THE FREEDOM OF THE SKETCH AND THE TYRANNY OF THE DIGITAL IMAGE

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Much of the existing literature surrounding the status of the digital studio is focused on how it is received by the jury during assessment of student work. Complementary to many existing studies, this paper aims to evaluate the content and function of architectural graphics within the presentation of student work in the academic studio, both as a tangible artefact and outward expression of student design activity. The review of literature of contextualises digitally produced visual architectural artefacts within broader phenomena.

It is important to consider design protocol from both a paper-based and digital position. Although many well-known CAD applications aim to mimic paper-based design functions, the physiological processes are vastly different and therefore may affect cognitive experiences as well.

A number of earlier studies focus on protocol and cognitive activity during the design process and problem-solving activities that are unique to the designerly way of thinking. Cross (2001) takes the point of view of both paper-based and multi- modal approaches to design activity. Cross' (2001) survey found that where participants were presented a design problem brief and an example of typological precedent, advanced student designers appeared to be 'fixated' on the example provided, producing solutions which contain many identical elements from the precedent sample.

A second form of 'fixation' is an attachment to early concept ideas rather than generative reasoning and creative leap, arguing that good designers are able to modify their concepts fluently during the design process and are open to the exploration of alternative concepts unlike those with a propensity towards 'fixation' and over-reliance on pre-existing solutions.

Suwa and Tversky (1997; Carter, 1993; Cross, 2001) argue that paper- based design activities facilitate problem-solving and understanding during the design process including 'generative processes' (Cross 2001). In particular, paper-based sketching facilitates inference and understanding by encouraging exploration of visually plausible inference solutions (Suwa and Tversky, 1997: 385). Suwa and Tversky point out those traditional paper-based modes are superior to CAD techniques as far as they encourage reflexion by suggesting that while sketching, designers become aware of unanticipated relationships that foster the revision of ideas.

The academic studio is embedded in tradition while simultaneously embracing innovation. Therefore, its nature is one of conflict in theory, discourse, and practice. Gore (2006) discusses a way of studio teaching that emphasizes a direct experience with tangible materials arguing that it is the space in which innovation occurs thus reflecting Cross' (2001) argument for generative reasoning as students build and rebuild their projects for critical review before an outcome is achieved.

Allen (1998) recognizes that speed is fundamental to the rhetoric of the computer and that it is processing speed and not disk capacity that is the limiting factor of CAD applications. These physical technological challenges or

faults are reminiscent of the modernist ideals of efficiency and productivity contradictory to the postmodern capacity of a future fully integrated with technology that promised to recover what had been destroyed by modernity in the first place (243-4). Allen's anxiety about speed is different but not entirely autonomous from the concerns raised by Cross and Carter, drawing on the work of Paul Virilio, who distinguishes between the inconsistency of metabolic speed, that of the living being, and artificial technological speed. The technological speed of the computer is invisible in its working and only visible as an effect. Allen views the computer as a tool, with very specific capabilities and constraints, particularly in the studio.

The time-honoured traditions of sketchbook practice are becoming an endangered species within the digital environment. Increasingly, the manipulation of a digital image acts as a tabula rasa from which a tangible artefact emerges, a process that is essentially an end in own right, leaving no tracings of the intellectual and creative journey towards such an end. The digital image can be perceived as a fait accompli, possessing qualities intrinsic to its nature which suggest that the built artefact appears as a scripted readymade. It is as if the finished artefact has been decided before those affected have knowledge of it, leaving few options but those of acceptance and acquiescence.

The designer's sketchbook and its contents, by contrast, are a far soupier, messy affair. At its heart, the sketchbook celebrates and encapsulates the unfinished, the unscripted, and the temporary. Its primary role is that of exploration, experimentation, and the storing up of emerging ideas, one leading to the development of another, and then onto towards yet another idea or iteration

Moreover, the sketchbook offers up the possibility of becoming a fluid space, since it functions as a gateway through which creative purposes can find their fix in the world. It presents the designer with an immanent field of potentiality whereby the virtual can find expression in the actual. The sketchbook supports the reclamation of the original notion of 'virtuality,' being of a kind quite other to the algorithmic 'virtuality' associated with digital design technologies.

In terms of design praxis, the activities associated with keeping a sketchbook (as one might do with a diary) make it an effective tool for formulating an alternate mode of design-orientated processes. More specifically, it is an incubator for prioritising the unscripted, the temporary, and the disposable. The sketchbook is a modus operandi for effecting an instantaneous, vigorous, and intuitive engagement with the materialization of ideas, concepts, and new ways of thinking. Moreover, such an engagement rekindles the original meaning and significance of the term 'virtual' as a central part of sketchbook-praxis, reasserting both the original meaning of the word and its theoretical importance to Deleuzian philosophy.

When the integral potential of the sketchbook is comprehended, it provides the user with a limitless horizon of possibilities, a complex, and interwoven mesh of ideas that might emerge. Such fluidity and potential is often evaporated during the production of more fixed or completed artefacts. In its most flexible condition, the sketchbook is analogous with the conceptual metaphor of Gilles Deleuze and Felix Guattari's 'rhizome,' in that it seeks to form connections and extensions in ways that differ from more orthodox patterns of design development.

Following Deleuze and Guattari's allegorical analysis of the rhizome and the tree (where the rhizomic plant offers limitless and often surprising outcomes whilst the tree remains fixed and rooted) it is possible to form analogies within the production of architectural images.

One is fluid, the other fixed. Whilst the sketch is unfinished, unscripted, and open to change and mutation; the digital image is complete, scripted, closed to change, and therefore resistant to further evolution. One representation is in a state of becoming, whilst the other is a fait accompli.

Moreover, a computer-generated image solution is an end in itself, its inherent graphical projection and representational presence being its primary goal. A sketch, buried away in a sketchbook, is an idea in becoming, a vehicle for imaginative manipulation. Moreover, it becomes apparent that a sketchbook nurtures rhizomic modes of design related thinking and action. In its raw form, a sketchbook is not immediately predisposed to becoming an arborescent root and branch configuration, but rather, its inherent potentiality suggests the formation of the opposite kind of engagement, an approach more akin to that of the rhizome. Whilst there might be a passing resemblance to a homogenised structure whereby each idea is a further expression of the same exploration, these are passing moments in a far more expansive and interrelated network of ideas, observations, thoughts, statements, appointments, 'to do' reminders and even shopping lists. Rather than merely being a controlled catalogue of past or old works, the design sketchbook is a dynamic network that allows for the free flowing of theoretical and imaginative applications enfolded within a process of incubation.

The contemporary architecture studio – whether educational or practice based – is littered with the paraphernalia and prosthetics associated with the making of digital visualizations. Today, such spaces are rarely furnished with rows of drawing boards and drafting stools, rather they are superseded by the disembodied screen, giving the impression of being more call centre than design studio. Moreover, the contemporary studio is preoccupied with the virtual simulations of final built forms rather than the production of representations that require interpretation by the viewer, client, and further translation on behalf of the designer, in order to be fully realized as buildings.

Frascari famously highlights these issues in his concerns regarding architectural image making and the legitimacy such lends to the construction of the built artefact. He argues that

> "A drafters contract based on this process of legitimisation obliges the architects to produce drawings that should not nurture any imagination. The outcome is that the reading of drawings has become an unimaginative routine; what was once a pleasant walk in the intangible vagueness of the realm of discernment and construing of factures is now a sterile exercise of the realm of contingency." (Citation: Marco Frascari – Eleven Exercises etc. 2011, Oxon, Routledge, page 110)

Designer as image-maker, rather than maker or builder, is gaining acceptance, or increasing levels of acquiescence, with architects and architectural academics alike. By endorsing the production of such images, architectural designers and educators often unwittingly contribute to the prioritization of the scripted digital visualization over the incomplete, unscripted, sketch-based representation.

In effect, the representation of a building design through a measured perspective has always operated as a simulation of reality, as all optical media functions in a similar vein, producing comparable ocular tricks and effects in the way that they emulate the human experience of sight, depth and spatiality. However, the drawn perspective, by merit of its unfinished status, exercises considerable restraint in its efforts to become a full virtual simulation of any future actualization in built form. The same cannot be afforded to the advanced optics of 3D software and graphics programs, where the hyper-real simulation of the actual leaves no room for interpretation or imagination.

Frascari (2011) highlights these concerns also, attacking the psedo legitimacy afforded to photorealistic representation (whether mechanical or digital) as generating a '…trivially unimaginative and visually impaired view of the constructed world' and he goes on to align such representations of architecture as being '…equivalent to those dreadful children's colouring books…' that '…brings about a feeling of having imagined an image, when it is has been merely a following of guidelines. With use of drafting machines [electronic or non electronic], imagination is useless, only neatness is required' (Frascari 2011 p. 111)

Stuart Hall anchors communication and meaning within the visual domain by stating that;

> "Culture, it is argued, is not so much a set of things... as a process, a set of practices. Primarily, culture is concerned with the production of meanings, the 'giving and taking of meaning' between members of a society or group..."5

Arguably, this is the process by which representation functions through the exchange of buildable information between the producer-sender and the receiver charged with interpreting meaning from the artefact through a system of signification. Digitalization, however, imparts non-decodable information from itself to receiver in a swift one-way transaction eliminating the opportunity for two-way exchange. Indeed, the closer the digital visualization becomes to a 'photorealistic' image of the building as will be, the less likely the opportunity for change, evolution, and development can be realized.

Whilst sketchbooks and the act of sketching offer freedom, the digital image overwhelms such opportunities, evoking a tyranny of scripted control over creative exploration. The journey effectively ends before the first steps are taken.

There are, of course, many stages of the design process that lie in between to the diametrically opposed architectural representations of sketch and digital visual, stages that capitalize on the various merits common to both representational methodologies. Designers may well print out digital images,

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5 Rose, G. 2001. Visual Methodologies. Sage Publications Ltd.: London. Smith, R. 2010. The Baudrillard Dictionary. Edinburgh University Press Ltd.:Edinburgh.

trace over them by hand, then transfer their attentions to further sketchbook-based exploration. This mixed approach to the production of architectural representation goes someway into claiming back the fixed, scripted nature of the digital image; it redeems and reclaims the digital image, allowing it to become transient and open to change once more.

Frascari (2011) notably extols the use of the 'hybrid' image in the production of architectural drawings, making similar claims to the redemptive power of chimeric images forged from analogue and digital systems of representation. More significantly, he claims that the utilization of hybridised imagery reinvests the ontological into the architectural image. A quality he regards as having been lost '…because of the present instrumental understanding of drawings which is firmly rooted in the erroneous notion that photographic representations must be the only ones able to sanction plausibility.' (Frascari 2011 p, 113).

Arguably, if the two approaches are mixed, the digital image is no longer digital in the true sense of the word, but rather more fully virtual and actual in the Deleuzian sense.

Baudrillard considers the loss of meaning through the proliferation of information and the simultaneous reduction of communication claiming that artefacts, specifically (complete) images, no longer possess signification and therefore make reference only to other images in a conflicting relationship between production, artefact, and meaning or reality.

Baudrillard maintains that communication technologies are designed to 'fabricate non- communication.' The very disciplines designed to illuminate the

role of media technologies in the act of improving or facilitating better communication have merely aided the proliferation of a more closed, one-way conversation concerning the evolution of the architectural artefact. From Baudrillard's point of view, the image is not solely bound to the hyper-real representation. That is to say, the hyper-real architectural image, or more specifically the digital visualization, does not and cannot represent reality or the real.

This is not the case with the representation that is produced within a system of signification, that being synonymous with the architectural sketch, the unfinished and unscripted idea that is in a state of becoming. The digitally mediated visualization, however, is grounded in redundant self- referential formalism of the scripted image. The digital visualization may be prolific because of the function of its mode of production. It bombards the viewer with information yet communicates nothing.

The purpose of this paper has been to extol the sketchbook and the process of sketching as still being a central activity in the evolution and communication of built artefacts amid the significant effect and impact of digital technologies on the same. Moreover, the paper argues that the architectural sketchbook opens up infinite virtual possibilities that are lost, ironically, when virtual digital technologies are the sole agency in the designing of built artefacts.

Perhaps it is of greatest importance to consider the status of communication of architectural information. If it is not, visual communication is bound to continue along the procession of simulacra towards a pre-scripted hyper-reality, at which point, the discipline of architecture itself will need to be re-evaluated.