

Interference: the restless drawing

This paper discusses a running interference that can be created through shifting a drawing from the analogue to the digital in a series of first year student works produced in the Interior Design pathway at the Unitec Institute of Technology. The aim of the drawing practice is to not only to develop skills in analogue to digital to analogue to digital transformations but also to see each shift as an elaboration and refinement of the previous. The process becomes an investigation into how this running interference affects the design practice and explores methods of working iteratively across a range of media that develop ideas from the original drawing.

The paper tests the notion that architectural drawing is not a predetermined calculation, but sees it as an accumulative approximate process. By running a continuous interference between digital and analogue drawing, the act of the shift attempts to break the edge of the page, animate a two-dimensional surface, incrementally move the drawn and never let the drawn rest. Acts of passing from one state to another and instances of alteration reveal movement where interferences are found and the drawn reaches a state of detachment, simultaneously inside and outside sit in opposition to a surface that is often passive, flat and unengaged. Errors, trials, approximations and hesitations are valued as the hand and eye moves across the surface. Literary critic Hélène Cixous writes of drawing in 'Without End, No, State of Drawingness, No, Rather: The Executioner's Taking Off',

'The drawing is without a stop. I mean to say the true drawing, the living one – because there are dead ones, drawn deads. Look and you shall see.

Barely traced – the true drawing escapes. Rends the limit. Snorts. Like the world, which is only a perennial movement, the drawing goes along befuddled and staggering, with a natural drunkenness.'¹

In this light drawing can be viewed as a shifting ground, as the not yet built. A space that is prior to representation within which lines, hatchings and scratches are not stable but may undergo variations, giving new possibilities of seeing. As equally for architect Marco Frascari architectural drawings hold similar qualities, he writes in 'Horizons at the Drafting Table: Filarete and Steinberg', that the '... accurately imprecise nature of drawing manifests itself in a stubborn struggle between the celebration of form and the diffusion of parts, between a will to represent and the evanescence of representations, between a search for certainties and an awareness of their relativity...'² For Frascari architectural representations are a nexus linking architectural objects; a survey that takes place sitting at a drafting board intersecting architectural intentionality with conscious and unconscious courses of action, the intuition of the imaginative world and the mediate materiality of architectural practice. Drawn architectural images can

¹ Cixous, Hélène. 2005. *Stigmata: escaping texts; with a foreword by Jacques Derrida*: Published: London: Routledge. 27 - 28

² Frascari, Marco. 2007. Horizons at the Drafting Table: Filarete and Steinberg. In *Chora Volume 5: Intervals in the Philosophy of Architecture*, edited by A. Perez-Gomez, and Parcell, Stephen. McGill-Queen's University Press, Montreal, Canada. Pg. 188

involve what transpires in the intervals or disparities between things and are connected through logic where the whole is not given but always open to variation, as new things are added or new relations made, creating new continuity.

This drawing brief attempts to provoke students to consider the accidental alteration and unexpected aspects of drawing. Processes involve both mechanical and digital architectural drawing where students are working in the present, each drawing reliant on and an interpretation of the previous session, whether that is analogue or digital. The work becomes generative and spaces are drawn out from the flat sheet. Viewed through the lens of literary critic Hélène Cixous and architect Marco Frascari this paper considers the role of mechanical and digital drawing in the design process and discusses two student works carried out in Interior Design, Department of Design and Visual Arts, Unitec.

Cixous and Frascari – time and the repetitive act of drawing

Architectural drawings are not merely produced for construction, a conversation between the builder and the architect. They can also tell a story of the line of imagination and the dreams through which the architect travels while conceptualizing their work. Drawings may open a window of opportunity through which one speculates on the nature of the spaces to be realised and a drawn image may require the ability to speak of the unspeakable, or name the unnameable, declare the unknowable. Drawing in this sense becomes a descriptor of an intangible or indescribable thought. Cixous stresses the difficulty of drawing in terms of 'distance' suggesting that it is always beyond my strength where drawing can be both engaged and critical and look back at itself.³ Cixous sees drawing as a kind of unruly movement that is variably paced and unpredictable. Eluding finish the drawn seeks a passing truth through encounters with errors that are on the run with erratic speed. Cixous poses a portrayal of truth in drawing that is characterised by 'an unstable allure'; drawings yet to be made, drawing that sees itself from a distance even as it is emerging, she writes,

'All was mingled then, and no mistakes. Only desire, trial and error. Trial, that is to say error. Error: progression.'⁴

Viewed from this position architectural drawing loses the instructive and linear techniques which suggests architecture as self evident, 'needing no telling', but like a sketch that allows to see multiple lines of thought from which it emerged. Through Cixous' lens drawing is framed as having potential in the interpretation of process rather than a predetermined account of architectural design. For Cixous the practice of working on what moves, on what escapes is something that can only be done poetically. She suggests that poetic work means allowing for a certain degree of freedom in interpretation, looking for potential for things (words, phrases, drawings) to mean more than their first appearance suggests, their adjacency is imagined as having spatial and interpretive potential. For Frascari, '...between the action of the

³ Treadwell, Sarah, and Veart, Paul. 2005. Animation, the Cat and Escaping Drawing. *Interstices: A Journal of Architecture and Related Arts* Animal / Impulse (6): 36-43.

⁴ Cixous, Hélène. 2005. Without End, No, State of Drawingness, No, Rather: The Executioner's Taking Off. Translated by Catherine A.F. MacGillivray In *Stigmata: escaping texts; with a foreword by Jacques Derrida*: Published: London: Routledge. Pg. 26

hand, and the hand's relationship to the rest of the body, another form of architectural vision is available', architectural drawings have the potential to communicate not just a future building but also the dreams of the architect and represent the ability to dream of architectures past, present and future. Drafting and measuring tools are extensions of the architect's bodies. Indeed, architects used to sense the world through pencils, squares and many other drafting tools. Architects to draw and conjure up their buildings used to work with several of these tools as media of architectural perception, sensory prostheses proffering architectural projections.⁵ For Frascari the most difficult assignment for the architect is to extract from the empty surface of the paper the beginning of construction that elaborates the relationship between the mundane, the sacred, the dream and materiality in a transhistorical condition.⁶

Physical demands of the repetitive act of drawing fix the drawer in place (in front of the picture plane) and fixes them in time (in the present moment). For Frascari repetition in drawing allows the architect time to 'relax', to imagine things that are non-existent, retrieve memories and contemplate, the moment for new creative connections between seemingly unrelated ideas. He writes,

'...instead of focusing on immediate specificity – such as the tectonic configuration of a window detail – when taking time in cross-hatching...the daydreaming mind of an architect is free to engage in abstract thought and imaginative ramblings.'⁷

Undefined procedures and the unpredictable outcomes of the hand allow time to be spent with the surface of the drawing. The repetition of mark making is a time for wandering.⁸ From this point of view architectural drawings assemble in a set of lines, marks and strokes, the potential of construction that is a conjuring of tectonic structures. For the students blank sheets of paper or the empty screen of a digital composition, the beginning of a drawing, are seen as layers of permutations, of drawings yet to be.

Interference – the shifting drawing

In many instances drawing is often taught as a means of projecting a future space, to encourage students to see and realise the dreams of architectural design. This paper, while resulting in a drawn axonometric, space, moves through a series of iterations that sees each drawn process as having separate spatial

⁵ Frascari, Marco. 2011. *Mano Oculata: A thought about touch and vision* Tuesday, October 07 2008 [cited Tuesday 11th January, 2:46pm 2011]. Available from http://grimoirearchitecture.blogspot.com/2008_10_01_archive.html.

Frascari, Marco. 2011. *Graspable Physical Instruments and Gazeable Documents* 2008 [cited 11th January 2011]. Available from <http://grimoirearchitecture.blogspot.com/2008/04/graspable-physical-instruments-and.html>.

⁶ Using the work of Italian architect Mario Ridolfi (1904 – 1984) Frascari explores the link between drawing and building, he writes, 'For Ridolfi, it is clear that it is one thing to apprehend directly an image as an image, and another thing to shape ideas regarding the nature of images in general cognitive representation of constructive processes.'

Frascari, Marco. 2002. *The Well-Tempered Drawings of a reflective Architect. The Reflective Practitioner 2*: Unpaginated.

⁷ Frascari, Marco. 2009. *The Virtue of Architecture: A 2009 Strenna*: Ottawa: Auctoris expensis. Pg. 45

⁸ Frascari, Marco. 2011. *Mano Oculata: A thought about touch and vision* Tuesday, October 07 2008 [cited Tuesday 11th January, 2:46pm 2011]. Available from http://grimoirearchitecture.blogspot.com/2008_10_01_archive.html.

Frascari, Marco. 2011. *Graspable Physical Instruments and Gazeable Documents* 2008 [cited 11th January 2011]. Available from <http://grimoirearchitecture.blogspot.com/2008/04/graspable-physical-instruments-and.html>.

properties. Each line or groups of lines offer a multitude of worlds or worlds within worlds. The drawing process begins digitally with collage, several images are provided for the students that they then dissect to reconstruct a new image. This image is then printed and used mechanically to compose an image of 500 lines. [Fig 1.]



Fig 1. Digital Collage drawing, Student works, Interior Design, Faculty of Creative Industries + Business
Department of Design + Visual Arts, Unitec Institute of Technology

These iterative processes move through both analogue and digital practices over a period of five weeks, from plan, section, elevation and a final printed axonometric, the folding up of the sides of a box. Outcomes within the drawing process are not directly anticipated, but emerge from interactions within the generic envelope of the project. At times the process becomes puzzling if somewhat confusing for the student, as they are not immediately able to articulate what qualities of chance have been expressed, or how. The intuitive nature of the drawn process draws on unconscious resources, assumptions, preferences and concepts that they may not have been consciously aware of having. Students re-interpret their own drawings in order to disclose these conscious conditions.

For the student places become savoured and explored between traditional drawing experiences and contemporary digital expertise during the conception of space. Exploring the technologies of drawing, marks, lines, scratches, furrows, incisions, touches, dots, daubs, dashes, bits and bytes that are brushed, printed and erased. Knowledge of material manifestations and the ability of drawing to exteriorise the mind make present the invisible. Each drawing allows for further exploration renewing itself again each time. A series of complex digital and pencil drawings evolve as an intuitive response to the idea of material transformations and alterations that occur in the process of shifting from the analogue to the digital. For the student intuitive action becomes opportunity for reflexive disclosure, working with an uncontrolled element opens a gap between intention and effect and the student is suddenly subjected to a design

process. On the space of paper, the student creates rooms for thoughts; while they plan for order and disorder.⁹

Questions of decision-making become particularly pressing in the case of intuitive action. Intuitive drawings draw on unconscious resources, the assumptions, preferences and concepts that they are not consciously aware of having. For the students most of the designing from this point consists of re-interpreting their own drawings in order to disclose these conscious conditions. The anxiety of the drawing's incompleteness is mitigated by an inevitable musicality of its marks, an essential rhythm is recognized as the hand marks out contact with the surface dividing, separating, binding, and measuring, marks defining a schema of space in which the body can exist. [Fig 2.]

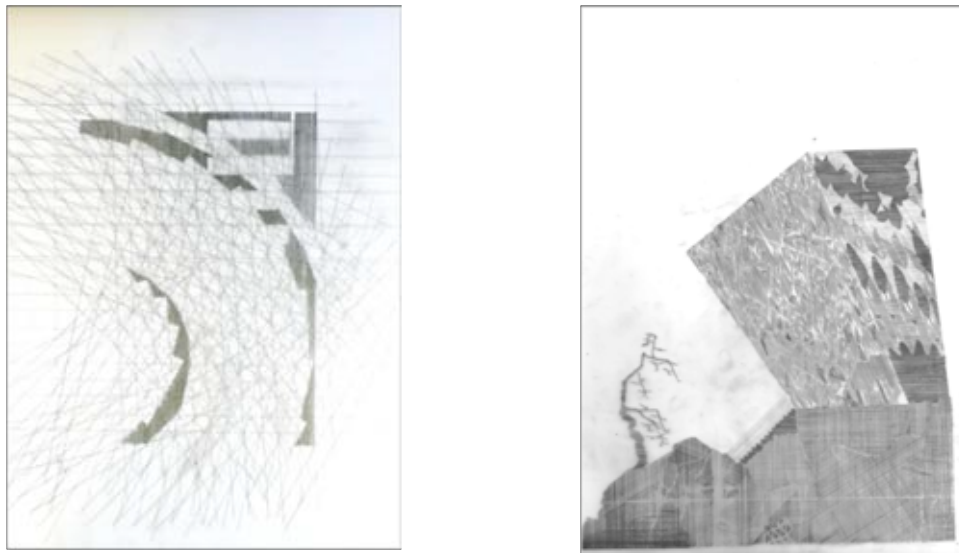


Fig 2. 500 lines Mechanical drawing, Student works, Interior Design, Faculty of Creative Industries + Business Department of Design + Visual Arts, Unitech Institute of Technology

For Frascari to read these drawings is to notice the, ‘...small calligraphically scribbled marks that, by varying the direction and shape, add more effective depth perception...daydreaming may appear during the rendering of the surface of a façade with whirling, scribbling, or cross-hatching shadow.’¹⁰ Frascari writes;

‘A hesitated set of architectural lines is a sensible form of drawing, dwelling on pensive borders ceaselessly, where the drafting and writing of lines is an alluring discourse, buzzing backward through history and igniting genetic analogies as a way to see the real nature of the undisciplined discipline of architecture beyond the functional quotidian.’¹¹

The stutter refers not to the projected drawing but to the actions and efforts of making and the configuring

⁹ Frascari, Marco. 2003. Architects, never eat your maccheroni without a proper sauce! A macaronic meditation on the anti-Cartesian nature of architectural imagination. *Nordisk Arkitekturforskning* 2:41 - 54. Pg. 47

¹⁰ Frascari, Marco. 2009. *The Virtue of Architecture: A 2009 Strenna*: Ottawa: Auctoris expensis. Pg. 44

¹¹ Frascari, Marco. 2009. Lines as Architectural Thinking. *Architectural Theory Review* 14 (3): 200-212. Pg. 201

of architectural knowledge. In these graphic fillers can be hidden, intentionally or unintentionally, stimuli too weak to be consciously detected but that can nevertheless powerfully affect our understanding of the architecture in drawing. The repetitive labours and rituals associated with these drawings imply a kind of stillness or an indifference to the time taken in attending to them. [Fig 3.] Frascari writes that the monotony of hatching permits an experience that allows the brain to wander and wonder, an opportunity for daydreaming through the rendering of surfaces. 'The kind of thinking we rely on when we don't really want to think,' a moment of procrastination.¹² He writes that this moment is a crucial moment to achieve creativity, a thought process that allows the brain to make new associations and abstract thought.



Fig 3. Digital Sectional drawing, Student works, Interior Design, Faculty of Creative Industries + Business
Department of Design + Visual Arts, Unitec Institute of Technology

The monotony of the hatching, cross-hatching, the rendering of surfaces with scribbles and shadows allows for the connection of seemingly unrelated ideas.¹³ For the student emphasis is on the working of the mind not the product that is the drawing, 'the slow time of viewing and thinking as working.'¹⁴ The fluctuations of tone, modulating intensities, it is 'in these representations, the interaction between the different marks and graphic traces, sorts the essential edifying qualities by structuring powerful depictions that are selective rather than exhaustive, associative rather than dissociative.'¹⁵ Surfaces are constantly in agitation, erasure, alteration, retracing and reconsideration leaving a physical residue of the student's inspiration and reflection. The drawing surface offers both improvement through slow and steady mediations and advancement by accidental hints. Frascari writes that, '...these critical meditations are the actions taking

¹² Frascari, Marco. 2009. *The Virtue of Architecture: A 2009 Strenna*: Ottawa: Auctoris expensis. Pg. 44

¹³ Frascari, Marco. 2011. *Eleven exercises in the art of architectural drawing: slow-food for the architect's imagination*: New York, N.Y.: Routledge. Pg. 153

¹⁴ Zegher, Catherine de. 2005. Abstract. In *3 x abstraction: new methods of drawing: Hilma af Klint, Emma Kunz and Agnes Martin*, edited by C. d. Zegher, Teicher, Hendel. New York: The Drawing Center; New Haven, Conn.: Yale University Press.

¹⁵ Frascari, Marco. 2009. *The Virtue of Architecture: A 2009 Strenna*: Ottawa: Auctoris expensis. Pg. 52

place between the construction of the lines and their architectural construing...hand drawings leave physical residues and pentimenti that carry inspiration and reflections...the real sequence of a proper architectural conceiving'.¹⁶

Design can be considered to include both intention and unintention; drawn marks can be treated, as neither arbitrary nor exceptional, as equally accidental marks are not just exceptions to an established order but are to be mastered. For the students these intervals, interferences, alterations or shifts provide a way to identify chance and system in the drawing process. The interval becomes a space, whether it is digital or analogue, opened up by a shift from direct intention to a rule based process. [Fig. 4] The interval is seen as a technique that encourages and assists students to establish and explore accidents and errors in an intensive reflexive engagement with the drawn surface, emergence and other forms of unintention become possible and offer different spatial propositions.



Fig 4. Digital Elevational drawing, Student works, Interior Design, Faculty of Creative Industries + Business
Department of Design + Visual Arts, Unitec Institute of Technology

Conclusion

The study of beginnings, of alternative and concurrent architectural representation, makes it possible to rethink and refine questions of the efficacy of architectural drawing in producing architecture. The creativity and energy that is used in the construction of an architectural drawing is confronted and reveals a constant struggle by the student to give form to the formless, as equally imagination permits mystical shapes out of a practical moulds that results in making meaning rather than just making sense. Lines maybe broken or continuous, they may compromise or extend a sequence of single marks or an uninterrupted stripe. It is the relation of one mark to another, in their shaping and shading, their tonal gradations that

¹⁶ Frascari, Marco. 2011. *Eleven exercises in the art of architectural drawing: slow-food for the architect's imagination*: New York, N.Y.: Routledge. Pg. 91

these drawings acquire, depth and volume. A balance between line and mark, while modelling marks suggests a degree of spatiality and impression of tactility, together they induces a sense of movement and energy as a means of nuance, vitality and instability. Frascari writes;

‘Translation is not imitation but a magic conversion of images. Through acts of well-delineated constructions – poetic translations of a magic mimesis – drawings are transfigured in buildings and buildings in drawings. The drawings developed for the construction of an edifice are a process of translation by which the facts the architectural project become the reality of any building.’¹⁷

Architectural drawings are representations that are also the results of constructions, the interpretation of conceptual ideas with the process of physical construction of an architectural object. The concrete line complemented by concrete staccato of small individual marks, the line always unfolding always becoming. ‘...mark becoming line, line becoming contour, contour becoming image...the first mark structuring the blank page as an open field but also defines it temporarily as the drawings marks flow on another in time.’¹⁸



Fig 5. Final Digital Axonometric drawing, Student works, Interior Design, Faculty of Creative Industries + Business Department of Design + Visual Arts, Unitec Institute of Technology

These relationships are constantly being tested out on the students’ drawing board or computer screen, where drawing out tests architectural imaginings. [Fig. 5] The selected drawings are then subjected to re-evaluation against imaginative wishes, the repetition involved in design where cyclical relationships between idea and drawing, eye and hand, sight and touch form the process of architectural discovery as

¹⁷ Frascari, Marco. 2011. *Architecture is the Result of an Infinite Mirroring of Translations*, 14th February 1998 [cited 16th February 2011]. Available from <http://www.scribd.com/doc/2422812/ARCHITECTURE-IS-THE-RESULT-OF-AN-INFINITE-MIRRORING-OF-TRANSLATIONS>.

¹⁸ Butler, Cornelia, and de Zegher, Catherine. 2010. *On line: drawing through the twentieth century*: New York: Museum of Modern Art; London: Thames & Hudson distributor. Pg. 23

they move toward the final axonometric, the folding up of the sides of a box. For the students the programme has a dual outcome, the realization that the pencil marks have in one sense defined limits and extensions that are connected to the process of architectural imagination and a future constructed space. As equally a way to give form to ideas and intentions, to resolve questions and problems that arise concerning a project, by depicting them and comparing them on a common plane.¹⁹

‘In the end, drawing is rooted in the dematerialized space of the image, privileging more the worlds of shadows than the world of appearances, confirming the possibility and use of a language that, albeit in a fragile way, leaves open an interstitial passage through which the imaginary may realize itself as an image. The metaphoric page has inevitably the terror of beginning with nothing new that is the inaugural point of constituting a communication. Drawing always seems to register the endless repetition of remaking; it constitutes the space of anxiety.’²⁰

This drawing brief makes an attempt to offer a different insight into the nature of teaching architectural drawing, an architectural examination that does not present a doctrine or an isolated meditation, rather one that can depict the very process of making in all of its complexity. The series of images has told the story of the students making, meaning and their contextual setting, involving both physical and imaginary dimensions of architectural experience, revealing the intentions of the designing student. Some suggest that with the proliferation and maturation of digital technologies, drawing is now ‘done and dusted’. Others maintain that is there still a place to be savoured and explored between traditional drawing experiences and contemporary digital expertise during the conception of buildings.

¹⁹ Gregotti, Vittorio. 2010. *Architecture, means and ends; translated by Lydia G Cochrane*: Chicago; London: University of Chicago Press. Pg. 90

²⁰ Zegher, Catherine de, ed. 2003. *The stage of drawing--gesture and act: selected from the Tate collection by Avis Newman; curated by Catherine de Zegher; organized by The Drawing Center, Tate.*: London: Tate Pub.; New York : Drawing Center. Pg. 223-234