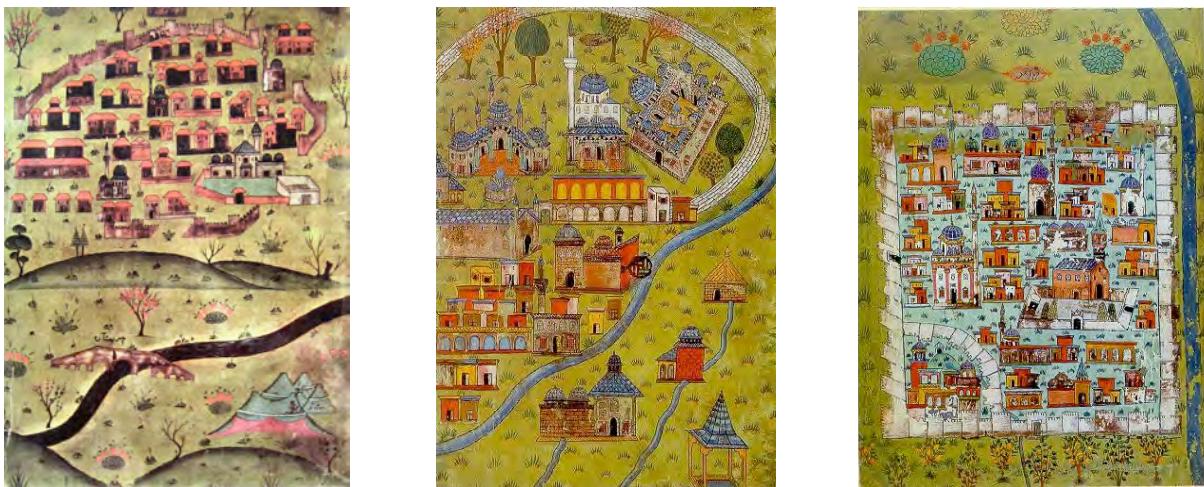
Figure 1. 360 degree panoramic photography turning a cylindrical bell tower space into a linear planar architecture. Photo: Murat Germen, 2007, Cadiz, Spain.



Figures 2 and 3. Left: 360 degree photo-mosaic. Photo: 'Hagia Sophia #3' from 'Places' series, Ahmet Elhan, 2008. Right: Gwon Osang's photo-mosaic sculptures.

Architecture, representation and perception

Depending on facilities and technologies available at various periods of the world history, architects used various tools like drawings, paintings, miniatures, models, computers, fine arts platforms to represent their design before and after construction.



Figures 4, 5 and 6. Ottoman miniatures depicting Izmit (left), Eskisehir (middle) and Tatvan (right) by Matrakci Nasuh. (Images accessed: Sun Jun 7 18:29:12 2009 / URL: <http://img260.imageshack.us>)

The constitution of space involving multiple incompatible perspectives to be present in photos to be used, can be likened to Ottoman miniatures where various conflicting perspectives can co-exist. This diversity of perspectives takes us to the idea of 'perspectivism' which, after Wikipedia, is 'the philosophical view developed by Friedrich Nietzsche that all ideations take place from particular perspectives. This means that there are many possible conceptual schemes, or perspectives which determine any possible judgment of truth or value that we may make; this implies that no way of seeing the world can be taken as definitively "true".' If we take this a little bit further, there is no strictly objective 'reality' to be re/presented, but instead, a detailed depiction of our personal perception which is closer to reality since it describes a particular experience (which is different for every individual). This experience is a symbolic association as 'representation includes everything people construct to be known as a visual record or figurative manifestation of [a] reality. [...]'. Within this approach, architects usually reduce the definition of representation to the creation of such visual forms as drawings or models that selectively double or imitate the physical reality of a building. I would like to move beyond this traditional view to define representation as 'a culture-specific and dynamic process of establishing the

relationships between reality and the signs created to symbolize this reality. In this process, reality becomes thinkable, and its meanings are symbolically assigned.'
(Piotrowski and Robinson 2001)

Architecture, photography and truth

Photography is the only medium that enables architectural works to be shared with people who do not have access to these works. It is, in this respect, the ultimate representation of architecture that is built. There are various techniques, lenses, rules of thumb that are used in architectural photography in order to make the process as 'appropriate' as possible. But these special techniques usually provide us with unique visual recording possibilities that are practically and physically impossible to the naked eye. The so-called 'perspective correction' process much used in architectural photography, carries the potential of producing some steeply converging lines, especially when the photographer is close to the building to be photographed. Consequently, the shifting motion in photography causes another shift in our perception: photography does not reflect the truth...



Figures 7, 8 and 9. Professional architectural photography samples where two horizontal photos taken with a wide-angle tilt-shift lens were combined in order to widen the angle even further and augment the perception. This coverage is not possible with a single shot and offers a unique aesthetic. Photos by Murat Germen, 2007,8,9.

With reference to the notion of an ideal truth Mark Kingwell makes it clear:

The image is made, not found, and the making is inherently personal, rooted in prejudice. The important truth is to recognize and acknowledge bias openly, not least in the essential decisions around framing the image. [...] Our investigation must entail a special kind of refusal: a refusal to take the taken-for-granted for granted. It follows that the responsible image is the one that makes that refusal necessary, unavoidable, insistent. That is the truth in the image though perhaps not the truth we thought to find. (Kingwell 2006)

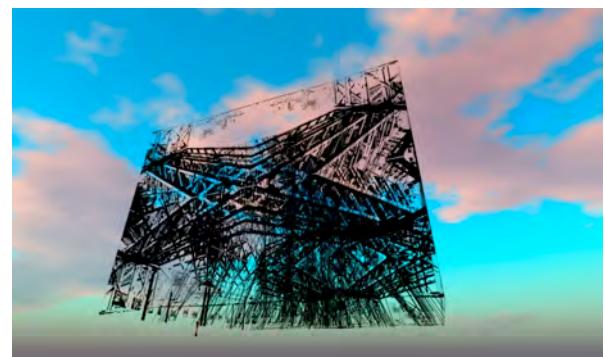
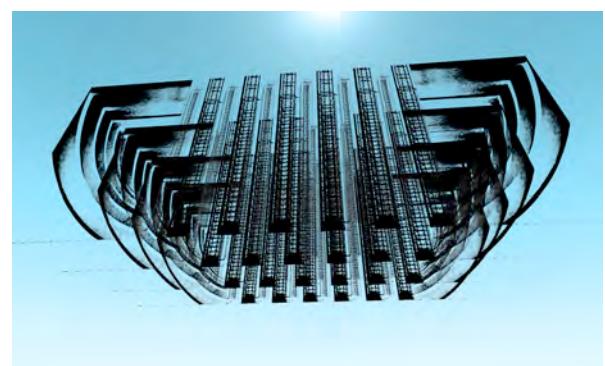
The concepts of objectivity and the presence of a single dogmatic reality are also criticized by Vilém Flusser:

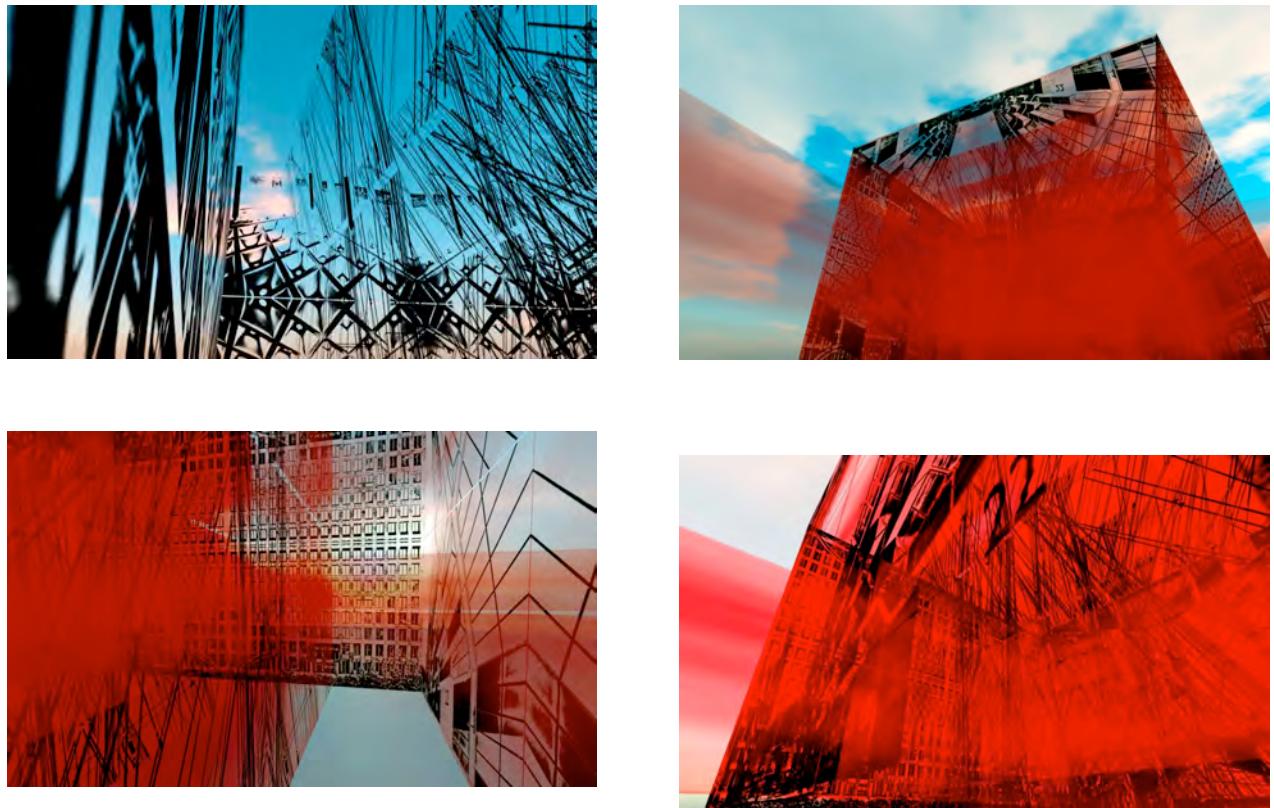
The apparent non-symbolic, 'objective' character of technical images has the observer looking at them as if they were not really images, but a kind of window on the world. He trusts them as he trusts his own eyes. If he criticizes them at all, he does so not as a critique of image, but as a critique of vision; his critique is not concerned with their production, but with the world 'as seen through' them. Such a lack of critical attitude towards technical images is dangerous in a situation where these images are about to displace texts. The uncritical attitude is dangerous because the 'objectivity' of the technical image is a delusion. They are, in truth, images, and as such, they are symbolical. (Flusser 2000)

Experimentation in Second Life

There were various offline and online 3D environment alternatives at which one could carry this experimentation out. Second Life (SL) was the one that was selected since it had a powerful 3D construction interface. More importantly, SL is a global(ised) milieu in which you can have people from all over the world try 3D creations interactively. SL has recently been quite popular as a customizable virtual environment. Yet, most took it as a game setting and since SL requires more self-motivation and guidance compared to online game platforms, they did not exactly find what they were looking for. According to some SL experts, this customizable virtual environment is ideal for creative projects to be realized as 3D volumes, as it allows you to build anything without rules / regulations and has quite an intuitive / advanced 3D modelling environment.

I wanted to take advantage of the SL environment in order to test what I have been proposing on performing architectural design with the aid photography. During this investigation process I have used my own photos, which were the products of both artistic and professional photography, turned them into 1-bit black & white images with threshold command in Photoshop, saved them as transparent PNGs, mapped them onto transparent planes within the metaverse and finally, built volumes to be 'photographed' using SL software's snapshot feature.





Figures 10, 11, 12, 13, 14, 15, 16, 17, 18 and 19. Staging a succession of planes devoid of the typical depth of field, with all its planes kept clearly and no shadows cast (due to online rendering limitations in Second Life), leads to an idiosyncratic perception mode that further fosters the concept of constructed reality and creation of a personal world. This personal world exists in the virtual world and the particular experience of the constructed reality takes place through the help of a concept that we can call 'telepresence' which focuses on the relationship between an individual and his / her personally mediated environment.

3D modelling artworks constructed in Second Life by Murat Germen, 2008-09.

Conclusion

This series of artworks and process focus on the possibility of (re)designing architecture virtually with the help of one of the most important representation tools - photography. Photography can be utilized in the process of 'constructing' a new space - that we can call 'narrative space' - from an existing spatial body. This narrative space can also be defined as a 'manufactured metaspace' which is a space beyond reality and representation: a constructed reality that exists solely in digital realms like Second Life where boundaries are unnoticeable. Despite the fact that this constructed reality is not a physically built entity, it can reveal some spatial clues that

can later be used in tangible architectural projects of the real world. While the idea of juxtaposing a series of disparate photos sounds questionable, the new aesthetic challenge of formulating the visual continuity of photos in sequence offers new ways of constructing space and conveying narrative information as the result of a new spatial flow among contiguous planar spaces.

Virtual architecture is a term used for architecture specifically created in the computer environment and never used within the realm of architectural photography. This paper concentrates on the prospect of constructing architecture virtually through photography within the metaverse. People like Piranesi, Lebbeus Woods, M.C. Escher, Marcos Novak etc. previously dreamed about architectures that could exist virtually on paper, screen and digital environments. Space is usually defined / experienced as a physical entity, yet, we recently began to observe that the notion of 'space' can exist / be perceived / used as a non-physical organism by means of interactive media and virtual environment applications in the computer platform. Such creations bring new definitions of 'space' and can be named as 'informational space' or 'cognitive space.'

A final quote from Mark Kingwell supports this endeavour of making personal worlds of architecture using photography:

Photographs are not multiple depictions of some single reality, waiting out there to be cornered and cropped, and somehow regulating, even in the cornering and cropping, how / what the image means. Rather, photographs offer multiple meanings. The presented image is not a reflection, or even an interpretation, of singular reality. It is, instead, the creation of a world. [...] The truth of the image is the truth of time: not its metaphysical essence, whatever that might be, but its presence; its inescapability. A photograph, I want to say, is a machine for making worlds. (Kingwell, 2006)

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