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Artistic representations of architectural design schemes:Forms, Compositions and Styles

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Abstract

This article examines how computer generated representations relate to traditional architectural representations and their forms, compositions and styles. Three case-based analyses are presented to gain an insight into the salient features of hand drawn and computer generated artistic representations and the ways they correspond and interpret conventions established by visual arts. It is concluded that a deployment of the computer technology does not merely accelerate drawing process, but opens up a potential not attainable on the drawing board. The result is a greater freedom of expression which demonstrates that architectural representations, as ever, belong to both, architecture and art.

1. Introduction

Traditionally, architectural representations have been regarded by many, as possessing an 'artistic' as well as purely practical and 'technical' dimension (e.g. the drawings of Piranessi, Gandy and more recently Karl Laubin). Recent developments in computer technology have fostered the use of computer generated representations in architecture. It might be thought that these architectural representations made by computers are simply technical representations of architectural schemes, and have no 'artistic' qualities. Indeed, some authors argue that computer generated representation are in sense opposed to visual arts, as more we look at them, they "seems to exhaust itself at the first encounter" [1]. After all, they are made by machines, generated by computer programmes or software, and we do not usually think of 'art' as being programmed.

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In this paper I am going to argue that computer generated architectural representations are, or can be, artistic representations. My claim is that the growing ease with which it is possible to create representations using computer software, does not lessen the need for an artistic eye, the ability to translate an old form into a new, nor makes new form and composition less able to communicate the essence of the project, together with an understanding of the craft the computer is performing.
To investigate this claim I am going to examine the ways computer generated representations relate to traditional, hand drawn representations and their established forms, compositions and styles. This requires an analysis based on comparison – the classification of computer representations according to forms, compositions and styles through the determination of common traits between two different modes of representation.
Two research questions guide this paper. The first is concerned with the *form* and *composition* of representations: how do computer generated representations interpret and utilise the established conventions of traditional architectural representations? In order to answer this question two case-based analyses are conducted.
The emphasis in the second question is not on formal taxonomies but rather on: what are the potentials and advantages of the photorealistic style of computer generated artistic representations? This is investigated through an analysis and comparison between representations.

While this article draws on some empirical research into architectural representations, the account offered here derives primarily from an analysis of architectural conventions that are historically recognised and present in the practice of architecture and art since Renaissance [2]. The method employed is therefore that of the analysis conducted by historians and critics of architecture and art rather than the empirical social scientists, and what is presented here follows the traditions of such writers as Fraser and Henmi or Robin Evans. Before embarking on the analysis, a few words should be said about what does the term artistic architectural representations refers to in this article.

2. Defining Artistic Representations of Architectural Design Schemes

During the different stages of design, architects create and employ different methods and forms of representations that can be generally divided into two diverging modes of representations, design and artistic representations [3]. The representations, prepared as a matter of course during the design process that contain technical information about design, are commonly called design representations. The other group of architectural representations, that are the subject of this research, are artistic representations. More precisely, the focus is on static artistic representations that provide an understanding of the three-dimensionality of design schemes and one is unable to interrogate for information other than the view it shows.

Artistic representations of design constitute a critical and valued segment of the legacy of architectural representations. Their existence can be traced back to Palladio's *Quatro Libri*, Campbell's *Vitruvius Britannicus* and Giambattista Piranesi who presented grand architecture in rich paintings, often in watercolour style. In his book *The Study of Architectural Design*, John Haberson emphasises the importance of artistic representations. He writes:

"A design must be well presented to appeal at once to the jury. This means well drawn and well rendered; the architecture well modelled, the third dimension well expressed; entourage well studied in relation to the architecture and rendered in proper value. It also means that the plate must be well 'composed'[4].

The difference between the rich pictorial representations by architects and architectural illustrators such as Boullee, Gilbert or Laubin and Ferriss, and design drawings, is not one of degree but of kind. Alberti already foresaw this division between intellectual, artistic production, and manual, material production when he defined architecture in his prologue and First Book [5] as consisting of 'lineament and structure'- meaning design and material construction. While design representations can be laconic and incomplete because they reveal possibilities only to the trained professionals, in contrast, artistic representations establish an image of the design scheme, simulating the actual experience of seeing and walking through the place.

Artistic representations can be static or interactive and they have a rich repertoire of techniques and styles of representation. Watercolour paintings, pencil or ink drawings, but above all, new computer generated representations are the most commonly occurring methods of artistic

representations to be found in the use and discussions about visual representations of architectural schemes. They can be atmospheric or photorealistic depending on the style chosen. The composition of representation can be varied and they can be populated with human figures, trees, plants or environmental contexts. As such, they are carefully crafted, and thus, the most "artful" of all architectural representations [6].

3. Artistic representations in the digital age

Traditional (or hand drawn) artistic representations of architectural design schemes show an astonishing consistency in their conventions, styles, forms and compositions through time. Plans and elevations were common graphic form of an architectural design representation in Roman antiquity. Equally, perspective drawings, recommended by the Roman theorist Vitruvius, have been employed since the fifteenth century to help architects to visualise their work in three dimensions and make finished renderings for patrons. The very foundation of perspective drawing was in recording optical views with the help of mechanical instruments and geometric constructions. By means of projective laws, real spatial objects were decoded and transformed onto a two-dimensional surface by linear perspective.

Architectural conventions, such as orthogonal and axonometric projections, isometric views used through history, are also the syntactical agreements for the construction of representation. They have their rules and abstractions established so that they can act as tool of communication whose purpose is to convey the same thing to an observer as it does to the maker. Nowadays, in the practice of architecture, these conventions remain much used and as important, as ever.

Recent times have seen big changes in the way architectural design is represented and communicated. Although the impact of the technology of computer graphics is still unfolding, it has already affected artistic representations in a very substantial way. During the last two decades, the use of computer technology has expanded the repertoire of representation methods. Nowadays, it became almost indispensable in producing architectural representations. The capabilities of technology allow for the convenient visualisation of complex shapes, which are sometimes extremely difficult to construct by hand [7]. Thus, some architectural theorists claim that the effects and importance of CAD as an innovation in the field equals that of introduction of paper [2].

Within the research, there has been a resurgence of attention from writers in the fields of architecture, visual communication and computer technologies on architectural representations of design. This work has developed into two main strands. Some of these writings focus on computer generated representation and visualisation technologies. They are concerned with the use of computer technology as a facilitator of visual communication in architecture and urban planning [8], [9]. Other investigations, under this strand, explore the usefulness and limits of these representations as a means of communication [10], [11], [12]. The focus of this discussion is the required level of detail, degree of realism and the accuracy and reliability of representations.

The second strand of the writings sits within the tradition of history and theory of architecture. They consider the historical development of architectural representations and their conventions as well as on their uses in the practice of architecture over the time [13], [14]. Some of the current writing compare architectural drawings with the paintings and other work of visual arts [15]. Others focus on the changes in the forms and methods of architectural representations from the Renaissance to today [16].

In addition, architectural practices presently employ a wide range of computer and traditional representations for depicting design schemes. Some tend to use only traditional modes of representation. For example, FaulknerBrowns practice recognises that computers are ‘powerful tools’ but favour a freehand drawing. Others, such as architects Michael Graves and Frank Gehry combine the use of computer representations and traditional methods. A further recognition of the computer generated representations has arrived from the architectural institutions such as Royal Institute of British Architects, which extended their drawing collection to include work produced by computer technology.

Recent times have witnessed a rediscovery of drawing and hand drawn architectural representations, as well as a proliferation of studies focused on computer visualisation. However, there is a relative dearth of literature concerned with the topic of this article – that is an analysis of the use, interpretation, and benefits of architectural conventions and styles by computer generated artistic representations. In addition, there is even less literature about how they interpret the traditional forms of visual arts and what new conventions have been created.

4. Analysis

In the following three sections of this article, case-based analyses are presented and discussed to gain an insight into the salient features of computer generated artistic representations and the ways they correspond and interpret conventions and styles established by visual art and hand drawn architectural representations. Their forms, compositions and styles are compared so that some indicative differences and similarities may become apparent.

4.1. Form

The first theme is a *form* of artistic representations. The term *form* refers here to the particular appearance and organisation of the content of the representations. This theme is examined through the analysis and comparison between the *Rendered perspective of Oral-B Headquarters* in Belmont, California (Fig. 1), created by John Marx while working for DES Architects and Engineers in 1993 and Marion Mahoney's *Willis residence rendering* (Fig. 2) created in 1911.

Figure 1. John Marx: *Rendered perspective of Oral-B Headquarters*, Belmont, California, DES Architects, John Marx Project Designer, computer rendering produced in 1993, (DES Architects copyright material is reproduced with a permission of Mr John Marx)

Significantly,both representations reveal a great reliance on a form of representation deeply rooted in the tradition of art know as a *triptych*. This was a common form for an altarpiece during the Middle Ages and the Renaissance, with three side-by-side parts on panels or canvases [17]. Some famous examples of the use of this format include Bernardo Daddi's '*Madonna, Thomas*

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Aquinas and Saint Paul' (about 1330) and more recent triptych by Francis Bacon *'Three Figures in a Room'* (1964).

Marx's artistic representation, is a modern, computer generated artistic interpretation of triptych. The rendered perspective plate provides a multiple experience of the building through the views of three perspectives. They create a unique impression in which they are bound together by the faded perspective of the whole building in the background. Three perspective views of the main entrance to the building, in the foreground, are sharp images tied up into a sequence that flows in front of viewers' eyes simultaneously. The centre of the 'triptych' is a front elevation of the building, which distances the viewer as if one is just beginning to approach the building. The side views show different views of the middle part of the front elevation of the building, the main entrance, set back between the wings. They show how these three parts of the building are joined together. The left view moves the viewer closer to the door and yellow vertical peer, whose strength and colour indicates an important event, the main entrance. The right view is slightly elevated and shows how the middle part of the building is joined with the left wing. This representation illustrates the arrival from the street to the main entrance and then rotates it to the left, showing the same elevation from the different viewpoint, and lastly, returns to the front and closes in on it. Represented in this form, computer generated perspective of Oral-B follows the rules of classical triptych composition where each panel is a sequence. They add up together providing the overall understanding of the story about the design. While it follows the traditions of art, it also purposefully elucidates and applies this form to represent architecture in a new computer generated version of the classical form.

Marion Mahoney's *Willis residence rendering* is an interpretation of triptych in the traditional mode of representation. Mahoney's painting, although organised into the same form communicates different atmosphere and information about the development.

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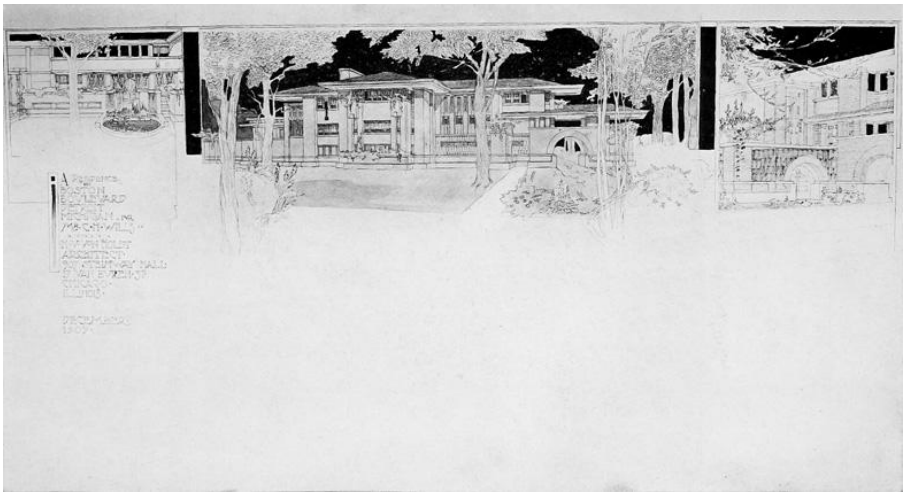

Figure 2. Marion Mahoney: *Willis Residence rendering*, published inBook of the twenty-fourth annual exhibition, 1911 *(*copyright material is reproduced with a permission of The Art Institute of Chicago,All Rights Reserved*)*

The first difference between these two representations is the manner of lighting. Marx uses the sun (mid day position of the sun, probably in one of the summer months) to create a crisp, white appearance of the building. Mahoney's sky is black, painted in ink, and with no light coming from above. On the contrary, the light is coming from below, from nearly a half of the plate that she left white, while pushing the three perspective views to the top. The two contrasting uses of light create two different atmospheres of representation. Oral-B version is public, insistent on differentiation, clean, authoritative and remote. Willis residence is less remote, more intimate, less differentiated. The second difference is in the information provided.As this is a representation of the private residence, the backyard is an important space to describe. Thus, the third sequence moves to the backyard and pool area. Both specific expressions of these tendencies are appropriate for the purpose, one representing a pharmaceutical office development, the other a private residence. The main quality of both representations, generated by the form itself, is the interactivity where viewing flows from one sequence to the next.

I approached two representations from a perspective of seeing them as the evidence of the transition of a traditional art form into a new computer generated form of representations. The analysis has shown the demonstrable similarities between two representations. By adopting the traditional form John Marx's representation translates it toa modern, powerful interpretation of what can be regarded as the art of artistic representation of architecture. In their own unique ways, they equally successfully employ the aesthetic (as well as technical) potential of the medium to portray and communicate architectural design scheme effectively using the artistic freedom of expression.

4.2 Composition

The *composition* of representation, in this article, refers to the way of putting together different elements into an integrated representation. One of the oldest and most important conventions of architectural representation is orthographic projection. The evidence of its use in architectural drawings is found in the fourteenth century (although the geometric principles were described by Claudius Ptoley in AD300). To create the final artistic representations of design schemes architects often combine orthographic projections of plan, elevation and sections (or another elevation) together into a composition. One of the advantages of this composition is its capability to depict design clearly by integrating several views and information together.

The convention of orthographic representation, as the two-dimensional simplification of the design schemes, eliminates the third dimension to focus on the other two. The plan represents the length and width, but not height while the elevation represents only length (or width) and height. This reduction of a three-dimensional object to two-dimensions is habitually seen as a hindrance to this form. Since the third dimension is not shown, the sense of depth is flattened. In order to understand three-dimensional condition of a design from orthographic representations, one must view these separate orthographic projections and mentally construct a three-dimensional model.

In its classical format an orthographic representation would usually consist of two elevations and a plan as in Eliel Saarinen Elevation and Plan for proposed entrance to Art Club, Cranbrook Academy of Art in Michigan produced in 1927 (Fig. 3). Saarinen's composition and the use of a pencil technique bring out depth and create a powerful sense of three-dimensionality. The plate

comprises of the plan, which opens up to the front elevation above, juxtaposing the elevation on the left and connecting them together. Further integration is achieved using chiaroscuro technique that adds depth to the drawing. Light has been cast from the right and drawn in a manner that conveys a high, midday position of the sun. This creates a deep constructed shadow of arches on the front elevation. By maintaining the same position of the sun when constructing the shadow on the left elevation Saarinen establishes clearly relationship between the drawings and located the separate parts to each other. By remaining entirely in the flat plane, he makes virtual space and real space one at the same time and in the same place.

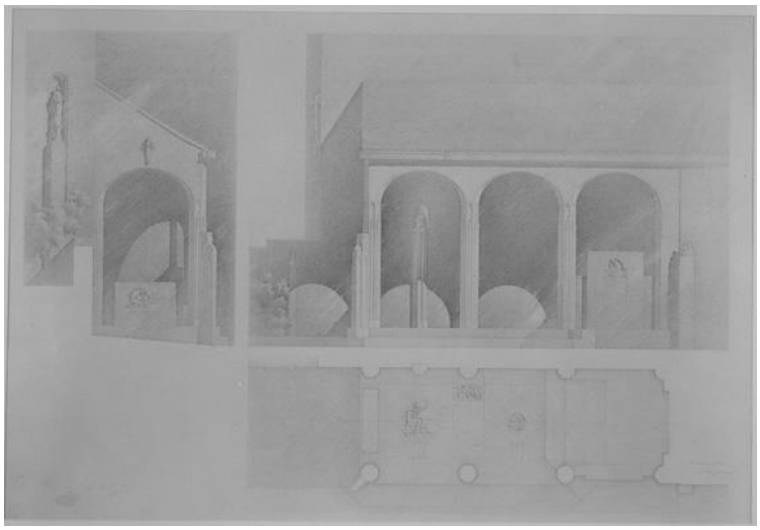

Figure 3. Eliel Saarinen: *Elevation and Plan for proposed entrance to Art Club*, Cranbrook Academy of Art in Michigan produced in 1927 (copyright material is reproduced with a permission of Cranbrook Academy of Art Museum)

The computer generated representation of San Tomas Research and Development Campus (Fig. 4) in Santa Clara, California produced in 1999, Form 4 Architects (representation is produced by architect John Marx) use the rigor of this composition to create a computer generated interpretation of this classical convention of representation.

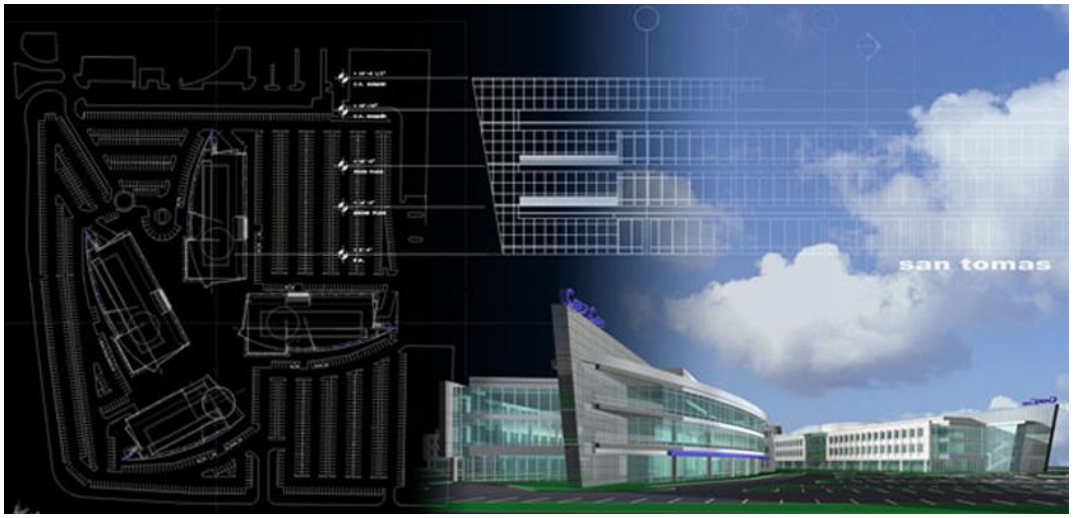

Figure 3. John Marx: *San Tomas Office Park*, Santa Clara, California, Form4 Architecture, John Marx and Paul Ferro Project Designers, computer rendering, produced in 1999, (Form 4 Architecture copyright material is reproduced with a permission of Mr John Marx)

The representation of San Tomas campus combines a plan, an elevation and a perspective computer rendering of three-dimensional, CAD generated model. The representation is a plate with a black background comprising of the three separate parts of representation: white lines of the site plan and an elevation and realistically rendered perspective. The site plan is represented as an abstract plan and connected to elevation view and perspective through the background spilling in the form of clouds from the perspective to the elevation. One can quickly move from the site plan to perspective and the long elevation to compare the building in front. By doing so, the representation elucidates horizontal relationships in plan and relates them to the vertical, such as glazing, openings and the proportions of the building. Similarly, one can view the elevation and go down to the perspective. Thus, the three views link themselves and offer an interrelated construction. The alteration to the original form is made by replacing the second elevation with the rendered perspective of three-dimensional CAD model. This appears, at the first sight, a minimal intervention. In fact, this change is a conceptually sophisticated construct. This point requires further clarification.

In the case of the San Tomas campus representation, a rather demanding mental integration of orthographic drawings is provided by the representation itself. While maintaining the synergetic

properties of combined views in orthographic projection, the representation contains the element of integration, a three-dimensional model. Composed in this way, this artistic representation interprets original orthographic composition in a new way that fully uses the potential of computer technology. The representation establishes visual relationships between plan and elevation by juxtaposing them around the rendered perspective. This transcends the flatness and makes visible the three-dimensional condition of design.

My analysis shows that the San Tomas campus representation is a formal composition frequently used by many architects and architectural illustrators. Its value lies in the composition itself, which originates from the traditional ways of representing design interpreted in a new manner and in a new medium. The traditional form and new method stand here next to each other, acting together and producing an immediate benefit, a better use of the transitive, communicative properties of the representation.

The analysis and discussion in the next section follows from the former two. Since computer generated representations display some inclinations to follow and translate the forms and compositions of classical architectural conventions and art into their own media, the question can be asked how close their style stands to visual arts.

4.3 Style

The third theme is a *style* of artistic representations. Styleof representation is considered as a coherent system of depiction, embraced by artists or by architects at a more or less specifiable place and time in history. Perhaps *uniform mode of rendering* is more precise than *style of depiction* but style might be more appropriate since it implies that despite changes in techniques and methods of creation, one could always see the same persistent style of representations across it all.

Throughout history, the popularity of realistic style of architectural representations has risen and fallen. However, it remains to be an enduring way of expressing architectural ideas and concepts. In recent years, this style of representation underwent a significant transformation. Television, film and computer games are increasingly dictating the appearance of architectural representations of design proposals. Consequently, realistic style of artistic representations is now

influenced by computer generated visualisation techniques. These are capable of creating photorealistic renderings of design proposals. Thus, this style has become the prevailing cultural mode of the depiction of architecture.

The 'likeness' of realistic style is well evidenced in the manner of depiction of the photomontage of Gateshead Music Centre in Gateshead produced by Foster and Partners in 1999 (Fig. 5) and MediaCityUK in Manchester by Chapman Taylor in 2006 (Fig. 6). These representations illustrate a bold change to the city's riverfront. In particular, the Gateshead photomontage represents a photorealistic style of depiction with a fascinating paradox of being able to distort reality with the medium which is its truest mirror. This technique employs photographs of objects, divorces them from the original context and connects them to new situations, resulting in provocative juxtapositions. The objects depicted bring their associations to the new context. Consequently, different realities are revealed.

Figure 5. Foster and Partners: *Gateshead Music Centre in Gateshead*, computer photomontage produced by Foster and Partners in 1999, (copyright material is reproduced with a kind permission of Foster and Partners)

The representation of Media City UK although produced in the same style, employs only a limited amount of a photograph of the existing context. The chosen viewpoint is slightly above in order to position the design between reflections in water and a night sky.

Figure 6. Chapman Taylor :*Media City UK_Salford Quays Manchester*,computer photomontage produced in 2006 (copyright material is reproduced with a kind permission of Chapman Taylor)

The style of these computer generated representation parallels the power of the drawings by Hugh Ferris, one of the leading professional illustrators of the twentieth century and his representations of the St Louis riverfront perspective (Fig. 7).

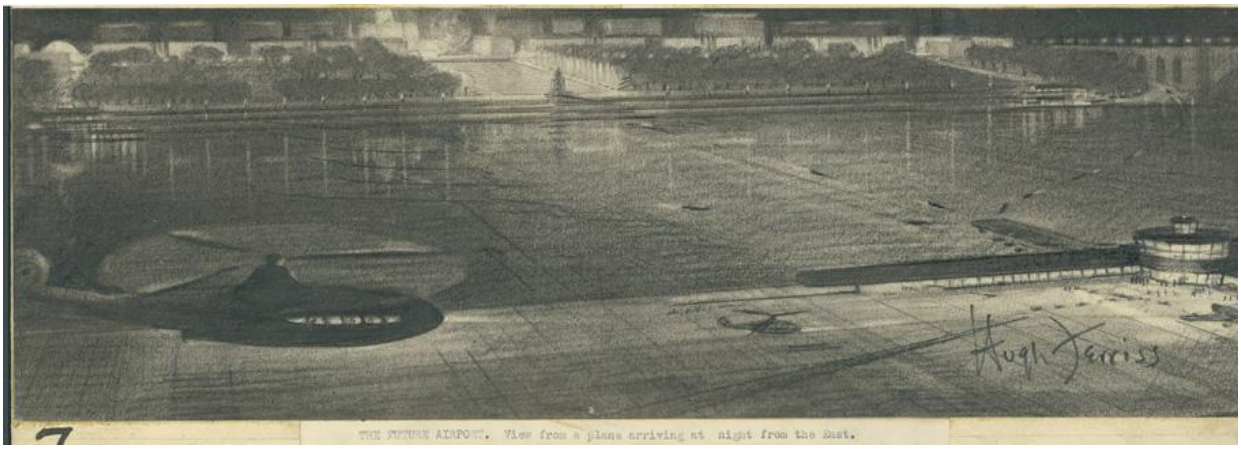

Figure 7. Hugh Ferriss: *Proposal for Downtown Redevelopment*, perspective rendering (reproduced with the permission of the Historic society, Art Museum, Missouri)

This representation, produced in 1945 using graphite and ink on tracing paper, renders a striking night scene of the downtown redevelopment as seen from the helicopter. This famous drawing at once locates the project in context, dramatises its relationship to water and complements its forms through a graphic technique.

Overall, the critical common features signifying this style of computer generated artistic representations are: the scene as a night prospect on the riverfront, the location of design on the left side; design has its own visual focus point, a focus point is achieved by a strong either exterior or interior illumination.

All these representations have a strong horizontal format, a low horizon line, and a view at a very slight oblique angle relative to the long side. Another important element is the use of light. The manipulation of light and dark hyperbolizes the design scheme. The glow from the luminous interiors celebrates the places. Its effect isdoubled by the reflection of the scenes and streetlights in the water. The scenes glow from certain key nodes: repetitive streetlights and luminous interior (Fig. 5), ground floor windows (Fig. 6) and facades and brightly lit mall (Fig. 7). The accents of light are carefully placed coming from below, suggesting a balance between vertical and horizontal features, in an effort to capture the imagination and support the idea of non-obtrusive design, which merges comfortably with the existing context. The ultimate result is a

representation, which creates a semblance of three-dimensional visual experience in the way that one sees segments left and right, near and far and assembles them in mind.

The luminance range and shadows are the most obvious technical advantages of computer generated photorealism. In terms of luminance, the amount of light reaching the eye from the night scene could vary over an enormous range: a light reflection on the water or a deep shadow next to itcan vary by a factor of many thousands to one. Paint pigments have a much more restricted range, approximately 40 to one. Photorealistic computer generated representations have also considerably less restrictions when depicting specular, metallic and glass surfaces as well as a range of outdoor light. Another advantage is the depiction of shadows. They are essential for modelling three-dimensional shapes. This is evident in the far periphery of the Gateshead and Media City UK scene, which is relatively blue. The eye gathers the impression only of an overall light and dappled scene; luminous edges of the shadows, as well as their visible colour differencesprovide whatever modelling and contrast are necessary.

In architecture, design representations such as orthogonal and axonometric projections, floor plans, elevations, sections, isometric views have great importance in exact technical description. However, those representations have little potential of activating attention and emotional responses that are germane in the presentation of the design scheme to people. In contrast, artistic representations of tangible architectural qualities are considered as ‘allies’, each valuable to the architect interested in the analogue as well as the representation [18].

Recent research shows that the greatest benefit of photorealistic style is that people perceive these style of artistic representations is also more credible than hand drawn [19]. The trust in computers and belief that they are more precise and accurate than human beings is a universal view that most people hold nowadays. Moreover, viewers experience fewer difficulties understanding what was presented, when the style was photorealistic. The example below (Fig 8) demonstrates this point. Despite of numerous confirmations that a simple sketch can be realistic and informative, the drawing of building on the right hand side of the image does not look in reality as it is represented, thus it was not perceived by viewers as realistic as computer renderings on the left

hand side picture. Moreover, the findings suggest that photorealistic artistic representations better serve their purpose because they better fulfil their role as a source of information about the design. Viewers were able to identify materials, colours and shapes of architectural features because they were visually more accessible.

Figure 8 Artistic representations of two design scheme: Photomontage/ CGI image of *Paradise Street Development* in Liverpool and hand drawn artist's drawings of *New Swindon Development* in Swindon (courtesy of Grosvenor property group and The New Swindon Company)

This is corroborated in the current debate [20] [21], which claims that photographs that are an integral part of photomontage carry information which other forms of depictive representations do not.

A depiction in photorealistic style complies with a widely accepted quality of photography of true-to-the-actual-world. As these qualities are perceived as 'reality' and based on facts, this style of representations is perceived as the most credible. This was the case because, as Berger [22] put it in his essay "Understanding photographs", photographs are regarded as "records of things seen... no closer to works of art than cardiograms". Thus, photorealism still maintains its character of a photograph and according to Berger, becomes "a means of testing, confirming and constructing a total view of reality".

This style of architectural representations is also the extreme and most tangible manifestation of the fact that, as a rule, in any given cultural context, the familiar style of architectural representations (or any other realistic picture) is not perceived like that at all- the representations simply looks like an exact reproduction of the design itself. This is also illustrated by Gombrich [23] throughout the history of realism in European art since the Renaissance. Today, this appears to be true for photorealistic computer generated renderings.

However, realism has its limits [24]**.** One of the few outcomes that the majority of analysts in this field agree on is that realistic pictures are not transparent means through which reality may be represented to the understanding. Digital photography increases the formative power of the depiction it makes and when applied to an extreme degree it becomes a pictorial technique like drawing and painting–with the difference that it can also avail itself of the particular techniques of computer graphics. It also makes possible adjustments and improvements of photographs difficult to establish. What photorealism and photomontage do not have is the accidental, fugitive qualities recognised and appreciated as trustworthy and specifically photographic [25].

5. Conclusions

The aim of this article has been the examining of the interrelationship between traditional and computer generated modes of the artistic representations. To facilitate the analysis four case based analyses were conducted. The analysis suggests that traditional convention, form, composition as well as style, may act not as a restraint but as a challenge and a stimulus, which release the potential of artistic representations created by computer technology. This confirms suggestions from some authors [26] that rediscovery of drawings and expansion of the use of computer representations has brought representations closer to the work of art while not losing their value as a means of representation of architecture.

It is difficult however to classify (and qualify) precisely computer generated representations because of their wide range of forms, compositions and styles of representations. Moreover, we know of only a limited number of representations published in journals and books while they have been produced by nearly every architectural practice today. However, accepting these

limitations this analysis identified two essential issues. First, that traditional forms and compositions of architectural representation are not significantly altered when new techniques are applied, instead they continue using the pre-existing conventions. The result is an expanded potential that can be realised by employing and interpreting the established conventions, forms and styles.However, in terms of styles there are some evident advantages of computer generated photorealism which combines computer generated images with photography. They are as art, always reflections of the talent and skill of the creator and his/hers use of artistic licence.

In summary, it is concluded that a deployment of the computer technology in architecture, does not merely accelerate drawing process that had been previously carried out by hand, but opens up a potential not attainable on the drawing board, one with an enormous capacity for the extension of the forms of architectural representation. The result is a greater freedom of expression, which demonstrates that architectural representations, as ever, belong to both, art and architecture.

However, there is an eternal and crucial difference between the work of art and architecture. It comes from the subject matter of the architect's work. In architectural representations, the subject is always, although represented in many different modes, forms and in various techniques, a design of a building. In paintings, architecture is seen as an integral part of the nature. Architectural representations are concerned with the subject itself, rather than their own constitution as in paintings. They employ conventions and constructs to communicate information about design. Thus, what makes the difference between the work of art and the artistic representations of architecture is in the words of James Gowan [27] "the freedom that the former allows and the restrictions the latter asserts". It is exactly that similarity to art that fuels a current debate about the credibility and reliability of architectural representations.

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