VISUAL LANGUAGE IN ARCHITECTURAL DESIGN

Lydia Kiroff
UNITEC, Auckland, New Zealand

Abstract
The globalization of economics, technology and culture become the main trends of the modern economy. The emergence of new forms of local and global cultures characterizes the media landscape of the early twenty first century. Sturken & Cartwright (2001) maintain that visual culture, which generally does not observe difference in language and levels of literacy, is key in this climate of globalization. According to Walker & Chaplin (1997) the field of visual culture has four domains (Fine Arts, Crafts/Design, Mass & Electronic Media and Performing Arts) and architecture belongs to the Fine Arts domain. This paper examines firstly whether all domains within the field of visual culture can be sources of ideas and inspiration in architectural design and secondly the visualization tools that can be employed to express and communicate these ideas. McKim's (1980) graphic abstraction ladder (with two levels of the concrete and abstract graphic languages) has been analyzed and used as a base to add the new level of the hybrid graphic languages that are about storytelling based on all domains of visual culture. The extent to which the industry is aware and exploits the opportunities offered by the suggested theoretical model is also explored. The research results helped in forming an aggregate view describing the main drivers and idea generators in the modern commercially driven architectural market.

Keywords: Architectural Design, Creativity, Visual Culture, Visual Language.

INTRODUCTION

Modern life is mediated through the visual screen. Film, television, and the Internet are not just the norm, they are life itself erasing national boundaries and creating cross-cultural exchange. The new emerging globally shared visual culture becomes the underlying construct that explains and substantiates visual experience in everyday life. Mirzoeff (1999) summarizes briefly some Western cultural practices that favour the verbal format of communication over the visual representation of ideas. The emergence of visual culture creates the premise for adopting a pictorial, rather than textual view of the world and even literature studies have been forced to conclude that the "world-as-a-text" has been replaced by the "world-as-a-picture".

Walker & Chaplin (1997) in *Visual Culture: an Introduction* give a detailed definition of visual culture as being the "material artifacts, buildings and images, plus time-based media and performances" and identify its four domains – Fine Arts (painting, sculpture, drawing, avant-garde films and videos, architecture), Crafts/Design (urban design, industrial design, illustration, graphics, product design, CAD, landscape design), Performing Arts/Arts of Spectacle (theatre, ballet, dance, theme parks, planetariums) and Mass/Electronic Media (photography, cinema/film, television, Internet, virtual reality, computer imagery, illustrated books).

This study examines the richness of visual language in architectural design as an expression of the relationships between the domains of visual culture. It explores the extent to which the industry is aware and exploits the opportunities offered. This study also investigates standard practices analyzing the predominant array of visual tools used by the architectural profession.

Architecture belongs to one of the four domains of visual culture. What about the other three?

According to Walker & Chaplin (1997) architecture is a component of the Fine Arts domain of visual culture alongside paintings and sculpture. The other three domains – Crafts/Design, Mass and Electronic Media and Performing Arts do not seem to be considered in any kind of

relationship with architecture. Hence the impact of visual culture as a whole on architectural design has been neglected and undervalued by the profession. A more flexible approach to visual culture will allow exploring the overlaps between architecture and the other constituent components of the same "Fine Arts" domain and also establish unexpected relationships between architecture and the other three domains of visual culture. These new emerging connections and combinations can be sources of inspiration and ideas that can influence significantly architectural design. At present the architectural profession seems to be reluctant to explore the other three domains of visual culture restricting itself to the domain of the "Fine Arts" only. Even the relationships between architecture and the other constituent parts of the same sub-field as art and sculpture have not been sufficiently analyzed and capitalized upon.

Limited use of graphic languages by the architectural profession

Applying the model of the "graphic abstraction ladder" as introduced by McKim (1980) reveals that there are two main groups: abstract and concrete graphic languages. The group of the concrete graphic languages, or the first step of the ladder, comprises orthographic, isometric, oblique, and perspective projection. Three-dimensional modelling is considered to be at the end of the abstract-to-concrete ladder of graphic languages. The group of the abstract languages, or the second step of the ladder, comprises charts, graphs, diagrams and schematics. The architectural profession as a whole seems to limit itself mainly to the first step of the ladder – the concrete graphic languages. There is a well-manifested unawareness among design professionals that the group of the concrete graphic languages can be just one answer to a design problem. It can be argued that this fact is a result of the combination of two reasons – the commercially driven nature of the architectural design process and the lack of adequate exposure to such concepts in an educational setting. In comparison the great masters of architecture use the whole range of concrete and abstract visual languages and explore unusual sources of inspiration to create memorable and unique designs – traditional huts with thatched roofs, seaweeds, paintings, sculptures and the beauty of the human body. In contrast everyday commercially driven architecture remains surprisingly remote from such poetic notions.

THEORETICAL ASPECTS OF VISUAL CULTURE AND VISUAL COMMUNICATION

The building blocks of the proposed theoretical model.

Visual Culture

The advantage of such a large and diverse visual culture field as defined by Walker & Chaplin (1997) is that the application of different approaches and points of view can lead to different interpretations. Using architectural design within the field of visual culture (and more concretely in the Fine Arts domain) as a starting point and exploring the overlaps with the other constituent components of the same sub-field on one hand and with the other three domains of the visual culture field on the other hand, is one approach that gives interesting and unexpected results. In this respect the use of references relevant to a specific theme can be of diverse nature – ranging from paintings, sculpture, and landscape design to photography, film and television. According to the author's own opinion, it can be argued that architecture in fact belongs to the Crafts/Design domain sharing common concepts and principles with urban design, landscape design, engineering design, CAD and so forth. Positioning architecture in the Fine Arts domain together with paintings, sculpture, print-making, mixed media forms and so forth requires a more abstract level of thinking as the relationships are not that obvious. The discussion that develops further is based on the premise that whether architecture is positioned in the Fine Arts domain (Walker & Chaplin, 1997) or in the Crafts/Design domain according to the author, this would not change the essence and the course of the argument as the primary purpose is establishing relationships on a local domain and on an interdomain level.

Exploring a relationship on a local domain level can be exemplified with art and architecture, which belong to the same domain of the Fine Arts. How art relates to architecture can be

examined from different angles: the simplistic approach would be referring to art on a literal level – for example, the display of cultural artefacts in buildings (Maori carvings in New Zealand architecture, Aboriginal paintings in Australian architecture, Shona sculptures in Southern African architecture). Another more complex and comprehensive approach would be analysing art on a symbolic level and using art references in relation to a particular architectural project. Frank Gehry's Guggenheim Museum in Bilbao, Spain exemplifies this approach. Vanessa Castellano (1998) perceives the building as "a huge futurist sculpture". She maintains that Gehry's fascination with art has found true expression in Guggenheim. The architect himself believes that ideas in architecture actually come from art. "The building was inspired by Pablo Picasso's famous cubist work 'The Accordionist', and the successful architectural interpretation of that painting is what makes Gehry's achievement unprecedented" (Castellano, 1998).

Using the Visual Culture concept as introduced by Walker & Chaplin (1997), the connection between architecture and the other constituent parts belonging to the same group of the Fine Arts can be established more easily while the relationship between architecture and performing arts, for example, is of a more obscure nature. Using Toyo Ito's Sendai Mediatheque in Japan as an example it can be argued that the artistic elegance of the mesh columns of the building emulates the grace of ballet movements, a comparison made by Toyo Ito (2001). Similar examples can be used to illustrate the relationships between architecture and the other domains of the Visual Culture field. These relationships in some instances are quite obvious especially when linking architecture to CAD, graphics, urban design and landscape design belonging to the Crafts/Design domain or when establishing connections between architecture and the Internet, virtual reality and computer imagery, all part of the Mass and Electronic Media domain.

Visual Communication

If we continue the argument that all domains of visual culture can be sources of ideas in architectural design then what visual tools can be employed to represent them? This suggested theoretical model contains two interrelated research questions.

McKim (1980) in *Thinking Visually* argues that all graphic languages fall into two main groups: abstract and concrete. The abstract ones embody abstract ideas and convey messages on a different level unlike the concrete ones that aim at more accurate graphic representation of an idea. The "graphic abstraction ladder" presented by McKim shows the two main categories of visual languages along the dimension of abstract-to-concrete. "By distinguishing abstract from concrete graphic languages, I hope particularly to dramatize the abstract dimension of graphic-language thinking" (McKim, 1980).

The group of the abstract languages comprises charts, graphs, diagrams and schematics. The group of the concrete graphic languages comprises orthographic, isometric, oblique, and perspective projection. Three-dimensional modelling is considered to be at the end of the abstract-to-concrete "ladder" of graphic languages. McKim argues that the variety of graphic languages (from ancient to modern and from abstract to concrete) creates a premise for recentering a person's thinking by moving from one graphic language to another. In architectural context an idea can be generated starting with an unusual perception, notion, or vision and turning it into architectural design. This can involve using references from the other domains of visual culture like Crafts/Design, Mass and Electronic Media and Performing Arts. The great minds in architecture have proved that nature (Toyo Ito), the human body (Santiago Calatrava), paintings (Frank Gehry) and indigenous architectural structures (Renzo Piano) can inspire the creation of iconic, original and fascinating architecture. Their approach to design is not about obsession with a design brief; it is about inspiration, gestalt (seeing the whole rather then just the parts), graphic ideation and externalized thinking. The result is architecture that tells a story in a poetic way. This line of thinking suggests an expansion of McKim's graphic abstraction ladder by adding a new level – the hybrid graphic languages, the essence of which is storytelling based

on references from all domains of visual culture. In other words storytelling based on references from all domains of visual culture can be considered as the "content" and the new proposed category of the hybrid graphic languages – the "visual tools" representing that content.

ANALYSIS OF THE INDUSTRY RESEARCH IN AUCKLAND, NZ

The logical question is: How does the reality match this theoretical and abstract model? The purpose of the industry research carried out by the author of this paper in Auckland, New Zealand was to establish everyday practices and analyze guiding notions, idea generators and metaphorical thinking in design and then compare it with the suggested theoretical model.

Ten architectural companies – five large (from 30 people upwards), three medium (10-15 people) and two small (3-5 people) were interviewed for the purposes of this research. The size of the practices was just one criterion for selection with the other one being the portfolio of the firm. The author's preference was to interview companies involved in commercial type of projects. A good cross-section of people has been included - interviewees were Project Directors, Design Architects and Assistant Architects. The selected range of people was determined by the type of work they were involved in and namely the design phase of a project. Extensive organisational background research preceded the actual interviews. The semi-structured interviews aided by a specifically designed questionnaire were complemented by observation and document analysis of projects presented at the interviews for discussion. The main purpose was to explore only certain aspects of the design process or the phase when sources of inspiration are explored and ideas generated. The research results have been analyzed by the author in that respect forming a representative study of a small segment of the market in New Zealand at a specific time. Visions, approaches to design, importance of creativity and innovation to the quality of design vary significantly from one firm to another reflecting a diverse range of values, interests and preferences. The research results helped in forming an aggregate view. The original quotes by the interviewees have also been included throughout the narrative.

The Vision

There are three scenarios for developing the vision when working on a project – it can be either a team effort (usually in larger offices), a result of collaborative work involving the Director and the Project Architect, or a combination between any of the above two and a Client's input, which in some cases can be very significant ("around 60%"). One implication then is that the vision often departs from the poetic realm and turns into a pragmatic brief with items to be covered. Architects defined several sources of inspiration. For some the actual site with its idiosyncrasies is seen as a major source of inspiration while for others it is not "the physical site only" that they are interested in, the site is regarded as "a threshold", a reason to start looking at the "fabric around it" and explore "connections beyond the site boundaries". For most architects looking at magazines with similar buildings or the work of others is a common practice, the reason for this being forming an aggregate view that will later inform the concrete design through the "crystallization of the idea on a subconscious level". Interestingly enough nobody from the interviewees made any reference to the other domains of visual culture. In contrast architecture inspired by nature, tradition and the beauty of the human body that searches for poetry and lyricism in buildings is what unites the work of some of the great masters in architecture – Renzo Piano, Frank Gehry, Toyo Ito and Santiago Calatrava. Seeing "seaweeds" and "ballet" (Sendai Mediatheque in Japan, Toyo Ito), "the human body" (Lyon Airport Railway Station, Liege Railway Station, Montjuic Communications Tower in Barcelona, Santiago Calatrava), "paintings" (Guggenheim Museum in Bilbao, Frank Gehry) or "traditional huts" (Tjibaou Cultural Centre in New Caledonia, Renzo Piano) as diverse sources of inspiration was perceived as a "risky field", which was explained with the need of "aligning our desires with the client's expectations". In other words, some clients prefer simple buildings, are interested in the quality of execution and see ideas exploration as a challenge with undesirable time and budget implications. In other projects the general approach to design is much more sophisticated as it is

not concerned only with site context (north orientation, prevailing winds, noise control, access to the site) but also with "the social aspects of the job." Only in one of the large offices there was a practice of including imagery in the design concept. Various images in the range of a hundred with references pertinent to the project were explored as sources of inspiration as the director explained. Later they were narrowed down to about ten really meaningful ones, which helped to explain the whole concept.

Preliminary Design

All interviewed architects communicate their ideas to the client by using orthographic (manual or CAD) drawings, sketches and only in a few firms "some diagrams". Appropriate body language and a persuasive style of presentation are also considered as part of the whole package. The clients being property developers and managers functioning in a highly "commercialized environment" were predominantly described as "money and profit oriented". In such a "cruel reality" bringing imagery, which is not about concrete buildings that can potentially be liked by the client and copied, and making abstract associations was not seen as a viable option. It is interesting to be noted that at the same time overseas such ideas obviously get their proponents and end up becoming masterpieces - a landmark of a city. In that respect one of the interviewed architects made the statement that "New Zealand produces a very good domestic architecture but unfortunately does not go beyond that".

Presentation Drawings

Apart from manual sketches that are discussed with the client, in all firms the most popular way to produce presentation drawings is through the use of CAD drafting packages (AutoCAD, ArchiCAD, Vector Works), as well as Photoshop and Power Point and only in one large office, Page Maker. All interviewees unanimously stated that clients prefer hard copies and only in certain cases they are accompanied by a Power Point file on a CD-ROM. Some offices, especially the smaller ones, sub contract out some of the perspectives (CAD and manual), as they do not have the expertise in house. The larger firms produce everything internally. Regardless of the computer software with all the sophistication that it entails on a technological level, all interviewed firms seem to operate in the realm of the "concrete graphic languages" (McKim, 1980) that is producing drawings, orthographic ones and perspectives.

Only in one large company the level of the "abstract graphic languages" (McKim, 1980) was also represented alongside the concrete one through communication diagrams, environmental studies and bubble diagrams. This approach was not perceived as necessary in the other firms as the level of the "concrete graphic languages" seemed to serve the purpose without excessive extravagance.

In conclusion visual language in architectural design was described by all interviewed architects as "presentation drawings - orthographic or perspectives". Pertinent images evoking feelings, emotions and associations and using references from the other domains of visual culture with connotations of remoteness rather than immediacy were not something experienced and experimented. In other words, looking at similar buildings, when working on a specific project, would be the preferred approach rather than searching for abstract images to convey meanings and emotions thus shaping the design philosophy. Seeing "seaweeds", "ballet", "the human body", "paintings" or "traditional huts" as diverse sources of inspiration should not be perceived as a "risky field" as one of the interviewees put it. If we continue to strive to "align our desires with the client's expectations" we put ourselves at risk to simply add another conventional and uninspiring building to the heritage that already exists.

Summarizing the research outcomes of the industry research it can be concluded, with the reservation that this study is a snapshot of a relatively small sample, that there is definitely a discrepancy between espoused values and reality on a local industry level caused mainly by the

commercially driven market and on a more global level a profound difference between approaches to design, that ones of the great masters in architecture and the everyday routine practices of the other architectural professionals. The main reason that can be identified is the commercially driven architectural market imposing constraints in terms of time and budget as well as the strongly dominating figure of the client.

CONCLUSION

The broad realms of visual culture and visual communication were examined in this study in order to provide the theoretical framework within which the discussion would evolve. It was further contextualised through Walker & Chaplin's (1997) diagram of the field of visual culture with its four domains (the diverse sources of ideas) and McKim's (1980) graphic abstraction ladder (the design tools). The two research questions posed in this study and derived from the suggested theoretical model were: 1. Can all domains of visual culture be sources of ideas in architectural design? 2. If so, what visual tools can be employed to represent them? Two research methods – an ethnographic one (literature review) and semi-structured interviewing have been employed to answer these questions.

The primary research conducted with ten architectural firms of different sizes (large, medium and small) showed general unawareness in the architecture profession of the field of visual culture in the broad sense of the word and limited use of graphic languages. Standard practices and conventional methods are widely spread and still the norm in a commercially driven architectural market. A comparison between these research results and the way the great masters in architecture approach design shows that metaphorical thinking and the use of references from all domains of visual culture are still for exclusive rather than ubiquitous use. Benedikt (1999) argues: "architecture, as an industry, broadly conceived, has become less and less able to deliver a superior, evolving, and popularly engaging product that can compete with other, more successful products – with cars, music, movies, sports, and travel". Similarly, Schwarzer (2000) contends: "our eyes are conditioned by film, video, and computers to see objects in states of representation, dramatization, animation, and of course, commodification. By comparison, most buildings appear lethargic, devoid of life".

In conclusion, the answer to the first research question is that all domains of visual culture can be regarded as sources of ideas supported by the inspiring designs of the great masters in architecture. The field of visual culture as defined by Walker & Chaplin (1997) is huge and can be approached from a different viewpoint. The focus of this paper is on the design process in architectural context and particularly on the development of a visual language for richer outcomes. McKim's (1980) graphic abstraction ladder (with the two levels of the concrete and abstract graphic languages) has been used as a base to add the new level of the hybrid graphic languages, which is about storytelling based on all domains of visual culture. Schwarzer (2000) poses the question about future architectural creativity, apart from matters of efficiency and comfort, suggesting that architects should rethink their identities and action within the commodified built landscape. In this view architectural sensibility and creativity emerge as the driving forces in the art of creating buildings.

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