INTERSTICES 11

A JOURNAL OF ARCHITECTURE AND RELATED ARTS

THE TRACTION OF DRAWING

INTERSTICES

A Journal of Architecture and Related Arts,
The Traction of Drawing, Volume 11

Interstices: A Journal of Architecture and Related Arts is an open forum for the dissemination of architecture and thought. It is a non-profit journal published once a year. To remain independent, Interstices relies upon private support to fund its editorial production. Annual individual sponsorship is available from $100; corporate sponsorship from $1,000; and institutional sponsorship from $3,000. Sponsors will receive full acknowledgement of their contribution and a copy of each issue of Interstices for which they are a sponsor.

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ISSN 1170-585X
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Published by enigma : he aupiki, Auckland, October 2010.
Print production by McCollams. Auckland

The Editors invite submissions of articles, reports, book and project reviews, and translations.
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Books for reviews and advertising should be forwarded to to the executive editors, above.

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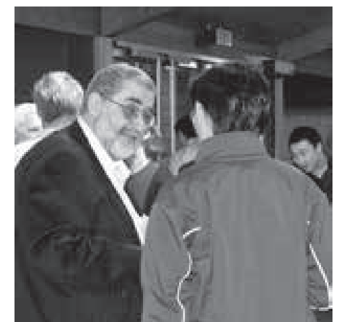
Introduction

The Traction of Drawing

Andrew Barrie and Laurence Simmons

Why an issue on drawing? Some suggest that with the proliferation and maturation of digital technologies, drawing is now "done and dusted". They ask what use remains for the hand that traces on clay, wood, stone or paper. Others maintain that is there still a place to be savored and explored between traditional drawing experiences and contemporary digital expertise during the conception of buildings.



This collection of essays, interviews, drawings and reviews seeks to explore the technologies of drawing – their marks, lines, scratches, furrows, incisions, touches, dots and dashes, bits and bytes, inscriptions, string lines, vectors, nurbs, stains and blotches. All pencilled, inked, chalked, brushed, printed, illuminated or even erased on diverse grounds. Drawing, as this list suggests, is based on an intimate knowledge of material manifestations, of making manifest the material. We focus here on how drawing exteriorises the mind and emotions, and how drawings make present the invisible: how they forecast, predict, make present the to-come of architecture.

But we also want to explore how drawing draws upon oblique or tangential lines, that is, we wish to follow drawing down its wandering pathways to see how it might also sever or section a building plan. Our issue title, *The Traction of Drawing*, suggests that we believe drawing still has some traction, some pull and attractive power. But we would also argue that this "at-traction" comes from the fact that all our papers explore the line of drawing as an heuristic device and, as Laurence Simmons following Jacques Derrida suggests, this line always "journeys with a single companion, the rubber: that cancels, chases away, renounces, places it under 'erasure' (*sous rature*), allowing it to be different to what it thought it was, to renew itself again each time".

This, the eleventh issue of *Interstices*, derives, more or less, from a symposium held at the University of Auckland in November 2009 on the occasion of architect and architectural theorist Marco Frascari's visit as Distinguished Visitor to the School of Architecture and Planning. Frascari has argued in many recent studies for the necessary interface between traditional drawing experiences and contemporary digital practices during the conception of buildings. But his interest in drawing was first sparked when he worked with Italian architect Carlo Scarpa and saw how he used drawing as a form of communication with both students and builders and clients. Scarpa's drawings were performances. The first thing that architectural students about to take Scarpa's design studio had to learn was that they would no longer be required to present their work traced in china ink on *carta da lucido* (heavy translucent vellum). The implicit requirement of Scarpa's studio was that non-duplicable drawings were to be traced on Bristol board or similar material using a range of coloured pencils and pens. According to Frascari,

Scarpa probably had *synesthesia* (a condition in which normally distinct senses or perceptions overlap). For him, and subsequently for Frascari, the purpose of a drawing was not just to depict what any human could see, but somehow to convey the totality of what we feel. Scarpa was not interested in a drawing as a representation of a real building; for him, the drawing should express some essence – some perceptual presence of an architectural idea – rather than just pretending to be a photographic substitute.

> If I want to see things, I do not trust anything else. I put them in front of me, here on paper, to be able to see them. I want to see, and for this I draw. I can see an image only if I draw it. (quoted in Los 1966: 17)

The drawing surface, and its interfacing with the media of drafting, became Scarpa's essential expression of his synesthetic experience as inauguration of architectural imagination.

Federica Goffi explores this alternative to mere "photo renderings" and charts the ambiguous entry into a building, and its on-going unfinished representation, through a close reading of Tiberio Alfarano's 1571 hybrid-drawing of St. Peter's Basilica in the Vatican. Alfarano's drawing, with its multiple associations as transparent veil, palimpsest, decoupage, intercollage and iconic representation, takes us well beyond a representation of a likeness frozen in time and provides what Goffi calls "a metaphysical gate" into St. Peter's Basilica. Sarah Treadwell's essay ruminates on the work of another "synesthete". Her elucidation of Saul Steinberg's drawings of a plan, site plan and perspective of a hypothetical motel, Magnolia Motel, putatively located in the American South, also turns to Frascari's writing on Scarpa's drawing in order to find similarity with the way that Steinberg draws, especially the way he draws words. Steinberg described himself as a writer who draws and he defined drawings as "a way of reasoning on paper".

It is through a discussion of a hypothetical set of drawings that Itkinos may have prepared for the Parthenon, and presented for the first time to Pheidas, that Michael Linzey explores the unintended, or secret, life of drawings. Drawings, he argues, do not represent ideas, nor are they simply objective products of the experience we call architecture, but they present ideas to the world for the first time; they can take on a life of their own. For Stephen Loo, to draw is to call into visibility that which is to-come. However, Loo, in contrast with the Romantic notion of (architectural) genius that has long incarnated spirit to form, draws upon Giorgio Agamben's understanding of genius as an impersonal but inseparable pre-individual component to being human. For Loo, the mixture, or more correctly parallelism, of the instrumental and the imaginative, found, for example, in the drawings of Italian Rationalist Massimo Scolari, demonstrates what Frascari poetically calls "the transmutation of angles into angels".

A number of papers in this issue examine sets of design drawings. Susan Hedges explores the drawings of Lippincott's Smith and Caughey Building (1927), uncovering how scale is used to structure the ideas & imaginings of the architect. Here, drawing becomes an act of unraveling, of clarification, and of the step-by-step visualisation of complex forms. Andrew Barrie juxtaposes the "*okoshi-ezu*", a little-known drawing technique that emerged in seventeenth century Japan, with recent projects by Toyo Ito, to speculate on the shifting role of thinness in Ito's architecture. Simon Twose meditates on the interactive drawing process followed in one his own projects. He explores the complex and dynamic relations between the building, the drawings, and the body of the drawer, concluding that during the design process these elements should be understood not as independent components interacting, but as intertwined, inseparable, and "intra-acting".

This issue also includes refereed drawings by Michael Ostwald, Luke Pearson and Chris Morgan. These authors present collections of drawings, each accompanied by brief meditations which position the work within the current field of knowledge in drawing: Pearson echoes Hugh Ferriss' illustrations of the United Nations' building; Ostwald presents designs for a monument based on the mapping of historic events; and Morgan draws on a small work by Dubuffet.

In recent years, Auckland's architecture culture has undergone a period of growth, with increasing numbers of lectures, exhibitions and publications. The non-refereed section includes projects and interviews with a number of recent visitors to Auckland. Los Angeles-based architect and academic Hitoshi Abe and Tokyo designer Akihisa Hirata visited the University of Auckland as part of their annual series of visiting speakers; we present examples of their most recent projects. Momoyo Kaijima of Atelier Bow-Wow taught and lectured around the country as the University of Auckland's International Architect in Residence. She was interviewed by Sarosh Mulla and Patrick Loo, who present a meditation on her globally-admired design and research work. This section also includes reviews of a selection of this year's local crop of books and exhibitions.

If a conclusion can be inferred from this issue on drawing, perhaps it is that, as Mike Davis suggests in his paper, drawings still work. Davis argues that we must shift to what he describes as a post-digital condition where, by critically re-evaluating and renegotiating the roles of the various instruments available, we come to understand that the "craft" of drawing applies across all drawing practices, both analogue and digital. This is an optimistic view of drawing: one which sees the gap some identify between traditional drawing methods and digital instruments as artificial, and in which drawing maintains its central role in architectural thinking and making. We too are optimistic about drawing, and hope you enjoy these diverse explorations of the role of drawing as much as we have enjoyed assembling them.

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Refereed Papers

Notation and Crocodiles:
The architecture of Steinberg's Magnolia Motel

Sarah Treadwell

Cartoonist Steinberg's well known and celebrated ink drawings frequently involve architecture and the discipline is often the subject of his acerbic wit and melancholic sharp insights; his wonderful covers for the *New Yorker* have been understood as commentaries on urban conditions and American dreams of progress. Steinberg (1914-1999), born in Romania but known for his observations of a wider world, initially studied in philosophy and subsequently in architecture, and his drawings offer critiques of architecture, cities, geometry and those parts of human life that resist the clean orderliness of basic, Euclidean structures. Steinberg suggested that the time spent at the Reggio Politecnico studying architecture "brought purpose to the continuous line of my drawing … a way of looking at writing from my illiterate days" (Smith 2007: 26). This paper considers a series of drawings that Steinberg included in his collection, *The Labyrinth*, published in 1960. The selected drawings are far from the stately skylines of New York, addressing instead the everyday yet haunting architecture of the Magnolia Motel.

In interviews recorded between 1974 and 1977 Steinberg spoke of the difficulties of drawing from life and the need to first give up on all commonplaces of the drawing subject: "More difficult than inventing is giving up on accumulated virtues. The things you discovered yesterday are no longer valid. It's impossible to find anything new without first giving something up" (Steinberg and Buzzi 2002: 70). Motels have already ceded from virtue and while architecture is generally constrained by the known, the anticipated and a heavy history, the quick wit of motels, subject to Steinberg's drawing, catch at the possibilities of invention.

Architect and architectural theorist Marco Frascari, who has written about Saul Steinberg's marvellous creations, in a diatribe about the contemporary nature of architectural drawing, asserted "that current architectural graphic productions have reached an unchangeable and highly sterile phase of inert classifications and taxonomies, based on a pseudo-transparency of scope and a pseudo-scientific justification of the functions and roles carried out by the different kinds of architectural representation" (Frascari 2007b: 1). The motel as a type might be the site of sterile excess but Frascari's desire for a fluid, fertile graphic engagement with architecture drives this analysis of Steinberg's Magnolia Motel drawings, which will be considered as an aberrant and productive architectural notation.

Frascari's own writings on the architectural plan give insight into Steinberg's inscriptions because Steinberg utilises the disciplinary conventions of architectural drawing, plans and perspectives, distorting and remaking them, producing new conditions of programmatic description. Architectural drawings, under his manipulations, become figural, destabilising habitual representational systems. The Magnolia Motel drawings can be viewed as records of social behaviour steeped

with emotional emanations: images of an unattainable condition of home slipping into and out of categories of architecture. Operating between writing and drawing, Steinberg's images are critically shaped by the architectural plan, the drawing that cuts horizontally through the social life of a building and yet is recognised as an abstraction. This essay considers the effects of Steinberg's disruptive figurations in drawings that comment on the social, material and atmospheric conditions of life in a motel.

Motels have long figured in the popular press as sites of transgression, violence and dubious commerce. Stories of drug dealing, prostitution and mayhem colour this architectural type, which also houses cosy versions of the domestic. The motel in Alfred Hitchcock's enduring horror film *Psycho* (1960), the site of the bloody shower scene, is set beside a proper (and unnerving) Gothic house. As constructed by Hitchcock, Bates Motel serves as both a sign of modernity with its horizontality, close relationship to the car and obsessive attention to plumbing, and as a counterpoint to the stifling madness of the single-family home.

Multiple and reoccurring, unlike the singular suburban home, the motel is in Steinberg's much-reproduced drawings a repetitious home that travels, demanding only a fleeting allegiance: it is a space for the convergence of the fixed and the mobile. The motel is a transit-form of the domestic that could be seen as complicating the oppositional structure that cultural theorist Meaghan Morris pointed out in her essay on the Henry Parkes Motel, where the home is inscribed as the site of "both frustrating containment (home as dull) and of truth to be rediscovered (home as real)" (Morris 1993: 252). Families occupy the motel as a home away from home, alien and desired, different and familiar.

In the process of being replaced by holiday resorts, motels in New Zealand, remote and necessarily out of date and time, persist on the edges of motorways, lakes and volcanic landscapes. The car, following the endless white line of the road across landscapes, through towns, is intercepted by a motel knowingly placed within the driver's vision on the outskirts of town. Premised on a short life with frequent renovations and typically low rise, motels consist of car park, bedroom, basic cooking facilities, and a bathroom. They provide accommodation that is relatively anonymous and reasonably cheap in comparison with hotel accommodation and, while they are disparagingly charged with a temporary and second-rate homeliness, they might also be seen more positively through Steinberg's drawings, as an imagining of everyday life without routines of ownership, without closure.

Around the time of the drawings of the Magnolia Motel, Michel Foucault located the motel as a form of heterotopia: "This type of heterotopia, which has practically disappeared from our civilizations, could perhaps be found in the famous American motel rooms where a man goes with his car and his mistress and where illicit sex is both absolutely sheltered and absolutely hidden, kept isolated without however being allowed out in the open" (Foucault 1967). In the limited quarters of the motel the impossibility of separation or personal distance is combined with the expansive freedom of the open road. The potential of mobility becomes disconnected from notions of progress and accumulative constructions of home, and allied instead to chance and desire.

Foucault described heterotopic sites as relations of proximity or propinquity, associated with deviancy, and his analysis was framed in reaction to the conservative morality of that period of social change. Nabokov's descriptions of motels in his novel *Lolita* in 1955 also would have promoted the association of the motel with both pleasure and cruelty. Humbert recounts: "To any other type of tourist accommodation I soon grew to prefer the Functional Motel – clean, neat, safe nooks, ideal places for sleep, argument, reconciliation, insatiable illicit love" (Nabokov 2000: 143). The idea of the motel as a housing of deviancy continues to be registered in both contemporary, popular commentaries and in the physical planning of the motel.

Magnolia Motel

The Magnolia Motel is both a persistent idea and a building. The material version of the motel, in which Steinberg could have stayed on his trip to Kentucky, Tennessee and West Virginia in 1957 (Rosenberg 1978: 242), was recorded on the website *Vanishing America* and included photographs of the Magnolia Motel from the 1950s, the 1970s and in more recent times. Located at Knoxville, Tennessee, it is depicted nostalgically as an architectural sign of a golden past and in its contemporary condition as the haunt of prostitutes. The neon sign of the motel is now missing but the Magnolia Motel remains mythical, fictive and inaccessible – there is always "no vacancy" (according to Steinberg's drawing).

Steinberg drew the Magnolia Motel at least four times in *The Labyrinth* and his drawings include two site plans, a plan, a perspective sketch and a key detail of a general condition of "motelness" which is positioned beneath the Magnolia Motel plan. The plan drawing, like a folded-out developed surface drawing, includes elevational information, and the combination of the drawings provides an almost complete architectural design of the motel. Shaped with a sinuous, stuttering line, the architectural drawings enact the air of freedom and comic moodiness that pervades the various formations of the Magnolia Motel. The motel drawings are each "read" following Steinberg's own instructions: "I am a writer who draws" (Willer 2009: 5) and with a specifically architectural eye.

Arrival

On the edge of the long highway a neon sign looms up as the automobile, imaginatively finned, elongated and gleaming, speeds along: a jumble of block letters stacking up in identification of product and place – a sign illuminating participation in a network of virtual relations, signaling intersection and a conjunction of services. The sign points out that the motel is air-conditioned (a longed-for relief from the hot, humid interior of the leather-clad car); it has a television, is a member of the AAA, is named Magnolia and has no vacancies. The car speeds off into the night.

The sign leapt out of the darkness and from the page of Steinberg's book. With its reference to service the sign is an indexical link to networks of commerce, advertising and exchange. It offers identity and the formal aspects of the sign are linked to a striving for modernity and newness subject to the cyclings of fashion. Visible from a distance, the motel sign, like most advertising, projects and seduces; the words demand attention but in capitals they are subject to a 13 per cent reduction in reading speed, signs approach too quickly and visibility is fleeting (Rehe 2000: 106).

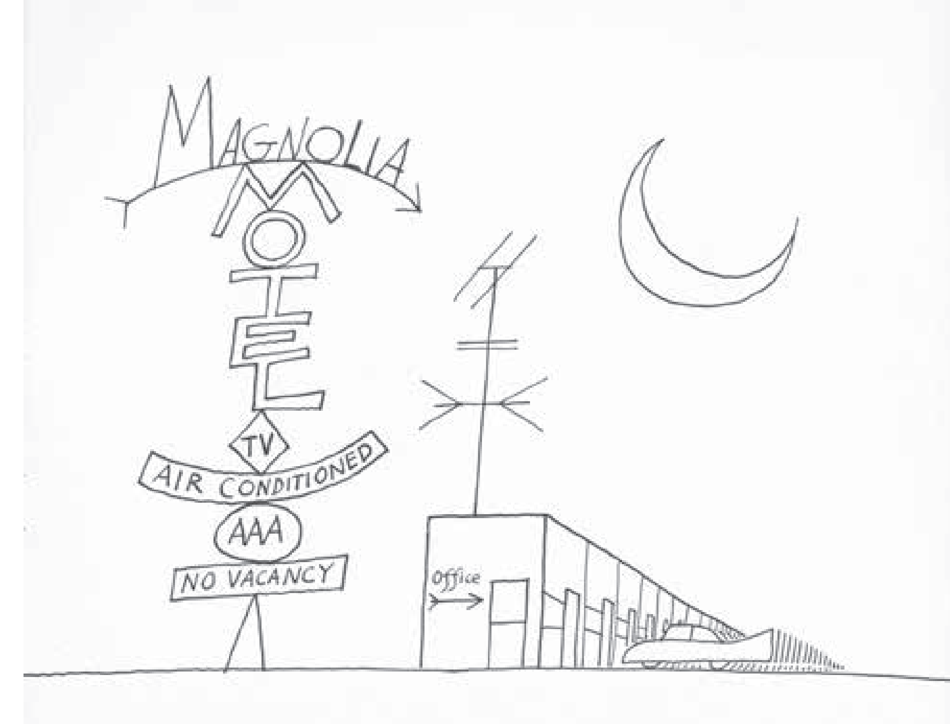
1. http://www.neonmona.org/flash/index.html Visited 2005.

The motel in Steinberg's drawing exists under a moon, always at night. The moon is a thin crescent, cuckold horns pointing into a sky rendered wide and bare. The crescent moon, marking (illicit) beginnings and endings, echoes, in reverse, the form of the curved word on the sign: "air-conditioned". Glowing like the moon, neon effects are hinted at in the drawing of the multiple, parallel brake lights that stutter behind the cars pulled up at the units. For the Museum of Neon Art neon is "[n]ot just for sleazy motels anymore"[1] but neon, like motels, is either bright or swallowed up in darkness, pure pleasure or dubious; neon reeks of commerce and exchange. The violence and complex social negotiations that remain hidden in the family home are manifest in the secrecy of a motel advertised by glowing neon. Steinberg admired American artist Edward Hopper for his rendering of neon light (Steinberg and Buzzi: 2002, 59) and Hopper is remembered for his motel paintings of anxious expectancy (Treadwell 2005).

Magnolia
M
O
T
E
L
TV
Air conditioned
AAA
No vacancy

Words as formal constructions, as building blocks, gain ascendancy. The motel drawings in *The Labyrinth* are heavy with words and Steinberg refuses their usual orderly, linear progress. In other drawings in *The Labyrinth* ornaments and mazes replace words in speech bubbles, and clouds of smoke and elaborate curlicues are spoken. Instead of words, figures shout with angular marks, talk dirty with smudges and blots, seduce with convoluted meaningless calligraphy. Drawings replace the social agreement of words with representations of physical (albeit ephemeral) formal conditions of the sounds of words in a comic complication of usual privileging of writing over drawing.

When, in *The Labyrinth* collection, Steinberg draws words rather than writing them (if such a distinction can momentarily be made) the words enact their content: the word HELP falls with an exclamation, the letter E crunches up the letter A on table T. The word SWINDLE starts with a flourish and conceals its ending; tremulous words, "Maybe" and "Perhaps", are drawn teetering on a seesaw of indecision. Steinberg draws his words and writes his drawings. Words become things, material conditions of themselves, unexpectedly animate and fleshy. In the Magnolia Motel everyday life produces a Steinberg effect and the motel sign is all words. It repeats the ordinary appearance of signs that string along the highways where the support or structure, on which the words depend, is erased and there are only words and symbols against the dark sky in an abbreviated self-sufficiency that recalls the domestic condition of the motel. In the Magnolia Motel sign Steinberg undermines any perceptible substance with an anthropomorphic addition of two small legs unlikely to support the weight of stacked-up words.



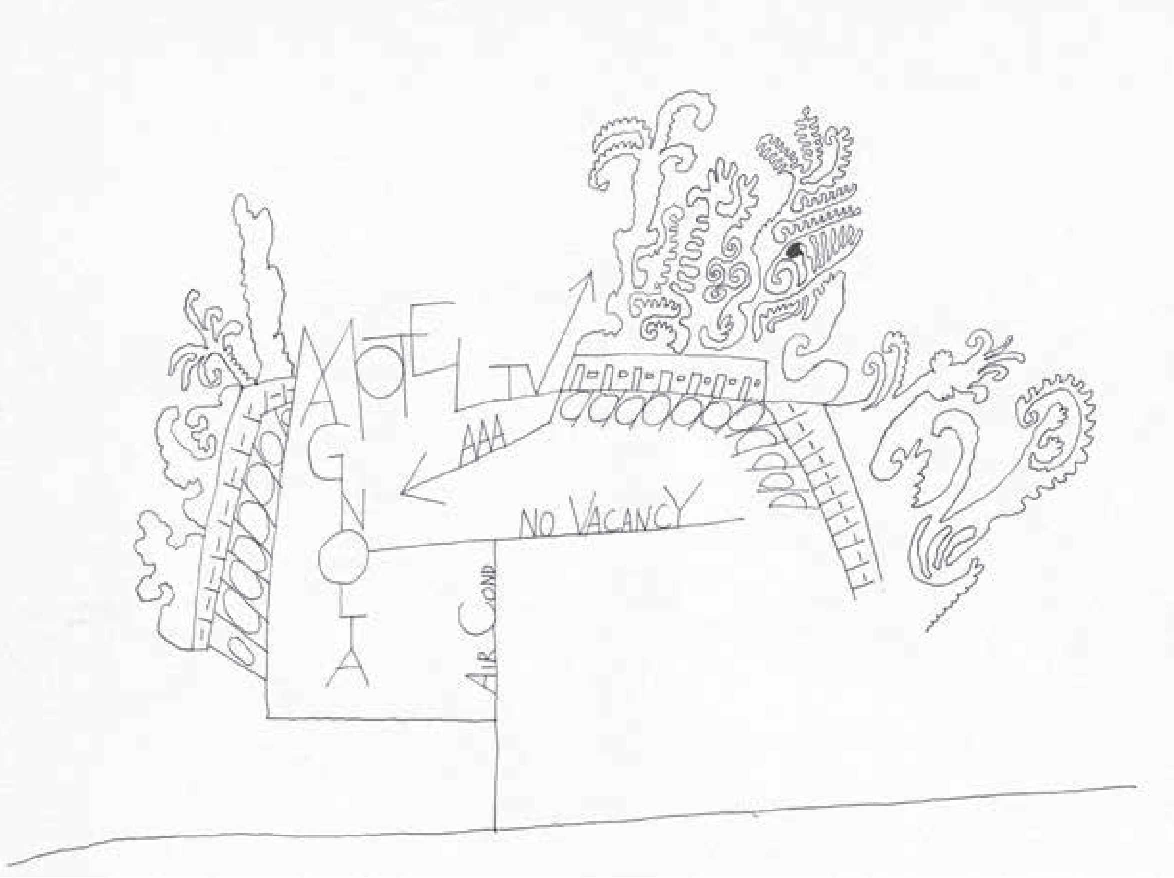
Saul Steinberg Magnolia Motel Perspective © Saul Steinberg, 1960/ ARS.Licensed by VISCOPY 2010.

The motel sign is the most important thing in Steinberg's drawing – the peaks of the M in Magnolia, mountain-like, rise above the moon. The word "Magnolia" arches across a curved arrow following the curvature of the earth to arrive at this particular location. And with its name the motel is situated within the "pure, magnolia-scented fantasy of the Old South" (Bloomer 1998: 52). The drawings were made just prior to the Civil Rights Act of 1964 that outlawed discrimination in hotels, motels, restaurants, theaters, and all other public accommodations, and the white petalled "Magnolia Motel could be read as the late, last flowering of the segregated south"[2]. The Magnolia Motel has no other evidence of the Southern fantasy: no lawns, no trees, no genteel behaviour, just wires and letters, boxes and cars assembled under a moon. Nevertheless the word Magnolia, with the roundness of its O and the emphasised softness of the L (the lines that construct the letter are a little heavier) becomes oily, carrying a trace of lingering lemon-sweet fragrance.

2. A description offered by the anonymous reader of this paper for *Interstices*.

Frascari in his essay, "Architectural Synathesia: A hypothesis on the makeup of Scarpa's Modernist architectural drawings," retells Rabelais' story of Gargantua and Pantagruel when handfuls of frozen words are thrown onto the deck of a ship. Words that in their frozen state could not be heard but could be imagined through associations with colour and form; as the words thawed they could be heard but not understood, being in a unknown language. In a Steinbergian manner Frascari sees that these acts of transubstantiation make the invisible order of words momentarily visible and palpable through configurations of the noise/signs in material form (Frascari 2010). Frozen words, ice-coated and glittering, promise the unknown, and skittering across the surface, already subject to unpredictable inclinations, the words, like the blocked words in Steinberg's volumes, shift towards and away from predictable orders, jumbling into new associations.

Steinberg's Magnolia Motel drawings have something of Frascari's synesthetic effects as the black ink lines operate spatially, vibrating with electricity on the page in the cold night air; a chill of temperature and excitement emanates from the drawing. Frascari points out the impossibility of treating architectural drawings as neutral information, arguing instead that drawings make architecture with their own particular characteristics. Steinberg, for example, employs perspective, not to shape regular pictorial space, but rather as a method of stretching out the ground, implying the wide space of the highway and the inconsequential



Saul Steinberg Magnolia Motel Plan
© Saul Steinberg, 1960/ARS.Licensed by VISCOPY 2010.

nature of the architecture on its edge. And if the pictured sign is understood as notation that shapes the Magnolia Motel, then it is notation that produces the architecture of the Magnolia Motel itself as a sign. The drawn words construct the motel as precariously founded, insubstantial and determinedly graphic.

Graphic is an appropriate word for the work of Steinberg in that it underlines the linear nature of his drawing: the variable lines alluding to script, pattern and notation even when illegible. When Steinberg works with the legibility of the sign, when he writes out words in boxes stacked up in the air, it is the graphic nature of the motel that is being proffered. The word "graphic", as well as alluding to drawing and the inevitable entwining of drawing/writing, also refers to a vivid everyday quality, something almost too visible. Walter Benjamin wrote of a "heightened graphicness" in his images in *The Arcades Project* and this phrase conveys something of the stripped yet ornamental quality in the drawings of the Magnolia Motel (Benjamin 1999: [N26] 461). Whereas graphicness might be seen as a resistance to consumption, with its suppression of materiality, it is made fat in Benjamin's images through the excesses of production.

Graphicness (in pornography or current filmic depictions of violence) is a vivid condition and is aligned with the motel and its sensitivity to the corporeal: to hand marks, fingerprints, stray hairs and calligraphic traces of the body. Marco Frascari wrote that "[d]rawings become aromatic-chromatic-visual tools to flavor buildings" (Frascari 2010), and Steinberg's graphic line records the taste of glaring neon, the stripped materiality and the slight bodily decay of the Magnolia Motel. In the hesitations, in the fluidity and congealing edges of the linear constructions, the social agendas of the motel are conveyed.

The sign that, in the perspective drawing of the Magnolia Motel, is simultaneously ornament, identity, architectural type and presentation of services, has become separated from inhabitable space. Qualities that conventionally assert architecture have, in Steinberg's image, an independence that sets occupancy to one side. The sign implies a new architectural species, an anthropomorphic figure that, pylon-like, transmits signals with Hejdukian qualities. John Hejduk was an architect who "eschewed traditional typology for anthropomorphic and animal-like buildings that were hybrids of simple abstract geometries and idiosyncratic figuration. These operated like Trojan horses, providing the architect with vacant protagonists through which to sneak in emotion and meaning" (Meredith 2002). Steinberg similarly suggests architecture as an anthropomorphic or zoomorphic node in a network or systemic formulation; unmistakably in the cranky typography, and the faint odour of flowers (not to forget the shaky legs), motelness persists in the sign. The visitors arrive, brake lights flashing, right at the door of their motel room.

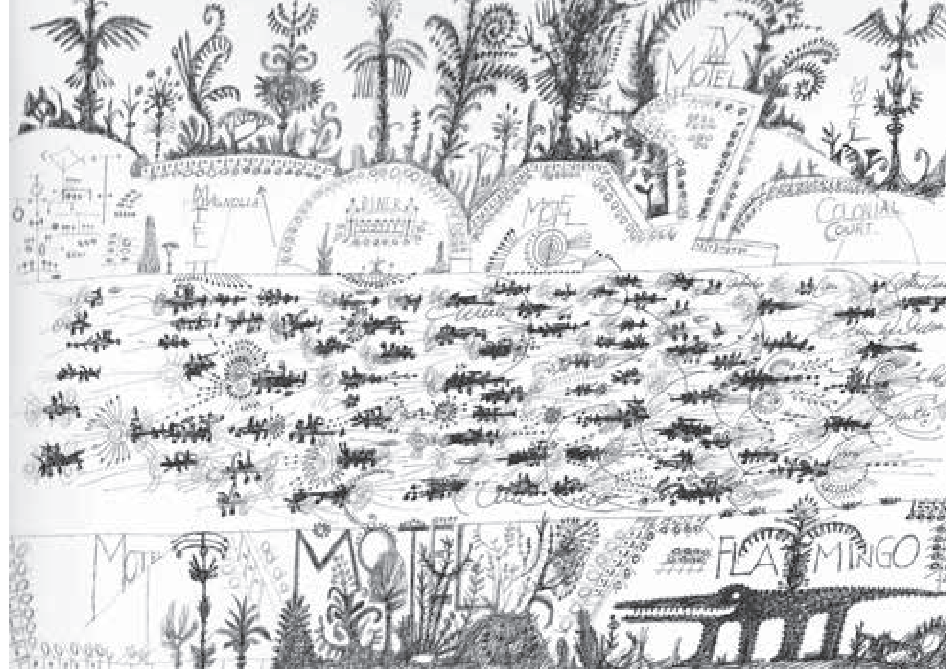
If the giant road sign is the first intimation of the Magnolia Motel, repetition occurs in the wiry aerial that is the centre of the drawing, positioned between the sign and the moon, and attached to the motel building. The aerial alludes to the dispersed space of the motel – its repetitions (always the same and yet endlessly shifting) and its occupation of the electrical grid. The insubstantiality of the motel, its rapid disappearance towards the horizon line, is matched by its expression as receiver and transmitter of desires and needs. Steinberg's depiction anticipates current coded, formulaic conditions of architectural drawing.

Elevated above the motel office (distinguished from other units only by an arrow) the aerial seems like an esoteric code as it marks space through manipulations of lines and crossings. Like an architectural drawing the aerial is formed of instructional marks: two parallel lines indicate the thickness of matter and two arrow-heads mark a significant gap. The motel consisting only of division is crowned with a sign that articulates openness: a spangling vertical protuberance able to receive signals that fill the emptiness of space between the moon and the open road.

The Motel plan

The car park of the Magnolia Motel is elaborated in Steinberg's plan drawing in *The Labyrinth*. The drawing has a ground line that is the road from which the trajectories of the sign lead visitors into the car park around which are ranged motel units on three sides. The interior of the room is the closure of the road; only the parking lot mediates between the room and the openness for which it longs. And the road is the constant horizontal foundation of the motel, framing the mythic legend of motels in endlessly-remade road movies.

Steinberg's plan of the Magnolia Motel is diagram, notation and, as Frascari writes in an article about architectural plans, a "passe-partout" – a key that secures entrance everywhere, a pass key that makes the invisible visible (Frascari 1988: 97). The plan of the motel establishes the sign as a "key" in a field of data consisting of arrows, words, codes and trajectories. The key points into and out of the motel, highlighting a strange wilderness that exists beyond the motel units. Plans establish the limits of architecture constructing the landscape, the suburb and the world beyond as diminishing ripples of plan effects. In the 1960s and '70s the architectural plan was seen to be primarily utilitarian, attracting relatively little in the way of critical discussion. Marco Frascari's two articles on the architectural plans, *Plans (1)* and *Plans (3)*, written in the late 1980s, were exceptions. Between the two articles is a gap, an absent volume, *Plans (2)*, never published.



Saul Steinberg Magnolia Motel Site Plan from Saul Steinberg Illuminations © Saul Steinberg, 1960/ARS.Licensed by VISCOPY 2010.

Plans (1) does not follow the usual pattern in which drawings operate as illustrative handmaiden to text. There is, instead, one page of writing followed by 34 continuous pages of drawn plans. The plans are rendered as distinct figure ground relationships, patterned marks, retrieved and separated from history. Frascari wrote that,

> The best part begins when the plan is torn to pieces by history, defeated by events, chewed by time; when it reaches us as an incomprehensible collage of forgotten memories, as an unexpected and enigmatic structure, as existential lust, as pure decoration. (Frascari 1988: 97)

The sequence of plans presents exclusions, containments, black and white flickerings that accumulate. A series of possibilities – patterns of living and dying; tried, failed re-imagined. The sequence of 34 plans is long, wonderfully extended, exceeding expectations of text/image relationship. The plan asserted as figural, ornamental and scalar reactivates the operations of Steinberg's motel plan drawing.

Frascari wrote in the later article, *Plans (3)*, that a

> building is represented in plan in its entirety but there is no likeness between a plan representation and the original. The plan is neither a facsimile nor a symbol. It is not a model, but it represents a building through modeling, so that instead of reproducing the building the plan produces it poetically. (Frascari 1989: 126)

The plan does not exist as a model of the building-to-be but, instead, it engages in a prescient anticipation of building through the work of modeling – an active demonstration of the architecture. It is in the movement between the plans, the flicking of pages, in *Plans (1)* that the work of planning is revealed to be a geometrical marshalling of alterations, elaborations and eliminations: an assemblage of matter and space shaped formally and emotionally.

Steinberg's ink drawing of the Magnolia Motel plan questions the confines of the plan as drawing type and, like Frascari's text, it suggest that the limits of building and drawing are not the same. The Magnolia Motel is drawn past that which would aspire to be a built edge; the plan inscribes the forecourt with a tipped over sign promising cool air, and a road network that directs visitors into the motel. In the Magnolia Motel the units are drawn in code with a repeating horizontal dash/vertical dash, wall/body, arrayed in a long box. And as the units tilt into elevation they are drawn as containers with repeating door/window, door/window. The code signals both the separation of the units (the difficulty of acknowledging other occupants) and the collective dreams of the lonely and isolated. Twisting space from vertical to horizontal and back again, in a rhythm of illicit coitus, Steinberg creates a hybrid drawing that heightens and amplifies conditions of the plan.

Frascari begins *Plans (1)* by pointing out that "The drawing of a plan can be read as the abstraction of an idea; it can represent a sociological programme; it can be structured as a technological metaphor; it can – eventually – turn into an erotic image or be translated into a surreal apparition" (Frascari 1988: 97). He indicates the abstract qualities of the plan, its potential use value in terms of ideas, sociology or technology when the plan is deployed with the concerns of other disciplines in mind. He concurs with Le Corbusier's call for the plan as abstraction without austerity. Where Le Corbusier wrote that a "plan is not a pretty thing to be drawn like a Madonna's face" (Le Corbusier 1946: 46), Frascari will allow much more. In the repetitious beat of the black and white pattern of the 34 plans, page after page, a quickening of pulse is generated, a recognition of the bodily action of book, plan and architecture.

The plan of the Magnolia Motel refers to a logic of occupancy that drives calculations of loss and gain but it is seen to produce excess; it cannot be contained by the reason that might operate its construction. Outside the units, out the back in the land beyond the civilizing road, in the wilderness, the dreams and nightmares bred in the motel spawn and proliferate. Recumbent bodies lie in the motel units, registered in code – a dash – eyes shut tight in a horizontal line, dreaming of body parts and vegetative forms. Extending from the sleeping unit are clouds of bulgy excess in shapes of grasping fingers, genitalia and teeth. Steinberg records the fantasies, erotic, natural and threatening, generated by and exceeding the time of the motel. In stories of pleasure, illicit relationships and escape, monsters swell on the margins of the motel.

Frascari has written about the role of monsters in architecture: monsters that place "events within our vision that are capable of putting our thought out of place, of determining a buried but real possibility of meaning" (Frascari 1991: 32). In Steinberg's plan grotesque figures emanate from the motel and with their anatomical references they jolt expectations of the plan as a provider of measurable discrete information, signaling instead that which is known but repressed. The plan is coded with longing, with desire both cerebral and physical. The bulging, shape-shifting figures that churn out of the unit code undermine the completion and understanding of motel as type. Frascari noted that "The grotesque body is a body in the act of becoming. It is never finished, never completed; it is continually built, continually created; and it is the principle of the others' bodies" (Frascari 1991: 32).

If the Magnolia Motel is all sign, the site plan of the motel by Steinberg locates it within a field of signs, in an array of black savage spikiness. In the site plan the Magnolia Motel is situated with other motels on the banks of a wide and dangerous river/highway filled with ferocious black scribbles/cars/insects. Between the car park and a forest of wild, hybrid growth (variously vegetative, animal and architectural) the motels become a thickened boundary constructing the edge of an open and dangerous space as a fringe condition. Horizontally arranged along

the river/road the Magnolia Motel is between a hybrid aerial/motel plan and a diner. Four unnamed motels are depicted along with the Flamingo and the Colonial Court that draw on an exoticizing or nostalgic distance for their names.

Site plans might generally be seen as conservative, as a commitment to a shared world, addressing context, situating architecture legally and in terms of the already existing. Steinberg, in contrast, depicts the site of the motel as hybrid, transformational and dangerous in a world that is exuberant, graphic and vigorous. Away from the architecture of the metropolis, situated in left-over space, constructing the margins and the marginal, the motels in the site plan become refuges – sheltering respite from the horrors of the highway and the looming nightmare zone beyond. Marked by imminent collisions, assumed loud noises and angry encounters, the road is shaped by an overall miasma of scratchy, ornamental atmosphere; the Flamingo motel is guarded by a large, smiling toothy crocodile. For Steinberg the crocodile is a symbol for dragons: "power at once evil and invincible, setting the terms for a world it aims only to devour" (Smith 2005: 164).

Steinberg's free drawings reveal parts of motel architecture that conventional drawing will not notice, even as he employs disciplinary language to locate the motel within architecture. His hybrid drawings, combinations of plans and elevations, plans and perspectives, expose movement as a structural, necessary condition of the architecture; the motel is never permanent and always experienced as transitory. The Steinberg motel participates in the road trip as an entanglement of linear forms of travel that repeat and return. Movement is caught in the momentary stillness of the motel room, framed by the speed of the open road, and is delineated in the repetitious code of closure and occupation. Rhythmical movement, the repetitive oscillation of bodies and rooms, repeated patterns of engagement, shape the flow of the drawings.

Repetitive movement causes the figure/ground of the architectural plans to shimmer in Frascari's articles on the plan, dissolving historic location and time in a blur. Even as the sharply wayward linearity of Steinberg's drawings mirrors the sudden flare of excess associated with the social programmes of the motel, so too the excessive repetition of the Frascari's plans induces a bodily response in the heartbeat rhythm of turning pages. Both Steinberg and Frascari trace and reveal architecture through a paring back and also an intensification, offering a sort of productive violence to the familiar orders and codes of architectural drawing. Steinberg's Magnolia Motel, gathered out of his collections, operates between cartoon, architectural drawing and building, inducing a slight destabilisation in each system or code; the Magnolia Motel as a fiction reveals the presence within the systems of representation of that which cannot be contained.

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Drawing Imagination and the Imagination of Drawing:

The case of Tiberio Alfarano's drawing of St. Peter's Basilica

Federica Goffi

> …there is always a tension. There is a drawing out [*du triage*], a traction: in a word, a line [*un trait*]. There is an invisible, untraced line that draws out and traces on both sides, that passes between the two without passing anywhere. It draws out and traces nothing, perhaps, but this impalpable line… (Jean-Luc Nancy, *The Ground of the Image)*

In contemporary understanding, architectural drawing produces an image of likeness; as such, representation renounces its dialogue with the humanities and becomes a narcissistic act, focused on the production of a self-reflection of the visual world, a duplication that does not allow a transcending of the visible, and provides a fixed image. In this way, representation nowadays is preoccupied with the production of finished photogenic rendered pictures, rather than interpreting drawing as a vehicle for representing and imagining change or transformation. This essay will argue that it is a mistake to believe in photo renderings as the best way of accessing a building. The dominance of photorealistic images should be challenged, undermining the notion that architectural drawing is a portrayal of likeness, and restoring its full potential as an iconic representation of presence. It is possible to enter a building through ambiguous imagery and unfinished representation, experiencing a kind of real *transitus* of the sort that religious icons allow (Florensky 2000).

Hybrid-drawing

Tiberio Alfarano's 1571 hybrid-drawing of St. Peter's Basilica in the Vatican goes well beyond representing a one-time likeness, and provides a metaphysical gateway into experiencing this building (Fig. 1). This is not achieved through exact visual duplication, but through a combination of past and present form, expressing allegorical significance. Alfarano produced a hybrid-drawing, combining traditional architectural representation with *decoupage* and techniques of representation typical of icon paintings. His work is porous to the cultural context in which it was produced. As a scholar of the Basilica's history, a theologian and *connoisseur* of architecture, he wove into his drawing a complex body of religious, political, architectural and cultural elements. Alfarano's ground-plan is, in Carlo Ginzburg's terms, a singularity, presenting a series of anomalies when compared with the surviving body of renovation drawings (Ginzburg 1993: 13). A key anomaly in this process is the fact that Alfarano was not, strictly speaking, an architect and this is not a design drawing per se.[1]

1. Tiberio Alfarano was a beneficiary clerk of the Basilica. Whether he was considered an architect in his own time is uncertain. What can be confirmed is that he describes the Vatican basilica in his manuscript with precise language, which leads one to believe that he had a prominent interest in architecture; his ability to layer meanings into the drawing bears witness to his skillfulness, inventiveness and his understanding of architectural representation. Recently scholars credited to Alfarano the mastering of "the art of architectural drawing to a certain extent" (Frommel 1994: 598-600). One should also think that the idea of who was an architect was much more fluid than it is today (Kostof 2001).

Fig. 1: Tiberio Alfarano, Iconographia, 1571, mixed medium: hand drawing and print, 1172 x 666 mm. © Courtesy of the Archivio della Fabbrica di San Pietro (AFSP).

Alfarano is the author of a hybrid representation that is unique among period drawings. His ground-plan exhibits the use of advanced techniques, carrying within itself a new hybrid language, merging architectural representation with the language of icons; this drawing could only have been conceived by someone who was not only a good *connoisseur* of architecture, but also had an in-depth understanding of theology and its associated visual imagery. Someone who was thus well aware of the interdependence of words and images through an understanding of sacred scriptures, and the notion of incarnated word, which became central to the defense of the icon in the face of the attacks generated by the Protestant Reformation against sacred images.

2. From the Greek *iknos*, i.e. track, footprint and *graphia* i.e. writing, the ichnography is a "track-drawing". Alfarano tracks the site changes in the drawing, all the way back to the presence of Roman mausoleums underneath the basilica. Those structures are outlined in his drawings – similarly to other temples and churches – with red ink. A cross-hatched *poche* completes their rendering. The mausoleum's walls are drawn last, after completing the rendering of Michelangelo's walls with white wash and azure coloration. The Roman mausoleums appear to be drawn in a more sketchy and imprecise manner, compared with the outline of Old St. Peter's footprint.

3. Information regarding the archeological layers of the drawing and its materiality in terms of both medium and techniques is taken from Silvan (1992), Notiziario (1994) and direct observations by Professor Nazareno Gabrielli (conservation expert of the Vatican Museum) and from the author of this paper in June 2009. The drawing is currently conserved at the Archivio della Fabbrica di San Pietro.

4. The Mandylion, for example, is constituted of several layers, such as a wooden board, onto which the original cloth is mounted; several painted layers have been added over time to preserve an original image disappearing, not unlike the *Sancta Sanctorum*. The Mandylion and its layers were then framed into an elaborate gold and silver encasing. For a reading of the complex layering of strata of the Mandylion see Wolf, Dufour Bozzo and Calderoni Masetti (2004: 102-206) and for the Sancta Sanctorum see Marino (2005: 31-49).

5. Ernst Gombrich's comments on the workings of "double images" (2000: 3-30), which allow a viewer to switch from one reading to the other. The notion of double images helps us understand the invisible workings of Alfarano's plan. In the case of Gombrich, the ambiguity of the reading rests in the question: is this a "Rabbit or Duck?". Gombrich states that, "the shape on the paper resembles neither animal very closely. And yet there is no doubt that the shape transforms itself in some subtle way when the duck's beak becomes the rabbit's ears and brings an otherwise neglected spot into prominence as the rabbit's mouth. […] we are compelled to look for what is 'really there', to see the shape apart from its interpretation, and this, we soon discover, is not really possible." (2000: 5)

6. The word "presence" is used here with the significance attributed to it by Hans Belting (1994).

Exploiting the ambiguity of metaphoric transparency, Alfarano draws his plan as a transparent veil. This drawing provides a unique interpretation of the notion of ichnography (ground plan), going beyond a mere footprint, carrying the impression on earth of the process of fabrication, simultaneously being a representation of both above and below, before and after. The plan allows multiple readings, detecting the literal and metaphorical presence of a building within a building. Ichnography is interpreted through this drawing as a "track-drawing," providing memory traces on the drawing-site, making the passage of time visible, through unique colour renderings, revealing different time-layers, and the meaning of drawing as unfinished palimpsest-in-the-making.[2]

The primary medium for the drawing consisted of several sheets of paper of various dimensions, quality and consistency, joined together, and glued onto a wooden support. On this medium Alfarano initially outlined in graphite the plan of the old basilica. He started drafting his drawing after Michelangelo's plan was committed to print in 1569 by the well-known engraver Etienne Duperac, four years after Michelangelo's death. A fragment of this print is glued above the old plan, thus producing a *decoupage*.[3] This hybrid-making combines traditional drawing methods with *decoupage*, abducted from the art of cabinetry, and in so doing the drawing process mimics the renovation process. *Decoupage*, from the French *decouper*, literally means to cut out, assembling unrelated elements to form a new whole. The use of *decoupage* reveals an understanding of the nature of the Renaissance process of addition, as the coming together of different members, which are re-assembled to form a renewed body. The cutting up of Duperac's print by Alfarano is an act of selection and alteration, that is then continued by re-drawing and painting onto the decoupaged plan. By literally writing over Michelangelo's plan, the new temple's central design is being questioned.

The wooden board used to execute the decoupage becomes a permanent and essential physical substratum for the drawing. This is not unlike the wooden board onto which the original Mandylion cloth, a true effigy of Christ, was mounted, becoming inseparable from its support. In this context we might say that Afarano's supporting board for his drawing is the equivalent of the Vatican grounds, an original hypostatic foundation bearing the building and its multiple iterations, with all of its deep strata of time and meaning, forming a unique *locus* where time and place form an indissolubly merged presence. In a mnemic site/building like St. Peter's, all of time happens in a single individual place in spatio-temporal continuity.[4]

'Hallowed configuration'

Alfarano's double plan, portraying new and old members together, is thought-provoking and stimulates the imagination of conservation, asking the onlooker to gaze beyond the image, to project other possible futures.[5] Alfarano makes visible, and stimulates, a dialogue between new and old, yet to be resolved. He contemplates past, present and future simultaneously, through a metaphoric transparency, producing a multilayered plan. The drawing conveys not just a likeness, but a real presence, of a thing signified, which is a hybrid-body formed by new and old vestiges, conserved underneath a new building.[6] The width of the new main nave corresponds to that of the old; this design move by Bramante allowed the original footprint to be conserved intact, thus ensuring that the new foundations do not interfere with the old plan. The original ichnography reveals, predicts, even generates what the future ought to be, unveiling a 'hallowed configuration' *(Lat. forma sacrosanctae)* created by merging two plans (Fig. 2). The terminology of hallowed configuration, which Alfarano attributed to his ichnography, is an inviolable portraiture, capturing the essence of the thing signified beyond a one-time likeness (Cerrati 1914: LII). The Latin word *"forma"*, whilst translated as configuration, is used here to indicate not just a geometrical outline but also an evoked sacred presence. Presence is charged with a significance, which Hans Belting (1994) explains relates to something beyond mere likeness, to embody essence. Alfarano's ground-plan brings back to light the presence of sacred burials taking place in the main aisle and transept of the old temple. Their conservation was essential and became a decisive element determining the position of the new main piers.[7]

Iconic representation reaches beyond the physical to include a non-visible dimension. Alfarano's ground-plan unveils the Old St. Peter's contained within the New. His drawing becomes a place where the multi-temporal dimension of the design process can be experienced as memory of the past and revealer of future presence. Parallels with the relationship between Old and New Testament, where "the promise of the former was fulfilled in the latter," also inform the production of this drawing, through its intertwined narratives (Wood 1992). The relationship between old and new is not arbitrary, as Alfarano depicts the temple in a state of transmutation, metamorphosing from one form to another, portraying the merging of multiple plans brought into coincidence by a "ubiquitous gaze" (De Certeau 1987: 13). The dialogue between the two plans determines the position of the new piers. Bramante located the eastern piers right under the crossing of old transept and main nave. The challenge for the vaulting of St. Peter's dome is determined by the necessity to conserve the main nave. When the width of the nave is applied east-west, the position of the western piers is foretold. As a result, Peter's grave, which according to tradition should be located beneath the altar, is not placed in the geometric centre of the crossing of the four piers.

This idea of architectural drawing as palimpsest-in-the-making is also informed by the Renaissance allegory of prudence. Titian's *Allegory of Prudence* (c. 1565-70) illustrates the threefold power of sight as memory of things past and foresight of the future, which together allow one to act prudently in the present. Alfarano's account is made possible by the fact that he was a first-hand witness, for about half a century, to the changes that took place there. In addition he relied on the recollections of his teacher Giacomo Hercolano, who had been present at St. Peter's since the period of Bramante's early designs (c. 1505-1506). Thus Alfarano's gaze is informed by a prudent understanding of narrative, where the present can be stated and the future evoked, making present past memories. The Renaissance imagery of prudence, such as that of Titian, is, in turn, indebted to the two-headed Roman god of gates, beginnings and endings, Janus, who had the ability to look in two directions in space and time. Janus's double vision was allegorically expressed in the idea of threshold (see Panofsky 1955: 181-205).

Veronica's icon, which Alfarano places in the top centre of the drawing, is like a 'Janus-keystone', reminding us to read the ground-plan in two directions – spatially and temporally – to achieve revelation. This reading is inspired by a Christian concept of memory, manifested in Christ's own effigy.[8] Veronica's holy cloth is not just a memory of Christ's appearance during His life on earth, but also a prefiguration of a future vision to be revealed at the end-of-time. In a letter

Fig. 2: Tiberio Alfarano, Iconographia, 1571. Detail showing how the design dialogue between the old and the new plan reveals that the positioning of the new piers is determined by the necessity to preserve the old main nave and transept intact. © Federica Goffi. Original image courtesy of the AFSP (St Peter's)

Fig. 3: Silvestro, scroll letter, 1300. Vatican archives. © Morello and Wolf 2000: 123.

7. The basilica is from the beginning a space of many purposes, acting as memorial, burial site, and liturgy (de Blaauw 1994). To define perdurance of identity within changes through time one needs to define a certain stability of the image, which can be defined as a *fabrication* of memory through the making of a drawing-effigy, identifying stable elements which allow sustaining identity. Old main nave and transept are the elected cemetery of the Church. Julius II stated that it is imperative to preserve them intact (Cerrati 1914: 3-4).

8. "Memory thus had a retrospective and, curious as it sounds a prospective character. Its object was not only what had happened but what was promised. Outside of religion, this kind of consciousness of time has become remote to us" (Belting 1994: 10).

9. The so-called "Letter by the pontifical writer Silvestro", dated February 22, 1300, is a letter to Christendom by Pope Bonitace VIII explaining and commemorating the beginning of the Jubilee. The writer "Silvestro", was at the time *scriptor* for Pope Boniface VIII (1294-1303), and worked for the papal curia (Morello, 2000).

10. This is not unlike the phenomenon experienced when observing a Rubin Vase, where two images, 'face' and 'vase' allow perceptual shifts from one representation to the other.

from 1300, in the Vatican archives, by the pontifical writer Silvestro, a Veronica icon appears on both ends of a scroll (Fig. 3).[9] The duplication of the icon above and below indicates beginning and ending, and alludes to the scrolling of linear time in opposite directions, signifying a relationship between memory and foretelling, as mirror images. The writing of the text converges towards the centre of the scroll, where the present is generated.

Old St. Peter's is thus present almost metonymically within the new. Through metaphoric transparency, the observer's gaze is directed in two opposite directions simultaneously. Veronica was a blind woman who, by placing her face in contact with the Holy cloth, regained sight (see Kuryluk 1991). Contemplating Alfarano's plan *ad faciem* one regains sight of the invisible presence of Old St. Peter's, and understands the relationship between new and old, as an inversion of interior with exterior.[10] The point of coincidence lies in the visible figure in which the gaze grasps the invisible element active within the figure.

> This instrument for the passing *(transumptio)* from one "seeing" to the other is the mirror. Mounted inside the texts, it is the equivalent of poetic quotations in the mystic treatises of the sixteenth century. For the mirror is to the visual what the illuminatory "word" is to the verbal." (De Certeau 1987: 8)

In 1434 Flemish painter Jan Van Eyck mounted a mirror within his portrait of the Arnolfini family; the mirror hung on a wall in the background of the portrait offers a counter-viewpoint, described by de Certeau as "a place located inside the painted framework and often decorated as the monstrance or reliquary that circumscribes the appearance of another world" (ibid). Alfarano's new plan is the monstrance or reliquary of the old, making visible another dimension, hidden in Duperac's print, and his drawing above Michelangelo's plan is the equivalent of mounting a mirror within the plan and reading the story in two directions.

The role of ambiguity

The significance of colour in this drawing has never been discussed in the scholarly literature. Using theories of functional specialisation of the visual brain by the contemporary British neuroscientist Semir Zeki (1999), it is possible to infer that by blocking out the element of colour, scholars have applied a specialised reading, focused on one predominant element, which is the geometric form, and thus eluding questions of iconographic significance. Filtering out significant layers of meaning, these commentators have focused on the value of the drawing as a document witnessing physical locations of altars and precious relics, and providing information about geometric outline and the position of new and old elements relative to one another. But only a simultaneous reading of different layers of meaning allows one to grasp the complexity of a multi-layered making and thinking. The drawing, like a veil, bears the traces of the building's presence within time. Through the use of colour, the ground-plan truly becomes a "track-drawing", making the passage of time perceivable.

The ambiguous drawing of two plans forming a double-image is enhanced by differentiated colours, which facilitate switching the reading, from Latin to Greek plan, and bring to the foreground that which is in the background, revealing a figure/ground relationship between them. While looking at the drawing

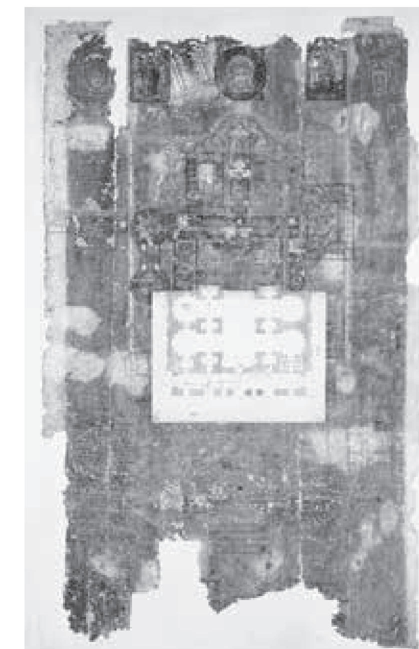

Fig. 4: Christ, One and Trinity (Cristo uno e trino), St. Agata Church, Perugia (1290-1314 ca) © Bollati Boringhieri Editore.

Fig. 6: Digital superimposition of Carlo Maderno's 1607-12 plan onto Alfarano's 1571 drawing. © Federica Goffi. Original images courtesy of the AFSP (St Peter's) and GDU (Uffizi).

a chosen layer can change position, from rear to front and *vice versa*, generating an instability of the image and allowing multiple readings. Ambiguity makes the viewer an active participant, something that would have been significant to Alfarano, whose intention was to unveil a hidden presence. He unconsciously exploited a characteristic of the human brain and its workings with ambiguous images, where the onlooker takes advantage of a "knowledge seeking role" of the brain, in "providing different interpretations, and thus enhancing his or her experience of the work" (Zeki 1999: 63).

Fig. 5: Tiberio Alfarano, Iconographia, 1571. Detail of the central crossing of St. Peter's. © Courtesy of the AFSP.

Similarly ambiguous imagery can be found in the depiction of *Christ, One and Trinity* in the Church of St. Agata in Perugia, where Christ is represented with three heads, looking in three directions in space and time. Only two eyes are painted in order not to confuse the onlooker, making possible multiple readings (Fig. 4). The sharing of elements facilitates the switching back and forth between them. Similarly in the design of New St. Peter's significant lines/walls are shared, contributing to creating a double image. The merging becomes evident in drawing details defining the central crossing. Columns and walls overlap. Gold paint is used to render the old columns, while thin azure tempera is used for Michelangelo's plan, weaving together the geometry of the crossing. Boundaries of old and new merge into each other, so that neither image is complete without the other, requiring an active engagement of the imagination (Fig. 5). A dual representation allows ambiguous, yet precisely shifted, readings. Alfarano produced an "accurately inaccurate" bi-stable image, revealing the ambiguous presence of Old St. Peter's within the New (Zeki 1999). This hallowed configuration depicting a hybrid plan became the substratum for the imagination of conservation, defining a collective daydreaming strategy according to which multiple authors can imagine possible futures. When, in 1605, Carlo Maderno imagined his new addition for an elongated eastern arm, he initially drew on a sheet of paper overlaid onto Alfarano's plan, to fulfil the hallowed configuration, circumscribing the old one entirely, and adopting Alfarano's stratigraphic drawing strategy and his daydream of a hybrid plan (Fig. 6).

Fig. 7: Jirí Kolár, Cow having eaten up Canaletto, 1968. © Thames & Hudson.

Fig. 8: Intercollage revealing the presence of the old within the new. © Federica Goffi.

Intercollage

The intercollages of Czech artist Jirí Kolár (1914-2002), where two images come together to form a third, might be brought into this discussion, as an *a posteriori* element, in order to fully understand Alfarano's drawing (Fig. 7). In Kolár's words, "The principal image of one reproduction is cut out and in its place another totally unrelated element is inserted. Thus, the effect of intercollage results from unexpected encounters of unrelated elements" (Kolár 1978: 18). Kolár also stated that "The acts of crumpling, tearing and cutting are not really destructive but rather are like a kind of interrogation. … I am curious about what exists beyond the page or behind a picture" (Kolár 1978: 18). Alfarano's plan could be interpreted as an "intercollage", in that it showcases the presence of the old plan contained within the new, and unveils its presence. By looking in two directions, through the medium of drawing, one can see the reason for the approval of Bramante's project.[9] By cutting out the footprint of main nave and transept from Alfarano's plan, and intercollaging within it a fragment of Ugo da Carpi's altarpiece (1525) for Veronica's altar, it is possible to make visible a hallowed configuration, resulting from a dialogue between two plans, defining a particular relationship, where Old and New St. Peter's inhabit each other metonymically, through a simultaneity effect, analogous to the one exhibited by Kolár's work (Fig. 8). Intercollage penetrates beyond the world of the visible into the invisible, to find that which lies beyond. The image created is ambiguous, but not in the sense of being vague. The dual reading is precise; neither image is complete without the other. Ambiguity is very important because, as Semir Zeki explains, it solicits the involvement of different areas of the brain simultaneously, thus initiating a process of multiple interpretations (Zeki 1999).

Old St Peter's conforms to the Latin-cross typology of the martyrdom basilica. The composite plan is created by the addition of a Renaissance central body. Alfarano reveals the necessity of a hybrid plan, through which Old St. Peter's can be re-presented within the New. Through the condition of the present, the drawing looks towards past and future, allowing having memory while, at the same time, having pre-figuration of something that will be. Drawing here is performance, rather than final output, allowing one to perceive duration, through a construction of memory.

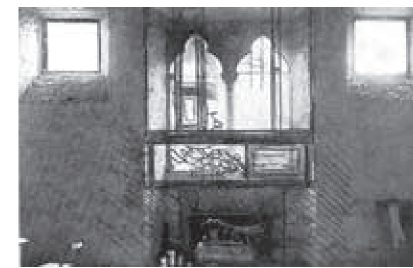

Fig. 9: Carlo Scarpa. Free hand ink drawing on photograph (1950s-70s). Detail of a window towards the courtyard. Sketch of the new interior window mouldings. © Castelvecchio Museum.

Reflections on modern and contemporary conservation in light of Alfarano's drawing

Simultaneity entails the possibility of two or more events entering a single, instantaneous perception. In the work of a modern master of architecture and time, Carlo Scarpa, gates and thresholds at the Museo di Castelvecchio, Verona, demonstrate an approach to architectural conservation, through layering and transparency. It is in looking through the gap that the images of past and future merge (Goffi 2006). In designing one of the windows that looks out toward the courtyard Scarpa drew directly on a photograph, layering a new design and allowing, through transparency, the possibility of reading two time-layers simultaneously, thus revealing the permeability of time (Fig. 9). Alfarano's plan draws its power from the fact that it is not a physical double; it is a representation of metaphysical essence beyond one-time likeness, allowing a real *transitus* into St. Peter's, analogous to that of religious icons. The possibility of displacement, penetrating the image beyond the visible, can be realised with a drawing that retains possibility for imagination. This cannot be accomplished by simply producing a photorealistic double, but rather through "the path of *admiratio* [astonishment] itself, an imageless surprise, an opening to the unknown," which is achieved through a contemplative gaze reaching beyond that which sight seizes in the realm of the visible (De Certeau 1987: 18). Conversely, exact replicas allow viewing at a present as-is condition, coinciding with the visible, but do not make possible a real *transumption*, gazing beyond the visible.

Alfarano produced a bi-stable image. St. Peter's is simultaneously present in two places, before and after, allowing for a displacement that is no longer physical but intellectual. The ambiguous reading of two plans forms a double-image enhanced by colours, which facilitate switching the reading around, making the viewer an active participant. Drawing as veil reveals supra-temporal presence, and provides for interpreting the drawing as a window through time. This provides the possibility of critically reassessing architectural-conservation in present practice as a form of invention and imagination. The dialogue between architecture and conservation might be reignited through such hybrid-drawing strategies.

Grasping the significance of Alfarano's drawing, one begins to comprehend the mistaken belief in the primacy of photo rendering to access a building and conserve its essence. Any essence cannot be achieved through exact visual reconstruction, rather through a chiasmus of past and present form, expressing allegoric significance. Ambiguity is at the source of the understanding of conservation, which today is often interpreted as the preservation of a still-shot, an understanding informed by the belief that by displaying photographic memory of the past, it is possible to gain access to it. But naturalistic representation is unequivocal and presents the onlooker with a single meaning immortalised by instantaneous still-images. Instead ambiguity and polysemy generate an equivocal space where unforeseeable inventions might occur through a process of future predictions enhanced by the recollection of memories (De Certeau 1987). "Hallowed configuration" is polysemic, and opens up the possibility of a proliferation of simultaneous stories.

The traction of drawing resides precisely in this ability to draw out the imagination, allowing for multiple interpretations. Alfarano's drawing goes well beyond an archive of past histories. It is an instrument in-forming a living consciousness of the Vatican palimpsest, allowing us to grasp its significance, and experience a real *transitus*, into these sacred grounds. The haptic qualities of the drawing demonstrate through the archeological strata of represented layers, the superimposition and merging of two buildings. Indeed, the relief gold paint is a demonstration of a haptic real presence of Constantine's original cross, revealed during the 1940s' excavations around the *confessio* area (Apollonj Ghetti et al. 1951).

The depiction of "one-time likeness" reduces memory to an instant story without history. This is relevant in regards to contemporary survey techniques such as orthographic photography, which presently provides the field of conservation with documentation methods of unprecedented accuracy, contributing to generate the illusion that the past can be preserved, capturing an instantaneous still-shot, thus producing images without imagination, to be preserved as is. The photograph becomes the model for what is believed to be a truthful representation of the past. Photographic representation is unequivocal and presents the onlooker with a single meaning. Conversely, iconic portraiture is polysemic, and generates an equivocal space where multiple meanings and the proliferation of simultaneous stories is possible.

Nevertheless, "found" orthographic photographs could instead be interpreted as an imaginative *substratum* for future representations. Alterations and additions could be made visible through layered representation techniques in the media of hybrid drawing-photographs, not unlike like the one made by Carlo Scarpa for Castelvecchio. Through metaphoric or literal transparency of a medium, combined with appropriate representation techniques, the past might dwell within a possible future; in this rests the possibility for a resurfacing of memories, and a possibility for a real transubstantiation from one condition to another. Architectural-conservation drawings should be interpreted as a phenomenological palimpsest, forming a contiguous imagery, reminding us of the work of contemporary American photographer Robert Heinecken, and his 1989 *Recto/Verso* photograph overlays. Writer James Enyeart comments on Robert Heinecken's work: "Contiguous imagery in an artist's work is the imagination's imitation of the mind's working process. It is impossible to imagine thinking one thought at a time or completing a thought without the overlay of another." [11]

Renaissance St. Peter's is not the result of a destruction of substance through a change of form; it should be interpreted as a paradigmatic model of palimpsest renewal, understood as an imaginative form of conservation in spatio-temporal continuity. New and Old St. Peter's are one and the same building, even if notably different, to the point of not resembling one another. In Carlo Maderno's own words, "The basilica is one, even though through history it appeared under diverse likenesses."[12] Architectural-conservation drawings should not portray an image to be preserved as is, like an archival document, but an image, which is the maker of change. A "hallowed configuration" is a substratum for the imagination of conservation. A drawing so conceived is an epiphanic demonstration, providing a serendipitous moment of sudden revelation and insight into the essence of a building.

Current interpretations of conservation, exhibiting prodigious photographic memory, reveal an understanding of the past as inventory, and are gradually congealing our imagination of conservation, limiting our understanding of the past to a "read-only experience". Buildings and drawings should once again be conceived as unfinished entities, allowing for selective remembering and willful forgetting, closely approximating the secret inner workings of human memory, entailing continual renewal and allowing for meaningful change, rather than simply denying it. The retrospective and prospective character of the architectural-conservation process can be experienced through the intermediacy of hybrid-drawings in the present. Directing the gaze simultaneously in two directions allows a pre-existent condition to be engaged in a dialogue with a future design, something that does not happen in today's practice, where built, in the form of measured drawings of existing conditions, and design drawings are often kept separate. Architectural drawings could rejoin these two temporal conditions, through metaphoric or literal transparency, looking in two directions "in-time" and allowing for a real transformation of the building, within continuity of identity.

The narrative of the transformations that took place on the Vatican palimpsest cannot be told through a homogeneous single history. Rather than recording work in progress (the working drawing), or celebrating the completed project (the final scheme), Alfarano's drawing conveys a convergence of time. Indeed, St Peter's Basilica is conceived as a temporal co-existence between old and new, redolent of St Augustine's concept of the "threefold present". Place is constructed over time, merging multiple unfinished stories. Religious icons are intended to reach beyond the physical to include not only a non-visible dimension, but also, more importantly, the non-temporal dimension. It is through a simultaneous looking in two directions that one is able to transcend a single time frame and is transported in a non-temporal condition contemplating the icon-drawing, presencing the basilica and imagining other possible futures. In embracing the flow of time, one embraces change and the heterogeneous. Alfarano's work goes beyond modern aestheticism and reaches towards devotion. The mirror at work in his drawing is the revealing agent of a history, hidden but present. This sacred portrait is a gate, which can be accessed through contemplation, allowing the transformation of a perceptible visual experience into mystic vision.

11. The 1989 *Recto/Verso* Cibachrome photograms (11" x 14") are described by Landweber as "made without the use of camera or film. A single page from a mass-circulation magazine was placed in direct contact with color photographic paper and exposed to light. The resulting image superimposes the visual and verbal information from the front and back of the magazine page. No collage, manipulation, or other handwork was employed." http://www.landweber.com/RectoVerso/rv_writers_3.html (Accessed on February 19, 2010)

12. Translated by author of this paper from: *"La basilica era una sola, che nella storia era apparsa sotto strutture diverse."* Maderno cited in Spagnesi (1997: 24).

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Architectural Drawings do not Represent

Mike Linzey

Introduction

Most people view architectural drawings as a means to an end, a mode of communication, a medium of expression. Even most architects usually describe their own drawings as representations of something else, as pointing towards some future condition of architecture that matters more than mere drawings, or as imperfect representations of some prior and usually superior theoretical ideal. Drawings for most architects are only a sign, a semiotic device that points away from itself towards what truly matters. Most people don't think very much about drawings at all, but when they do it is often in this middling, muddling, drawing-doesn't-matter sort of way.

People who do think usually identify two other kinds of being as well. Effectively they recast the task of drawing in the form of a representational project. Juliana Pallasmaa, for example, says that the energetic lines and smudges on the page of a drawing represent a kind of muscular memory in the bodily experience of the draftsperson (Pallasmaa 2009: 89-105), and Mark Wigley says that the "almost-nothing" gossamer condition of architectural drawings stands for or withers in contrast to the excessive materiality and the blinding super-sufficiency of architecture itself (Wigley 2008). Karl Popper declared that drawings are "objective ideas" (Popper 1972, 1994). He made the radical claim that human constructs such as architectural drawings, orchestral scores, mathematical theorems and scientific theories are ideas in their own right. Yet Popper also took perhaps the most exaggeratedly representational position when he said that these drawn ideas occupy a kind of "world" of objective forms and signifiers, and that their primary function is to negotiate "interactions" between two other "worlds" of experiential thought and physicality, between mind and matter. Thus his very important empirical insight rapidly descended into yet another modern version of Platonism. Martin Heidegger's unitary "world" on the other hand has the same sense of being-in-ness and historical timeliness as Popper's three worlds, but without reducing epistemology to a kind of semiological conjecture.

Most people who think about drawing do not write about it. Even people who do write about it often persist in calling architectural drawings a mode of reference to something else. Representation is such an easy language to slip into. Pallasmaa does it. Wigley does it, as we shall see shortly. We spent years at my own school trying to keep the words "representation" and "communication" out of our descriptions of the architectural drawing curriculum. We did not succeed.

My simple-minded proposition then is this: that architectural drawing is not *essentially* a mode of representation and communication. Drawings are instead autonomous and novel architectural ideas. It is not their primary function to represent something else, but to present *themselves* as something new. On one hand they do not represent the private experiences of the architect who draws them, since architects do not *have* clear and distinct architectural ideas other than those we discover in a drawing. Nor do drawings re-present what Vitruvius called the *operis futuri figura*, the future form of an intended built work. The issue here is one of strict temporal ordering. It is drawings that take priority *in time*, and building follows.

This is not to deny that drawings often do mediate between architects and architecture or between architecture and buildings in the ways that Popper calls interactions (1994). For example, many aspects and details of Iktinos's drawings for the classical Parthenon would have also *re*presented the forms and ratios of earlier temples in the Doric style. What I am saying is that representation is not their *primary* role and function. Drawings work more "truthfully" in another way altogether, as autonomous performances of innovative meaning. In his fine essay on the almost-nothing of architectural drawings, Mark Wigley says at one stage that drawings are neither an idea nor an object (Wigley 2008: 157). But I want to say the opposite to this, that drawings are *both* a graphical object *and* a performative idea, literally as Vitruvius stated it. Drawings are the graphical *diathesis* through and within which an architect sets out and discovers an idea *for the first time*. I want to explore in this paper other ways of describing architectural drawings, additional to representation and communication and interaction, that we can share and understand in this diathetical sense.

In Heidegger's terms, I will argue that drawings are the *being* of architecture. Drawings are a kind of this-worldly and historical entity that dispel the darkness and reveal the meaning of architecture as energy and performance and light. Heidegger said "the world worlds" (1971: 44). I would say that drawings draw architecture out of the night of academic mystification and representational thought, into a creative world of an altogether more relevant and timely kind of architectural discourse. Heidegger did not discuss architectural drawings as such, but I argue, if it were not for drawings there would be no effective language of building, dwelling and thinking. Drawing is the originary "language" of architecture; it is a graphical language but this does not mean that it *represents* thinking or building or ideas about dwelling any more than it *re*presents the heavy substance of a stone wall that is yet to be built or than it *represents* the experience of a muscular prehension that is never otherwise articulated and expressed so clearly. Like a gift to architecture, a drawing *presents* the dramatic truth of being-in-the-world and being-in-time. It brings architecture to light in-the-world, in-time, and for the first time.

Drawing the Parthenon

In order to set the scene for a discussion of the phenomenology of architectural drawings, my essay begins by recounting a story that will already be familiar to many architectural readers. John Coulton (1977: 112-3) describes how the original drawings of the Parthenon would have brought the classical vision of the Greek gods into an enhanced light compared to other temples that had been built and

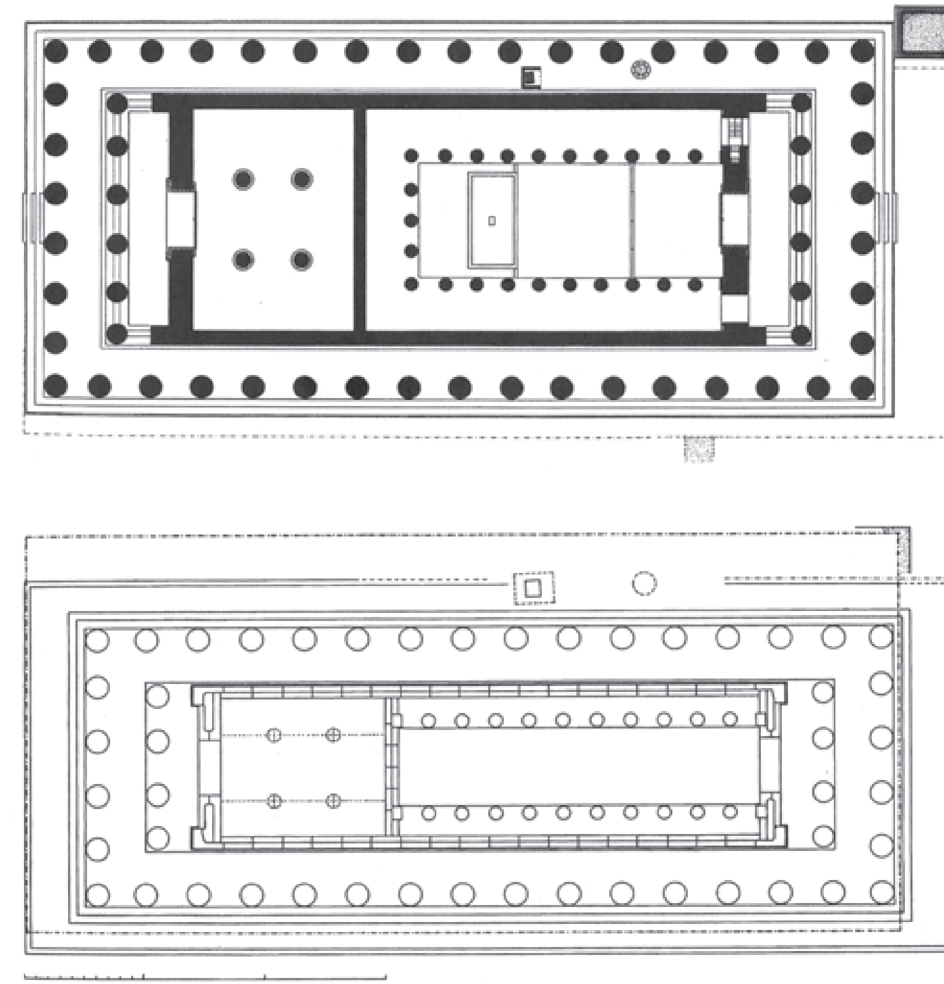

Fig. 1 Plans of the classical Parthenon and the older Parthenon drawn to the same scale. Courtesy M. Korres.

planned in the Doric tradition. I invite us to imagine an aesthetic debate raging around the presentation of this new idea for the Parthenon, and how this debate over drawings may have been misconstrued as irrational by Socrates.

Let us imagine then this key moment in the history of architectural ideas. It was the year 450 BC. Socrates would have been 19 years old when Iktinos the architect presented his drawings for the Parthenon for the very first time. We may imagine a bundle of wax tablets, scratchings on stone or paintings on wood or leather sheets, and let us say that the primary audience at this presentation was the sculptor/architect Pheidias. Coulton (1977) calls this one of the most original and interesting presentations of an idea in the whole history of Greek architecture. Borrowing from Heidegger we would say that Iktinos's drawings were the *coming-into-presence* of the meaning of the Parthenon within-time and for the first time, at least so far as Pheidias and Socrates were concerned. These wax impressions et cetera were the first historical intimation of what would shortly become the most beautiful temple in the world of Athenian architecture.

"Look how beautiful is the Parthenon!" said Iktinos the architect. (Laertius 1925: 177 [VII 67]) The Greek word he would have used was *kalos*, from which, in Heidegger's sometimes erratic tradition, we may be licensed to misconstrue that the word calorific also derives. "Look at this hot new architecture!" Iktinos showed Pheidias the now-famous front elevation of the Parthenon, a sea of columns proudly drawn in the Doric style. Coulton leads us to imagine next that Pheidias responded negatively to this idea. The negative of *kalos* is *aishros*, meaning ugly and shameful.

Fig. 2 An indicative construction for a scenographia drawing, photo-montaged by the author from various sources.

"It is a shameful attempt," Pheidias might have said, "There are too many columns." The canonical Doric temple only had six columns on its front elevation. In the temple of Zeus at Olympia, for example, into which Pheidias would later install his most famous sculptural work, the architect Libon had provided the correct number, six columns. But Iktinos presented here an orthographic composition with eight columns.

"What are you trying to produce here," Pheidias might have asked, "a pseudodipteron in the degenerate style of the Ionians?" To Pheidias's eyes what Iktinos had drawn was not hot, it was *pseudés*, false, striving for effect. The situation we are imagining here was like an architectural design critique. Pericles and the citizens of Athens had placed Pheidias in overall charge of all the new work on the Acropolis. Pheidias did not want the new god-house for Athena to be ugly, shameful and false, and he challenged the drawing on aesthetic grounds.

Iktinos replied with a comparative drawing, and we imagine now a pair of plans as in Fig. 1, laid out in order to explain his rationale.

By introducing two additional columns, he said, and with the outer faces of the cella walls aligned as is proper with the centre-lines of the columns one in from each corner, then more width is provided in the interior of the cella. According to Coulton's measurements the free space between the inner colonnades in the eastern cella of the classical Parthenon is 9.82 metres, where the equivalent measurement at Olympia is only 6.35 metres. In the older Parthenon that previously had been destroyed by the Persians, and that Iktinos and Pheidias were effectively rebuilding from scratch, the equivalent width is estimated to have been about 6.8 metres. So Iktinos's drawing provided Pheidias an extra three metres of space in which to display the new chryselephantine cult figure.

A few octastyle Doric temples had previously been built in Italy and Greece, but none that we know of had yet employed this novel strategy to widen the interior space of the cella at the expense of the exterior perambulatory spaces. In the most theatrical kind of drawing that Vitruvius called *scenographia*, Iktinos may have shown how beautifully the Parthenon uses this extra width to display the goddess to the best effect. "Look," Iktinos would have said, "how previously the goddess was enframed in a narrow dark corridor of space. In the conventions of the Doric style, at Olympia, Libon has given your masterwork a dark and hidden look. But here at Athens the goddess is revealed standing comfortably in her disclosedness (*alétheia*) with two high windows let into the eastern wall of the cella to introduce the first light of dawn into the interior colonnaded spaces and with room even for the internal columns to return and bounce the light around behind her. In this way too Athena is presented in an interior room that has the same base proportions (4:9) as also applies to the exterior proportions of the temple. Is this not truly a more beautiful setting than the narrow corridor of space that the Doric ideal would otherwise provide?"

The academic view on representation

Let us continue this historical reverie in order to speculate about the willfulness of academic theory. Let us imagine that the 19-year-old Socrates audited this heated exchange, heard these strong and emotionally loaded words, *kalos*, meaning beauty, *alétheia*, meaning truth, *pseudés*, meaning false, *eidos* and its cognate *idea*, meaning an architectural image impressed into wax, fought over with passion and energy by these god-like beings. Socrates may have tried to record or critique or undermine the dialectical vitality of these god-like beings, Pheidias and Iktinos. Perhaps he willfully distorted what he had seen for reasons known only to himself, or perhaps he simply got it wrong.

Something, anyway, inspired Socrates to found a school of thought in which craftsmen were cast as lesser beings, and artists as altogether removed from access to *alétheia*. The academic philosophers who came after Socrates conspired through various analogies and expressive devices to strip the language of its dialectical vitality and reduce it to the representational conventions that we know today. The academic viewpoint so dominates our thinking that we are almost compelled to accept as true that the Parthenon *represents* Plato's timeless and perfect ideal form of architecture. Every word represents a perfect idea, so any particular assemblage of stones to which we apply the name "temple" is only a rough and inferior copy of the idea, "temple". We assume any drawings that Iktinos may or may not have produced would merely have *mediated* and *communicated* these wonderful ideas between the architect's mental experiences of an exact theoretical vision or intuition and the inexact world of practical temple-building. This is despite the glaring historical anomaly that this view implies.

One of the more potent ideas that are contained in the academic discourse has been Plato's analogy of the divided line. In Book 6 of *The Republic* (509d-513e) Plato effectively suggested that human apprehension can be divided into a bodily part and an intellectual part. And just as with the body, touching something with the hand usually provides more obscure impressions than things that are seen with the eyes, so also on the intellectual side, our apprehension of mathematical ratios are supposedly less clear and our intuitions of "pure ideas" in the timeless realm of forms are supposedly the most clear and direct of all. Our views about ideas continue to be shaped by this analogy even though we also know that it is antiquated and unscientific. Already in antiquity Aristotle was more than a little uneasy about the academic theory of ideas, and Zeno and the Stoics clearly knew what Herophilus and Eristratus had discovered early in the third century BC, that human psychology conforms to the musculature of the body; the eyes not only see things through the massive optic nerves but they also look for the forms of things, interrogate the world and images of the world through patterned searches that are known as rapid eye movements and are governed by the smaller oculomotor nerves; and our hands not only touch things and feel hot and cold but they also grasp things in the distinctively human pre-

hensile fashion. Everywhere throughout the body, the Greeks knew that our nervous system runs in pairs. Grasping a pencil or a digital device and drawing with it is an intellectual skill that is governed not only by the complex system of mechano-receptor neurons of the hand, but all of the neural pathways are engaged in drawing – feeling the texture of the paper with the hand, seeing it with the eye, searching for form and meaning also with the eye but in an energetic and muscular mode of looking, as well as drawing and smudging the page with the energetic musculature of the arm and hand.

A phenomenology of drawing in three stages

In *Being and Time* (1927) Heidegger set out through phenomenology to recover the pre-Socratic and non-academic meaning of being. Although the purview of his argument did not extend to architectural drawings, yet I argue there is much of value to be drawn from studying his text. What is thoroughly non-representational about Heidegger's phenomenology is effectively summed up by the German word, *Dasein*. The profoundly unitary and this-worldly quality of this word is usually marked with hyphens in English translations. *Dasein* means being-in-the-world. Heidegger's version of being is down-to-earth whereas the academic versions of it were always at least quasi-divine. Being-in-the-world signifies for Heidegger the primordial and energetic unity of all aesthetic productions of a technically proficient *Dasein*, and architectural drawings of course are one kind of aesthetic production.

Rather than locating ideas as the academics did in a nebulous and timeless world at the far end of Plato's divided line, Heidegger reappointed all meaning into this-world-here, being-here, being-in-time. We may think of Heidegger's *Dasein* as something like a Greek craftsperson: what Hippocrates called a *technités*. *Dasein* is someone who would rather take care of their own equipment, ensure their tools were sharp and true, even in the face of their own death. Heidegger employed this technical device in opposition to the anti-technical world-view of the likes of Socrates, Plato and, to some extent, Aristotle. Phenomenology then is a non-academic approach to art and work. While with Socrates and Plato the essential ideas were other-worldly, divorced from art and craft, and a-historical, Heidegger opposes to this what he calls *Dasein*'s intrinsic temporality and historicality and its work-man-like nature. His analysis is grounded in concepts of readiness-to-hand and presence-at-hand, concepts that refer to and build upon the prehensile musculature and the limited sensitivity of the hands of a manually adept *technités*.

As such, however, there is nothing about the visible aspect of drawings in Heidegger's basic notions of *Dasein*. A phenomenology of drawing requires that the eye also be engaged along with these hand-related phenomena. The question of visuality does come into play in *Being and Time*, but only relatively late in the book, after page 376 of the McQuarrie/Robinson translation, where Heidegger introduces what he calls the "moment of vision" (*Augenblick*) in relation to an analysis of the ontological meaning of care. Our outline phenomenology of architectural drawings then proceeds in three stages: from readiness-to-hand to presence-at-hand to the moment of vision. In other words it will proceed from *prehension* to *apprehension* to *comprehension*.

These three terms, prehension, apprehension and comprehension, all relate to grasping. The word "comprehension" that we usually associate with mental activity, therefore entirely and academically separate from the body, actually derives from Cicero's translation of the Stoic technical term, *katalépsis*. *Katalépsis* means to grasp something firmly and resolutely, as if with the hand. Comprehension for *Dasein* is not a disembodied mental act. It is more correct to signify it as closing a loop in the neural network between the eye and the hand of a technically proficient *Dasein*.

Stage 1. readiness-to-hand

In readiness-to-hand (*Zuhandenheit*), a piece of equipment is grasped thematically and energetically put to use in an appropriate technical context. An architect grasps a pen in the already knowing and skilful role of being an architect. There is to be no hint of "learning how to draw" in the phenomenology of drawing. Heidegger only emphasises (1962: 98) how differently it is that one seizes upon a piece of manual equipment, grasps it and puts it to use, compared to staring at it disdainfully or refusing to work at all, on theoretical grounds. The sense of temporality, that is prehended readily-to-hand using the muscles and mechano-receptor cells of the hand, Heidegger likens to the rhythmic beat-beat-beat of a hammer at work, or the stitching rhythm of a tailor's needle and so on. Manual work takes time. It cannot be done without a proper sense of timing. Yet with this kind of temporality often there is no great sense of the passing of time nor is one often aware of the historical significance of what one might be working at. It is not to say that the prehensile *technités* is blind, for the rhythmic manipulation of work must be guided proficiently and closely by the eye, but Heidegger calls this kind of workman-like sight "circumspective" vision, which is to say that one tends to look around the equipment and around the workshop or studio, not so much looking *at* it. In a strange way, what grasps and what is grasped circumspectively are not differentiated within readiness-to-hand. Technical equipment seems to dissolve into the prehensile body. The *medium* of drawing dissolves into the *act* of drawing. There is neither space nor time nor vision for *ideas* to make an appearance in the prehensive mode of readiness-to-hand.

Stage 2. presence-at-hand

In the second stage, which Heidegger calls presence-at-hand (*Vorhandenheit*), the regular rhythm of work-time is held up and suspended. This may be for a variety of reasons. Entities that are most closely to-hand may be encountered as something unusable. The hammer may be too heavy, the needle or the plane blade too blunt. Or maybe something is missing, equipment that should be to-hand is not to-hand. Or maybe something else related to the work just cannot be made to budge. We can imagine Iktinos working away at his drawings. Say his charcoal pencil breaks or a scribing tool is blunt; this would be only a minor interruption, and presence-at-hand might scarcely announce itself at all in such circumstances. But say he encounters the intractable problem of determining a suitable scale and proportion in the hexastyle form to accommodate Pheidias's giant sculpture: with a problem like this, Heidegger's analysis suggests, Iktinos would have obtained a "pre-phenomenal glimpse" of architectural worldhood that was unique and thoroughly original. No longer simply prehended, and no longer viewed circumspectively, instead all of his defective attempts at drawing would have been scrutinised and stared at in an extreme of apprehension. For that which cannot be budged calls attention to itself in presence-at-hand in the

mode of conspicuousness, obtuseness and obstinacy. And, in such extreme circumstances, Heidegger says, the whole workshop and the context of equipment would become lit up in a mode of vision that is totally different than circumspection. We imagine the musculature around Iktinos's eyes working overtime, searching everywhere for a new kind of form. What is lit up in presence-at-hand is "disclosed" and "laid open"; it takes on the character of *alétheia*. (Heidegger 1962: 102-5)

Stage 3. The moment of vision

But to stare at something apprehensively is not yet to understand it. Comprehension comes in a third stage of phenomenology that Heidegger calls the moment of vision (*Augenblick*). "The moment of vision," Heidegger writes, "permits us to encounter *for the first time* what can be 'in a time' as ready-to-hand or present-at-hand" (Heidegger 1962: 388, Heidegger's emphasis).

At this stage in the phenomenology of drawing, the eye is fully engaged along with the hand. *Augenblick* literally means at "a glance", but Heidegger makes it clear that vision is understood here in an active sense, not just seeing a vision passively passing before our eyes like idly watching a cinematic presentation with merely a glance of the eye, but an active alert participatory kind of looking-at-that-which-stands-out. In our case Iktinos "glances" at his latest drawings in a state of resolute rapture. He sees and comprehends the octastyle idea. He is acutely aware of its timeliness, beauty and historical significance. This critical and originary kind of phenomenological vision, I argue, is never achieved when drawings are treated merely as medial tokens of reference to transcendental ideas that are outside of the ecstatic present and presentation of the drawing itself. This is why it is important to draw attention to this other aspect of a drawing's function that is ideational but *non*-representational.

Heidegger does not go on to describe a possible fourth stage in the technical phenomenology in which work reverts and resumes its primordial rhythm. The statement, "[T]hen – when it dawns – it is time for one's daily work," (Heidegger 1962: 467) does not, I think, capture that most peculiar phenomenon of all, where what had formerly been stared at and disclosed as a problem in presence-at-hand, and then discovered in the eureka-like ecstasy of the historical moment of vision, now mysteriously rapidly and quietly subsides into the former kind of circumspective invisibility of readiness-to-hand.

To rehandle a hammer or to lighten an interior room requires no great feat of the imagination after it has been done the first time. After Iktinos completed his work at Athens he went on to Bassae where he designed the famous temple of Apollo Epikorios, facing North and reverting to the traditional hexastyle Doric format. The new work at Bassae was not without innovation, however: Iktinos repeated his famous strategy with the pi-shaped internal colonnade, and he found another original way to introduce sunlight behind the colonnade by opening a doorway in the eastern wall of the naos (Fig. 3).

And Pheidias went on to Olympia to work on his great statue of Zeus. Beside his workshop he built a 1:1 scale model of the naos of the temple in order to assemble the chryselephantine sculpture. In this case too there is evidence that Pheidias experimented with new ideas, including an array of windows to illuminate his sculpture from the side.

Figure 3 Eastern doorway in the temple of Apollo Epikourios at Bassae (Photo: the author).

Conclusion

I have tried in this paper to come up with some words to substitute for representing …, indicating …, signifying …. For as soon as we say, in an architectural context, "This drawing represents … ", our discourse effectively "descends" out of what Heidegger calls the "ecstatic present" of the moment of vision to the level of representational discourse that addresses only the externalities of architecture and forgets about its being. What begins to emerge, perhaps, is a family of words that are naturally associated with theatricality and visuality. "This drawing shows … ", "reveals …", "enacts …", "performs …".

What Iktinos's drawings "showed" and "performed" in the time of the classical Parthenon was what Heidegger calls "the truth" in an authentic and non-representational sense. The architectural meaning of *alétheia* in this case refers to letting the light of the dawning sun into an interior space, opening windows and doors, dispelling the darkness that had formerly surrounded the gods in the Doric style.

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Summoning *Daena*:
Drawing the Parallel

Stephen Loo

Prologue: finding angels in leftovers

To Marco Frascari, the intersection, assimilation and transformation of influences, processes and materialities in architectural making, like cooking, contain intermediary and bifurcatory steps that frequently overturn the objective methodological authority of recipes. To Frascari, such continuing poiesis in the act of making produces not only the originary dishes and architectures, but augurs the somewhat unpredictable emergence of leftovers. Architecture, like cooking, is therefore *cosmo*poietic: "a discipline that begins in the mastery of the reuse of leftovers" (2005: 31).

In March 2004, I commenced a conversation with Frascari on the relations between gastronomy, architecture and the virtues of "plainness" when we were invited speakers at the Architecture Symposium of Adelaide Festival of Arts. I used a family recipe for steamed fish to explain the concept of plainness in Chinese cooking.

This essay commemorates and continues that conversation by picking up the concept of "leftovers" which Frascari evoked in his opening address for the 2009 *Interstices Under Construction: The traction of drawing* symposium; many papers presented there are published in this issue of *Interstices.* Our conversation on this occasion concerned finding the angelic in leftovers in the fields of cooking, and philosophical research on drawing. The recipe I presented this time around is a family recipe for leftovers.

Ma Po Sheen Choy

(clay pot sour vegetables)

Open freezer door and remove all pre-packed leftovers (Leftovers have been selected for their suitability in being a part of this dish at various past meals. This act is also called *chap suey*, meaning to pick up bits and pieces)
Thaw ingredients

Heat 3 tbs of vegetable oil in a wok
Stir-fry all ingredients for 5 minutes until sizzling
Add 1 litre of warmed chicken stock, ½ cup of Chin Kiang
(black rice) vinegar, 1 tsp of tamarind paste,
a generous splash of light soy,
and 1 tbs of crushed palm sugar

Bring to the boil
Transfer all ingredients to a large clay pot
Add one bunch of Chinese cabbage or 2 bunches of bok choy
Stew for 30 minutes

Serve in clay pot with steamed rice

Ma Po Sheen Choy is a dish my family would have once every couple of months. As a child, the joy in the dish is a temporal one, located in the surprise of finding parts of dishes that one remembers consuming months ago, or a few weeks back, or perhaps yesterday. The gastronomic experience of the dish departs from one conventionally based on taste: while the texture of the individual morsels is identifiable and reminiscent of past meals, their taste is masked by the overarching sourness of the dish. And the poetics of the dish – its form, consistency and subtle balance of flavours – cannot be anticipated until it is cooked. Each time the dish is cooked, it tastes subtly different. The dish is at most times sublime: like finding angels in refuse. But there are times it fails to work: there are too many bones and/or inedible parts, inappropriate textures or monstrous combinations of flavours.

Like *Ma Po Sheen Choy*, in this essay on drawing is a recombination of leftovers from past and current research projects. The material originates from the lines of flight that are the expansions of somewhat unconnected marginalia of larger projects concerned with writing on architecture and public space as material poetics. These projects are interested in the literal appearance of writing *in*, and the literal practice of writing *on,* architecture and public space, and in writing *as* architecture, as a type of spatial writing or site writing. The appearance of architectural or spatial writing in this way paves the way to understanding how appearance itself is the expression of subjectivation, of faciality and the movement of becoming-subject, immanent and purely relational to material and poetic practices in which it is involved.

The following essay has not much to do with these research projects, although what I have just described is useful as its contextual frame. What I present here are two segues into a landscape of philosophical thinking and architectural constructions, with associations between concepts, places, beliefs and etymologies. The first is a footnote, and the second an endnote, both of which are lines of enquiry drawn across the topological surface of research that continually imbricates the real, the instrumental, the fictional and the symbolic. However, there is every chance that these lines drawn by the notes will not meet; they are parallel trajectories that continuously hold the desire for crossings, for connections. Although parallel lines do not connect, they are nevertheless always already held in relation: like the parallel warp yarns in weaving that never meet, but their relations, through the wefts that bridge them, create textuality.

There are nevertheless bridges in the account that I draw out in this paper; and they are quite literally bridges, as there are fields with their furrows, clefts and saw-cuts, the mountain, the night, and gates for a city. And we know very well from Frascari that, in drawings, whether those in my lines of flight, or that which is within an architectural mode of production, there will inevitably be angels. Angels are none other than the personification, the image – or "imaginals" as French Islamic scholar Henri Corbin would put it (1972: 1) – of the relations between the realm of the intelligible-instrumental and the realm of the sensible,

which may include the inarticulable and therefore requiring of imagination. But I will attempt to show that when parallel lines are drawn, the angel summoned has a quite different disposition.

Footnote: furrows

First, the footnote: that which resides at the bottom of the page, but harbours the text above. The word "page" is from the Latin *pagus*, meaning field, which the farmer has ploughed. Like the field, the written page is worked surface; the implications for this will become clear in a while.

The footnote reference I am developing here relates to Heidegger and his 1959 essay, *The Way to Language*, where the philosopher resurrects an ancient kinship between the word for "saying" and the word for "showing". This was part of my attempt to establish an account of language and, in corollary, writing, that moved beyond a technocratic definition of communication, towards language as appearance, in order to instate a specific relationship between language and image.

Heidegger's thinking about language depends on the rejection of a traditional picture of language as the animation of dead signs with living meaning, and he does this through a critique of Aristotle's "architectonic structure" that secures language's capacity to speak. Aristotle once said, in *On Interpretation*, "Now, what takes place in the making of vocal sounds is a *show* of what there is in the soul in the way of passions, and what is written is the *show* of the vocal sounds." (Quoted in Heidegger 1971: 114)

Heidegger wants us to *progress along the way* to language, in order that language *shows* its "linguistic nature", in a manner that "language has a being … that remains gathered in what language grants to itself, in its own idiom, as language" (1971: 119). To do this, we can begin by having language show what especially pertains to it and makes it language, that is, what is essential to itself, and not to have language conceptually grasped as something else. And for Heidegger, we do this through experiences immanent to the concerns at the very moment of speaking, which is only possible with an *a priori* relationality between speakers: a comportment to an appropriative openness or, using Heidegger's word, dwelling. Dwelling is that to which language grants access, but it is also what grants access to language. "Everything spoken stems in a variety of ways from the unspoken, whether this is something not yet spoken, or whether it be what must remain unspoken in the sense that it remains beyond the reach of speaking" (1971: 120). Language's essence, in speaking, is, as Heidegger puts it, "drawn out".

Heidegger uses the word "draw" in relation to the showing-saying because he is interested in reaching the sense of the manifold modes of saying. Some modes grant language's appearance, and others refuse it: a *draw*ing (out) and with*draw*ing. In this way, the totality of Saying, and the essential being of language, means a Showing, but one that is not based on semiotics or signification, but a letting-appear, marked by the shuttling of presences as well as absences. The latter to Heidegger must remain unsaid, as such unshowable: as mystery. Therefore, the Showing, or the drawing-withdrawing of appearance, which is the "unity" in the being of language, Heidegger calls "design" (1971: 121).

The persistent image of drawing in design, which is symptomatically forgotten, and one that Heidegger evokes here as something to resist in an account of language, is that of an incision, a cut, in the sense of starting into something. In fact, the "sign" in de-*sign*, from the Latin, *signum*, is related to *sacere*, meaning to cut or saw. Drawing is etymologically related to traction, a movement or passage. The linear cut is as such violent, as it can involve a wresting or tearing away, as in to draw-out or to draw blood.

This description of design also recalls Heidegger's notion of rift (*Riss*) in design or rift-design in his essay *The Origin of the Work of Art*. He quotes Albrecht Dürer's well-known remark: "For in truth, art lies hidden within nature; he who can wrest it from her, has it." (Dürer is not known for his gender-neutral language, or images, for that matter.) "Wrest" here means to draw out the rift and to draw the design with the drawing-pen on the drawing-board (1971a: 70).

Such an incision on the surface is a cutting of the surface by a line, whereby the action of one opens up or defines the other. In this mode drawing defines the other technically, by exposition.

Heidegger provides another image to imagine drawing, namely the furrow. He says, "We make a design also when we cut a furrow into the soil to open it to seed and growth" (1971: 121). In order to understand the possibilities in this image-concept, we need to get down low. The furrow, as fissure or chasm, inscribes the surface by dividing one side from another. This opening up of the world on one hand creates an antagonism between that which has been divided (the two banks), but it is also the condition of the source for all living things to reappear above the earth.

> As the world opens itself up, the earth comes to rise up. It stands forth as that which bears all, all that is sheltered in its own law and always wrapped up in itself. World demands its decisiveness and its measure and lets beings attain to the Open[ness] of their paths. Earth, bearing and jutting, strives to keep itself closed and to entrust everything to its law. (1971a:38)

The plough does carve a line that makes a mute surface into a sign but, in making furrows, the straight line stands alongside many other parallel lines. For such an opening of the earth, Heidegger's image-concept is "rift-design", which is associated with growth and emergence.

> The conflict is not a rift (*Riss*) as a mere cleft ripped open; rather it is an intimacy with which opponents belong to each other. This rift carries the opponents into the source of their unity by virtue of their common ground. It is a basic design (*Grundriss*) an outline sketch (*Aufriss*) that marks out the fundamental features of the rising up of the clearing of beings. (1971a: 63)

The furrow as rift-design marks out an ontological condition of identity in difference, of gathering and dispersal, being and nothing, proximity and distance, appropriation and expropriation. When Heidegger states that, "The rift-design is the drawing together into a unity of the sketch and basic design, breach and

outline," we hear an undecidability between whether design is imposed on the earth by human beings, or whether humans bring out the hidden design already there: that is, whether the human genius gives decisiveness and measure to the earth, or finds it there. The question becomes, where is the genius, who or what is it that comes when summoned?

So drawing furrows through a field, as with writing lines of words on a page, becomes a documentation or witness – or, as Frascari would say, a demonstration – of the unsayable being of language, and with that the very possibility of Saying itself. Perhaps the genius shuttles between being active and passive, because to draw is also to be drawn; to inscribe a cleft or a rift is also to be drawn along it, and perhaps ultimately to be drawn into a gulf or abyss, or mystery? Drawing parallel lines, although incisive, enacts a non-dialectical separation between two conditions (for Heidegger they are thinking and poetry). Drawing is a setting apart (expropriation) that opens them to one another (appropriation) in nearness. And the drawing can only draw itself, *is* itself, as it performs this demarcation.

Endnote: angels

From the ground and the beginning, to the sky and the end. The endnotes are where the text acknowledges its finitude by virtue of the traces it leaves at the end, in the form of extensions, some explanatory of, and others tangential to, what has ensued in its body. At the endnotes, we find angels.

This is an endnote to a bigger project not considered here, which attempts to move the concept of faciality in architecture away from postmodern referentiality shored up by identity politics and anthropocentrism, the history for which includes work by the likes of Stanley Tigerman and Michael Graves. And I was also trying to move the face a little away from the Deleuzo-Guattarian molecular assemblage of "black holes" and "white walls" that functions as an "abstract machine" (Deleuze and Parnet 1987: 17-18) and which is able to deterritorialise subjective identification in a combination of over-codification and slippery semiotisation. This larger project moves towards Félix Guattari's psychoanalytically-biased take on the expressive potential of the face, based on its capabilities for transversal relations between self, and self as other. This face-off of the self and its internal other brought me to Giorgio Agamben's essay *Genius*, in which the self faces genius as a face that both is, and is not, our face. To explain the many refractions of faces, Agamben fleetingly summons an angel.

In explaining Genius as the "divinization of the person" – a godly version of the self, in the self, and therefore what is most intimate and most our own – Agamben provided an image of the other in the self, an image of ourselves that we must face all our lives, by answering its call, and granting its requirements. What we do, in action and thought, become instantiations or materialisations of that genius. But in order for this other of the self to be so demanding or powerful, it must really reveal itself as more or less than, and therefore impersonal to, our lived selves. The excess or loss experienced in relation to "our" genius is that which propels us to action. To become a genius is to become what Agamben calls "impersonal", to move outside ourselves to a pre-individual state. That is to say, our lived existence is determined by a movement to something which is one's own that is also most strange and impersonal to us, continually shattering the pretensions of the ego to be self-sufficient.

We may say that in drawing, as a human material and poetic practice that summons the material world and incarnates the spirit to form a continuous landscape of possibilities, the human soul bears witness to its genius, and is therefore the actualisation of divinity within. To draw is at once productive of lines, and these lines are replete with potentiality because they call into visibility a greater or poorer version of the self, one that is always to-come.

But, we can say at the same time that drawing escapes the humanist idea of individualisation: the lines produced in fact do not subscribe to a companion who orients our existence and renders it amiable, but are traces of attempts to grasp at a shadowy figure who conspires against our identity, one who is our life in so far as it does not belong to us, and in fact harbours the dissolution and dissipation of this lived life of ours. In time, and influenced by the Christian tradition, this dichotomous personality of Genius took on the classic twofold aspect of ethical coloration: the good angel and the evil angel.

In this oblique reference to angels, Agamben says that the productive image of Genius is not in the image of Christian guardian angels, but the Iranian angel, a *daena*, the heavenly archetype in whose likeness the individual has been created, but whose face changes with the individual's every gesture, word, and thought. I quote Agamben here:

> At the moment of death, the soul is met by its angel, which has been transfigured by the soul's conduct in life, into either a more beautiful creature, or into a horrendous demon. It then whispers: "I am your *daena*, the one who has been formed by your thoughts, your words, and your deeds." In a vertiginous reversal, our life moulds and outlines the archetype, in whose image we are created. (2007: 17)

Agamben draws upon the *daena* for her impersonality. The angel does not have a predetermined form. Her form, which manifests at the end of a human life when the soul faces its image, is an archetype that is *a posteriori* to the practices of that life. Therefore, it can be said that the material and poetic practices of the human being, practices of giving measure, with their attendant instruments and technologies – and here I ask the reader to reflect upon drawing as such a practice – are those that name beings, by giving them form, and allocate them to their place, their offices, their meanings. Drawing as a practice that inscribes clefts, rifts and furrows, gathers together the whole complex of meanings that constitute human being-in-the-world, or mortals dwelling-on-earth.

However, the drawer does not bring the rifts and furrows themselves into the world in strokes of genius. In the anticipation of the self in the angel – the form and image of which cannot be expressed and is un-anticipatable – the practice of drawing sets up an articulation by which beings (both mortals and angels) are brought into mutually limiting yet mutually respecting order (Heidegger calls this the Event of Appropriation or *Ereignis*): an order that is of quite a different kind from that of causality (Pattison 2000: 182), owing to the mutual thrown-ness of mortals and celestial beings.

Speaking about celestial beings and Heidegger's account of existential ontology in the same breath may seem strange, but within his rereading of *Parmenides* is an exposition of *aletheia* as the goddess "truth": "'The Truth' – itself – is the goddess." (1992: 5) Here, Heidegger is reclaiming the words of Parmenides, which

appear in the linguistic form of poems with verses and strophes, from didacticism to poiesis which entails work by the thinker in bringing into language the unconcealment of and/or by the divine. Recounting how the goddess greets Parmenides at her house in his travels, Heidegger conceives of the words of truth uttered by the goddess in her greeting as not emanating from her person as messenger, but that truth itself is experienced *as* a goddess. This is an attempt at thinking human thinking outside truth as an onto-theological condition in which the goddess is not a mytho-transcendental experience of the thinker, but the thinker "out of his own initiative is 'personifying' the universal concept of 'truth' in the indeterminate figure of the goddess" (1992: 5). Truth, as the open, is not the revelation of a universal by a thinker, but necessitates a change in his or her mode of existence where the open is made present, and in which the unconcealed truth is encountered.

However, Agamben's summoning of the *daena*, and Heidegger's greeting by the goddess, still do not tell us much about the status of the drawing itself, the line drawn demarcating the threshold of the house, or the field that is drawn or furrowed, in this psycho-cosmological equation. It may be the angel that provides the drive for marking parallel lines of the furrow, but it is also the furrow, like Marco Frascari's instrumental angle, which summons the angel. Parallel furrows, in the relationality between opposing banks that never meet, is immanent to the open, or rather, *is* immanence, *the* open, pure potentiality as truth, *aletheia*. In order to explain this, I have to come back down to earth, or at least to the mountain that makes up the bank of the furrow, and the bridge that crosses the unfathomable chasm beyond it. And I have to turn to cosmology on Iranian Sufism, to the geography and topography of the actual meeting between the soul and the angel, *daena*, as its celestial form, thereby making an endnote to Agamben's endnote on *daena*.

In Iranian Sufism, the human soul or *fravarti*, meets *Daena* (who is the daughter of Spenta Armaiti, the feminine Archangel of the Earth or, in short, Mother Earth (Afshari 2004)) upon death. Here the *fravarti* undertakes a difficult journey, on a path up a mountain that leads to a precipice spanned by a bridge called the Chinvat Bridge, beyond which is the Abode of Hymns, the region of Infinite Lights. The human soul, the *fravarti*, is a trilogy: the soul-in-the-body, akin to the terrestrial form of the angel and close to the Western conception of genius; the soul-outside-the-body, which is the soul when it has reached the Abode of Hymns; and, lastly, the soul-on-the-way to the Chinvat Bridge, the one that is met and led by the angel *Daena* across that bridge. *Daena* does not take on the role of the messenger in the way that is widely believed in Western eschatology. *Daena* carries the message in, or by virtue of, her form, that is, she carries knowledge and information of a terrestrial life in her face, shape and persona.

What is also interesting is that in Sufi mythology, the bridge is not a mute object: like the angel, it is a primordial archetypical image, and like the furrow-mountain before and beyond it, a visionary geography. On the bridge, *Daena* seizes the hand of the *fravarti* and leads it across. A beautiful *daena* in the form of a young girl will help the soul of good deeds, in whose image it is, across the bridge without difficulty, as twins. The soul of evil deeds is however led by an ugly witch, who halfway across the bridge will attempt to throw the *fravarti* into the infernal hole.

But the story goes that the bridge itself makes a selection – Chinvat means the Bridge of the Selector – it widens for the just, and narrows for the wicked to the point that it is no more than a razor's edge (Bonnefoy 1991: 114). The bridge, as something which arrives out of drawing, is itself the register of the behaviour of the human soul. This means that the earthly human condition, and drawing as a practice that demonstrates that condition, is the boundary state between potential angel and potential demon. The human condition, its concepts, practices and beliefs, is therefore implicated in the form of the bridge, and is immanent to the ease of access across it, to go between the terrestrial-instrumental practices in the world of reality, and that of the abstract-cosmological-transcendental realm.

Drawing firstly summons, then becomes, the Angel who proceeds from the archetypal world. But in order to meet a beautiful angel and cross a strong wide bridge, drawing needs a transcendental active imagination, which can give form to perceptions, and that will show something of the un-Sayable. It is here that drawings have to tell fictions, with bravery, risk and perseverance, so that the soul can cross the chasm by having its angelic image as a "productive" one; that is, one that requires a healthy adoption of the monstrous or the hybrid, as discussed by Frascari. The potentiality of this occurring is increased by a productive imagination. After all, as Manfredo Tafuri once said in an essay about the angelic monstrations in Massimo Scolari's drawings, such coming together of the psycho-cosmic in the imagination has served as the basis for many gigantic symbolic constructions, for example, the Ziggurats of Babylonia, and the Stupas of Cambodia, all of which are symbolic architecture that is the outer covering of an inner secret (Tafuri 1981).

One last event. It is also on the mountain from which Chinvat Bridge springs, the Mountain of Dawns, that the prophet Zarathustra meets the Archangel of "Excellent Thought" Vohu-manah, whereupon Zarathustra disrobes, discarding his material body and organs of sensory perception. That is why, under certain human conditions of small deaths, in sleep, ecstasy, meditation, trance and euphoria, the soul momentarily escapes in ecstatic anticipation to meet soul-on-the-way; for a glimpse of *Daena*. And the practice of drawing, which enables, and is enabled by, imaginations of the inarticulable and the unsayable, is one way the human arrives at the light, albeit momentarily and in small ways, that brings about the transfiguration of the world.

Conclusion

Drawing instigates a return to the unsayable and the unredeemable, not in the name of a technological mastery of nature, but a mastery of the relationship between humanity and nature. This is because drawing allows the legitimate deformations and unnatural relationships between facts of physical action, and the invisibilities of the imagination, to produce beings – Frascari's monsters – that are "enigmas that express precisions" (Frascari 1990: 86). Drawing is not a sign of the genius's capability to build whole-object relations, but rather demonstrates a co-evolution governed by the rhythmic incarnation and excarnation of the spirit: a place of continual rebirth into oneself (Carter 2004). Drawing vivifies the constant condition of the "between", or interstices of the parallel, a condition for which we have no name, that is neither animal nor human, nature nor humanity, but holds itself in a material relation (Agamben 2004).

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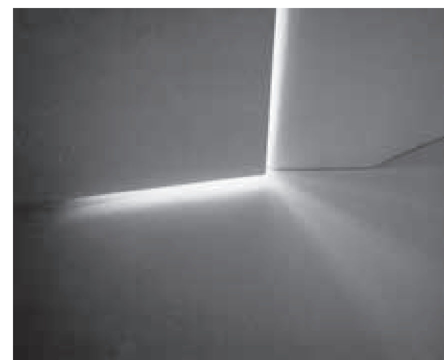
The Paper Life of Building:
Performative intra-action

Simon Twose and Jan Smitheram

Introduction

Drawing in architecture is conventionally understood as representation of built form. Representational thinking fixes the world as an object and resource for human subjects. In drawing, this means the creation of distance and a disconnection between the subject and the object of drawing. Robin Evans, for example, describes drawing as a mode of representational thinking expressed through its "disengagement, obliqueness, abstraction, mediation and action at a distance" (1997: 160). This separation between subject and object, for Evans, renders drawing a "disembodied mode of activity" (Evans 1997: 160). In his consideration of drawing, he argues that to free drawing from representation is to put into question the movement *from* drawing *to* building. His writing has provided leverage for subsequent writers to argue for a distinctiveness between drawing and building, to open drawing out to creative freedom, once it is lifted from the burden of the built and the burden of representation. This paper approaches the question of representation through a performative framework where the separation between the body, the object and the built is put into question. A building, the White-House designed by Simon Twose, will form the armature for a discussion of drawing and building in these terms. The White-House was a transitional project in that it began with an interest in representation, and was embedded within an Evans mode of understanding drawing, but during the process moved away from questions of representation towards a more performative mode.

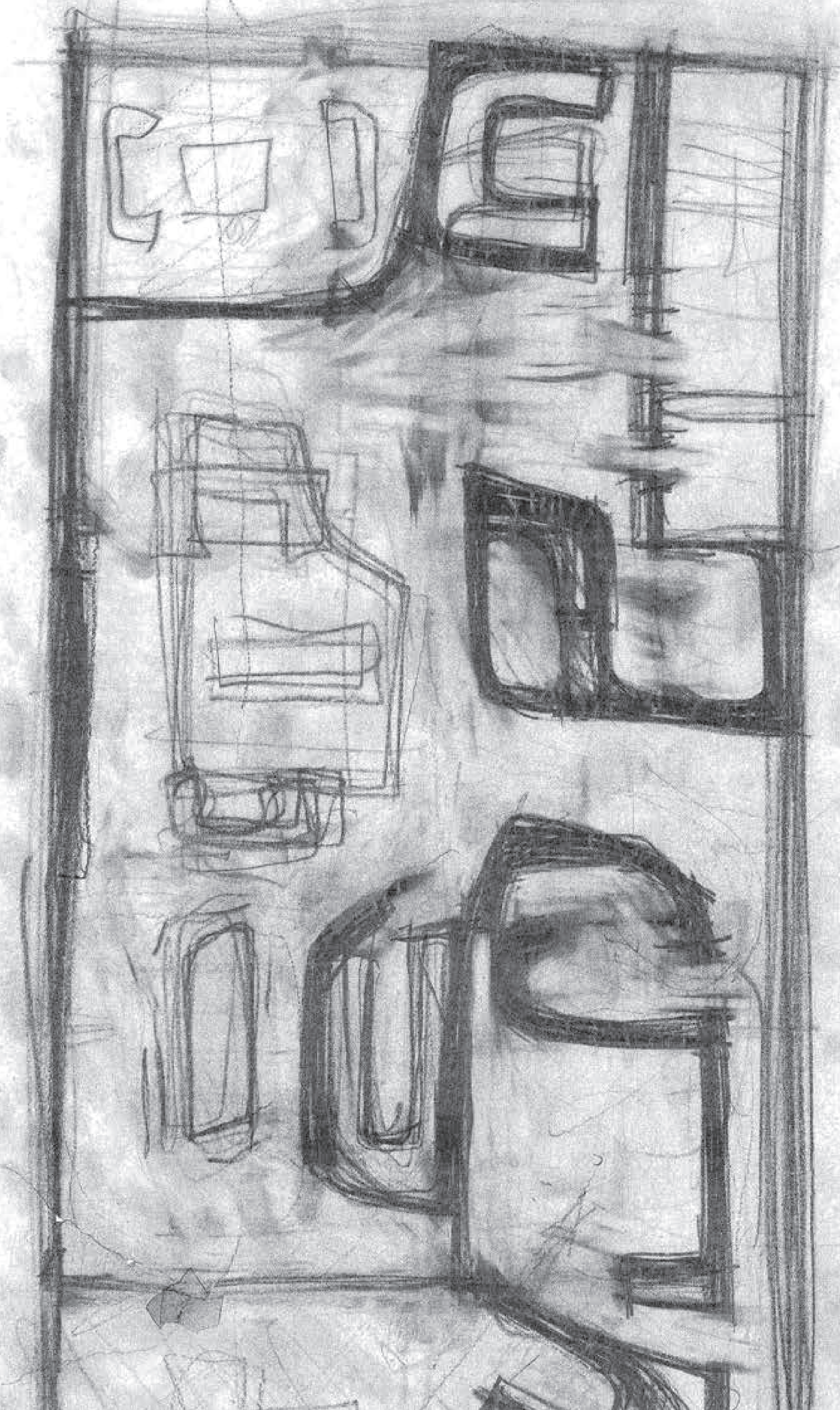


Detail, curved door jamb.

The White-House project began as a response to Auckland, and looked at the city as an aesthetic phenomenon, as a suburban landscape of complex domestic influences flowing over an apparently complicit topography. I (Twose) argued that the suburbs, the landscape, and Auckland's architectural identity were all part of a complicated inter-connected economy. In the design process, the drawings and the subsequent building were seen as responsive to domestic influence, and to parallel larger domestic flows and influences in the action of the city; the design aestheticised on a small scale what the thin suburban field was doing at the scale of landscape. The drawing process, in this sense, was a representational lens in which to view Auckland, and the design developed notions of thinness, responsiveness and lack of fixity in material and position, drawn from observations of the city. Curved freehand drawings and a curved building resulted, and during the drawing process, an interest in flow merged with performative flows, in drawing and building.

The first part of the paper introduces, briefly, theories of performance and performativity. In the second part of the paper, the White-House is used to illustrate and extend an understanding of drawing as performative. In this

Detail early plan, 1:50 sketch overlay, graphite on butter paper.



performative framework it is argued that, rather than framing representation as the only way knowledge can be extracted from the world, relations are reanimated by highlighting performative dimensions of drawing, and its relationships with the body and the built. The final part of the paper concludes that this re-working of the performative, within the context of drawing, focuses our attention on the assemblage of relations and intra-actions between drawing, building, the body and representation, and reveals them to be located, complexly, within and through each other.

Performance and performativity

The shift towards performance and performativity is more commonly referred to as the performative "turn", which loosely refers to the different apprehensions of the performative (Conquergood 2002, Denzin 2001, Nash 2000, Walker 2003, Thrift & Dewsbury 2000, McCormack 2005, Madison & Hamera 2006). *Performance* has its genus in theatre. However, while the notion of theatre still has a place in the study of performance, within the humanities, notions of performance have extended beyond theatrical metaphors. *Performativity* has its origins in the philosophical discussions of John L. Austin, particularly in his work on speech act theory; speech as not only describing an act, but in itself performing an action. Performance and performativity, within the so-called performative turn, have generally been collapsed, despite their different origins, and are often interchanged and used at cross purposes. This is manifest in the continual rendering of performativity through the lens of performance (Steiner 2003: 187, Butler 1993, Campbell 1992, Nicholson & Seidman 1995, Parker & Kosofsky 1995). Within architecture, this shift to understand drawing, the built form and occupation through performative understandings is seen, for example, in the works of Jane Tormey, Peter Wood, Neal Leach and Iain Borden. This paper is grounded in such debates, which shift towards considering processual and performative relations between architecture and the body; but we also move towards a *composite* of performance and performativity to describe the complex and dynamic relations of drawing. In this paper we argue that interleaving these two terms allows a productive way to approach the complexity of drawing practice, where discursive and embodied acts inherently cross.

The performative discussion within drawing is already a story of differentiation: for Tormey, we need to differentiate between the terms "performance" and "performative" (Tormey 2010); for Wood, we need to sever the connection with the built to completely consider the performative (Wood 2002). This paper argues that, rather than creating boundaries, the performative provides a figure – as a composite of performance and performativity – for thinking of the drawing process as a complex and dynamic assemblage. Performance in this paper is an apprehension that cannot be saved, recorded or documented; it pertains to visceral relations that do not involve discourse (Phelan 1993: 146). Thus by looking at performance we are focusing on how the individual engages in bodily practice, how we perform everyday activities, such as drawing. Performance allows us to draw our attention towards the uncertainties of drawing in terms of flows, and it allows us to elaborate on these uncertainties and the complexity of relations that are involved in drawing. But it is not only the visceral dimension of performance that is important here, but also the materiality of the body and of the built. For Bolt the performance of matter occurs when matter, of the body or the built, dominates the act performed (Bolt 2004).

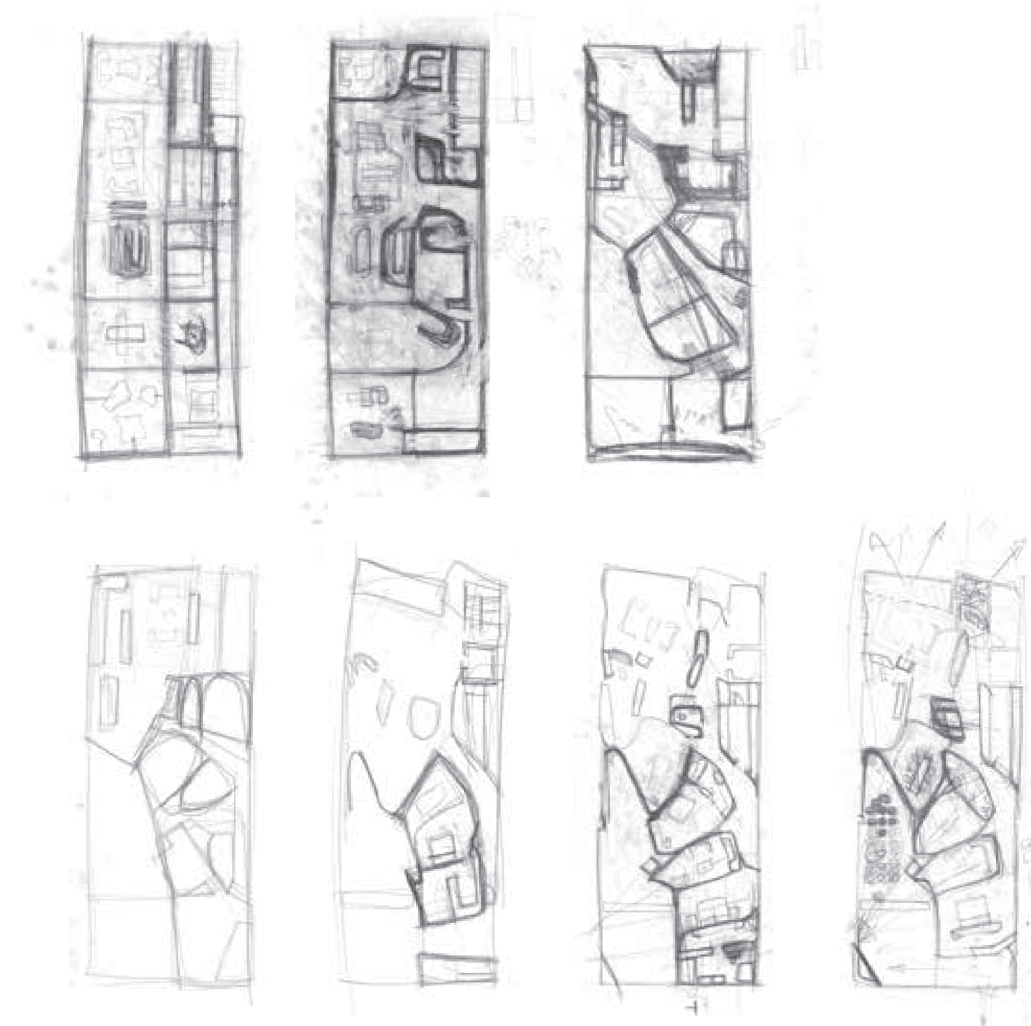
The understanding of performativity in this paper, used to analyse the White-House, is a merging of performance with notions of performativity gained from Judith Butler. Butler initiates her line of thinking of gender as performative in *Gender Trouble* (Butler 1990), where she proposes that gender is not about essences, but rather a doing. "Gender is itself a kind of activity…gender ought not to be conceived as a noun or a substantial thing or a static cultural marker, but rather as an incessant and repeated action of some sort" (1990: 112). In *Bodies that Matter* (Butler 1993), Butler takes her argument further and links the notion of performativity with citationality and the materialisation of the sexed body. Butler argues that materialisation emerges through the effect of iteration or citation of norms, but the consequence of this is that matter is reduced to its sign. Matter is left mute and without a history of its own. The actual busyness of making and acting in the world is left to slip away. The way we interact with the object world also slips, as Butler argues, for a split between notions of performance and performativity, between an act defined through agency and an act defined through discourse. As a result of this split between discourse and a body that acts within space and time, her work is unable to fully capture "kineasthetic vocabularies and imaginations" (Roach 1996). Thus in this paper, Butler's theory of performativity is extended by connecting it, intentionally, with the notion of performance, to discuss the specific practice of drawing and building. As Elin Diamond has written, when:

> …performativity comes to rest on a performance, questions of embodiment, of social relations, of ideological interpellations, of emotional and political effects, all become discussable... When performativity materializes in that risky and dangerous negotiation between a doing (a reiteration of norms) and a thing done (discursive conventions that frame our interpretations), between someone's body and the conventions of embodiment, we have access to cultural meanings and critique. (1996: 5)

Performativity in this paper is thus rooted in the materiality, as well as the social density, of the architectural performance. Performativity provides us with a way of thinking about the grid of power relations which are institutional and structuring. Performance allows us a way to describe and analyse a class of actions, which emphasises "liminality over legibility and change over fixity [and which] is effective in placing interpretative emphasis on actions rather than on commodifiable objects" (Blocker 1999: 24) which occur at the level of the individual. This allows a complex theoretical framework to theorise the intra-actions between "material and discursive, social and scientific, human and nonhuman, and natural and cultural factors" (Barad 2003: 808). In the next section of the paper we explore this composite of performance and performativity by looking at the drawing of the White-House.

Going through the project

The first performance that takes place is the relationship between architect and client, a relationship that is as much discursive as it is embodied within the drawing. The clients' brief for this project was very specific in terms of how they wanted to live and work, and grew out of detailed conversations. Their everyday actions and protocols were recorded, along with their thinking about space, furniture and objects. The many complicated requirements and understandings of



Early plan iterations, 1:50 sketch overlays, graphite on butter paper.

built space were accommodated in the drawings and, as the design progressed, the drawings were tested in real space: the clients moved around an improvised kitchen island, made on site from the nearest pieces of cardboard, they sat in folding chairs in the building site to check out the view, imagining they were relaxing in a comfortable living room, and so on. The clients went over every detail of how the spaces would be used, what they would be like, how people would react on entering them for the first time, how the spaces would speak of their professional abilities, how the building presented itself to the street, how it directed views towards the landscape – myriad interconnected complexities of space, object and action, negotiated in drawings. The plan moved in response to this performative process, which itself moved between performance and performativity.

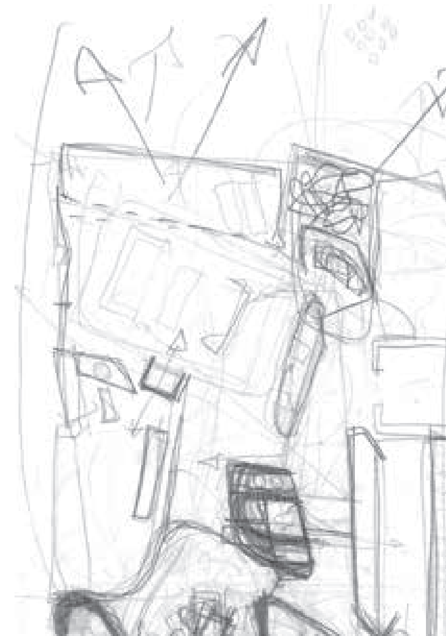
The design began as a reasonably logical and orthogonal series of drawings ascribing functional areas normally associated with a house: bedrooms, kitchen, living room, hall, entry lobby. These initial drawings were crude 6B sketches and were composed of reasonably straight lines, representing an assumed Euclidian accuracy that would occur in the built. In actuality the drawings were made up of many overlaid arcs and smudges attributable to the mechanics of the hand, arm and eye. Through the negotiated performance of the brief, the curvature inherent in that way of describing walls became more active, and the plan became a series of buckles and bulges. The plan became less of a diagram, of conventional divisions of function, and became more influenced by nuances of life and objects in space. The action of the hand and eye in the drawings was a parallel event to the projected events accommodated by the drawing – a kind of compositional alliance between the spatio-temporal of the built and the temporal space of drawing. There seemed to be compatibility between a responsive composition

Developed plan, composite of separate drawings, 1:20, graphite on butter paper.

of arcs and curves, moved by objects and spaces competing for position, and the physical responsiveness of the body enacting the drawing. In turn this allied with a representational precedence taken from performative flows observed in the suburban city.

Process

While drawing, the design flattens on the drawing board into a self-contained world: successive iterations of butter paper drawings build on top of one another, often with the same shapes reinforced again and again, with only subtle variation. There is usually something in the bundle of lines and paper that is suspected to be there but refuses to come out. This process can be its own compositional confinement, locking the drawer into the space of the drawing. In this sense, meaning slips through a process of iteration and the composition becomes directed by the contained physical context of drawing. The layers of translucent butter paper make for a blurry palimpsest that gets thick enough to gain its own topography which, when the Mutoh's scales are rested on, they plump into. At times, these many sheets are separated and laid out in a sequence, forming a drawn history of small decisions and quirks that can be viewed together – and selected parts are recombined and taped back onto the drawing board.



Detail plan, 1:50 sketch overlay, graphite on butter paper.

This iterative drawing process engages iterations of space: dense layering, expanding, recombining – and the making of them involves many movements and proximities of body to paper. Within the iterations there exists the possibility of disrupting notions of habit or norm. For Butler, the disruption of norms occurs in terms of discourse or discursive practices rather than in terms of matter itself. Clearly the matter of the body and of the drawing through these iterations has its own material presence. Each arc of the hand on the paper, each performance, each repetition, involves different flows, and different connections, so that each repetition is always a singular behaviour (Bolt 2004: 156). Matter has a presence. Matter has a force. Moreover matter here is productive, a productive materiality: a type of performative materiality.

Drawings are fields of movement, in the way they record not only movement of the pencil, but also movement of viewpoint: eye and paper, a performance between me and the space internal to the process of design. One's proximity to the paper varies, and movements between close and far attention correspondingly adjust perceptual relations to the drawing. When closely engaged in a small part of a large drawing there is pleasure in the limited field of view and the reduction in understanding of the whole – the drawing becomes about elements and junctions and qualities of line, active relationships at detail level. Standing back, the composition of parts is seen together, in the conventional manner, and one's understanding of the drawing at that proximity is tied to the active space around it, of the interaction between oneself and the drawing at a distance. At a distance, it can also be viewed obliquely, which opens another understanding of the design, different from the perpendicular attention of the drawing on the board. In the White-House, this oblique view was exaggerated in the construction set-out: the plans were drawn by hand on the concrete floors, using flexible timber sticks and improvised compasses. The one-to-one drawing was adjusted by hand-drawn arcs, as a large composition, and the drawing "walked through" as a final check

of qualities sketched earlier on a smaller scale. The architect's bodily engagement with the drawing process was activated by affective registers of the materials the drawing was meant to govern.

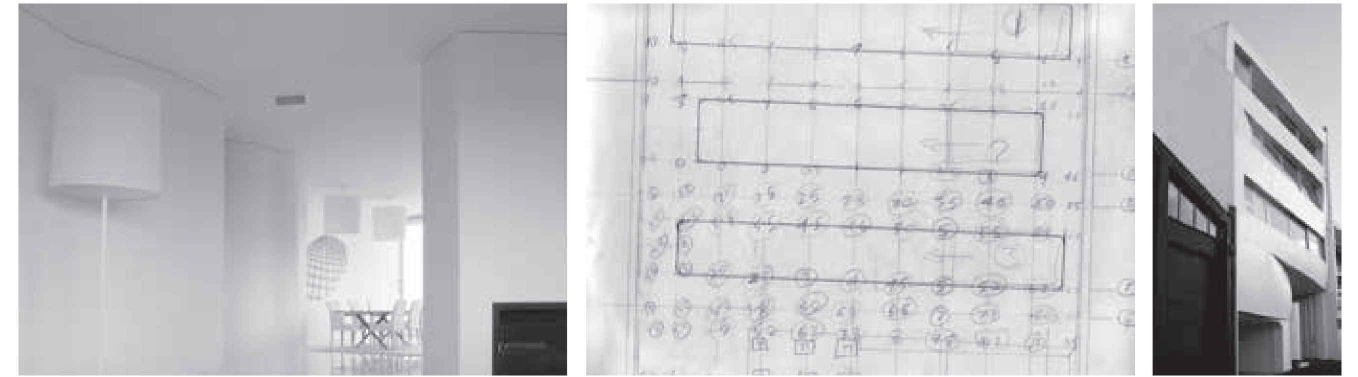
The drawing becomes the trace of the body's movement: the shifting of focus, the lightness of touch, the heaviness of repeated lines; varying pressures are made evident across the paper. But, quite literally, the production of the drawing requires the body, a body that is moving and is performing – where the body itself, for Bolt, undermines the apparent truth of representation (Bolt 2004: 51). But matter here, the matter of drawing, is still pressing against the body, impressing on the body. It is a dynamic exchange that occurs between drawing and the dynamism of the human body (Bryson 1983: 137).

I (Twose) was also involved in the physical making of the project, where once again it is the performative body that works to undermine the truth of representation. Similar to the hand-drawn set-out, the making of the ceiling doubled the design process with its built concomitant, and the three-dimensional curves of the ceiling were moulded by hand like a large model. The ceiling was designed as a soft moderator of many heights, all the doors were different heights and, being floor-to-ceiling, the ceiling draped over them; the spaces had different degrees of spatial generosity, and competing heights met at the central toilet. This was very difficult to describe in drawing and was physically modelled but in the end the only way to understand the ceiling was to hang a flexible ceiling grid in the space, get up on a ladder and physically manipulate the grid until the curves were right. The ceiling was "worked on" as if it were a large sheet of paper, only this time it was above my head and had gained the resistance of mass and unmanageable proportions. The ceiling as a terrain, overhead instead of underfoot, directly related to the terrains of paper that hosted the design thinking. Moreover the ceiling had an insistence – within the operation of the meaning of

Guest toilet interior.

the built (Benjamin 1996: 47). The ceiling was a dynamic object. In this performative framework the environment, objects and bodies are no longer passive – instead it (not clear what 'it' is referred to) allows us to focus on the muddying of boundaries between human and non human, drawing and building, that causes mixtures or assemblages to occur (Rajchman 1998: 60, Thrift & Dewsbury 2000: 418). These occur between the body working the material and the insistence of the matter of the ceiling; there is a mutual reflection here that is not just a one-way causality of the human.

So the performative can be understood in terms of the relationship between client-drawing and the body-drawing but it is clearly evident in the exchange between building-drawing – as that which enacts or produces a drawing and



Interior + exterior façade, 1:50 detail topographical elevation of facade, graphite on butter paper

also a building. As already alluded to, this is a shift in the position that says: for drawing to be performative it must be separated from the built. Light, for example, normally a clarifier of form, in this case is the agent of soft, drawing-like indeterminacy. The white walls, floor and ceiling are swamped in reflected light, which makes for a foggy boundary to the space and supports distortion as an event. The distorted surfaces are physically static but their curvature gives an impression of temporality; they are this shape but could be another shape, along some continuum of distortion over time. The temporal movements of the drawing process are palpable and the building has the sense of potentiality of a sketch. The drawing and the body are infolded enfolded into the immanent imminent potential of the built.

Another example of a performative relationship between drawing and building is found in the central toilet space. The centrally-located toilet was the meeting place of varying competing forces in the programme, and as a result is the most crumpled part of the building. Inside the toilet, a curved mirror follows the wobble of the walls and, if you are not used to it, has a disconcertingly queasy effect. It is a curiously direct physiological feedback, from room to person, of the distorting forces of programme that shaped the plan: images of your body are stretched apart like chewing gum by the mirror and re-assembled as narrow figures in the tighter concave corners. The body here shifts more towards a drawn object. Furthermore, the doors around the toilet push their way into the skin of the toilet walls. The walls curve into the door jambs, which reduces the tectonic and technical drama of the openings: rather than a door being a break in the wall, the wall surfaces are directed from one space to another along a curved route, around the curved jamb detail. The open leaves also slightly indent the walls they rest against. A *sfumato* light to the door edges helps in softening the rupture of the walls and the detail reduces the emblematic "doorness and realness" of the door and, consequently, the space. The space is more like an inhabited drawing, like being within a superficial thinness, which appears to have a trajectory.

The detailing in general was carefully designed to give this impression – to reduce the seriousness and finality of a built architecture. Things indicating building were reduced or eliminated: junctions between elements were made as simple as possible; there are no skirtings, no window sills, no apparent material to anything other than white, edges were detailed to give an impression of thinness and insubstantiality – everything was designed to give an impression of the provisional or possible, as in a drawing.

White

A further example of this performative exchange between the building and drawing is found in the exploration of colour. The surface of every element in the space is white, or is meant to be white, there being innumerable variations. The walls are painted in a flat white, with little texture. The floor is painted in

gloss white; the ceiling is velvet white. The furniture (curved and purpose-made to suit the spaces) is velvet white Formica, all the appliances and windows are "appliance white", the façade is a low-sheen white, matched from the Formica sample; the courtyard and loggias are a similarly uncompromising white. This treatment of the surfaces and objects gives an immaterial soft fog to the spaces. Hierarchies between elements are reduced by the flat whiteness and there is a sense of merging of things which normally have a discrete identity: furniture is not framed by space but somehow in collusion with it, the bath has a white lid to acknowledge its usefulness as a seat – and is built in to the floor and wall surface – the layered white curtains are flimsy versions of the walls. Conventions of orientation and weight are softened by the velvet white: wall is floor is ceiling – and when one moves through it, it is as if the building could be turned upside down like a large model and rotated to check the light. The soft texture of the surfaces, turning into the door edges or undulating down the hall, have a scale-less characteristic, with nothing to reference them in size or distance; they recede as you approach. The fuzzing of the surface texture works with soft curvature to maintain an atmosphere of provisional space, and alludes to an atmosphere of drawn space. Moreover, the relationships between objects, architecture and the body are unstable, they are dynamic, and no longer defined by fixed relations that denote identity. Rather, the differing relationships between architecture, objects and furniture create new connections. In this way they belong to a dynamic rather than static understanding of architecture.

It must be acknowledged that this sounds like a typically modernist strategy – of a unifying abstract whiteness – but the surfaces here are very different to abstract Euclidean ideals: it is evident they are distorted by some invisible process, the result of weird forces of negotiation, rather than composed with pre-conceived geometries. Because of this, the house has an uncomfortable, comfortable sense – it is shaped by the needs of comfort without resembling architecture's normal mode of providing it. When in the real space, it seems serene and undistracting, being curved and white – but there is also a sense of dislocation from the real. The materials seem to be, predominantly, light and time; nothing seems fixed, or of fixed substance. It is "like inhabiting an idea", life tracing over drawn life, where the dynamic relations between drawing, building and the body continue to resonate off each other in constantly shifting assemblages of relations.

In this case, the scuffing and smudging of architecture by life occurred in the drawing, and was suppressed in the building: the white surfaces are kept scrupulously clean and bear no marks - vacuum cleaners that might bump the skirting-less negative detail at the floor are kept away from the walls; a special swivelling broom is used to sweep around the curved junctions. This concern for a purity of occupation is a reversal of drawing and building – with the building maintaining an abstract purity while the drawings record the smudges and marks of use through their hand-drawn interactions and accommodation of potential future events.

There are many layers of process embodied within the drawing and the building, and it is in the practice of drawing and the practice of making architecture, hich architects performatively engage with, that reiterate norms of architecture – socially, economically and politically – of the particular historical moment (Bolt 2004). The statutory controls of architecture – codes, legislative acts and drawing conventions – all become naturalised alongside the practice of doing architecture. The arguments and frustrations of working against these discursive constraints when designing are very much part of the drawings; they are normative relations embedded in the drawing process – the banality of the everyday. If we continue with Butler's line of thinking, the process of "materialization stabilizes over time to produce the effect of boundary or fixity of a surface" (Butler 1993: 9). So this enables a discussion of how conventions or the economics of constraint are enshrined and fixed, or are literal laws that overshadow the drawing process and are embedded within it. However, as was alluded to earlier, within Butler's framework of performativity, there is no way that she can account for materialisation that occurs between the matter of bodies, the materials of production and discourse (Bolt 2004: 153). Of course these codes are themselves never finite or fixed – they are up for negotiation.

Through this exploration, of the drawing of the White-House as performative, on the one hand what is highlighted is that each "repetition involves different intensities, different flows, and different connections, so that each repetition is always a singular behavior" (Deleuze 1990: 289). So, whilst Butler's account of performativity underplays this capacity to engender the transformation that is possible through material performance, framing performance, without performativity, and without constraints, runs the possibility of being framed as naive (Thrift & Dewsbury 2000). Performance and performativity, when they form a composite of different modes of thinking, enable exchanges to be possible – indeed, this composite, this way of analysing the drawing process, highlights the dynamic intra-active relations that exist between body/building and drawing.

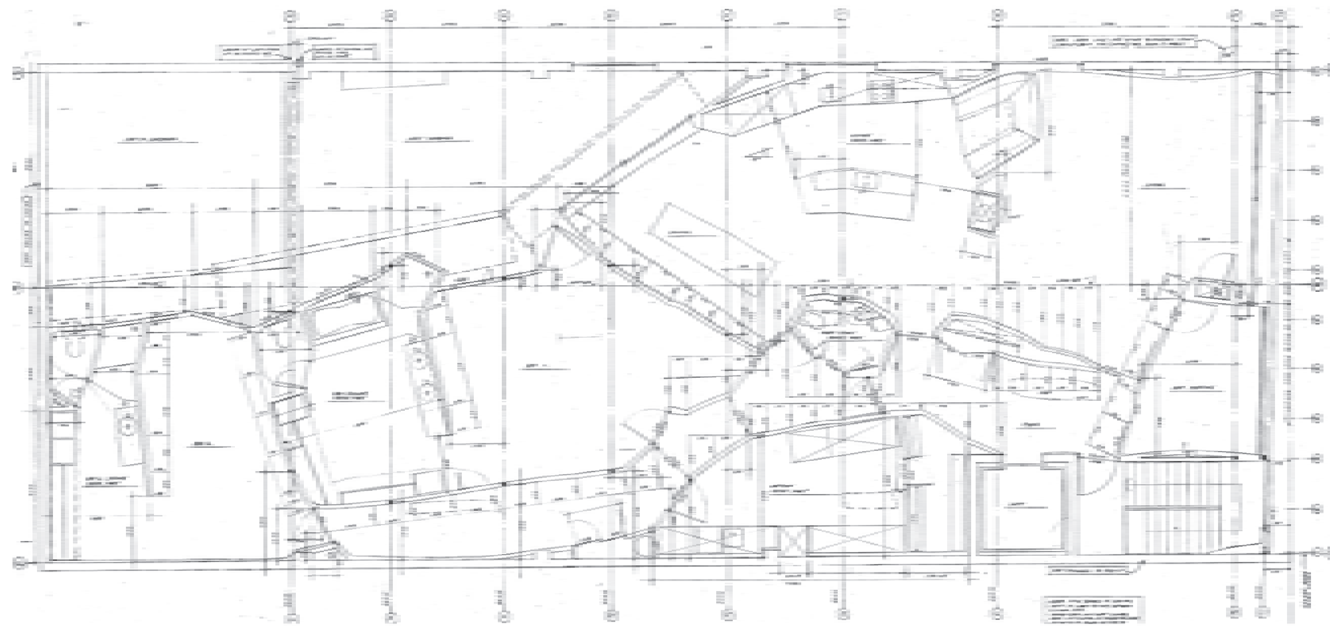
Detail, developed plan, 1:20 draughted overlay, graphite on butter paper.

Conclusion: intra-active possibilities

The first part of this paper introduced performance and performativity, and highlighted that these terms are seen as theoretically distinct. Drawing was explored through an analysis using both notions – of performance and performativity. This composite analysis allows the complexity of drawing practice to be understood as an embodied and material performance, while at the same time not forgetting normative relations that inherently shape drawing. The White-House illustrates this performative state of drawing.

The final part of the paper concludes that, in theorising drawing through the lens of performance and performativity, our attention focuses on the assemblage of relations and intra-actions between drawing, building, the body and representation, and reveals them to be located, complexly, within and through each other. Indeed, it is the composite figure of performance and performativity that provides a way of thinking of the assemblages between drawing/body/building and their varied arrangements as "inseparable intra-acting 'components'" (Barad 2003: 815). This is a different proposition to exploring "interactions" between components, as this would imply that they are independent entities from the outset. This re-working of performativity allows an understanding of how drawing emerges – through various intra-actions with the body and the built (Barad 2003: 815).

So, rather than assuming that drawing is static and removed from the body and from the built, assemblages are understood as a "dynamic (re)configuring of the world's specific agential practices/intra-actions/performances through which specific exclusionary boundaries are enacted" (Barad 2003: 816). Thus, if we are to understand the drawing of the White-House as a dynamic process of intra-



Plan, contract drawing, 1:20, graphite on film.

activity, it becomes part of the ongoing "reconfiguring of locally determinate causal structures with determinate boundaries, properties, meanings and patterns of marks on bodies" (Barad 2003: 816). Thus, drawing and building, which are nominally assigned the role of non-human, start to shift in this framework as they are actualised through different intra-active possibilities. Drawing is no longer just an object. It is not dead matter but is in dynamic reconfiguration, entanglements and (re)articulations with the body and the built (Barad 2003: 818). Drawing is active in this process of intra-active assemblages – it is not a thing but a doing. Through this doing it has a congealing of agency, which has an effect. The important thing here – and what is not offered in Butler's theorisation, but rather within theories of performance – is a notion that matter is an active agent in its ongoing materialisation. Matter in terms of the drawn or the built is an active agent in the dynamics of intra-activity.

A composite of performance and performativity also provides a way of thinking of the intra-actions that occur between discursive and material performance. Butler's constructivist model is still fully implicated in the dynamics of intra-activity through which phenomena come to matter. Materiality is still discursive; to claim that it was not would run counter to the thread of this paper, which is trying to understand the dynamics of body/drawing/building/body as complex material and discursive relations that act as a site of exchange, of "intra-activity". So the material and the discursive are related through intra-activity, yet are still not reducible to each other. Neither one is privileged over the other. Codes and conventions of drawing and building, that inform the drawing and the building of the White-House, through intra-actions, are causally constraining yet still enfold further materialisation.

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Okoshi-ezu:
Speculations on thinness

Andrew Barrie

Introduction

In a recent monograph on the architecture of Toyo Ito, eminent philosopher and architecture critic Koji Taki made use of a striking analogy – he described Ito's Tod's Omotesando Building (2004) as being as if "the entire volume were wrapped in a single sheet of paper" (Taki 2006: 9). The aesthetics of thinness and ephemerality have long been central to Ito's work, and the image of paper is something Ito himself used early in his career. In an essay entitled *The Thin Façade* Ito described the façade of the one of his key projects from the 1970s, the PMT Building in Nagoya (1978), as being "like a curved sheet of paper" (Ito 1978a: 21).

Some commentators have extended – perhaps speculatively – this notion of paper-like thinness in Ito's architecture, noting a similarity in his work to an ancient Japanese drawing technique called *okoshi-ezu*, or "folding drawing", that is little known in the West. In an essay on the work of David Chipperfield written in the early 1990s, Kenneth Frampton made a passing and rather cryptic reference to the use of two-dimensional planes in Ito's architecture as an "aestheticized play on the *okoshi-ezu* tradition" (Frampton 1992: 11), and I too have previously noted similarities to *okoshi-ezu* in Ito's more recent work (Barrie 2004).

The intriguing thing about Taki's "sheet of paper" analogy in relation to the Tod's Building (Fig. 1) is that it came at a time when Ito seemed intent on jettisoning notions of emphemerality. Since completing work on the Sendai Médiathèque in 2001, Ito's work underwent a fundamental shift:

> My aim used to be to transcend Modernist architecture by means of lightness and transparency. However, I have begun to feel that ... I may be able to arrive at a more convincing scheme by trying to express, not lightness or transparency, but strength. (Ito 2005: 16)

How, then, should we understand the continuing paper-like qualities of Ito's recent work? This paper traces the emergence of the *okoshi-ezu* technique in the Edo period (1603-1868), examining its unique representational qualities. It then addresses the claims that Ito's architecture is directly influenced by the *okoshi-ezu* tradition, and uses the *okoshi-ezu* as a vehicle by which to speculate about the particular surface-oriented qualities of the Tod's Omotesando Building and several of Ito's other post-Médiathèque projects.

A systematic architecture

In Edo period Japan, construction was a highly constrained affair. Building work was carried out by family-based carpentry workshops. In contrast to modern

Fig. 1 The Tod's Omotesando Building, Tokyo (2004). Photo: Nacasa & Partners Inc. Courtesy Toyo Ito & Associates, Architects.

practice, which clearly separates the roles of designer and builder, the Japanese master carpenter performed both the development of the design and the supervision of the construction process. These families of carpenters, much like the stonemasons guilds of medieval Europe, designed and executed their buildings in a seamless process (Coaldrake 1990: 14).

Building design, however, was determined more by conventions and practical constraints, such as the way wood could be split or cut, than by the arbitrary design intentions of the carpenter. These conventions were embodied in the systems of proportions and modules that guided traditional practice. Based on a few simple modules such as the thickness of columns or the width of structural bays, the dimensions of each building element related to those of every other. Although drawing techniques evolved over time, for the most part Edo-period construction drawings consisted only of simple plans (Okawa 1975: 114). Elevations and detail drawings were sometimes also prepared, but the detailed design of the building was largely determined by experience and the use of the proportion systems.

The transmission of specific techniques within each carpentry workshop was shrouded in secrecy, with knowledge and traditions being passed on through master-apprentice relationships. To record the "cumulative wisdom and experience of successive generations of carpenters", manuals and pattern books had begun to be produced in the fourteenth century (Coaldrake 1990: 38). They were not "how to" books explaining basic carpentry techniques, but described in written and diagrammatic form the various plan types and proportional systems which formed the basis of building design. The earliest books were passed down

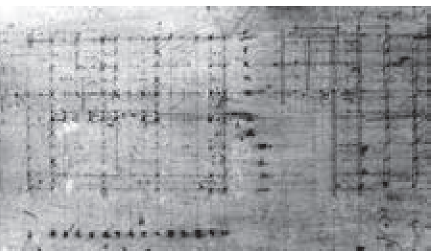

Fig. 2 The plan board. Courtesy William H. Coaldrake.

Author's note: this paper revisits and further develops material from my DEng thesis (Barrie 2003).

1 There is some disagreement among scholars as to whether *okoshi-ezu* were used during design or simply served to record existing buildings. The difficulty is that although the *okoshi-ezu* method seems to have originated early in the Edo period – exactly when or how is not clear – the oldest surviving examples date from the latter part of the Edo period. See Nakamura (1998: 30-31). It is argued here, however, that the detailed and customised designs of *sukiya* architecture would not have been possible without a design tool such as the *okoshi-ezu*.

from generation to generation, although by the Edo period the expanding use of woodblock printing techniques meant that manuals were becoming widely available. This dissemination of advanced techniques and high-culture styles elevated the general quality of building. However, by establishing clear architectural design standards these books stifled innovation and individuality (Nishi & Hozomi 1983: 47). This standardisation was reinforced by detailed regulations laid out by the feudal government. Called "sumptuary laws", these rules set out the styles, construction methods, materials, and even the number and arrangement of rooms that were permitted for members of the various strata within each social class.

The effect of all these layers of constraint was that a practiced builder could visualise and construct an entire building using just a plan board and his measuring tools. The plan board was a simple, diagrammatic plan drawn in ink on thin pieces of board (Fig. 2). It indicated pillars, flooring, verandas and steps, as well as the location and type of wall openings. As the design of the building was determined by customary modules, the plan board included only a minimum of dimensions or other written notes. In addition to the plan board, carpenters also made use of various squares and a long rod for measuring and marking the elements of the building. These tools were particularly important for working in the vertical plane, and they effectively filled the role that might otherwise be performed by section and elevation drawings (Itoh 1972: 42).

Escaping the grid

Naturally, construction techniques in Japan had developed considerably over the centuries, many of the changes being brought about by the advent of new tools and woodworking methods. By the start of the Edo period, however, the development of temples and shrines had largely stopped, and the sumptuary laws inhibited the evolution of residential architecture. The ruling elite, however, created certain types of building in which the predetermined patterns were set aside and innovation was encouraged, notably those built in the *sukiya* style. These developing types included castles and aristocratic residences, but the most important influence on *sukiya* architecture was the teahouse (Itoh 1972: 26). These small spaces were intended to create a heightened sense of awareness in their occupants, and their design and construction demanded intense consideration and attention to detail. The position and height of windows, the arrangement of the alcove, hearth and other features, the selection of materials and textures, and the details of fabrication were all carefully manipulated by the designer. In order to consider and communicate such detailed and specific design intentions, a new type of drawing emerged – the *okoshi-ezu* or "folding drawing". Such a sophisticated tool had not existed before.[1]

Okoshi-ezu (or *tateokoshi-ezu* or *tate-ezu*) were "pop-up" drawings which folded up to create a fully three-dimensional miniature. They consisted of pieces of *washi* paper cut to the shape of walls fixed onto a plan drawing. Holes were cut into the walls for windows and openings, and minor elements such as shutters, raised floors and steps were sometimes fixed into place on the walls. Drawn onto both sides of the paper walls were the various elements of the room – structural members, windows, *fusama*, *shoji*, shelves, fittings, and so on. Particular attention was paid to the patterns of bamboo, reeds and vines used in windows and as ceiling linings, to the shape of rough-hewn timbers, and also to the size and placement

Fig. 3

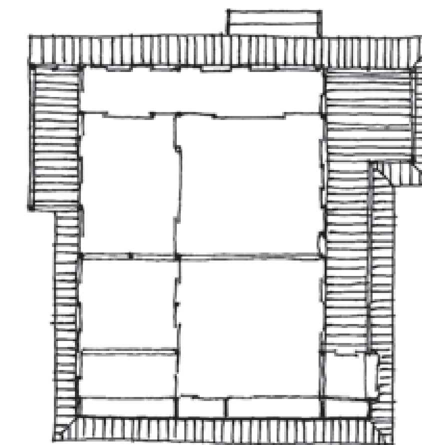

Fig. 4

Fig. 3 Okoshi-ezu of the Shigure-tei at Kodai-ji, Kyoto. Source: Kokuritsu rekishi minzoku hakubutsukan, Chiba.

Fig. 4 Plan of Kojoin Guest Hall, Onjoji.

of stepping stones and pebbles. Consistent with the highly diagrammatic character of much Japanese architectural drawing, textures and colors were generally communicated by written notes rather than represented graphically; this written information also included detailed specifications and dimensions for carpenters. Stored flat, the drawing was erected by folding the walls up and fixing them into place with tabs and slots. Occasionally, other loose elements (such as stairs, ceilings, or roofs) could be slotted into position or simply placed onto the drawing. The resulting representation is at once a three-dimensional drawing and a collapsible model.

An *okoshi-ezu* of Shigure-tei at Kodai-ij in Kyoto (Fig. 3) is typical of those made of teahouses. The upper floor of this two-storey building is attached to the insides of the exterior walls, shutters are shown in place outside the windows, while the roof and stairs are separate elements to be placed onto the drawing. The surroundings, including a covered walkway that linked the Shigure-tei to another teahouse, are indicated only by columns and stepping-stones marked on the plan. Such *okoshi-ezu* were employed by the designer "to judge the precise effects created by the combinations of materials, light and space, and to experiment with special design and assembly techniques" (Coaldrake 1990: 40), although many examples, however, were made as detailed records of famous buildings, and *okoshi-ezu* were often made and collected as a hobby (Hamashima 1992: 193).

Prior to the advent of *sukiya*, as the design of the highly conventionalised religious and residential building types was determined primarily by the proportion systems, "the most critical aspect of the design had been the floor plan" (Nishi & Hozomi 1983: 108). At the Kojoin Guest Hall in Onjoji (1601), an example of this earlier approach, an almost rectangular layout was simply subdivided into rooms, the placement of the walls following the column grid (Fig. 4). This highly schematic layout, easily represented by the diagrammatic plan board, was suited to an architecture in which a building's structural column grid was the primary determinant of its design, and where the carpenters' conventions ensured the process of construction was highly systematised and predictable. In short, the systematised nature of the architecture and predetermined patterns of use meant that there were few design variables in any one style.

In contrast, *sukiya* design encouraged innovation. Indeed, it has often been characterised as an architecture that explicitly rejected the canons. The historian Teiji Itoh has argued that rather than being conceived as a large structure subdivided into rooms, *sukiya* buildings can be understood as a collection of individually

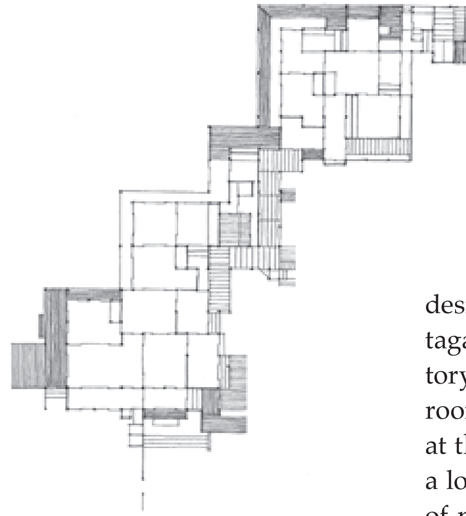

Fig. 5 Plan of Katsura Detached Palace, Kyoto.

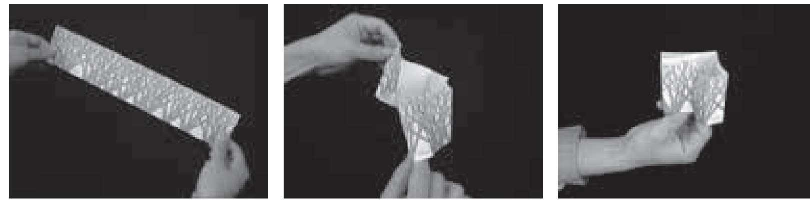

Fig. 6 Tod's Omotesando Building concept study. Source: Courtesy Toyo Ito & Associates, Architects.

designed spaces without predetermined relationships to each other (Itoh & Futagawa 1969: 84).[2] Itoh suggests that the *sukiya* buildings were the first in the history of Japanese architecture to be conceived through the addition of individual rooms rather than through the subdivision of a larger whole. This is clearly seen at the famed Katsura Detached Palace in Kyoto (1616-60), which is composed as a loose collection of rooms arranged in a staggered plan (Fig. 5). Thus, in terms of planning, *sukiya* architecture represents a shift to the priority of space over structure as the organising principle of the design. In contrast to spatial uniformity of the earlier styles, *sukiya* architecture was intended to allow the creation spatial variety. *Okoshi-ezu* served as a tool for both determining and recording such highly customised and specific designs.

2 In *minka*, argues Itoh, the layout of spaces in the house was determined by the position of the columns that supported the roof structure. Columns normally appeared at the corners of rooms, with sliding partitions arranged between them to subdivide the total floor space. *Sukiya* architecture, however, had no such basic framework, and Itoh asserts that it was only after the floor plan had been determined – as an assemblage of individually designed rooms – that the problem of supporting the roof was addressed. In short, the fundamental difference was that "in the *minka* style the structure restricts the floor plan, while in the *sukiya* style the floor plan restricts the structure." (Itoh & Futagawa 1969: 84)

With its cutout paper walls and floor, the *okoshi-ezu* technique presents the elements of the building as thin planes. While this might be seen as a coincidental effect of the drawing's paper material, this does in fact reflect the building's physical reality. In earlier architectural styles, the thickness of the main load-bearing columns was about 300mm, while *sukiya* columns were typically about 120mm (Itoh & Futagawa 1969: 84). Thus, *sukiya* buildings were literally "thinner" than comparable buildings in earlier styles.

The *okoshi-ezu* has no real counterpart in Western drawing. A rarely used technique from England employed folding paper elements – flaps were attached to presentation drawings to allow the patron to consider alternative solutions, for example, in the plan or ornamentation (Wilton-Ely 1977: 181-182). However, where the *okoshi-ezu* provides information from a different dimension (i.e. adding the vertical dimension to the horizontal plan), these drawings introduce images of an alternate reality. Perhaps the *okoshi-ezu*'s closest Western analogue is the "developed surface interior", which was used to represent domestic interiors for a rather brief period in the late eighteenth century (Evans 1997: 202). But where the conceptual folding down of these drawings fractured the space represented, the literal folding up of the *okoshi-ezu* creates a spatial unity.

Okoshi-ezu are extraordinary in that they are both easy to understand and extremely comprehensive – a combination that is usually mutually exclusive in architectural drawing, where legibility tends to decline as the density of information increases. This quality makes *okoshi-ezu* drawings extremely helpful in studying the buildings they represent. Indeed, *okoshi-ezu* provided such a complete description of the design that they were often used as the basis for the common practice of copying teahouses; the dimensional and specification information they included meant they could be used as construction drawings. These drawings could communicate so much with so little because their representational qualities were so similar to the actual architecture they represented – thin walls wrapped around cubic spaces to create highly refined and specific compositions of material, space, and light.

Toyo Ito and *okoshi-ezu*?

The *okoshi-ezu* drawing technique is little known outside Japan but is familiar to most Japanese architects, being mentioned in many books on tea culture and its architecture (Nishi & Hozomi 1983; Nakamura 1998; Hayashiya et al 1974). The technique has, however, only rarely been employed in the service of contemporary architecture, most notably by Arata Isozaki in the 1970s in his explication of the somewhat contested Japanese notion of *ma* space (Matsuoka 1978), and by Takefumi Aida to represent some of his early houses (Aida 1984; Bognar 1990), although Aida's drawings explicitly represent the thickness of walls and therefore more closely resemble volumetric paper cut-out models than the fold-up *okoshi-ezu* drawings.[3]

3 The renowned Modernist architect and teahouse scholar, Sutemi Horiguchi, published a substantial collection of *okoshi-ezu* models, complete with texts, photos and other drawings. See S. Horiguchi (1963-1967) *Chashitsu okoshiezu shu [Folding Drawings of the Famous Tea Rooms]*. 12 vols. Tokyo: Bokusui shobo. Horiguchi's publication, now very rare and expensive, was itself the subject of a more recent book – see M. Nakamura (Ed.). (2005) *Chashitsu okoshiezu no miryoku [The Attraction of Folding Drawings]* Fukui, Japan: Fukui shimbunsha.

4 Additionally, in his 1986 essay Frampton had described Ito's frontally-oriented single-line axonometrics as "a version of the traditional *okoshie* drawing technique" which suggested "the unreal notion of a paper thin architecture" (Frampton 1986: 144).

Aida's drawings were included in the exhibition catalog, *A New Wave of Japanese Architecture*, edited by Frampton (1978: 15-19). This book also included Ito's PMT Building, as well as an essay by Ito in which he once again described the elements of his buildings as being "treated lightly and graphically as if they were made of paper" (Ito 1978b: 69). It was perhaps this juxtaposition of the *okoshi-ezu* technique with Ito's comments that prompted Frampton to casually assert that Ito had been influenced by the "*okoshi-ezu* tradition" in his 1992 essay (1992: 11).[4] Commentators discussing contemporary Japanese buildings frequently position them in relation to traditional Japanese patterns, and are often tempted to assert some kind of continuity between the two. However, questioned directly about *okoshi-ezu*, Ito disavows any such influence on his work (Ito 2010b). He points out that in early works such as the PMT Building, the House in Nakano (1977) and Hotel D (1978), his interest was simply in expressing "thin outer surfaces" (Ito 1978a: 21). Frampton, it seems, has assumed a relation of causality when there was only correlation; the connection between the thin planes of Ito's buildings and the *okoshi-ezu* is simply one of resemblance.

However, if Frampton went one step too far, the paper-like qualities he identified in Ito's early work were validated by the architect's own words, and the same qualities noted by Koji Taki in relation to the recent Tod's Building remain striking. This is particularly apparent given the much-published conceptual image of the Tod's Building – which likely influenced Taki's comments – that show the façade as a patterned paper strip folded to define the building's perimeter wall (Fig. 6). Similar drawings exist for several other recent Ito projects: developed surface drawings show the structure passing across the surface of the roof and walls of the Serpentine Pavilion in London (2002), and unfolded elevations described the patterned façade of the MIKIMOTO Ginza 2 building in Tokyo (2005).

While Ito doesn't use the *okoshi-ezu* technique per se, it is clear that the conception of some of his buildings does follow a very similar kind of thinking – buildings defined by thin and highly-graphic folded planes. The last section of this paper will explore this relationship of resemblance, examining the Tod's Building and other of Ito's post-Médiathèque works alongside the *okoshi-ezu* technique and offering some speculations as to the significance of the surface-oriented character they have in common.

A new architecture

Ito's writings and interviews since the completion of the Médiathèque have been characterised by his increasingly boldly-stated desire to move "beyond modernism" (Ito 2006: 32); one recent interview characterised his current position as an "anti-Mies stance" (Ito 2010a: 302). Ito takes particular aim at the role of the grid, which he sees as the "architectural order of the twentieth century" (Ito 2009: 7). For Ito, the grid defines the contemporary city as uniform or homogenous space, which in turn has a homogenising effect on society and on its individual members. Defining the grid as the cause of society's ills is clearly an oversimplification, but it provides a clear architectural direction to explore. Ito states his goal is now to "transform homogenous space" (Ito 2009: 8), and suggests that in this task "structure offers important clues" (Ito 2006: 32).

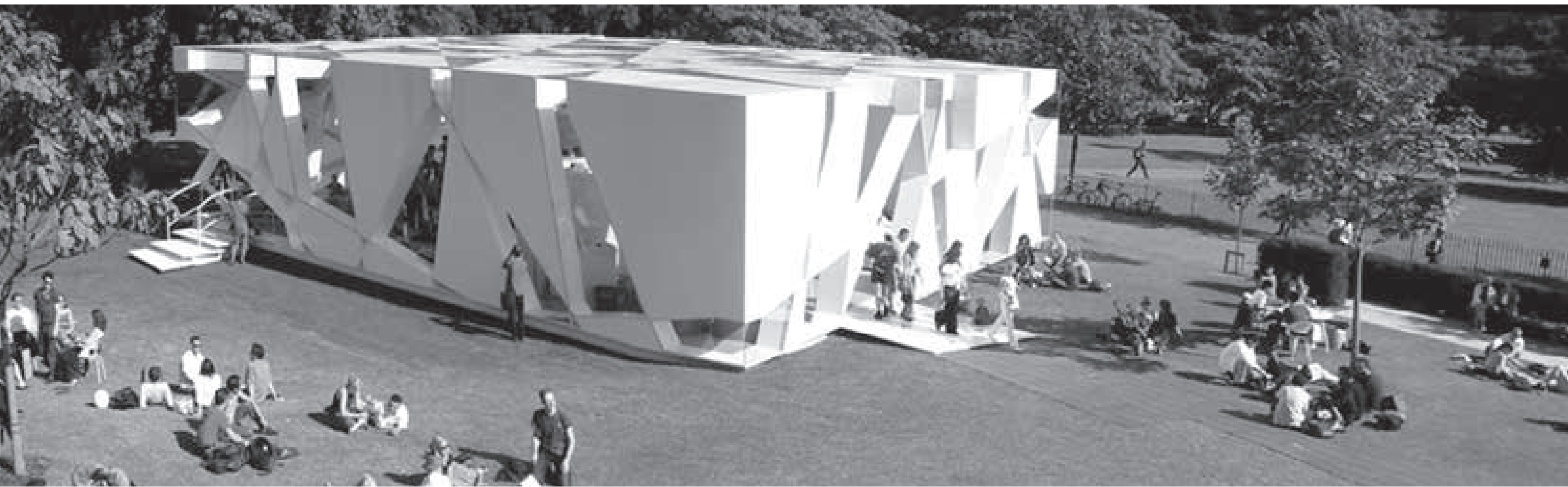

Fig. 7 The Serpentine Pavilion, London (2002). Source: Courtesy Toyo Ito & Associates, Architects.

In the wake of the Médiathèque's completion, Ito described a lingering dissatisfaction with its design. While the vertical structure of the tubes was organic and free, the flat floor slabs they passed though implied a certain uniformity. The building, he complained, had "been assembled from elements with opposing tendencies. Will a time come when I am liberated from this contradiction?" (Ito 2001: 7) In subsequent projects, his attention focussed therefore on developing structural systems that didn't consist of distinct systems for horizontal and vertical dimensions – that is, structural systems that were three-dimensionally integrated.

This search focussed, it is argued here, on continuity as an alternative to separation. The early Modernists, seeking to escape the limitations imposed by the heavy masonry structures which characterised the European architecture of the time, separated the structural and space-defining elements of their buildings; this separation made possible the independent manipulation of structure, façade and internal partitions that was fundamental to Le Corbusier's *dom-ino* system. Looking to attack the homogenising influence of the *dom-ino* structural grid, Ito sought to reunite what the moderns split asunder: "For 100 years Modern Architecture has been created by separating the structure from the external envelope, but my intention is to reunite them" (Takiguchi 2005). In this task, Ito followed the Moderns in making use of the new materials and the new methods of structural analysis of his time, but in re-integrating structure and envelope with the aim of creating new ways of building he effectively reversed Modernist innovations.

Ito achieved his goal in two small but startlingly-original projects completed soon after the Médiathèque: the Bruges Pavilion in Bruges, Belgium (2002) and the Serpentine Pavilion in London (2002).[5] In many ways these buildings were very simple, formed from structurally patterned folded planes. The use of the fold is a relatively common compositional or organisational device in contemporary architecture; what was unique in these buildings is that they consisted of the folded surface and literally nothing else. Further, the structures of these buildings, were remarkable in being non-hierarchical. The walls and roof of Ito's Serpentine Pavilion, for example, employ exactly the same structure; the structural system acknowledges difference only in the most subtle way, in that the thickness of each steel plate has been determined by the specific loads it carries (Fig. 7). Even distinctions such as those usually made between primary and secondary structural elements had disappeared.

5 This line of development also includes the Aluminium Cottage in Yamanashi (2004), and the SUMIKA Pavilion in Utsunomiya (2009). These two buildings fit less comfortably, though, as, due to the inclusion of "non-surface" elements – partition walls in Yamanashi and columns in Utsunomiya – they are less pure as non-hierarchical systems.

The remarkable purity and clarity of these pavilions was made possible by their programmatic simplicity and relatively small size. In the larger and more complex Tod's Omotesando Building and the MIKIMOTO Ginza 2 project in Tokyo (2005), structure and envelope remained integrated but distinctions between horizontal and vertical structure re-emerged; both were defined by thin, continuous perimeter walls which became "both graphic pattern and structural system" (Ito 2009: 194).

This mode of design seeks to resolve all the structural, spatial and functional requirements of the project in one stroke. Each building has been distilled into an all-encompassing system, which often involves dispersing the various functions of the building – load-bearing, weathertightness, lighting, insulation, storage, ventilation – throughout the building's structure. Each part is related to every other. The unity of the various systems was created by the use of algorithms or rules to generate a spatial or structural geometry. These rules were not highly sophisticated; at the Tod's Building, the structure was defined by the repetition of the silhouette of a simple tree. The goal, however, was not uniformity, but the opposite – the creation of spatial variety, such that each spot within a building has its own character. The varying thickness and density of the branches in the Tod's tree silhouette results in each floor having a different spatial character, fulfilling Ito's desire for non-homogenous space (Fig. 1). These architectural systems are capable of generating three-dimensional complexity, variety and, in many cases, apparent randomness, while maintaining a sense of both economy and clarity. Integrating structure and envelope disguises the elements we normally understand as structural. This suppression of the force of gravity creates the appearance of effortlessness.

The Modernist preference for separation allowed each element of a building – whether tectonic, functional or spatial – to be (or at least appear) identifiable and self-contained. But where modernism resulted in an architecture of parts, Ito's re-integrated emergent architecture is one of continuity. There is nothing apart from the continuous, effortless surface. It is this continuity, the compression of *all* the architectural action into the building's surfaces to create a highly graphic effect, that, it is argued here, explains why these buildings so strongly resemble the three-dimensionally arranged paper sheets of the *okoshi-ezu* technique.

Conclusion

The teahouses depicted by Edo-period *okoshi-ezu* could not be rotated – the wall could not become the floor, nor the ceiling the wall. But in the *okoshi-ezu* drawings these distinctions were erased and the various elements were represented in the same way – as uniformly thin planes.[6] We can see in Ito's new architecture a drive towards a physically lighter or thinner architecture, and a desire to escape the universal space of the grid for greater variety and specificity. The similarity of these buildings to *okoshi-ezu* drawings is in part due to their thinness and, in some cases, their whiteness, but by configuring his buildings as three-dimensional compositions of uniform, highly patterned structural planes, Ito has created buildings that resemble these drawings to an extraordinary degree.

6 It's important to note that the resemblance proposed is between Ito's buildings and *okoshi-ezu* models, not between Ito's buildings and *sukiya* designs. Intriguingly, however, both Ito's recent work and *sukiya* architecture hold in common a shift from the grid to freer or more variable or flexible organisational principles.

The paper-like qualities of Ito's architecture, however, may be undergoing an important shift. While many of Ito's recent projects have employed continuous surfaces as structure, he has moved increasingly beyond planar, folded surfaces. The Relaxation Park in Torrevieja, Spain (2001-) and the Taichung Metropolitan Opera House in Taiwan (2005-) take the form of three-dimensionally curved shell structures. It seems the use of complex, organic geometries will allow Ito's structures to retain their thinness but jettison the fragility suggested by paper-like planes, fulfilling Ito's twenty-first-century desire to make architecture that expresses strength.

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Scale as the Representation
of an Idea, the Dream of Architecture and the Unravelling of a Surface

Susan Hedges

Architectural drawings are considered as a medium of thought and can be understood as a primary clue to thought processes and ideas. The drawn is a tangible speculation that experiments with scale as the labour of the hand and eye attempts to bring dreams into the built world. A drawn detail can be at a miniscule scale or at 1:1, the dimensions of a future building. Focusing on a single object may change the sense of scale and require imaginative scale shifting to show the relationship between the drawn and its link to ideas.

> In Olinda, if you go out with a magnifying glass and hunt carefully, you may find somewhere a point no bigger than the head of a pin which if you look at it slightly enlarged, reveals within itself the roofs, the antennas, the skylights, the gardens, the pools, the streamers across streets, the kiosks in the squares, the horse racing track. That point does not remain there: a year later you will find it the size of half a lemon, then as a mushroom, then a soup plate. And then it becomes a full-sized city, enclosed within the earlier city: a new city that forces its way ahead of the earlier city and presses it toward the outside. (Calvino 2002: 129)

In his book *Invisible Cities*, Italo Calvino's version of scaling relies on procedures of partial seeing, scoping, rescaling and extending. This suggests that a single work can appear at once assured and ordinary, or near and yet strangely remote; it may affect vast areas, yet simultaneously seem in danger of disappearing (Rugoff & Stewart 1997: 14). Scale, it is argued, is the representation of a dream and the complicating of a surface with which architecture comes into being. This paper attends to the drawing archive of the University of Auckland for the Smith & Caughey Department Store (1927) and, in particular, two drawings of the elevations to the department store.

This paper will discuss the drawn scale as three aspects: the representation of an idea, the dream of architecture and the unravelling of a surface. Architectural drawings represent more than their architectural subjects and are proportionate to the future building; they are also elements in the history of architecture as well as an intriguing, if shadowy, window to the imagination (Hewitt 1985: 9). Drawing may not only present ideas of architectures past but also represent them through the un-built. Mark Hewitt writes: "An architect's sketch or sketches, approximations of mental pictures and ideas with their own intrinsic qualities, provide a kind of foil for further mental speculations and images" (1985: 3).

Architects are removed from directly representing or even abstractly depicting aspects of the visual world, except as they must visualise their invented objects within it. Frank Orr writes about scale from the perspective that it can be seen as a comparison of the size of something as it relates to something else, more specifically he writes that it is a comparison and relation to human size (1985: 9).

The Latin word *"scalae"* means a ladder or a flight of stairs.[1] In a more modern application, scale could signify a series of marks made at regular intervals along a line, like rungs on a ladder, and later a device or system for measuring. In cartography and in architecture, a scale is a line divided into equal parts and placed at the bottom of a map, a drawing, or a plan to serve as a common measurement for all parts of a building or for all distances. Rather than scaled drawing limiting accuracy, scale makes the comprehension of drawn worlds possible.

1 *Scalae* – a flight of steps, stairs, staircase, ladder, scaling-ladder. (Pollio 1960: Book 5, Chapter 6)

A scale drawing could be seen as a miniature with a consistent specific ratio to the imagined object. The scale of architectural drawing consists of equal parts of measure and proportion where a unit of measure is chosen and a ratio established between idea, representation and future apparent size. Scale invites the inhabitation of a drawing, the anticipation of occupation and is a means to imagining measure through projecting oneself into the drawing. The ability to project a miniature self into the drawings allows the architect to occupy the building, what Susan Stewart calls "the architects' scalar imagination" (1993: 94). As the imagined miniature self (a tiny self with measures deriving from the human body) inhabits a drawing, the miniscule body of the architect is the measure, walking across the surface of the drawing. The relationship of the idea to a physical scale relies on internal systems of comparisons, the notion of hierarchy, selection and example of drawn details.

Paul Emmons writes that, while Cartesian approaches assume that scale is merely a numerical dimension known to the mind, it also has an empathetic bodily projection that is critical to imagining a future place (2007: 71). The making of architectural drawings engages the entire body in the physical act of imagination to understand scale.

Scale can affect the exchange between viewer and idea. Small details may force us to draw closer in order to scrutinise, for the more closely we examine minute details, the less we notice the gap in size that separates us. The act of paying attention is itself a kind of magnifying or diminishing glass, the exchange between the viewer and the objective idea. Imagination is required to project a change of scale. Similarly the approach and the scaling of an idea can reveal the clarity needed for the idea to move into the built world. Scale becomes a stair providing the means for ascending and descending between the great and the small and the compartments of the imagination. The climbing of stairs to view the representation of the idea more closely reveals the lines of the future place.

The scaled detail will be discussed in relation to drawings from the University of Auckland Architecture Archive. The question of the relationship between the architects' phantasia and the nature of a scaled detail are tested in the archival drawings of one particular building. The drawings, it is suggested, become a kind of text, the visual representation of the author's dream, a partial set of fragmented sheets, the taking apart and putting together required to see the dream in its entirety.

Fig. 1 Smith & Caughey Building. Photograph by Susan Hedges.

Smith & Caughey Department Store (1927)

The Smith & Caughey Department Store is a seven-storeyed building designed by Roy Alstan Lippincott in 1927. The building reads as an ornate monolithic mass on the corner of Elliot and Wellesley Streets, Auckland City. The department store underwent a number of alterations from 1927 to 1940, all designed by Lippincott, including the remodelling to the Queen Street façade in 1940 and the addition of a lightwell to the store in 1932 (Bruce 1984: 74).

The drawing set offers a department store richly decorated in pressed cement panels and plaster facings. Large arched windows reach like ladders from the ground to the sky and recessed transoms set in cast iron dominate street front elevations. Bronze panels separate floors and are repeated up the building. Pilasters soar upwards and protrude above the parapet line, giving a vertical emphasis. Ornamentation appears as leaves and rosettes of different types contained within geometric frames, blossoming pilasters and balconettes, and spiral and lozenge patterns decorate colonnettes.

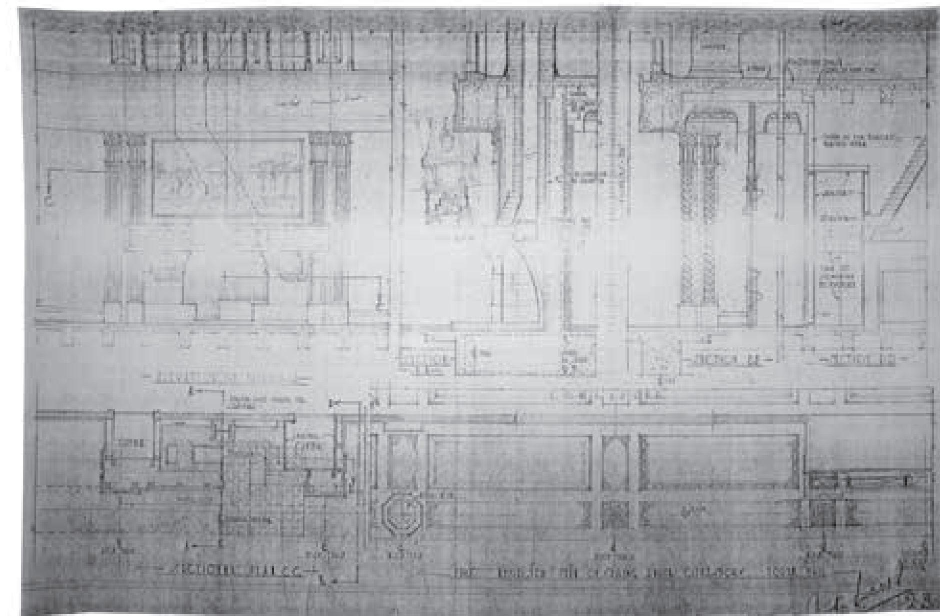

Fig. 2 Lippincott, Sheet No. 25, 'Sectional Plan CC, Reflected Plan of Ceiling Under Clerestory South Wall'. Architecture Archive, Architecture Library, The University of Auckland (UoA Architecture Archive).

The archived set and the representation of an idea

The Smith & Caughey archived drawing set consists of a number of hand-drawn, ruled and contract drawings. The drawing set does not precisely represent the building as it is today; sheets from the façade remodelling are missing and only a single sketch showing the lightwell remains. The titles begin at the foundations and end at fibrous plaster details.

The archived set consists of working drawings, instructions to be sent to various skilled workers, masons and builders. The first 22 sheets are on fragile, faded paper, weathered, yellowing and torn at the edges. The rest of the set is a series of more recent photocopied sheets, where patches of the drawings have been lost in the duplicating process. The set is incomplete, sheets are missing and some drawings have no titles. The surviving notation of the future building and the delicate marks of detail have become blurred edges, smudges lost in the attempt to be copied.

The marks that are lost threaten the full clear representation of the imminent object. The loss of marks makes the images unstable and the images' own coherence is undermined; scale shifts into smaller details, from rough proportioning to refining and trimming, repeated by subsequent enlargements, progressively focusing on parts of the dream.

Susan Stewart writes that a book offers metaphors of containment, of exteriority and interiority, of surface and depth, of covering and exposure, of taking apart and putting together: "The book sits below me closed and unread; it is an object, a set of surfaces. But opened, it seems revealed; its physical aspects give way to abstraction and a nexus of new temporalities" (1993: 37).

The opening of the book becomes the opening of the archive; the drawing set becomes the site of the phantasia, its construction and record in the archive enabling the exploration of future spaces and a glimpse of the architect's imaginings. This discussion will centre on four of the sheets describing the details and elevations of the Smith & Caughey Department Store: *Sheet No. 3 South Façade (To Wellesley St) + North Elevation, scale ⅛" = 1 foot*, *Sheet No. 4 West Elevation (Elliot St) + East Elevation scale ⅛" = 1 foot*, *Sheet No.7: Half Elevation Typical Bay Elliot Street, and Half Elevation Typical Bay Wellesley Street, scale ¾" = 1 foot* and *Sheet No.8: Section at Entrance, and Sectional Plan A-A, scale ¾" = 1 foot.*

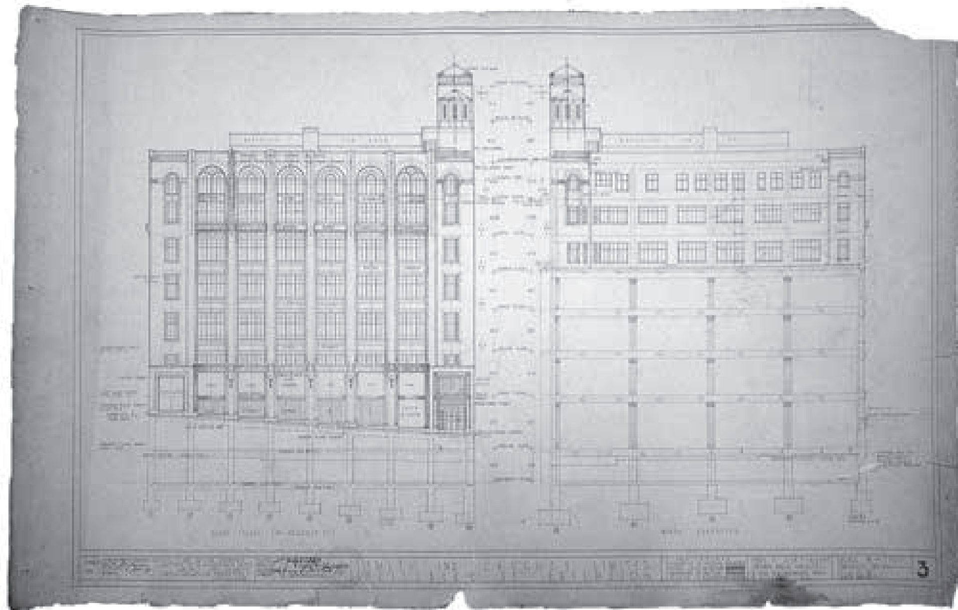

Fig. 3 Lippincott, Sheet No. 3, 'South Façade (To Wellesley St) + North Elevation, Smith & Caughey Limited, Wellesley Street Extension'. UoA Architecture Archive.

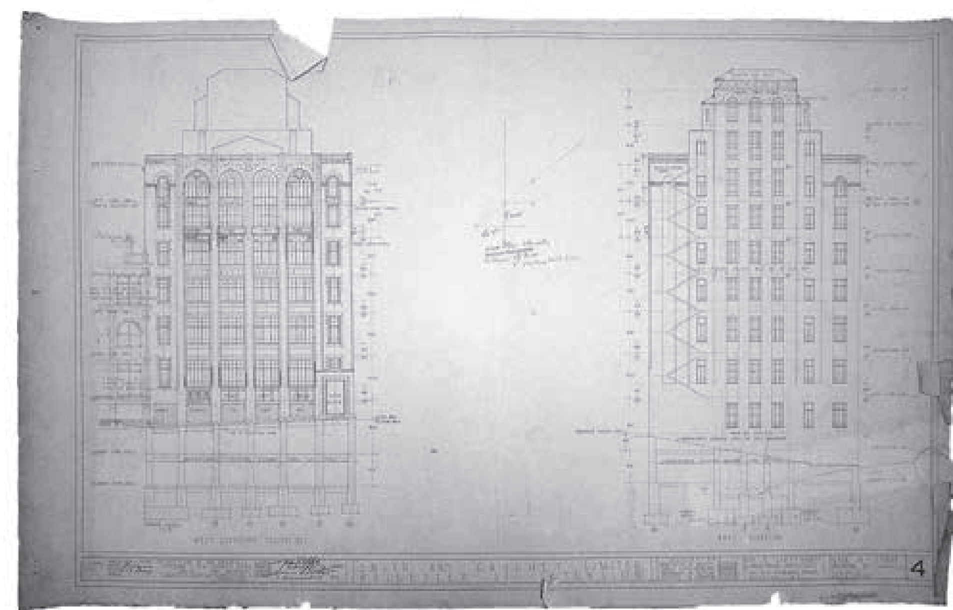

Fig. 4 Lippincott, Sheet No. 4, 'West Elevation (Elliot St) + East Elevation, Smith & Caughey Limited, Wellesley Street Extension'. UoA Architecture Archive.

The drawn sheets and the dream of architecture

Sheet No. 3 and *Sheet No.4* reveal the four elevations of Lippincott's dream. The building's two street elevations show eight bays of windows on Wellesley Street and six on Elliot Street and cover six floors of the department store. (Shaw 1991: 111) The upward momentum is slowed at the fifth floor by a small row of flower boxes. Two floors above this they merge to form a single range of double-height arched windows that visually tease apart the spaces of the page.

The east and north elevations are drawn with a reliance on outline and flattening of surface. In the west and south elevations the line work becomes more complicated: depth is implied with darker hatching, the *poché* suggesting an embossed ornate surface. Moments of drawn ornamentation begin to add depth to the sheet's surface, and become a suggestion of the dream of skin.

The flatness of the department store drawings, the elevations and their detailing, reveal the structural elements, the supports and connectors and, alongside the perceptual understanding of the building, closure and aperture, solid and void, surface and transparency. The elevational drawings offer the meeting and crossing of ideas, the steps, the required scale shifts and the scaling of a ladder to get closer to the representation. Marco Frascari writes that all the lines in architecture derive from the lines used in a loom (1993: 23-24). Earlier, he had suggested that the architects' phantasia are woven into shape from these lines: just as threads form a piece of cloth, the loom can be seen as a metaphor for the architectural plan, just as scaffolding could serve as a metaphor for raising the architectural elevation (1985: 87).[2] The marks become an expression of imaginings and are a statement supplying the general picture. The large scale prompts elaboration so as to grasp the potential of the small part. The detail soon follows.

2 Frascari suggests that scaffolding is not independent but an integral part of the façade (1985: 87).

The graphic elements involved in drawings, plans, sections and elevations, are a visual representation with silhouettes or figures. The elevation is the image of the projected building, an upright proper drawing showing a source of proportional play where surfaces become places for geometry. This flattened projection can be thought of as a mask, a portrait or a permeable screen. It suppresses the three-dimensional. The elevation is part of the performance of architecture, a place of strangeness and comfort. The mask transforms and omits as much as it represents and, as with the elevation, there is that which is denied and revealed (Hill 2006: 13-14).

The elevation is the picturing of architecture, a site for negotiating the inside and outside, the recording of materiality, a play of ornamentation, proportion and elevation. Vitruvius writes that, "An elevation is a picture of the front of a building, set upright and properly drawn in the proportions of the contemplated work"[3] (Pollio 1960, Book 1, Chapter 2).

3 [orthographia autem est erecta frontis imago modiceque picta rationibus operis futuri figura. item scaenographia est frontis et laterum abscedentium adumbratio ad circinique centrum omnium linearum responsus.] (Pollio 1960, Book 1, Chapter 2)

The elevation is the construction or building of the front image, a picture or representation of the *operis futuri,* the future work. It suggests that the drawing should be worked on an upright wall like an inscription on a board, or like ink on paper. The implied depth in the two dimensions of an elevational drawing interact with the perception of real depth to give more or less a flicker between the present drawing and the imaginary future work. The Smith & Caughey Department Store elevation's implied depth is made up of flat surfaces modulated within a thin layer. The scaled drawing offers notions of casting forward, of projection; it invites imaginative projection between a drawing, its future place and its detail.

With lines stopping and starting, the architects' phantasia is projected. Line weights aid in the suggestion of depth, the heavier the delineation of an element the farther forward it appears, and the lighter the delineation of an element the further it appears to recede. Tonal values of ink and texture are used to enhance the depth of materials, textures and shadows of the future work. The department store elevations depict this convergence of dreams, real space and time through a fragmented series of distinct but related views.

Pen and ink, the hand-produced drawing, hinders the image of scale and size. The "dream detail" is compromised by the physical size of the drawing instrument and the ability of the human eye to perceive it. Thicknesses between lines diminish and line weights become heavier, rendering indecipherable blackness and moving beyond the limits of bodily skill to see and draw detail. The edge of skill necessitates the making of a new drawing, altering detail through instruments of removal and relocation, the architect shifting between drawings of differing scales. The detail of dreams promises a relocation, rescaling and removal, allowing movement between incomprehensible miniatures, failing vision and the thickness between lines.

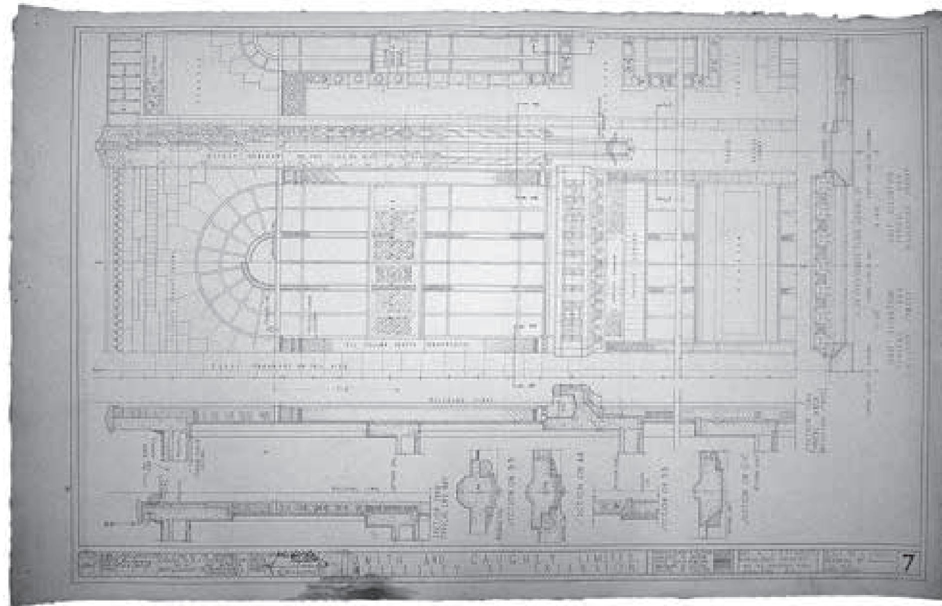

Fig. 5 Lippincott, 'Sheet No. 7: Half Elevation Typical Bay Elliot Street, and Half Elevation Typical Bay Wellesley Street, Smith & Caughey Limited, Wellesley Street Extension'. UoA Architecture Archive.

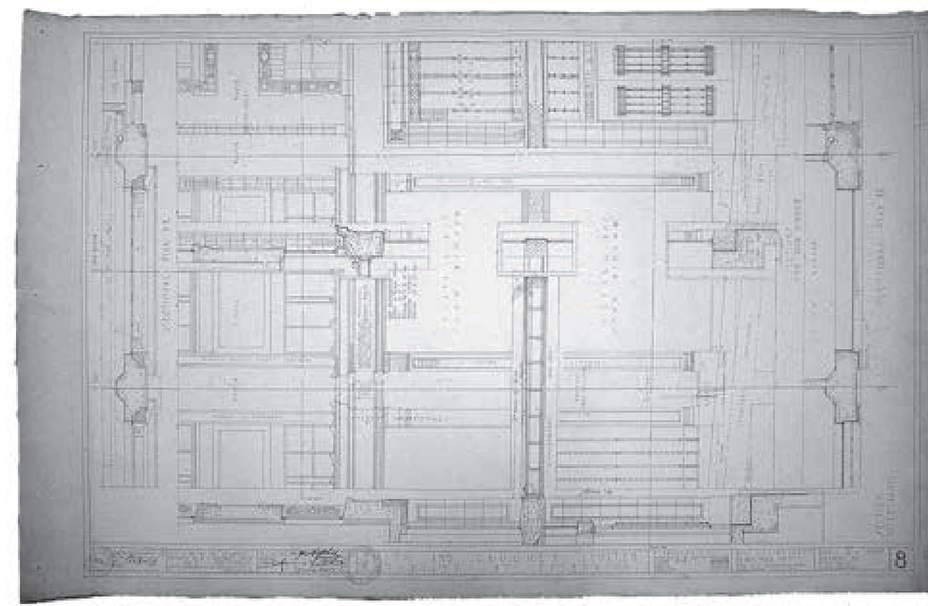

Fig. 6 Lippincott, 'Sheet No.8: Section at Entrance, and Sectional Plan A-A, Smith & Caughey Limited, Wellesley Street Extension'. UoA Architecture Archive.

The unravelling of a surface: elevational details

Sheet No. 7 and *Sheet No. 8* are scaled elevational details of the Smith & Caughey Department Store. *Sheet No. 3* and *Sheet No. 4* paint an account of the design. The scaled elevational details draw nearer to the *operis futuri figura*. *Sheet No. 7* shows half elevation details to the Wellesley and Elliot Street façades, flat inscriptions lie horizontally across the paper. The window arches shift in size from Elliot Street to Wellesley Street, the radius of the arch deepens in scale to fit within the compositional arrangement of the building. To the right of the sheet the half detail of the terminal bays rises between ornate concrete colonnettes. To the right of the sheet a section reveals a flower box beneath each window. Threads appear stretched, teased over the surface of the page, places of earlier complication have become unravelled and lighter in weight. Flowers and tendrils are caught in geometric patterning, and swirling column shafts frame the arched windows.

Sheet No. 8 shows the lower two floors of the department store. Plate glass windows dominate the centre of the sheet. Woven across the surface of the sheet are small sectional details of points of juncture. Bronze pilasters and grilles echo the verticality of the upper floors.

For these imagined walls, their weight and consistency, the sheet surface becomes the imaginary scaled-down face of the future building to which the lines of the drawing correspond. Connections between darker points become more visible in *Sheet No. 3* and *Sheet No. 4*, where the architects' phantasia appears with a measured clarity. *Sheet No. 7* and *Sheet No. 8* draw nearer and begin to consider the overall proportions of the future place. The scaled detail is the information required for the translation from the representation of the idea to the built. Through the search for clarity, one draws closer, acts of scale become acts of scrutiny and, in this examination, the retracing of the architect's movements between eye and hand become clearer (De Zegher 2003: 71). The drawings made of lines become a line, provoking the thought that every line could itself be a world composed also of a multitude of lines.

The reading of one view or component of a building automatically refers to another invisible condition outside of one's immediate perception, referencing other realisations of the drawing's characteristics. The attempt to translate surfaces of the building, whilst maintaining sufficient identity with the sheet of paper, happens with scale and proportional ratios, a teasing apart of drawn objects to understand or reduce their complexity. Through this visual unravelling there could be elements of distortion, a means of making things fit, revealing another layer of narratives within its surfaces.

The sheet's visual field is occupied by an imagined architectonic structure, perforated with openings, arches and windows, becoming a kind of screen that simultaneously organises the two-dimensional surface and divides the implied depth of the pictorial space. The delicacy of the line work that shifts from the elevation to the detail and the sharply defined lines form a web of shapes. In the seeking of the scaled detail, the visual elements have become flimsy and delicate. The delicacy is there in order to resolve difficulty and to decide on a meaning that can be seen. Georges Didi-Huberman writes that the detail is linked to a greater or lesser extent to the act of drawing a line, this being the act that constitutes stable differences, the act of making graphic decisions and distinctions (1989: 152).

A visual matching of lines, marks on paper, become a transformation from one system of representation to another. They are a transformation of appropriate signs with a view to the imagining of certain architectural events (Frascari 1984: 30). "Scale is simultaneously an instrument for the hand to make drawing and for the mind to imagine building" (Emmons 2007: 64).

Does the scaled detail become rinsed clean of all matter? Is the teasing of line and thought, presentation without representation? The sheet begins to confront us with its material opacity. Georges Didi-Huberman suggests, "it thus connotes both structures and the tearing away of parts of structures, or their partial collapse" (1989: 165).

The rhythm of scaling relies on procedures for partial seeing, scoping, rescaling, extending and reducing material features. Notions of graduation (nuances of size and degrees of presence) become internal streams, orders and disorders, visual puzzles, flows and synchronisation of moves. In "scaling up" or "scaling down", successive repetition and redundancy compose a type of rhythm. The rhythm becomes an ordered variation in a series of moves performed with different intensities and speeds, creating a knowing through scaling, a lending of the body (Yaneva 2005: 870). The use of geometry, line drawings and other representational conventions, the signs of architecture, the modelling of the scene, are held together for a moment before being teased apart. Climbing the ladder to get a closer look at the architects' phantasia, the surviving notation is of a lost

visualisation, the scene and the production of a drawing and the representation of a dream. The drawings become a transfer from bodily visualisation and envisioning, to registers of representation. Through the flat plane of the drawn sheet, lines transfer and imply depth.

Lippincott's drawn sheets transform from elevation to detailed ornamentation, the spill of information and imagination. Out of meticulous investigation architectural detail emerges, the practical procedures of drawing up projects are also mechanisms by which ideas are shaped, an initial image later to be a definitive form. The archived drawings of the Smith & Caughey Department Store are directed towards a future non-drawn object, the drawings an attempt to fix fragmented phantasia in a logical sequence by building knowledge step by step. This hoped-for figure is the scale. The scaling of a ladder to get closer to the dream becomes an act of clarification, a visualisation of the perceived or imagined. Because its proportion and scale differs from its context, the detail invites an occupation of space, on ink and paper.

This becomes a discursive unravelling of the Smith & Caughey drawings, a move from the dream of the architect to the dreams of the reader, where scale as representation shifts to misrepresentation and unruliness. In unravelling veiled implications for future work, scale becomes the weaving and unravelling of practiced fingers. The creator of the dream unravels tangled skeins to weave intricate drawings. One hopes that none of the fine threads will break.

> or he speaks of Arachne's fingers, expert at winding or unravelling wool, turning the spindle, plying the needle in embroidery, fingers that at certain point we see lengthening into slender spiders' legs and beginning to weave a web… (Calvino 1993: 10).

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Maintaining the Abstract

Critical Facility in Post-Digital Drawing Practice

Mike Davis

Introduction

Drawing practice has been significantly and irrevocably augmented through the advent of digital technologies. The term "post-digital" refers to a condition in which those technologies have been subsumed into the suite of tools at the disposal of designers. Such a condition renders the polemic of traditional versus new media, of pencil versus mouse, redundant. Building information model, diagram, render, collage, equation and script – each is understood as a form of drawing, each has its own predispositions and purposes. The qualities of the project that unfolds through the focused application of these tools is, as ever, a reflection of the abilities of designers to pursue ideas through drawing. And yet the "traditional versus digital" polemic, and the well-turned ground of the problem of the digital lying with its general tendency toward the production of visually-realistic images, is sustained by a lack of critical scrutiny based upon active engagement. With a critical base which relies solely upon observation grounded in conventional drawing, the digital remains "new" but somehow grows tired. This text proceeds on the understanding that what is required to address this broader concern is to accept the gift to drawing practice that its digital augmentation is and, through practical engagement, to deal with the related imperative of critically (re-)evaluating and (re-)negotiating the role that each tool plays in drawing practice, and indeed of developing understandings of relationships between tools.

This paper sets out to articulate a hybrid digital-analogue drawing practice operating in a design project. It does so through a discussion of a preliminary design proposal for a new factory complex for Ecostore – a producer of environmentally-friendly household products – to be sited in Avondale, Auckland.

Stan Allen has argued that digital techniques operate indifferently in relation to established techniques, often with the effect of compromising the power of conceptualisation which was particular to traditional drawing.

> … these techniques of visualization ignore what has traditionally given architectural representation its particular power of conceptualization – that is to say, its necessary degree of abstraction, the distance interposed between the thing and its representation. Design does not operate on the basis of resemblance, but on the basis of abstract codes and a complex instrumentality. (2009: 75)

Allen thus problematises digital visualisation techniques in relation to traditional architectural representation, in terms of their operation in the design process.

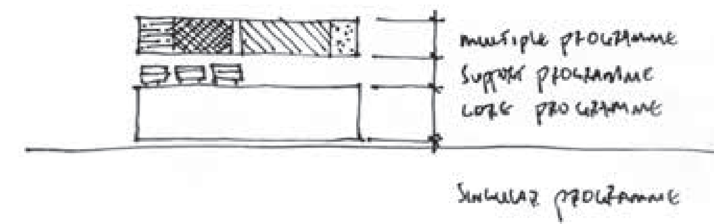


Fig. 1

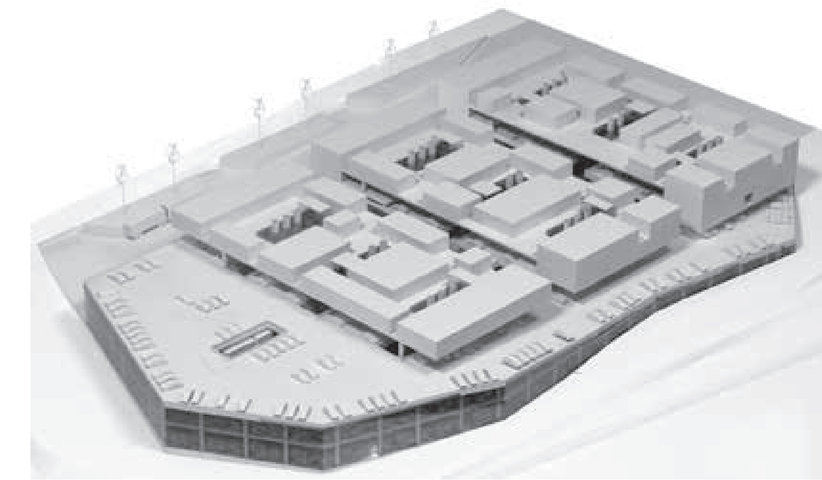


Fig. 2

Fig. 1 Ecostore: aerial perspective of the digital mass model from the North East

Fig. 2 Ecostore: programmatic imperatives

Greg Lynn writes to similar effect when he defines the difference between an abstract machine (a diagram in the context of his discussion) and a concrete assemblage.

Concrete assemblages are mechanistic and already technical where abstract machines are conceptual statements with many possibilities for reconfiguration and transformation. (1998: 230)

> The use of the term abstraction here is not intended to be confused with a purist or modern notion of abstraction. In those instances, abstraction involves a reduction to fixed formal essences – involving a kind of paring away. Instead, abstraction is used here in a more generative, evolutionary and productive manner – involving a kind proliferation, expansion and unfolding. (1998: 225)

While in their respective texts Allen is concerned with contrasting digital and analogue techniques, and Lynn is particularly concerned with the potential of the diagram in relation to design, this paper is concerned with post-digital drawing practice and the contingent relationships between the tools and techniques through which design is pursued. What it shares with Allen and Lynn is a concern for maintaining the abstract critical facility of drawing and, through this, pursuing explorative design processes.

The Ecostore project demonstrates five strategies for the maintenance of the abstract critical facility of drawing. They have been apprehended via a reflective interrogation of the making and outcome of the project. From these strategies three broader propositions are extrapolated with regard to post-digital drawing practices in architecture.

Ecostore

From Auckland's North Western Motorway the Ecostore factory complex reads as a vegetative wedge extruded from the site, above which are suspended three timber-clad and perforated blocks of equal widths but varying heights.

Each block is the output of a projected stage in the development. Conversely, the programmatic imperatives and opportunities of the project are vertically stacked – office over carpark over factory on site. This spatial condition of separation renders the necessary connection of these programmatically-related elements problematic and thematic to the project.

The complex is a maximum built condition designed to utilise the maximum amount of space available on the site. It is a response to the conditions of its inception driven by a negotiation between regulations and requirements. The intention here is to discuss how the project developed through a demonstration

Fig. 3 Ecostore: interior collages

of the strategies that operated to maintain the abstract facility of drawing throughout this early phase of design.

Strategy 1: Specialise and collaborate

The Ecostore project was developed to its current state through collaboration between Patrick Loo, Ian Scott and myself. Patrick's and Ian's demands for information about the project forced me (as project leader) to articulate and address – through drawing and modelling, in diagrams, AutoCad, foam and Rhinoceros – issues that I had been unable to see or had resisted addressing. The outcome of this intra-disciplinary endeavour is a preliminary design project that is understood as an open system intended to be further developed through the input of specialists, those with the necessary knowledge to bring it to a positive ecological and economic realisation. In this way the project retains a sense of the diagrammatic.

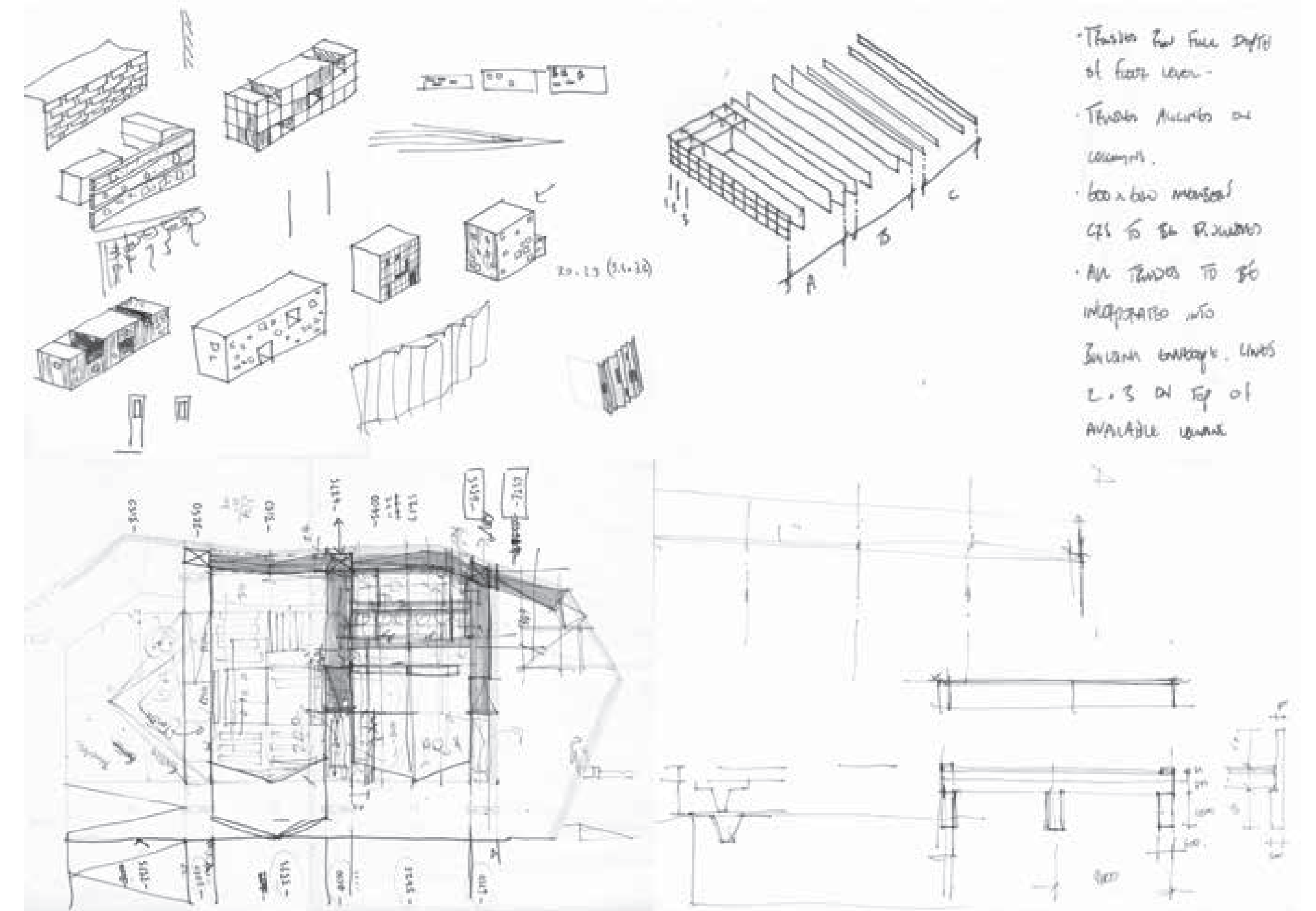
This paper works toward a proposition (Proposition 2: Shift content) to focus on the relationships between tools and techniques, toward developing a critical inter-instrumentality, a condition that requires both a depth of understanding (born of particular technical virtuosity) and yet ambivalence toward the tools and techniques concerned. But the passion required to take up the technical workload needed for designers to develop and maintain a depth of knowledge across the entire expanding raft of tools and techniques available precludes ambivalence, and tends to throw out the fragile balance between the development of technique and the development of the design. Yet the outcomes of these more technical specialisations are compelling. Collaborative design practices emerge out of this compulsion, with each collaborator operating with their chosen tool or technique to define their particular role in the design process. The effect is to resolve the paradox of understanding coupled with ambivalence.

Strategy 2: Delay the "real", explore the possible

> Linguistic constructions are merely postponed, not abolished, and a regime of abstract, schematic statements are seen to pre-empt and sponsor them. From the particular discursive formation of multiple diagonally intersecting statements some form of expression emerges. (Lynn 1998: 227)

Design might be understood as a search (facilitated by drawing and making practices) for resonances between the conditions (site, brief, regulations…) and designed responses to those conditions. In Lynn's terms these resonances are instances of a "particular discursive formation of multiple diagonally intersecting statements" (Lynn 1998: 227).

There was a tacit recognition working through the Ecostore project that the deployment of digital visualisation techniques to produce visually-realistic images (visual realisms) would run the serious risk of dramatically reducing the potential for the emerging design proposition to develop substantially beyond the condition in which it was depicted in such a visual realism. In other words, the



concern was that a visual realism introduced at this early stage of design could curtail the search for resonances sought through the design process.

Qualities of abstraction were consciously cultivated in the design process through the tools and techniques brought into play. These qualities were maintained through the design process to allow the design proposition to unfold in response to the conditions of its inception and development – those evident at the outset and those emerging through it. Abstraction was a means of delay, of creating space in time and of resisting the "real" so that the design proposition could develop, rather than be thrust forward and bound prematurely at any one point through the imposition of a photo-"real"-istic image.

The project is presented through differing disciplinary specific outcomes, each privileging a level of abstraction, and telling a different story or developing a different aspect of the project. The exploded isometric, the sections and the diagrams are abstract by nature; the aerial shots present an un-materialised mass; and the nature of the perspective collages, their rough-ness, the juxtaposition of the components and the resulting level of abstraction inhibits a sense of the "real" but they simultaneously project *possible* atmospheric qualities of the space in question (Allen 2009: 89).

Collectively the drawn outcomes suggest or invite extrapolation toward a whole proposition but do not default to a single image in order to do so. The effect is to keep the project in the realm of the possible rather than the predetermined.

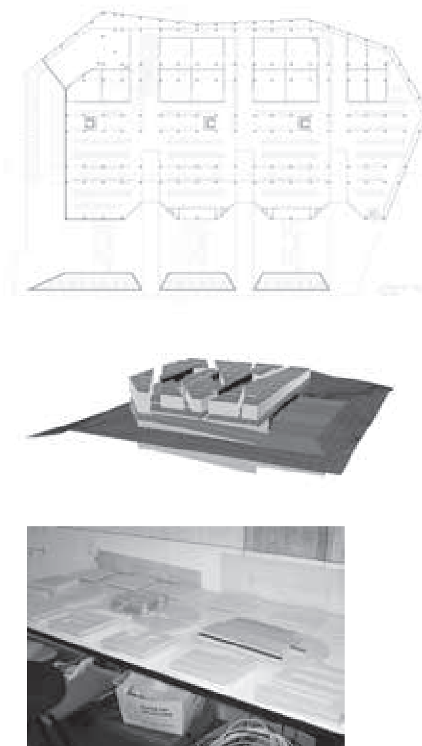


Fig. 4 Ecostore: process material

Strategy 3: Retain disciplinary specificity

The purpose of the Ecostore preliminary presentation drawing is primarily to demonstrate a projected performance. What it provides are multiple means through which to do so. Each of the drawings selected for inclusion in the preliminary presentation drawing consciously retains its own specific role. What results is the framing of the space between the selected drawings as the space of potential productive differences.

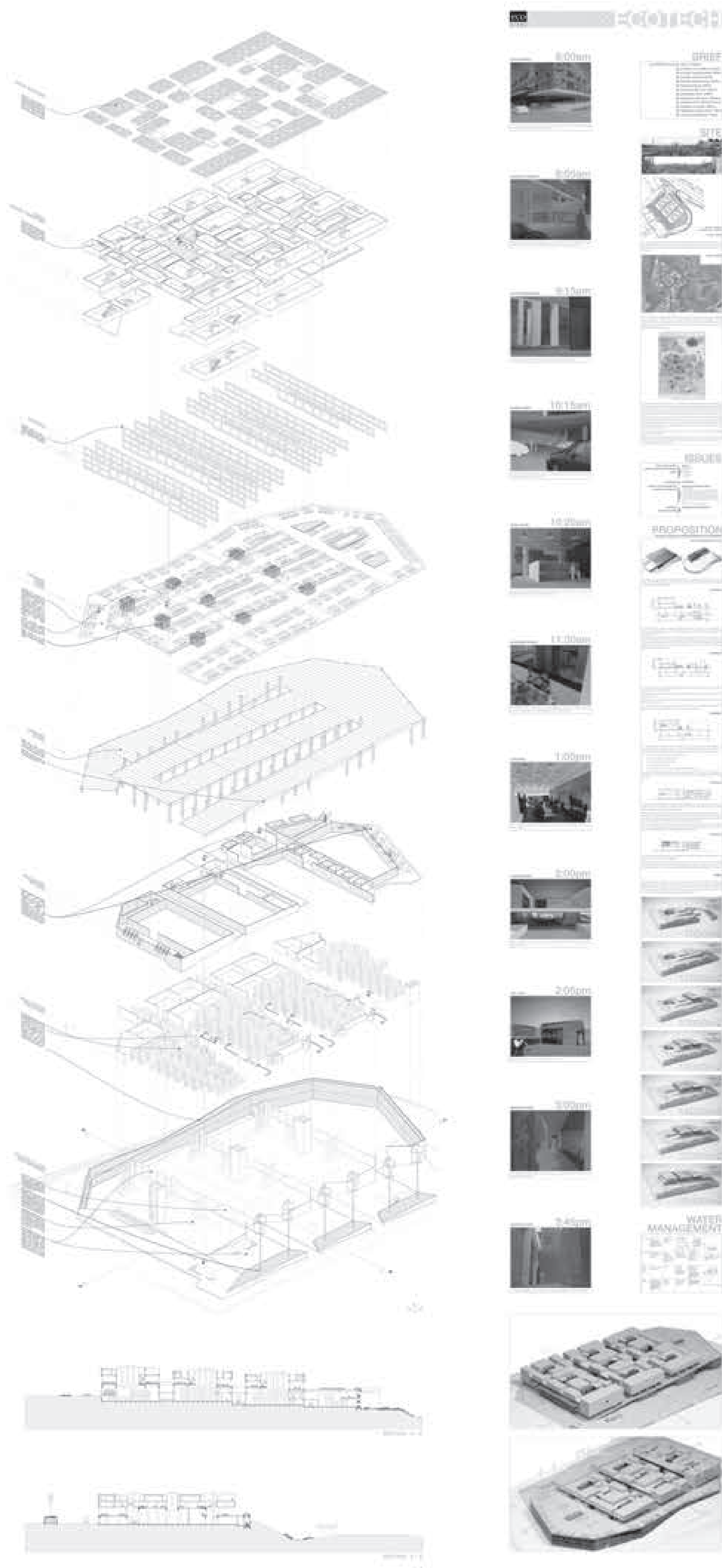


Fig. 5 Ecostore: preliminary presentation drawing

At the core of the content lies a detailed Rhinoceros model based upon two-dimensional AutoCad plans and sections, which were based on drawings made on butter paper over outline templates or datums, taken from both AutoCad and Rhinoceros and physical models based upon the same. Tools and techniques were deployed according to their predispositions – to explore the advantages of each in the context of the project. For example, on the basis of a raft of more time-consuming physical foam models, Rhinoceros was used to quickly produce multiple iterations of one particular foam option. In this instance the physical model lent itself to the consideration of the larger formal issue, while the speed of modelling successive massing iterations in Rhinoceros lent itself more to the consideration of the next level of detail. In the same way AutoCad was used to project material into sections that in Rhinoceros would have been unnecessarily time-consuming and processor-intensive. The examples provided are not intended to give the impression of a linear, nor seamless, design process. On the contrary, the seams (the space between the tools and techniques) and the circularity of this design process were pronounced.

Selected drawings are arranged in strips: a Rhinoceros-based exploded isometric coupled with AutoCad-based sections, into which is keyed a perspectival narrative, and a sectional-diagram and model-based composite. At this early stage in the design process the different drawings are held in tension conceptually and graphically. They are not permitted to completely correspond with each other, slight discrepancies are embraced. This tension further retains in the project a sense of openness, of further exploration to be undertaken, of development to occur in response to the inevitable raft of impacts to be encountered as the project proceeds.

Fig. 6 Ecostore: operative material document

Strategy 4: Aggregate drawings

Traditionally the separate sheets of paper or film on the drawing board offered a repository of critical design thought developed and collected during the course of a project – sketches recorded the development of plan, section and elevation adorned the sheets containing the same. With the complex of tools and techniques designers now encounter there is no longer a core medium in which this repository may reside but the essential demand for it still exists.

With the Ecostore project the folders containing successive iterations of the Rhinoceros model and the AutoCad drawings were literally, digitally folded away and rendered opaque. Yet the knowledge they contained required exposure and evaluation to be useful in the development of the project. The project repository was established in a booklet format – the operative material document was the means to keep the material active.

The document served to process, record and present selected material, to work as an augmented repository of knowledge which existed separately from the media in which the content was originally produced. The secondary level of processing, of collating the content into booklet format, was the means to develop understandings of each facet of the project and their potential relationships to one another.

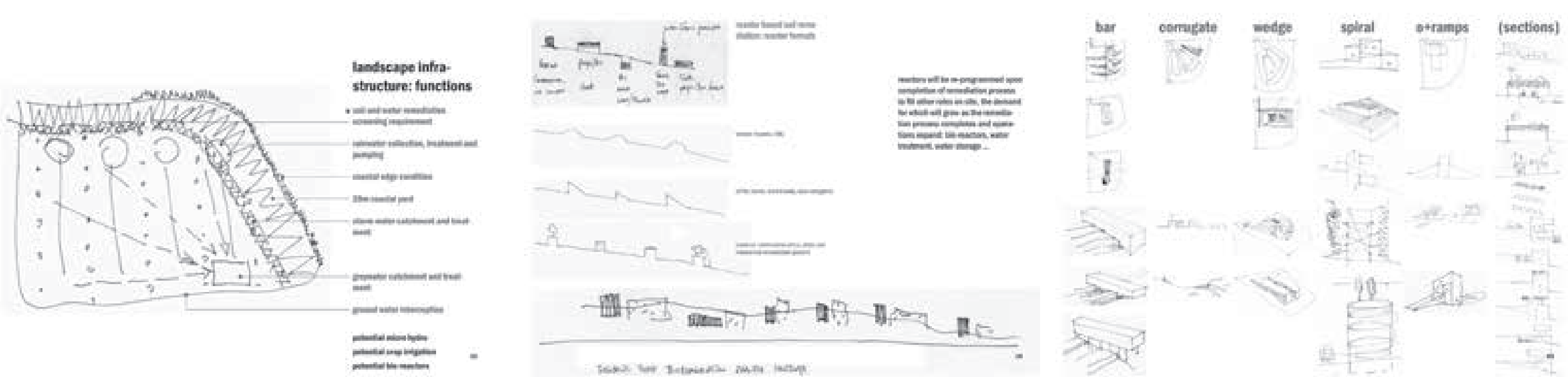


Fig. 7 Ecostore: diagrams from the operative material document

Strategy 5: Expose the diagram

> I will focus on the use of intermediate techniques; or what will from this point forward be referred to as conceptual diagrams. Diagrams should not be understood as instrumentalized ideas, as this could be construed as deterministic. Instead, diagrams should be understood as conceptual techniques that come before any particular technology. (Lynn 1998: 223)

The preliminary design process of the Ecostore project was distributed across analogue and digital diagrams, AutoCad drawings, Rhinoceros models and physical foam models. Diagrams provided the initial impetus for the design, but through the operative material document the diagram as an instrument was also consciously exposed as the means to connect and achieve coherence between the differing media through which the design process operated. In other words, the diagram held the contingent assemblage of collaborators, tools, techniques and outcomes that together were the design process through this preliminary design stage.

Diagrams ranged in quality from the notational to the pictorial. It was expedient and critical, analytical and synthetic – the only instrument quick enough or integral enough to simultaneously be complicit in, keep up with and not detract from the thought as it developed.

The concern was not for what each diagram looked like but what the diagrams did collectively. The conscious release of more pictorial diagrams from any burden of perfection they may have acquired in relation to traditional drawing practices facilitated the proliferation of diagrams. They occurred in multiples, each allowed to exist in its own state of rawness and "imperfection". Concern for the aesthetic qualities of the diagrams remained, but as an emergent property of the collective. This shifted concern for the abstract facility of the collective, rather than the material quality of singular representations, allowed the exposure and discussion of the pursuit of what was possible in the project. The abstract critical facility existed in the drawing of the diagram, in the processing of the diagram into the operative material document (or in other words *in between* the diagram and the booklet) and in the ability to review those diagrams in the context of the document in relation to one another.

The strategies outlined above were developed both as the Ecostore project progressed at differing levels of consciousness and through critical observations and reflections on the work after the fact. While they perhaps remain bound to this particular project, they offer the opportunity to project broader propositions as to how the abstract facility of drawing might be maintained in post-digital design environments.

Proposition 1: Draw

Drawings (noun) still work. They provide the key to grasp a concept of what might but is yet to be.

Drawing (verb) still works not only to produce the representation of concept, not only to test and develop the concept, but to develop in the designer sensitivities to those resonances sought between project conditions and responses. The difference in a post-digital design environment is that drawing practices which do this work now consist of an expanding range of techniques in increasingly fluid relationships. Drawing no longer only has to do with using a single tool in multiple disciplinarily-bound ways to produce varying effects. Post-digital design practice has to do with the application of multiple tools, each producing fewer effects, and the management of the relationships between designers, tools and effects. In other words, the focus is shifted from particular tools to relationships between them. This amounts to a sort of "what if I cross this, with this, with this?" speculative approach to architectural drawing.

Proposition 2: Shift content

The concept of the "craft" of drawing applies across all drawing practices, digital and analogue. However, post-digital drawing practices shift the craft of drawing from the accumulation of information in a single medium to the quick production of multiple packets of information spread across multiple media. The necessity of post-digital drawing practices is to be literate enough in terms of any new tools or techniques so as to recognise the qualities of craft in them, a necessity that can only occur through practical engagement. The craft of drawing now consists of abilities to shift design content between tools as much as it does to develop design with any one particular tool. The operational discontinuity that is forced through the shifting of design content between collaborators and tools, and the resulting necessity with each shift of reworking the design content, is the means to develop the design. Further, the nature of the shifts – the speed, the levels of precision, the levels of reinterpretation required or pursued – directly impacts upon the design content. It may be argued then that design develops as much between tools as it does within any one tool – in other words, through inter-instrumental operations.

Proposition 3: Differentiate drawing practices

> The assumption that there is a uniform space through which meaning may glide without modification is more than just a naïve delusion however. Only by assuming its pure and unconditional existence in the first place can any precise knowledge of the pattern of deviations from this imaginary condition be gained. (Evans 1997: 154)

The tools and techniques of design have never been neutral. Each is prone to producing particular, often identifiable end qualities. Software is no different. The problem outlined in the introduction of this paper of the "same-ness" and the "tired-ness" of the digital lies neither with the computer nor with software. The problem lies with the users, those who draw with these tools. The issue is not one of digital versus analogue but of the designer's understanding of, and sensitivity toward their instruments and their use – it is about the development of drawing craft.

The challenge is two-fold: to get beyond the interface (Allen 2009), to use the software in a manner which allows the design to remain focal and the development of technique to be secondary, and to establish and exploit connections between

instruments (digital and analogue) in a generative manner. Success in this regard yields the potential for differentiated drawing practices and outcomes through recombinant configurations of tools and techniques.

Conclusion

A hybrid digital-analogue drawing practice has been articulated through a discussion of the preliminary design process for the Ecostore project. The discussion has been structured in terms of five strategies the project demonstrates for the maintenance of the abstract critical facility of drawing. Three further propositions with regard to post-digital drawing practices have been extrapolated.

Specialise and collaborate; delay the "real", explore the possible; retain disciplinary specificity; aggregate drawings; expose the diagram ... so the abstract critical facility of drawing was maintained in the Ecostore project.

Draw; shift content; differentiate drawing practices ... to the effect of developing drawing practices that hold the tools and techniques we have at our disposal in a dynamic tension, managing the influence each exerts in relation to the other strategically, according to the stage and nature of the design process.

This collectively may present a sense of the familiar. The digital augmentation of the toolkit at the disposal of designers has not affected aims of achieving an open, explorative and responsive design process for those who carry such a concern. What the digital augmentation of drawing practices may be understood to have provided is more choice in terms of the tools and techniques that may be used in a project. Selection is a question of strategy concerning the potential application of tools and techniques, and potential relationships between them, in relation to the design project as it unfolds. The critical evaluation of one tool or technique relative to another in the project context also brings to drawing practice a greater critical awareness of the agency of the tools and techniques. More tools, more choice, more awareness equates to more dynamism in the relationships between them, and a heightening in the task of managing drawing practice. What this expanded choice and awareness effects is a shift from a focus more trained upon the tools and techniques themselves, to a focus equally trained upon the tools and techniques and the relationships between them.

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Ecostore project credits

Project leader: Michael Davis
Assistants: Patrick Loo and Ian Scott

All drawings are by Michael Davis, Patrick Loo and Ian Scott

The Draughtsman and the Delineator:

Drawing the duties and freedoms of the United Nations in New York

Luke Pearson

1. Koolhaas, R. (1994). *Delirious New York*. New York: Monacelli Press, 281.

The Draughtsman and the Delineator investigates the semantic relationships between drawn renderings through a critical glance towards the United Nations building in New York. These drawings provide an argument for semantic association through a series of drawn journeys, each echoing Hugh Ferriss' original illustrations of the United Nations building as a body of skyscraper islands hidden within the "gloom of his perpetual American night".[1] The drawings presented here are, on the one hand, propositional pieces (skyscraper, monument or insertion into a desk (Fig. 2)), but they also constitute a process of mapping. This mapping seeks to reveal the ideological context of a bureaucratic institution, a drawn process revealing dialogue, debate and *resolution*, just as Ferriss' renderings reflected the grand visions of the developers who commissioned them.

This begins by using diminutive sketches to examine and develop a conceptual framework for the production of larger, detailed drawings. It is a process of thinking through drawing whereby the sketchbook becomes a palimpsest of prototypes and key moments for later resolution. The process of allowing the solvent-based ink to bleed through the page and onto the next leaf starts to create new contexts on which to anchor the next drawing. Patches of tone become part of a new drawing linked materially to that which came before it, allowing my architectural thinking to be serialised through the pages of the sketchbook (Fig. 1).

The first drawings were constructed using base tones of 10-30% neutral gray marker pen to create a tonal composition. This was then built up through ink work using Pilot Hi-Tec 0.25 gel pens and further tonal work added using darker shades of neutral gray. Using either Safmat film or printed paper collage I introduced context views or pictorial materiality of the United Nations into the drawings and continued to work over this. Representing the context of legislation and bureaucracy, one may interrogate the drawn matter through its minutiae or as an opaque block of "material" (Figs. 2 and 3).

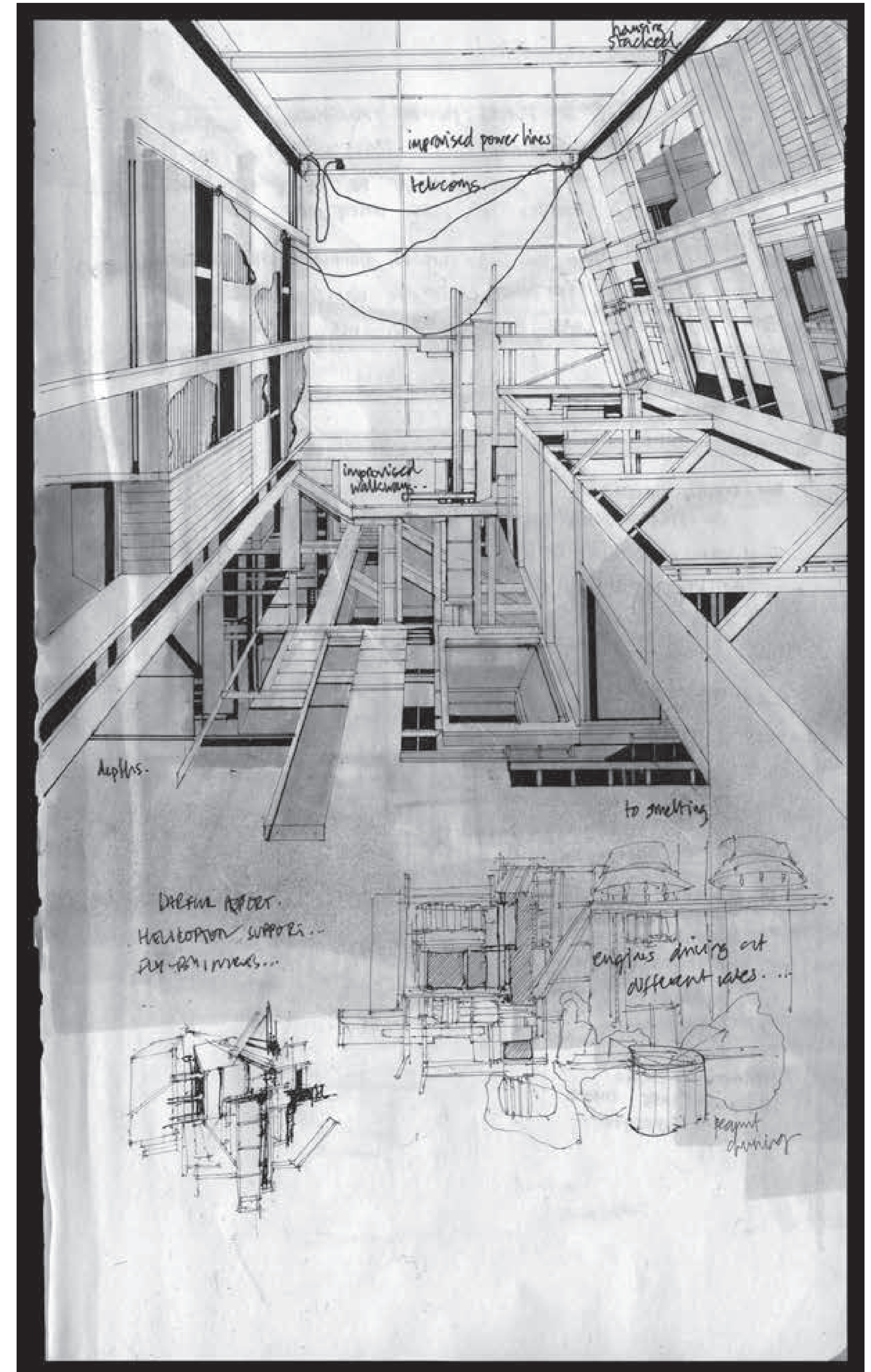

Fig. 1 Sketchbook study for a United Nations Freeport. Pen and marker on paper.

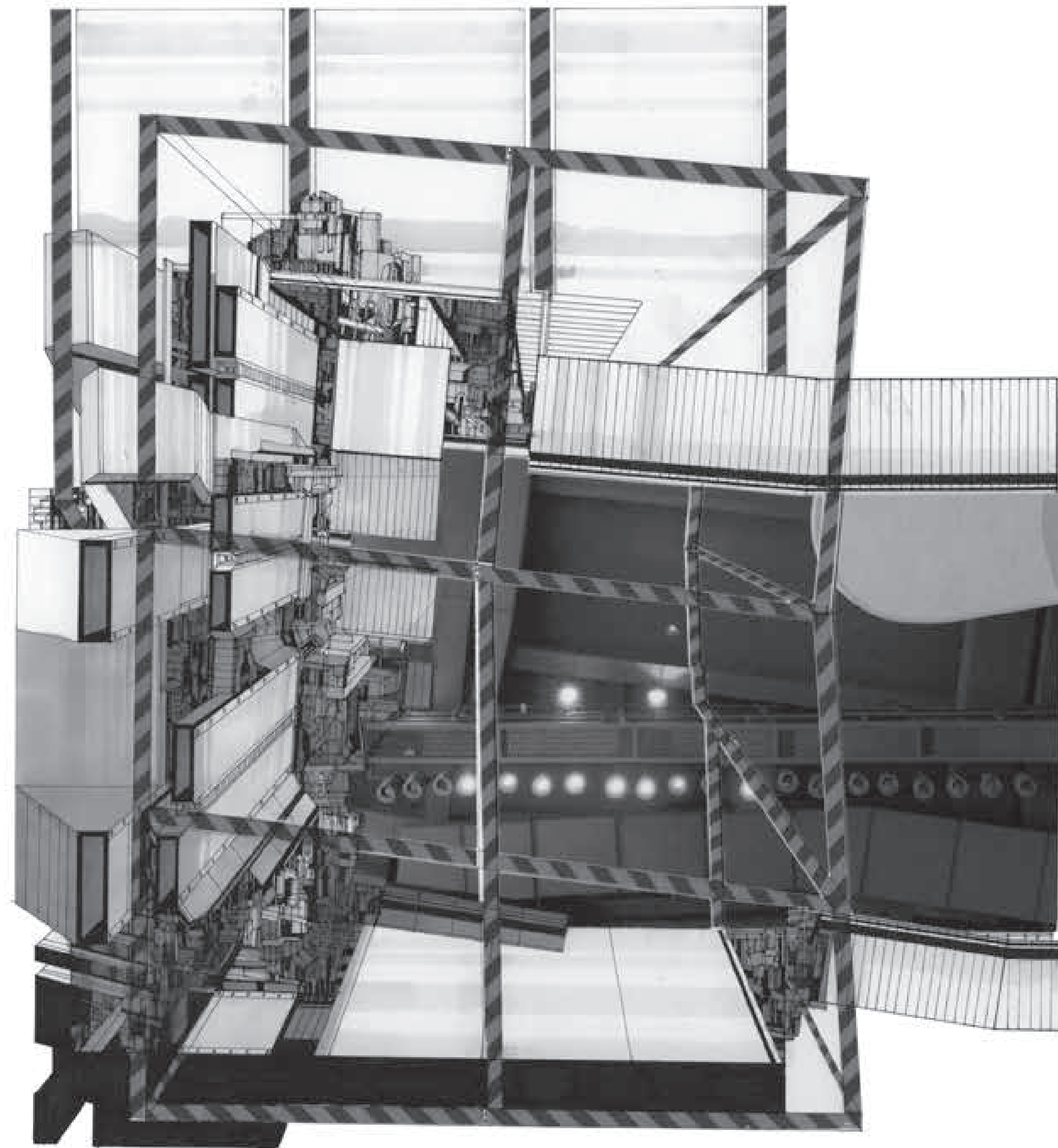

Fig. 2 Monument to Asbestos Removal (under the United Nations Capital Masterplan) for the U. N. Building visitors lobby. Pen, marker and collage on paper.

Fig. 3 United Nations Headquarters Delineated. Pen, marker and collage on paper.

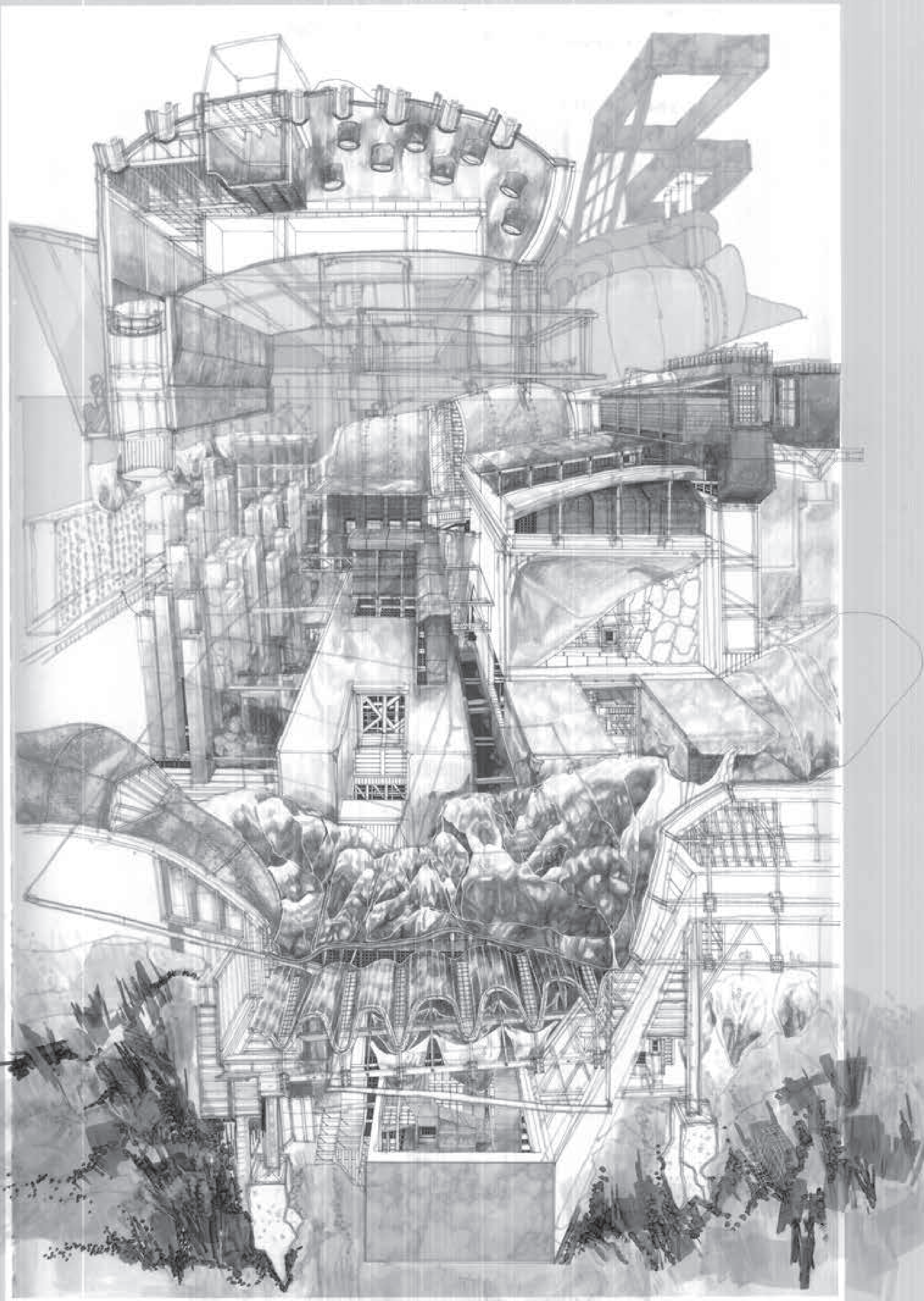

Fig. 4: United Nations Freeport. Pen, coloured pencil, and marker on polyester film mounted over enlargement of sketchbook drawing.

The second series of drawings for the U. N. "Freeport" were produced through enlargements of sketchbook drawings. These were overlaid with drafting film and rendered using colouring pencils and ink. Further textural investigations of these drawings included the use of Copic Wide markers on polyester film to develop a watercolour-like surface effect which was then manipulated for some minutes before drying. Working onto these enlargements signifies a process of *resolution* through a drawn conversation (Fig. 4).

In its 'final' iteration the U. N. building emerges as an attempt at an *authentic* expression of an institution struggling to emerge from the violent history that created it (Fig. 3). The last stage of imagery infuses the renderings with the collective *mural space* and with economic grading systems (by which nations are comparatively judged) – directing the U. N. complex toward a counterpoint "Freeport" where nations gain an economic foothold and tap into New York's *voltage at the crossroads*[2] (Fig. 4).

2. Le Corbusier in G. A. Dudley (1994). *A Workshop for Peace. Designing the United Nations Headquarters.* Cambridge MA: MIT Press, 21.

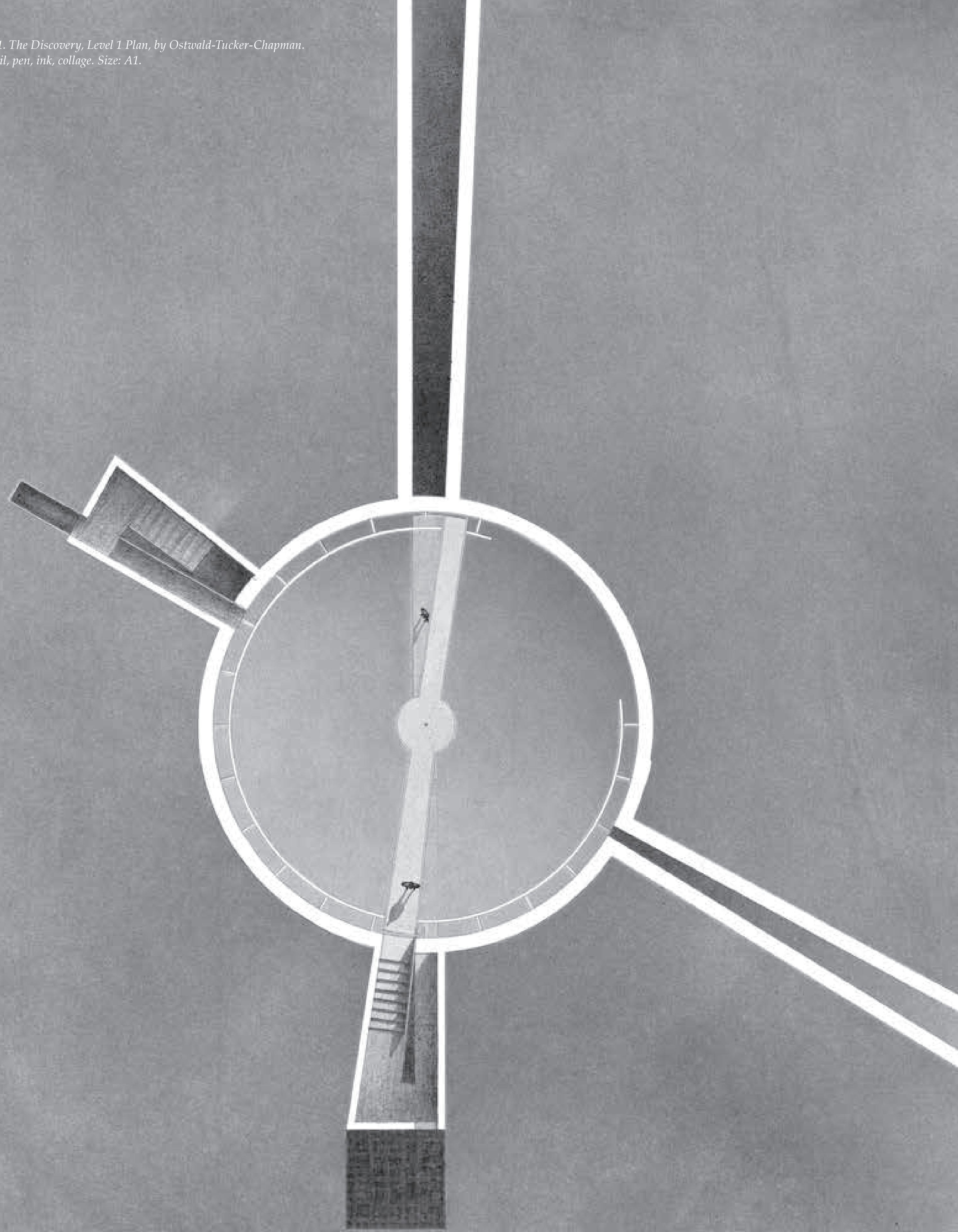

Fig. 1. The Discovery, Level 1 Plan, by Ostwald-Tucker-Chapman. Pencil, pen, ink, collage. Size: A1.

Re-tracing History:

Drawing the anti-monument

Michael J Ostwald, Chris Tucker and Michael Chapman

A design brief for a monument to commemorate the 'discovery' of the city of Newcastle, Australia, was the catalyst for this set of drawings that explore notions of tracing, mapping and incarceration. Inspired in part by poststructuralist interpretations of "zones of control"[1] and the "violence of naming"[2] – both acts which operate through the power of drawing and writing – the project proposes an alternative to a conventional monument which was intended to be sited in the city's civic park and was expected to depict heroic colonial explorers naming (and thereby claiming) the region for an English Monarch. Instead, a counter-design was proposed that was sited in an abandoned reservoir that is hidden, underground, at the base of a stone obelisk on a hill overlooking the city and its coastline. The historic obelisk is an important marker because colonial cartographers used it to chart the highest peak in the city and the distribution of the surrounding urban street grid: it represents the known. The reservoir is of interest because it is an unstable structure that has restricted access and which resists simple attempts to map its form or influence; for the present project, it encapsulates the imagined.

Our counter-proposal involves the mapping of a series of historic events, each of which might reasonably offer an alternative discovery narrative, and the sites they are associated with. Amongst these alternative sites are the original location of Aboriginal inhabitation in the area, a site out to sea where Captain Cook charted the location of the peak and the harbour mouth, the place where escaped convicts hid from their colonial oppressors, and the office, far to the south in Sydney, where the colonial legal and bureaucratic process of renaming finally took place. Through this sequence of events a complex process is mapped which gradually transforms a place from being known, by aural tradition, as Muloobinba ("place of ferns") to its renaming and gazetting first as Kingstown and later as Newcastle. This same sequence records the growing dominance of the line, in its drawn and written incarnations, over speech.

The lines drawn on the map from the alternative historic sites are traced through the centre of the reservoir forming a series of cuts into different layers of the drum. As visitors rise through the interior of the drum they uncover a series of vistas, sliced through the surrounding earth, each denoting a different, equally valid, location for the 'discovery' of the city. In this way the project sets out to question the European notions of claiming and possessing the landscape. It uses architecture to chronicle the gradual incarceration of the land through physical, symbolic and legal operations. From the highest geographical vantage point in the city, the monument explores the sites where the city was successively sited, sighted, inhabited, colonised, mined and then named.

1 This idea is well-known in architecture through Foucault's interpretation of the panopticon, but in this case the power structure is changed to allow the visitor to construct their own process of incarceration of the land. In this way the project also has much in common with Vidler's mask: the blank face for the labyrinthine interior. See: Foucault, M. (1991) *Discipline and Punish: The Birth of the Prison* (A. Sheridan, Trans.). London: Penguin; Vidler, A. (1999) The mask and the labyrinth: Nietzsche and the (uncanny) space of decadence. In A. Kostka and I. Wohlfarth (Eds.). *Nietzsche and "An Architecture of Our Minds"*. (pp. 53-66) Los Angeles: Getty Research Institute for the History of Art and the Humanities.

2 Derrida in *Of Grammatology* analyses Lévi-Strauss' account of the origins of language, which relies upon a description of the Nambikwara and the violence of their naming. In this description the acts that define the tribe initially are twofold: the picada, a crude track, and the abandoned telephone line, both of which allow the Nambikwara to be architecturally, spatially and cartographically drawn, mapped and thereby imprisoned. See: Derrida, J. (1976) *Of Grammatology*, (G. C. Spivak, Trans.). Baltimore: Johns Hopkins University Press, 101-40.

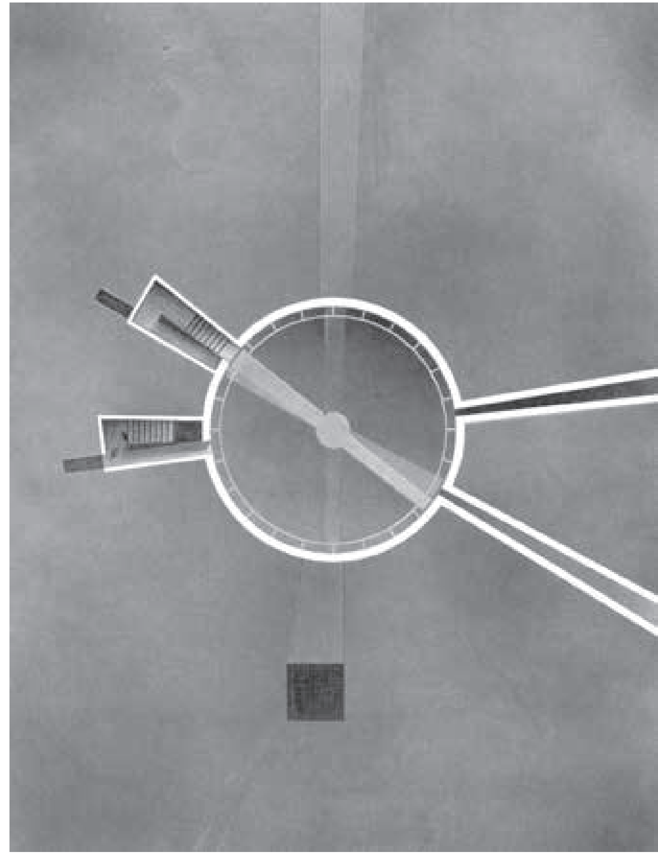

Fig. 2. The Discovery, Level 2 Plan, by Ostwald-Tucker-Chapman. Pencil, pen, ink, collage. Size: A1.

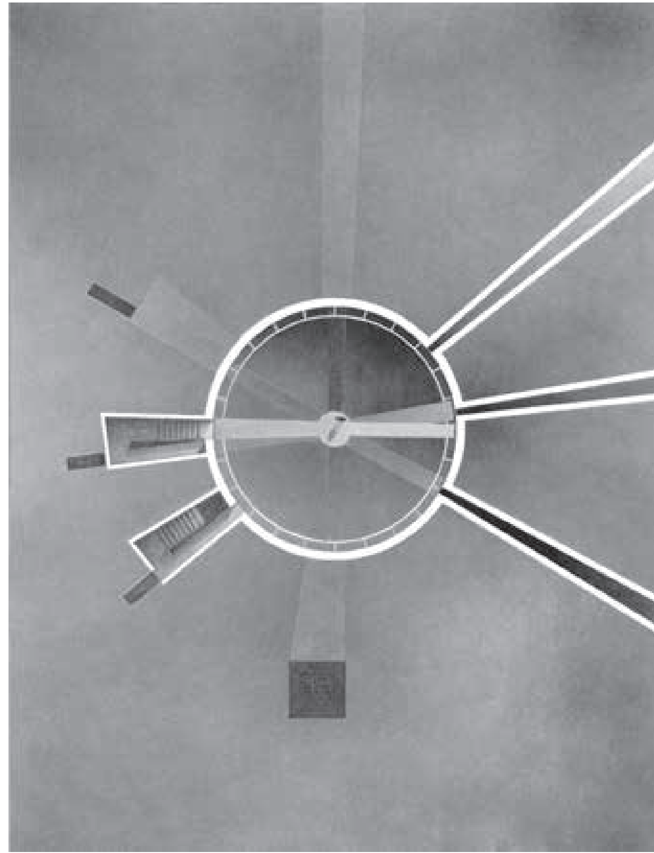

Fig. 3. The Discovery, Level 3 Plan, by Ostwald-Tucker-Chapman. Pencil, pen, ink, collage. Size: A1.

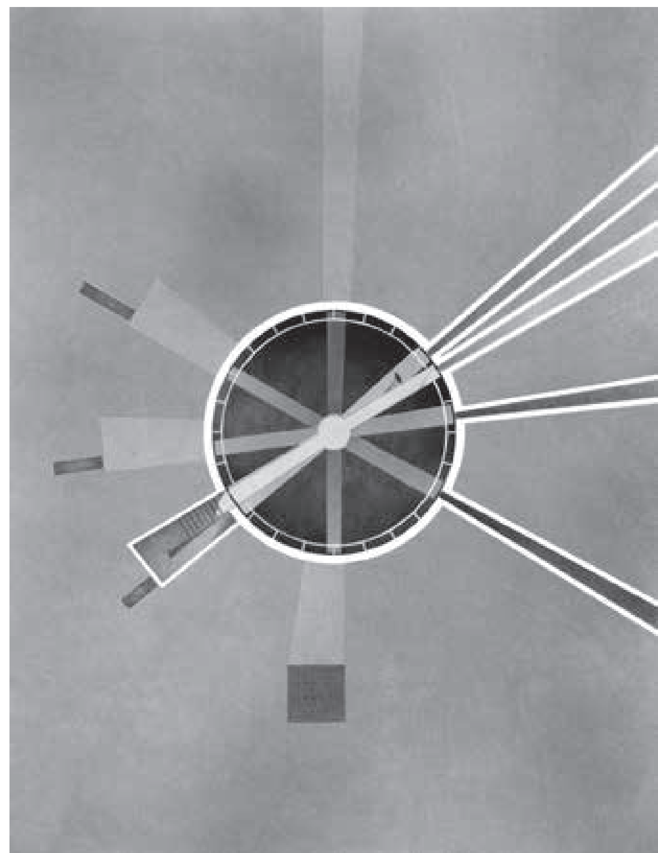

Fig. 4. The Discovery, Level 4 Plan, by Ostwald-Tucker-Chapman. Pencil, pen, ink, collage. Size: A1.

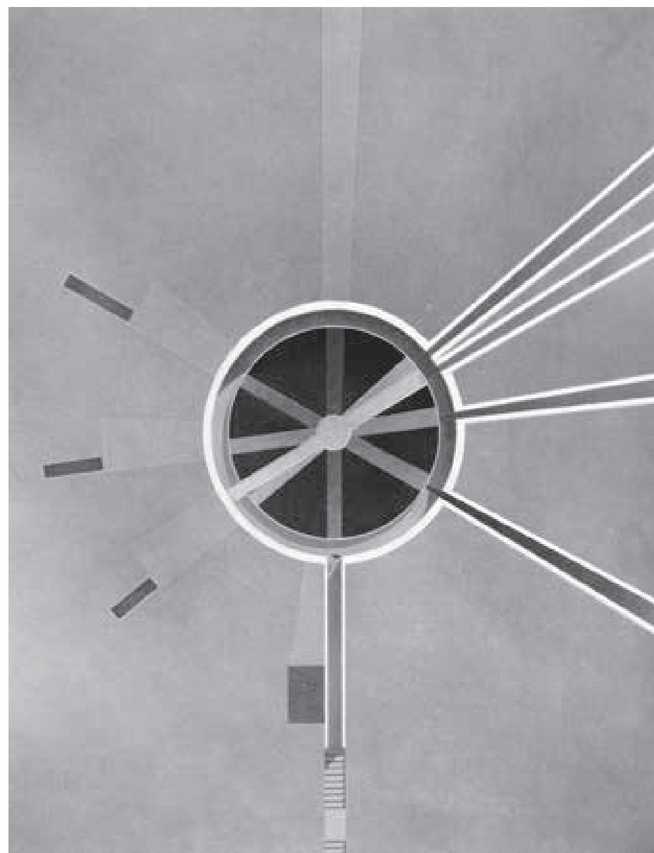

Fig. 5. The Discovery, Level 5 Plan, by Ostwald-Tucker-Chapman. Pencil, pen, ink, collage. Size: A1.

Fig. 6. The Discovery, Site Plan, by Ostwald-Tucker-Chapman. Pencil, pen, ink, collage. Size: A1.

This design is depicted in six layered plans, each functioning like a clock face, to record events in time and their corresponding location in space. Two cross-sections complete the depiction of the design.

Note: Each drawing was first constructed by hand on tracing paper, as a sketch overlay on a regional map. This sketch was then scanned and used as a construction layer for a CAD plan to be produced and printed. This black and white drawing, part CAD drawing and part sketch, was then printed, airbrushed and pencil-rendered by hand. Finally the image was scanned once more and natural elements were rendered by computer (the sky, trees and grass) while the synthetic objects, the buildings, retain their hand-drawn qualities. Significantly, each drawing represents the skills of three people, not just in design but in the construction of the image. Initial sketches by Michael Ostwald and Michael Chapman were traced and converted into CAD images by Chris Tucker, before being airbrushed and rendered by Chapman, and then scanned and computer-retouched by Ostwald.

Fig. 7. The Discovery, Cross section 1, by Ostwald-Tucker-Chapman. Pencil, pen, ink, collage. Size: A1.

Fig. 8. The Discovery, Cross section 2, by Ostwald-Tucker-Chapman. Pencil, pen, ink, collage. Size: A1.

The Landscape of Portraits

Christopher Morgan

This series of four drawings, located in the expanded field of painting, explores the indeterminate relationship between the structure/frame and picture plane. This enquiry looks to understand new operations between the two by exploring Gilles Deleuze and Félix Guattari's idea of faciality through the manipulation of framing and the multiplication of surface planes. In doing so, these drawings have implications for architecture.

The first drawing of this series, *Iron Man* (Fig. 1), opens this enquiry with a black lattice type line that configures the torch beam (the work's dominant visual frame) as integral to the painted surface. The line also has the ability to see through the painting: the torch as x-ray through the work (and world) and its operational frames.Catherine Ingraham explains that it is impossible to know the world outside of its representations due to the "ever-present structure of the frame, the lens, the world, the apparatuses of representation" (1996: 65). Herein lies the problematic: as the configuration of the frame in *Iron Man* does not organise the world in the Cartesian sense, its relation to the picture plane is problematised.

The faciality and, in particular, the face-landscape relations discussed by Deleuze and Guattari, provide an understanding of the possible operations occurring between the picture plane and the frame. In these drawings, the lines of the face are not Ingraham's line but something much closer to Deleuze and Guattari's line of identity, which paradoxically deterritorialises.

Although a literal face is represented in *Secure Hord* and *Make it Now* (Figs. 2 and 3), their appearances show how the face is (literally) transformed into a field or a milieu on which signification and subjectification can take place. In these two works, "faciality" as a territorialising and deterritorialising procedure, emerges at a certain point in the drawing's history (on the eve of a "finished" work) when the line as frame is at risk of disappearing.[1]

1 Ingraham explains that, "As a subject, the line must be outlined – given a shape or character – and it is precisely at the moment when the line takes a shape that it eludes our grasp." (1996: 67)

Fig. 1

Fig. 2

Fig. 1 Iron Man, 2008. Acrylic on canvas, 1200 x 1500mm.

Fig. 2 Secure Hord, 2008. Acrylic on canvas, 1220 x 1830mm.

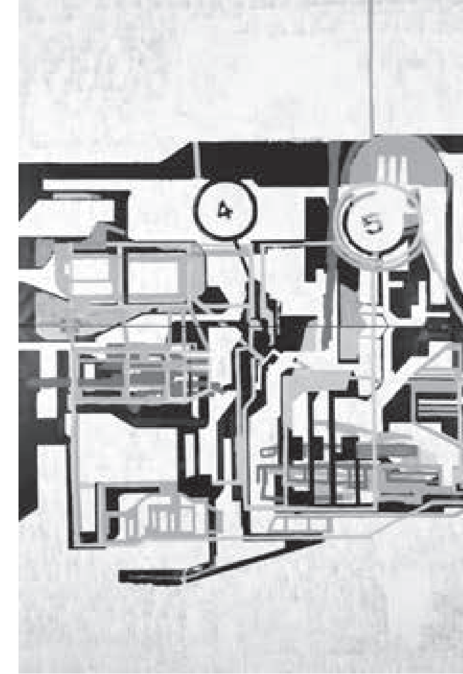

Fig. 3

Fig. 4

Fig. 3 Make It Now, 2008. Acrylic on canvas, 1210 x 1820mm.

Fig. 4 One-Eyed Jacks, 2008. Acrylic on canvas, 1200 x 1800mm.

The last work in this series, *One-Eyed Jacks* (Fig. 4), acknowledges this idea of faciality from its inception. The figure (a spaghetti western *bandito*) engulfs the picture plane, already questioning its content before being transformed by reframing. Deleuze and Guattari speak of the transformational workings of this system: "This machine is called the faciality machine because it is the social production of face, because it performs the facialization of the entire body and all its surroundings and objects, and the landscapification of all worlds and milieus" (1987: 181). Deleuze and Guattari advocate a challenge to the anthropological machine by reterritorialising faciality through deterritorialising the body (174).[2]

How the drawn face (portrait) and landscape reterritorialise each other offers a place for the indeterminacy created by these works to allow the prop/frame and the content/plane to play out a new order. The deterritorialised face is the white wall, a plane empty of content or identity. The prop/frame, which refuses to have a static relationship with the picture plane, can now inscribe meaning, and therefore operates as a landscape (field of relations). On the deterritorialised face, the drawn line reconceptualises identity in architecture: no longer does the facade in architecture provide identity through a static coherence, but as a landscape of continuously moving features with no exacting relations.

What these drawings do is challenge the hegemony of the plan and the notion of form as the only means of providing a sense of the architectural. The drawn line, while allowing this idea of identity to occur, also allows the dispersal of meaning and thus the continual reterritorialisation on the deterritorialised face. This transfigures the face (face as line) to become a subject maker.[3] When we are confronted by a face – as in these drawings – whether reflective or intensive, we re-coordinate our vision of the world and consequently our actions in that world, to approach the world anew.

2 Deleuze and Guattari give an example of this face-landscape relation: "Architecture positions its ensembles – houses, towns or cities, monuments or factories – to function like faces in the landscape they transform." (1987: 172)

3 For an example of the relationship between faciality, subjectivity and architecture see Loo, S. (2009). The Transverse Face: Architecture X Culture. In Gatley, J. (Ed.), Cultural Crossroads: Proceedings of the 26th International SAHANZ Conference. The University of Auckland, New Zealand, 2-5 July 2009). Auckland: SAHANZ.

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Invited Papers

Splendour and Miseries
of Architectural Construction Drawings

Marco Frascari

> The painting will move the soul of the beholder when the people painted there each clearly shows the movement of his own soul ... we weep with the weeping, laugh with the laughing, and grieve with the grieving. These movements of the soul are known from the movements of the body. (Leon Battista Alberti, *On Painting*)

The architectural profession has created an almost unbridgeable chasm between subjective design drawings and objective production documents. For design drawings, there are no established conventions, because they would interfere with the creativity of architects, but for construction drawings, most of which are objective documents, the logical conclusion is that they should have been easily codified. However, architects have had an incredibly hard time agreeing on construction notations, a predicament which is probably as old as the Biblical *turris confusionis* and Nimrod's rave, "*Rafel mai amech sabi almi*," meaningless to anyone but himself. As a consequence of this peculiar condition, many architects, and most architectural firms, have their own systems.

After a confusing beginning, musicians eventually accepted a common system of notation, but architects have not been capable of doing so, despite many attempts at unification and standardisation by nations and architectural associations. The reason is simple: neither the normative nor the arbitrary can figure out the emotional process of creating "sound edifices and structures"; the lines of construction drawings evoke strong feelings. However, the birth and growth of CAD and BIM are achieving a graphic unification of construction drawings. As a result, architecture is slowly becoming aphonic and impassive. Nevertheless, this depressing result demonstrates that construction drawings are a powerful apparatus that can, in addition to informing the facture of buildings, encapsulate, orient, ascertain, interpret, model, control or secure the gestures, behaviours, opinions or discourses of the people who are involved in the making of architecture.

In their present unemotional form, construction drawings have been a quite recent attainment. They are an authority apparatus devised by North American architects to wrest control of the architectural market away from the builders at the beginning of the nineteenth century (see Ortenberg 2005). Taking advantage of the Greek Revival, a style fashionable when this market struggle took place, the graphic models selected for construction drawings were the archaeological drawings of Classical monuments such as those produced by Thomas Major for his 1768 book of prints, *The Ruins of Paestum*. By the mid-nineteenth century, American offices had come to resemble today's architectural firms and had generated the orthodox understanding that sees construction drawings as visual (graphic) information, prepared by an architectural team for use by construction

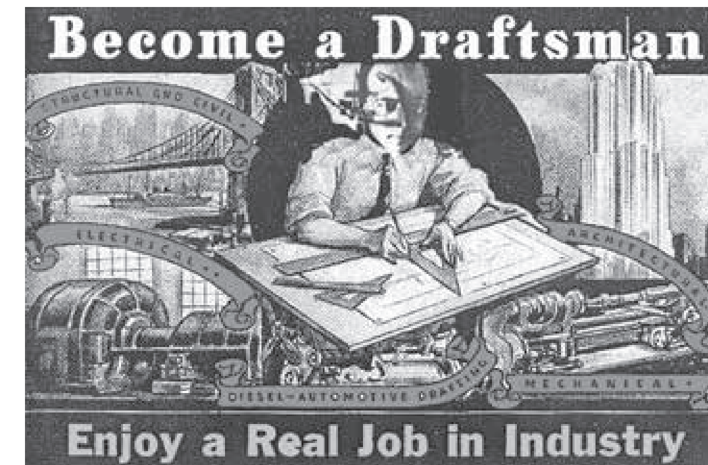
contractors and subcontractors. The main purpose of construction drawings is to define the size, shape, location and construction of a building and its parts. Even if the original intention of the construction drawings, modelled after aseptic archaeological drawings, was to demonstrate the architects' pre-eminence in conceiving architecture and its detailing, the present construction drawings, drafted by many hands, are considered merely protective legal documents that translate a design construct into prescriptions for a construction.

In these sets of construction drawings, a visual rhetoric of mono-directional translations is the unacknowledged mode of production. Both academic and professional architects regard this arrangement of the architect's work as necessary and financially useful for billing clients, but a prosaic part of the making of architecture. For them, it is a superintendence problem to prepare documents that instruct the builder how to make buildings looking like the presentation drawings produced by the designer. A flawless management of production is the accepted solution by many firms and architects to the problem of construction drawings, even if it produces time-consuming and uninspiring documents with no connection to a maturation of real and proper architectural artefacts.

The facture of construction drawings is not as obvious as the marketing for digital architectural instruments would have architects, builders and clients believe. This facture does not presume that traces, lines and scores in the drawings are worldly or unworldly, existing or non-existing, physical or mental, subjective or objective. The only thing that the facture assumes is that that which is marked, inked, pencilled, brushed, chalked and printed comes into the being of architectural artefact. Construction drawings are, in other words, wholly based on a sapience of materialisation, where material lines become powerful carriers of fluid and invisible lines, thoughts to be transubstantiated in brick and mortar.

To propose a change of the present trend of construction drawings is crucial to recall a traditional form of non-trivial construction drawings that accept them as an essential part of the process not separated from design drawing. To explain this possibility a novel neurological paradigm can be used. By rising from medieval tracing floors to paper, non-trivial construction drawings have evolved in a specific manifestation of non-verbal thinking, realised by either involuntary or purposeful comparison of the impressions of different sensorial modalities, based on structural or semantic and, most of all, emotional similarity. These non-trivial construction drawings are not merely factual information providing the likeness of the thing represented, but rather a programme of intentions that is to be revealed through the process of making. Thus conceived, construction drawings allow a dialogue between the imagination of builders and the imagination of architects; they are drawings that grow and develop the making of architecture rather than relegating it to predetermined and inflexible impositions. The process is not just a matter of imposing likenesses on the builder by merely showing a still image, but rather the aim is to influence the results by producing images of becoming. Construction drawings are, in other words, wholly based on a sapience of materialisation, where material lines become the carriers of fluid and invisible lines, thoughts.

The ineffable nature of a non-trivial construction drawing is based on the somasensory brain. Architects express their hopes and desires, their vision of society and humanity not only in their design drawings but also through construction drawings by producing architectural artefacts that first respond to the builders'



Collage by Marco Frascari, 2010

desire for construction, and then to the users' desire to live well. In these drawings, the architects' soma-sensory brain filters the real ineffable nature of architecture. Because of this consideration I hold the curious belief that architects are natural neurologists. By distilling in construction drawings the powerful axioms "we build buildings and buildings build us," as neurologists *in nuce*, architects carry on investigations and assessments of architectural thinking and make the builders and the users think within architecture.

There are two ways to verify this neurological quality of the architectural opus: from the top down, using neurological experiments (which I am not qualified to do), and from the bottom up, i.e. from occurrences in the tradition of drawing (which I am competent to do). It has been demonstrated that there is an area of the brain that recognises architecture. In brain imaging, the blood flow increases in a specific area when the person is shown a picture of a building. People who have had a stroke affecting this area often become disoriented because they have lost the ability to recognise buildings as landmarks, even if they can recognise other objects and they navigate their environment by looking to other spatial references (Sternberg 2009: 30). In architecture, this cognitive assimilation of buildings is a productive inference generated by neurons, just as the oral tasting of early childhood is a part of cognitive appropriation. This assimilation becomes an enlightening experience when it takes place sinaesthetically, since it becomes an appropriation of reality obtained through a crossing of human senses. This enlightened assimilation becomes a powerful act of imagination and confers a special virtue upon its practitioners, because through this process of incorporation they can relate the immediate with the mediated in their constructions and constructs.

Physical and emotional interactions are shaped and conditioned by the body and building constraints. This common relational character is underpinned in the brain, by shared neural mechanisms. These neural mechanisms enable the shareable character of actions, emotions and sensations, the earliest constituents of our life. We-ness and intersubjectivity ontologically ground the human condition, in which reciprocity foundationally defines human existence. Emotions recruit a unique modality – internal representation of bodily state – and are tightly connected to motivation. Neuroscientific research may provide information on the ways in which we empathise with building and edifices by emphasising the role of embodied simulation.

Thinking *within* architecture activates this system of cells, called mirror neurons, in the frontal lobes, and it is different from thinking *about* architecture, which activates other kinds of neurons. The implications of the discovery of mirroring neurons, the consequent mirror mechanisms and embodied simulation for empathetic responses to images in general, and to architectural drawings in particular, have not yet been assessed. Nevertheless, architects should challenge the primacy of formal cognition in responses to their drawings and take into account the embodiment of construction in the lines of construction drawings. A crucial element of the constructive response consists of the activation of embodied mechanisms encompassing the simulation of actions, emotions and corporeal sensation. This basic reaction to drawing is essential to understanding the effectiveness both of everyday detailing and of works of superb craftsmanship. Historical, cultural and other contextual factors do not preclude the importance of considering the neural processes that arise in the empathetic understanding of construction documents.

During the penultimate decade of the twentieth century, Giacomo Rizzolatti, Vittorio Gallese and other scientists at the University of Parma discovered what have been called mirror neurons. The discovery of mirror neurons in macaques, and of related mirroring mechanisms in the human brain, has brought a new dimension to the understanding of emotional processes. Emotions and actions are infectious; when we see someone laugh, cry, show disgust, or experience pain, in some sense, we share that emotion. When we see a great actor, musician or athlete perform at the peak of his or her abilities, we can vicariously experience some of what he or she is experiencing. With an understanding of mirror neurons it has became clear just how this potent sharing of experiences takes place within the human brain.

A new emphasis on the relevance of emotional processes for architectural perception can change our understanding of the neural basis of architectural cognition. The implications of the discovery of mirroring mechanisms, and embodied simulation, for empathetic responses to architectural drawings, buildings and building details, have not yet been assessed, but the capacity of architects pre-rationally to make sense of the actions, emotions and sensations of others (users and builders) depends on embodied simulation, a functional mechanism through which the actions, emotions or sensations start their internal representations of the body states that are associated with these architectural stimuli, as if they were engaged in a similar action or experiencing a similar emotion or sensation.

The suggested emotional approach refuses the cognition of the primacy of forms in response to architecture. For this emotional way of conceiving and building architecture, the crucial element of response consists of the activation of embodied mechanisms encompassing the simulation of actions, emotions and corporeal sensation, and these mechanisms are neurologically universal. This basic reaction to architecture is essential to understanding the effectiveness both of everyday buildings and edifices. Historical, cultural and other contextual factors do not preclude the importance of considering the neural processes that arise in the empathetic understanding of architecture.

Activation of the same region of the brain during design of first- and third-person experience of actions, emotions and sensations suggests explicit cognitive evaluation of architectural stimuli. There is probably a mechanism that enables direct experiential understanding of objects and the inner world of others. The detection of mirror and canonical neurons explains the neural support structure of the recurrent, but until now unexplained, feeling of a combination of physical and psychical reactions to the built environment by the implied movements and emotions involved in its use; mirror neurons also offer the possibility of a clearer understanding of the relationship between responses to the perception of emotions within architecture.

Understanding the intentions of others while watching their actions, and figuring out how to control their movement with the environment, is one of the undertakings fundamental in architectural conceiving. The neural and functional mechanisms underlying this ability are still poorly understood, but successful and useful architecture is evidence of architects using this ability. Vittorio Gallese, a neuroscientist, working with David Freedberg, an art historian, argued that when we look at images we are involved in empathy by having the body reacting with sensations, actions, emotions and motions to works of art (Freedberg and Gallese 2008, and Gallese and Freedberg 2007). For late nineteenth-century architectural historians such as Heinrich Wöllflin and August Schmarsow, bodies and their sensory responses became the medium and analogue for experiential encounters with buildings. Theodore Lipps, a German philosopher, discussed the role of empathy in aesthetic experience and introduced it in psychology, extending the concept of *Einfühlung* to the domain of intersubjectivity, which he characterised as empathy with inner imitation of the perceived behaviour of others (Lipps 1965). In Lipps' writings, we find the first suggestion of a relationship between the inner imitation and the capacity of understanding others by ascribing to them feelings, emotions and thoughts.

Mirror-neuron research offers sufficient empirical evidence to suggest that architects' drawings induce an empathetic engagement of builders. The architects' gestures in producing the construction drawings induce the empathetic engagement of the builder, by activating simulation of the motor programme that corresponds to the gesture implied by the trace. The marks of construction drawings are the visible traces of goal-directed movements; hence, they are capable of activating the relevant motor areas in the builder's brain.

Emotionally charged drawings can capture attention, bias perception, modify memory and guide judgments and decisions. Ralph Liebing, a specialist in the construction industry, points out that builders cannot complete deficient construction drawings: "Contractors do not know the thinking, reasoning, and rationale behind the design and documentation of the project" (1999: 21). This does not apply to emotionally rich non-trivial construction drawings because their poignant quality carries the thinking within architecture that is at the foundation of conceiving that specific design (see Eich et al 2000 and Winkielman et al 2007). George M. Grant, Vice-President of Halmar Builders, has drawn attention to a troublesome situation: "The CAD system has been wonderful for architects. But do they know how to build what they're drawing? Constructability is one of the biggest problems I find" (quoted in Bisharat 2004: 8).

Constructability was the question posed by Carlo Lodoli, an eighteenth-century Franciscan priest, mathematician and censor of the Venetian Republic, who was also a subtle architectural theoretician and an influential if peripatetic teacher of Venetian noblemen. By laying down pieces of building elements and rolls of drawings in the garden of the Commissariato di Terra Santa in Venice, Lodoli ad-

vocated a correct use of representation in the practice of architecture. He called these drawings technographies (*tecnografie*).

Technographies of not-yet-built artefacts are powerful examples of non-trivial construction drawings because they reveal the common substratum between consciousness and matter. Technographies present in themselves the same qualities that are negated in current construction drawings. They do not search for a likeness as the basis for relating building and an architectural conception, but for a mutual measure derived from a familiar nature, which constructs both the drawing and the edifice: the emotions.

Technographies are demonstrations related to the built world through emotional representations that contrast conventional notations of geometrical and factual construction, since they deal with the description of processes of construction. Technographies embody the Janus-like nature of technology, since they are a perfect instance of the non-separation of the emotions ruled by the *techne* of *logos* from the events of the *logos* of *techne*. Technographies are mirrors of constructions demonstrated in representation. They help architects to perform one of the most difficult tasks of their profession: they give the appropriate measure of building as matrix of the edifying nature of an edifice. Architectural technographies belong to the realm of masterpieces because they are inaugurations of construction, not merely likenesses of future buildings. They are anagogic demonstrations of construction.

Although it is not known if Gianbattista Piranesi actually frequented the open seminars of Lodoli's peripatetic school, during his early training in Venice, his associations with Lodoli and Memmo have been documented. Memmo referred to the *Della magnificenza ed architettura de' Romani* (1761) as an example of Lodolian thinking (Memmo 1833-34, vol. 2: 139). Piranesi produced these series of "views" and archaeological representations of various buildings, ruins and areas of Rome. He created these prints hoping to inspire others to use ancient Roman ideas and forms to create a new architecture. He also used this emotionally-loaded opus to promote his belief that Roman architecture owed its roots to the Etruscans rather than the Greeks. In many of Piranesi's prints, fragments of architectural artefacts are represented holding down overlapping rolls of drawings showing plan, section, elevations and details and, a few times, a perspective view: possibly, a graphic memento of how architecture was presented and discussed in Lodoli's garden. These emotional prints can be considered the basic model of non-trivial construction drawings. They allow the grasping of construction by grasping the idea and the object.

Grasping requires a coding of the object's intrinsic properties (size and shape), and the transformation of these properties into a pattern of construction movements through embodied simulation, implied gesture. Feeling the movement behind the marks constitutes constructive empathetic responses that are the fundamental response to construction drawings. Underlying such responses is the process of embodied simulation that enables the direct experiential understanding of the intentional and emotional contents of drawings. This basic emotional reaction to drawings becomes essential to any understanding of their effectiveness as generator of architecture, because emotion processing is grounded in modality-specific systems, in which conceptual operations involve the partial reactivation or even recreation (simulation) of the actual emotion experience. Emotion concepts recruit a unique modality – internal representation of bodily state – and are tightly connected to motivation. Then construction drawings revert to a dialogical apparatus that has the capability to guide, determine, interpret and mould responses, opinions or discourses of the trades involved in the erecting of building.

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"Drawing has always been more than drawing":

Derrida and *disegno*

Laurence Simmons

> "…le dessin a toujours été plus que le dessin."
> (Jacques Derrida)

1. *Disegno*

It would be trite and obvious to say that all I can provide in a short essay is a sketch of the problem (or is it a thematics?) of drawing, from among the abundance of the references to the subject in Jacques Derrida's writing. Indeed, what I want to sketch is an answer to the, for me at least, simple and puzzling question: Why drawing and not painting? The obvious answer would be that Derrida speaks of drawing rather than painting (or of colour, as we shall see) because in drawing, in the encounter with drawing, there is the experience of the *trait*, of the differential trace that marks all his work from the ground-breaking essay on *différance*. Derrida proposes the simple fact that any mark is already re-marked: the first mark is already second if it is to be identifiable and to signify. This is the structure of what Derrida calls "the differential inappearance of the *trait*" (1993: 53). But the *trait*, as many have pointed out, is also the brushstroke (see Brunette and Wills, 1994). Of course, matters are never by any means so simple with Derrida, and so mine will be perforce an excessively and necessarily sketchy gesture, a drawing out and drawing down.

In *Memoirs of the Blind* Derrida confesses, "I have always experienced drawing as an infirmity … I still think that I will never know *either* how to draw *or* how to look at a drawing" (1993: 37). This, of course, did not stop him looking at drawings and writing about drawing. In a short text of 2005, *Le dessin par quatre chemins* (*The four pathways of drawing*), Derrida explores four lines of force around the fact that "the possibility and meaning of drawing remains to be thought" and that, in the phrase I have taken as my title, "drawing has always been more than drawing" (2005a: 4). Those four lines of force which exert a certain attraction (*attrait*) upon each other are: *dessiner*, *designer*, *signer*, and *enseigner*. To draw, to designate, to sign and, to keep the assonance going, we might say "to assign" in English (although the French *enseigner* more literally encompasses both indicating and teaching). From the point of view of the possibility of drawing, and the responsibility of the *trait*, everything necessarily returns here to a question of the sign. Everything in designing or projecting itself (through its *sign*ature) returns towards the same thing: the *designatum*.

Fig. 1 Valerio Adami, Jacques Derrida (allegorical portrait), January 27, 2004, graphite pencil on paper.

In Italian the word *disegno* refers to a figure, an image traced on a surface through a sign left by a pencil or other means (in other words a drawing), but the word *disegno* also means project or plan. In Italian *disegno* is the noun from *disegnare*. However, in French from the old verb *desseigner* two nouns are possible: *dessein* (with two 'e's) and *dessin* (with one) are originally synonyms and also homophones separated by a silent 'e', but which come to denote with the Enlightenment the metaphysical and the descriptive. That is, the not simply orthographic, but also semantic, silent 'e' marks the gap (*écart*) between conception and execution, between the intelligible and the sensible. To appropriate a Derridean commonplace, *le dessein* (two 'e's) is always already *dessin* (one) and their relationship is co-extensive. As Georges Didi-Huberman has recounted, for Renaissance art theory "*disegno* was a word of the mind as much as a word of the hand. *Disegno*, then, served to constitute art as a field of intellectual knowledge" (2005: 78).

By speaking of *disegno* we have begun to design the subject of *disegno*, paving a pathway (one of Derrida's *chemins*) for it. In its claim to discourse on *disegno* (drawing), this paper will be the result of *disegno* (design) that speaks of itself in a reflexive structure, one that does not produce a coincidence with itself but instead forever projects forward the advent of drawing as *disegno*; that is to say, it follows a *trace*. Drawing as *disegno* is designing itself as drawing. It presents itself from the start as a beginning that is already designed. There can be no metadiscourse on drawing since all work *on* drawing is also a work *of* drawing.

2. Allegory

"Not a single day without the line": *nulla dies sine linea* is the epigraph on Italian artist Valerio Adami's letterhead. This is the line that superimposes itself upon the white page. But what is it, this line? Presence and absence; one and multiple; the same as itself and always different. Perhaps, for this very reason it journeys with a single companion, the rubber: that cancels, chases away, renounces, places it under 'erasure' (*sous rature*), allowing it to be different to what it thought it was, to renew itself again each time. *The Journey of Drawing* was the title of Adami's exhibition for which Derrida's essay "+R", to which I wish to return in a moment, was written. To follow a line, uncover Derrida's line on drawing, I want to read a drawing by Adami. The drawing I have chosen is a drawing about which Jean-Luc Nancy to complicate matters further, has also published a short reading in book form: *À plus d'un titre* (2007).

Valerio Adami, *Jacques Derrida*, allegorical portrait, pencil on paper, January 27, 2004, first exhibited at the Galerie Daniel Templon, Paris in December 2004, barely two months after Derrida's death, among an exhibition of Adami's painting, dedicated to Derrida's memory and titled "Préludes et Après-ludes" (Fig. 1). Let me start with the description I have just furnished, according to Adami: the subtitle "allegorical portrait" was apparently given by Derrida to the drawing (Nancy 2007: 85-6). Derrida, I think, is slipping us a definition of drawing that is at once allegorical and ironical. The reference, of course, is to the two rhetorical figures that Paul de Man judged to be inseparable and irreducible. Derrida writes in *Mémoires for Paul de Man*:

> Paul de Man often stresses the 'sequential' and 'narrative' structure of allegory. In his eyes, allegory is not simply one form of figurative language among others; it represents one of language's essential possibilities: the possibility that permits language to say the other and to speak of itself while speaking of something else; the possibility of always saying something other than what it gives to be read, including the scene of reading itself. (1986b: 11)

If one were to recast Adami's portrait of Derrida in de Manian terms, the portrait is an allegory of drawing and of the attempt to read drawing: that is, to understand the activity of drawing. But, as a reader of de Man will remember, reading as he (de Man) establishes it, whether one is reading Rousseau or Proust (or a drawing) is forever impossible. The act of trying to understand drawing repeats the enigmatic unknowable event (drawing) that is the object of our anxious interpretation.

3. Subjectile

But let me try to recover some ground. Let me really begin with the subjectile: an old technical word meaning what is put under the drawing or painting, the support, that which makes the image or representation possible. In Adami's drawing we might first wish to say that the subjectile becomes a subject. The point of the pen, one of those old-fashioned fountain pens, grasped tightly by bunched-up fingers, is placed exactly at the edge of the drawing, as if to run over – *pour déborder* (Nancy 2007: 58) – in this way. This pen nib at the edge, on the edge, raises the question of how to get in to or out of the drawing. The term subjectile marks a certain crossing of borders, as well as an institution of the borders it crosses. It is Derrida's reference to the hand – and indeed the very hand we are looking at – that asks us to consider again. The physicality of the primary gesture of the drawing hand here must also be understood as an impulse to touch that which should only be an object of visual perception, to transfer a presence to a deep memory. The drawing is in this sense a "search" rather than a "communication". Nevertheless, with drawing one is not dealing, according to Derrida, with an experience of blocking vision, but of refinding it, through (behind [*derrière*]) the mirror, and igniting its internal sparks and revelatory breaths. As he has explored at great length, and with great subtlety, in *Le Toucher Jean-Luc Nancy* (2005b), the privilege of the visible has been constantly sustained and framed by the privilege of touch.

4. Desk and books

The preface to *A Taste for the Secret*, written with Maurizio Ferraris, is titled "*Secretaire*", a reference to "a writing desk in which papers are locked away", and a secretary "assistant … sparring partner … interviewer", and "a catalogue, even an iconography or a portfolio, or more exactly an *ichnography* [from *ichnos* "trace"] in which one collects, writes or describes *traces*, which are, at bottom, *secrets*" (2001: vii). What secrets? In every drawing, in which there exists the tracing of drawing, there is a movement that is secret, that is separate *from* and irreducible *to* daily visibility.

And here we have it, a writing desk and books: six in the first line and three in a second line, one held partially open as if it had just been placed back down in its place in the line and a finger or thumb had been removed from the gap between the pages. What might their titles be? Let us fantasise for a moment that they might be Hegel and Genet: *Aesthetics*, *Faith and Knowledge*, *Phenomenology of Spirit*, *Funeral Rites*, *Our Lady of the Flowers*, *The Thief's Journal*. The references would be to the building blocks of Derrida's strange and powerful "bookish" volume *Glas* (1974), which blends a meticulous commentary on Hegel's philosophical works, in one column of a vertically divided page, with a more lyrical, fragmented commentary on Jean Genet's literary writings in a facing column. This juxtaposition, apposition or opposition of the textual columns, and widely diverse writing styles gives rise to provocative semantic and phonemic networks: "phonogrammatic" is Derrida's adjective. There are also sidebars or baby columns in different typefaces; each column has its own continuity but is not impermeable to oblique interconnections, creating a multi-directional reading. The reading process is further complicated by the presence of a number of what Derrida refers to as "Judas holes": peepholes through the commented texts that give self-conscious access to autobiographical or signatory effects.

First published a year after *Glas* in *Derrière le Miroir*, no. 214, and then reprinted in *The Truth in Painting*, the essay "+R (par-dessus le marché)" ("+R: (Into the Bargain)") introduces Adami's drawing exhibition *Le voyage du dessin* (*The Journey of Drawing*). Derrida's essay functions as part of the exhibition, and undercuts its commercial underpinning, as well as offering the supplementary function of critical commentary. In particular "+R" examines several drawings of Adami, notably two studies for a drawing after *Glas* and a portrait of Walter Benjamin, described by Derrida as a "hieroglyph of a biography" (1987: 179). Adami's characteristic fissured picture plane, his composition by erasure, and his use of textual citations in the image become the ground for Derrida's examination of the

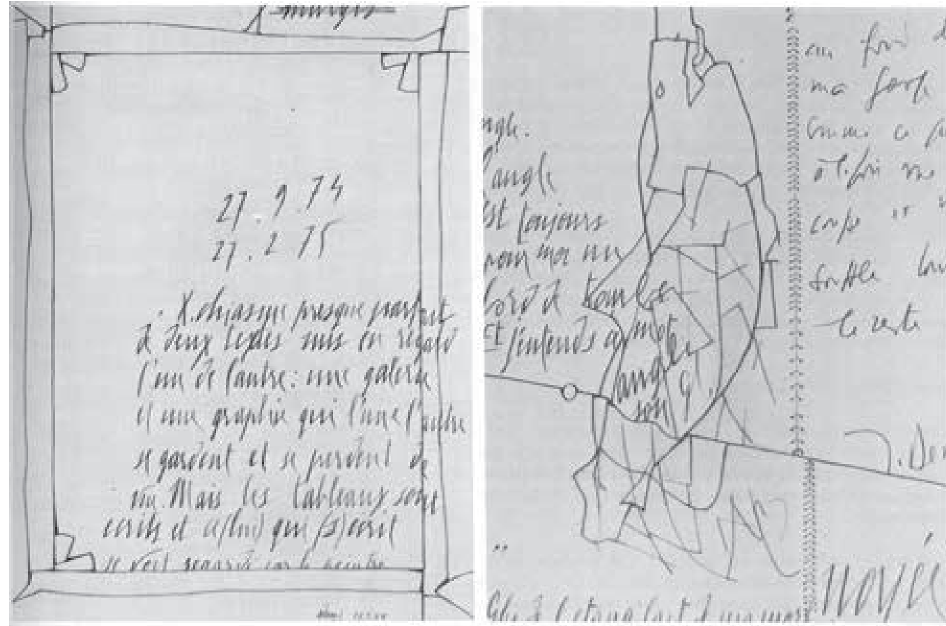

Fig. 2 Fig. 3

Fig. 2 Valerio Adami, Study for a Drawing after Glas by Jacques Derrida, 27 February 1975, graphite pencil on paper.

Fig. 3 Valerio Adami, Study for a Drawing after Glas by Jacques Derrida, 22 May 1975, graphite pencil on paper, private collection.

art mark/art market and the economy of the (sur)plus-value of the letter. Adami's rendering of Derrida's texts and his handwriting become in turn the captions and illustrations dispersed in Derrida's subsequent essay. And, finally, Adami's use of Derridean texts affords Derrida the opportunity to comment on his own transformation into an image.

The first drawing after *Glas* (Fig. 2), appearing to represent a text written on the back of a canvas, effects the figure of chiasmus as a crossing-out by a triple-play manoeuvre of, first, a text partially hidden under a fold at the bottom; second, the X near the middle which could be read as barred; and, finally, the X at the top, a sort of false start cut off by the edge of the paper. ~~Marges~~ (*Margins*, the title of Derrida's essay collection) written and crossed over at the top, occupies the title position but seems to have been folded over from the bottom of the other side of the canvas. The text's continuation over the folds at the right undoes any notion that the writing preceded the folding. As does the *mise en page* of the drawing, its reduction in size, its place first of all in a sequence which includes its own repetition (in *The Truth in Painting* on pages 153, 167 and the front cover).

The second drawing after *Glas* is titled *Ich* (Fig. 3). The German first person pronoun *ich* when transliterated back into the Greek (*iota* plus *chi*) designates Christ, as traditionally symbolised by a fish-like emblem that provides a Greek acronym for Jesus Christ. Furthermore, for Derrida, as a pseudomorpheme of the abbreviated Greek word *ichtus* (fish), the reversed *ich* is *chi* chiasmus (x), the rhetorical figure whose double criss-cross marks this drawing as it did the previous one. In this chiasmatic exchange it would be wrong, though, to think of the fish as drawing and the words as writing. The outlines of the fish loosen and disintegrate and become at their tail an angular scribble, and notice how a capital 'A' and a 'D' seem to materialise at the right below its tail.

The *Glas* drawing contains several other truncated words, including part of Derrida's signature and an implied *Je* (*ich*) in the capital 'J' of Jacques, as well as, at the bottom of the page, a relic of Derrida's first poem published at the age of 17. One of Derrida's strategies in *Glas* is to show how Genet's autobiographical writings comment on, and eventually undermine, the very assumptions about the role of the signature which inform definitions of autobiography. He does this through a commentary via those "Judas holes" on the way his own signature, the name that signs *Glas*, operates just as he claims Genet has done. The result is not only a theoretical critique which questions the assumption that the signature is a mark in the text that points to an extra-textual source of the text, one that he developed around the same time in *Signsponge* (1984), but is a radical displacement of the genre of autobiography that now must include *Glas* as one of its examples.

This still leaves the question of the (double) signature on the drawing. Derrida's signature or "half signature" is not original but reproduced; here it is a reproduction of a reproduction, the signature is as much Adami's as it is Derrida's, since it is reinscribed in Adami's characteristic hand. If in *Glas* the reader has to generate a meaningful relation between the two juxtaposed texts on Hegel and Genet, in "+R" the viewer moves in a similar way between Adami's drawing and Derrida's writing. But, as I have been at pains to insist, the drawings are not illustrations. They function as an accompaniment. In the light of this account of Derrida's discussion we might ask: what then is drawing, a drawing, as such? Is it possible to distinguish it, if we take the example of "+R", from hypothetical writing on drawing, on these drawings? Can we distinguish, that is, between writing that speaks about drawing and writing that appears within drawing? When does the drawing begin to become writing and the writing drawing?

5. Landscape and circumflex

Like the portrait convention of placing landscape or landscapes behind the figure, Adami's drawing has its own background landscape: a pointed hill and a desert of dry, schematic trees. It is noteworthy Adami confirms that for him this is Derrida's Algeria, a desert of dunes, small hills and trees without leaves (Nancy 2007: 91). Given, as we have seen, the emphasis placed on the graphic effects of diacritical marks in *Glas* it is perhaps significant, therefore, that the strangely pointed hill reminds us of the French accent, the circumflex. It is the same disseminative drift of the circumflex that features in *Glas* in the play between the proper name Genet and the flower *genêt*. It is all, Derrida suggests there, "A question of the circumflex: of a 'fruitless' complication of the orthography" (1986a: 230bi 257). But the circumflex is not just a diacritical caprice, or an archaic mark of punctuation, it has the quality of what David Wills calls a "graphic effect" that constitutes, he continues, "perhaps the most explicit example of the figural in Derrida's writing" (2001: 113). The very inbuilt graphicality of language becomes, as Wills outlines it, "both a cohesive and disruptive force" (114). The circumflex is one of the minimal traces of the way in which, for Derrida, writing is already constituted by the "figuro-pictorial" but for Adami, in turn, how the pictorial is already constituted by the "semantico-syntactic".

6. Face

We come now to the figure, the portrait face. To all appearances it is a face that dedoubles, its planes sliding and meeting behind each other, to cover and envelope, reveal and display as Jean-Luc Nancy suggests "like the carapace of a tortoise or a suit of armor that plays against itself and pushes its plates or its scales one upon the other in slippages and progressive rubbings where the disposition of a face in waiting breaks up (*se brouille*)" (2007: 68; my translation). And what of the three eyes that all look to the left, the central one perhaps cyclopean (see Derrida 1993: 87ff)? We register the hint of a certain non-presence in the gaze that looks to us but doesn't regard us directly in the face, face-to-face. The expression on the

lips: a mocking yet tender smile. A smile that now, inevitably, recalls Derrida's final words spoken for him by his son Pierre at his graveside: "Smile for me, he [Derrida] says, as I will have smiled for you until the end. Always prefer life and constantly affirm survival… I love you and am smiling at you from wherever I am" (2007: 244). *Je vous souris*: we hear the assonance but also dissonance between *survivre* and *sourire* in what Nancy has baptised as "this surviving portrait that will have become the allegory of his smile" (2007: 38; my translation).

7. Cat

According to David Wills, the essay "+R" represents "the most fertile nexus of relations among framing, animals, and autobiography" in any of Derrida's writings (2001: 126). As we have seen, a fish hooked and emerging from the water is analysed by Derrida as the figuration of a play or competition of his signatures, signatures that Adami also draws on the surface of the work. In Adami's portrait of Derrida, on our left protruding from the border, its head completely exposed, is a gazing cat. In terms of formal compositional dynamics, this cat is a case of what in the Renaissance Leonbattista Alberti, giving advice to painters in his *Della pittura*, called a "spectator figure". It represents the displaced glance of the picture's real spectator: it is the spectator's painted deputy. What we see is not a gaze looking at us but the gaze, our gaze, itself displaced. By it, the cat, it is the act of our seeing that we see. Plausibly posed as a bystander or onlooker to the depicted scene, the cat yet flagrantly represents us – like it, observers of a scene from which, spatially, we are and must remain implacably separate. Often, like a lead-in figure, the spectator figure stands in the wings and gazes into the depicted scene. Like the real spectator, it is separated from the scene it observes by a depicted space it can never cross. The structure of a cat's eye is a permanent gaze that unblinkingly fixes the instant as if in a moment of eternal attention. It is the cat that considers and guards the secret of that which it sees. The cat without words. We notice the ears of the cat pricked up as if listening for language.

The cat at the edge of the drawing recalls for us the moment, recounted in *The Animal That Therefore I Am*, when one Paris morning, while naked in his bathroom about to take a shower, Jacques Derrida observes his cat observing him. Observe is not quite the right word here; this "looking" of the cat is more directed, more intentional, and more disturbing because of this. He was, Derrida says, "faced with the cat's eyes looking at me [*qui me regarde*] as it were from head to toe, just to see [*pour voir*], not hesitating to concentrate its vision [*sa vue*] – in order to see, with a view to seeing – in the direction of my sex" (2008: 373). "Caught naked, in silence, by the gaze [*le regard*] of an animal" (ibid.: 372) Derrida has difficulty overcoming his embarrassment. Why he asks does he "have trouble repressing a reflex dictated by immodesty"? Why is he disturbed by "the impropriety that comes of finding oneself naked, one's sex exposed, stark naked before a cat that looks at you without moving"? He gives this old experience, the impropriety that comes "from appearing in truth naked, in front of the insistent gaze of the animal, a benevolent or pitiless gaze, surprised or cognizant", a new name – *animalséance* – derived from the French for impropriety (*malséance*).

In Derrida's essay where these events are recounted, the malaise of this scene in the bathroom plays out over a crossing of borders between human and animal. "The animal looks at us, and we are naked before it. Thinking perhaps begins there," suggests Derrida (397). The nudity in front of the cat is like the nudity in front of the drawer of the drawing. Adami who gazes to draw his subject has remarked that in terms of the dynamics of the drawing he thinks of himself as the cat (Nancy 2007a: 92). In his turn, the subject is exposed, his shirt front is open, his face is denuded under the artist's gaze, indeed the drawing may turn against him and show him what he is not or what he does not want to believe/see.

8. Table

In the upper left of our drawing there is a table in the sky. *Tavola* in Italian also means board or panel (subjectile) for a painting. It is a table that floats in a phantasmatic fashion, its leg somehow fixed into another subjectile, the wall, one of the two walls we see of the four that must surround the figure. A single leg supporting the corner of a table suspended in the sky that has upon its table-top lightly drawn the sign of a cross. Perhaps it is a "drawing table", the table on which this drawing was drawn, a table that is then drawn mysteriously skyward? And what if the cross isn't a symbol, a Christian cross, but rather a mark of the artist's process, a sign of the drawing, part of the squaring up, its mapping? As a sign of position and positioning its longer line may be extended as a mark for the J. ('*Je*') of J. Derrida, it points us to Jacques, and the cross-line if extended passes through the forehead of the figure, the portrait of Derrida. So, a sign of position and positioning. As if the writer's desk has become this table/is this table lifted out, but no books, no hand that draws or writes, a *tabula rasa*. The cross is also the cross of erasure (*sous rature*) and the crossing of chiasmus (x). The cross on the table is also the '+' (*plus*) of Derrida's economical title of economy. A seemingly off-hand incision that becomes a double and doubling signature, of writer and artist, a marking that through its double-crossings, its marking and marketing, signs and binds the two discourses of writer and artist.

9. Signature

So here in this drawing, like those of *Glas*, we have it, a sort of signature, but not really, balancing on an inclined line that bisects the top quarter of the composition diagonally, crossed, divided or fissioned. But this may also be the line and the *trait* that the pen, which is gripped so firmly, at the opposing side of the composition is drawing. This name like a mountain range at the top of the drawing. A name like an avalanche that might slip down and be lost in the impossible. This incline is the counter-band (*contre-bande*) Derrida makes reference to in *Glas* (1986a: 244a). "A band passing from the upper sinister corner of the escutcheon to the lower dexter corner" (American Heritage Dictionary) (cited in Leavey 1986: 178). But also a *surnom* that surmounts Adami's signature at the bottom right (Adami's name that shares a '*da*' with it), next to the date of the drawing (257 days before Derrida's death). The portrait can only appear in truth in the disappearance (the surmounting) of the name. But also a nickname of sorts, like the one that might be carved in a desktop by a naughty schoolboy: Jackie Derrida.

10. Colour

Perhaps the most striking thing about Derrida's essay on Adami in *Glas* is the absence of colour from the drawings discussed and yet the painstaking, if convoluted, analysis of colour in this text that draws meticulously upon visual examples that are just drawings and are colourless. How is it that the graphic is used

to discuss an absent chromatic? Or drawing to talk about painting? This is made even more striking because Derrida chastens us on this very point in *Memoirs of the Blind*: "We are talking here about drawing, not painting" (1993: 44), he admonishes. But to return to "+R"; the text in question. It is no doubt of significance that the first mention of colour in the essay on Adami comes in a passage where Derrida is commenting on his own signature on the edges of the drawing and he remarks that two letters of his name (those two that he shares with Adami) are missing: "The *da* is not there, *hic et nunc*, but it is not lacking. Like colour?" He then defers… "We'll have to see later…" (1987: 159). Colour, then, is a mode of deferring, it is the "unanticipated". Colour is something we must wait for. On the same page as the passage cited earlier, Derrida writes of all the drawn lines of the Adami drawings, all their *traits* together: "Let drawing = *tr*" (1987: 170). What can he mean by this enigmatic statement? What is the significance of this sublexeme *tr*? Immediately, he lists a number of *tr* words which his translator cleverly catches:

> The *tr*eachery of this *tr*anslation or *tr*anscription, the *tr*anspassing, the *tr*ance or *tr*agedy of *Ich*, the *tr*anspiercings, *tr*unks, *tr*epannings, the *tréma* or the ex-*tr*a which interest Adami have apparently no linguistic or semantic affinity with what I say I am doing … when I *tr*avail, *tr*emble or become *tr*oubled while writing. (1987: 171) [my italics]

He continues: "But if *tr* is each time altered, transformed, displaced by what appears to complete it, it keeps a sort of self-sufficiency" (171). This matrix, as Jonathan Tiplady notes, "is singular because it does not simply stand pregnantly vacant, allowing for an event but not already inciting it; instead the matrix *tr* already has within it the events it is supposed to be merely hatching" (2003: 208). Despite their listing and re*tr*acing in moments of *tr*anslation, *tr*avel, *tr*action, *tr*ains, *tr*aits, *tr*ansactions, *tr*ansfer, *tr*aversals, *tr*ailings, and of course the Italian *ritratti* (portraits), words encountered along the trajectory of *tr* cannot be retrieved in a thematic inventory. The two letters have no identity for themselves, for there is no way to vocalise *tr*, I have to say or spell it to you like that, '*tr*'.

I now turn to a passage on the following page. In some way my entire essay so far has been working towards a citation of this unusual passage and to saying a few words about it in conclusion:

> The rigor of the divide between *trait* and colour becomes more trenchant, strict, severe and jubilant as we move forward in the [Adami's] so-called recent period. Because the gush of colour is held back, it mobilizes more violence, potentializes the double energy: first the full encircling ring, the black line, incisive, definitive, then the flood of broad chromatic scales in a wash of colour.
>
> The colour then transforms the program, with a self-assurance all the more transgressive (perceptual consciousness would say "arbitrary") for leaving the law of the trait intact in its inky light. There is, to be sure, a contract: between the drawing which is no longer an outline or sketch, and the differential apparatus of the colours. (1987: 172)

Derrida's logic is clear enough. We have here what we might call the "counter-effect of colour": drawing the black line is an act of aggression against colour and by being that invites colour's very revenge. Colour most forcefully *is* when it is most rigorously held back and detained. In the context of Derrida's wider work we have an example of what Hillis Miller has called Derrida's "refraining": "the contradictory 'with-against' movement that characterizes Derrida's work" (2007: 279) he calls it. Formulations where the system in question does not close because it is *tr*: en*tr*enched, *tr*ansposable, *tr*ansgressive, *tr*aversed, *tr*emulous, *tr*oubled etc. The opposition between the *trait* and colour is not really an opposition at all; it is a question of supplementarity. Colour supplements the drawn line by filling it out. At the same time colour brings into the open what is the essential of the drawn line. Colour is already there when it is most forcibly held back, when it is a *retrait*. Adami's colourless drawings precisely because they so strenuously resist it are already awash with colour.

Of course, in this sketch I have not been able to provide a satisfactory representation of Derrida's thought on drawing, nor, despite some hypotheses, a satisfactory account of what drew him to drawing. This is, I conclude, because with the question of drawing there can be no "originary" insight, because with Derrida, as Geoff Bennington says, "there is *complexity* at the origin" and "his thinking turns around the thought that *the origin is not simple*, and that a non-simple origin has immeasurable consequences for thought" (2007: 231). There has been no colour here, in the images I have shown you, no chromatic in the graphic, but neither a simple chromatic-graphic distinction, and yet what I have been attempting to do is a certain kind of colouring in; the sort of "filling-in" one finds in those books that children use made up of thick black lines (like, of course, Adami's) which form spaces to be filled up upon a white page. It is a form of touching up which forces us to ask once again with Derrida: "Does one ever get over drawing, is one ever done mourning it?" (1993: 39).

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Non-refereed Papers, Projects, Reviews & Interviews

TRANS-FORM-ers

Auckland Architecture Week, 2009

Report by Kathy Waghorn

Fig. 2 and 3. Nom Inflate, interior. Project by Melanie Pau, Howard Kang, Frances Lowe and Ashleigh Low of The University of Auckland. Photographs by Sav Schulman.

TRANS-FORM-ers was a design studio run as a joint venture between The University of Auckland School of Architecture and Planning, AUT Department of Spatial Design and Unitec programmes in architecture and interior design. Around 400 students spent a semester designing and fabricating mobile pavilions for public display. The requirement was that on a given Friday evening these pavilions would convoy across the inner city – acting Pied Piper-like in arousing curiosity – before arriving at the old city bus maintenance sheds in the CBD, where they would "transform" in some way.

The requirement to traverse the city was addressed in the students' projects in many imaginative ways. In one project a scaffolding tower recalling Brodsky and Utkin was towed through the city with Lycra-clad performers writhing atop, in another inflatable fingers billowed out the back of a family sedan, and in a third eight Vespa scooters carried riders whose plywood back-packs housed speakers, the eight tracks they broadcast weaving in and out of synchronicity as they negotiated the traffic. The overall affect on the Friday night rush hour in this infamously car-bound city was a chaotic Situationist-style delight, Love Parade meets oversize haulage with a touch of street protest thrown in for good measure.

Fig. 1. Nom Inflate, the inflation process.

On arrival at the venue surprising things tumbled out of curtain-side articulated trucks; one truck housed a timber crate-like contraption while another conveyed a pavilion made from 4000 inflated condoms. The public began to arrive to see things hoisted, unfurled, stretched, clasped, stacked, inflated and clamped as the pavilions (mostly!) took on their intended shape. Even before the audience could enter the pavilions, this setting up provided a spectacle in itself. Once the various offerings were up, though, around 4000 people clambered into and onto them.

After two hours of trawling across, through, and under all 45 TRANS-FORM-ers projects, a valiant judge, Pip Cheshire, chose two particular projects on which to bestow awards. Nom Inflate from Auckland University (Figs. 1, 2 and 3), cannily used the audience as the mechanism of transformation. Their parachute-like project required 50 people to pick up its edges, and then throw it into the air and over their heads. The transformation enacted was immediate and intense; one moment 50 people make a circle in an old shed, the next they find themselves in the svelte, chic, bubble-shaped lounge that results. The success of this project lay in its immaculate detailing, itself a result of much prototyping and materials research. Every aspect of the project conveyed this attention to the detail, from the length and capacity of the sand bags that weighted the bubble's edges, to the panel construction to trap air, to the cabling of lights concealed within the floor panel stitching. For 15 minutes, the time it took for the bubble to softly deflate, the lucky 50 luxuriated in the glamorous interior.

While the Nom Inflate project channelled luxury, This Way Up from Unitec (Figs. 4, 5 and 6 conveyed a sense of danger. The timber pavilion was a crate-like space, but one laterally sliced, with the resulting pieces in a state of constant movement. Entry was made through the gaps that opened up between slices, gaps that could just as quickly close, potentially jamming limbs, necks, heads, whole bodies. An oversized, machine-like contraption, with cogs and wheels all precisely assembled from timber, facilitated the movement.

At the University of Auckland the experience of large-scale fabrication is becoming an important part of the Bachelor of Architectural Studies curricula. Studios and events such as this allow students to learn through experience. This type of studio fosters the use of design strategies and techniques not promoted in regular studios, such as prototyping, large-scale modelling, stress testing and the production of shop drawings. To realise a project such as these for TRANS-FORM-ers, students are required to engage with the world, seeking out materials and systems, locating equipment, managing budgets and negotiating assistance and support. The students must work in small teams and thus experience the difficulties and rewards of the collaborative process, designing, presenting, project managing and fabricating through discussion and negotiation. Through such studios we intend that students begin to see constraint as a driver of architectural opportunity. The constraints encountered may include that of the brief, budget, site/venue, regulatory requirement, time and the collaborative work process. Through a well-designed and supported studio project such as this we aim to help the students maintain conceptual rigour in the face of these encounters. If TRANS-FORM-ers is anything to go by this seems to be paying off.

To see a video of TRANS-FORM-ers go to http://www.creative.auckland.ac.nz/uoa/home/about/ab-creative-showcase/architecture-planning-showcase

The TRANS-FORM-ers competition blog is http://trans-form-ers.blogspot.com/

The 2010 project is called SKYRISE City, info on http://skyrise-city.blogspot.com/

Fig. 4, 5 and 6. This Way Up by Ryan Ford, Pat Kelly, Craig Plant and Adrian Leat of the Unitec architecture programme. Photographs by Anna Tong.

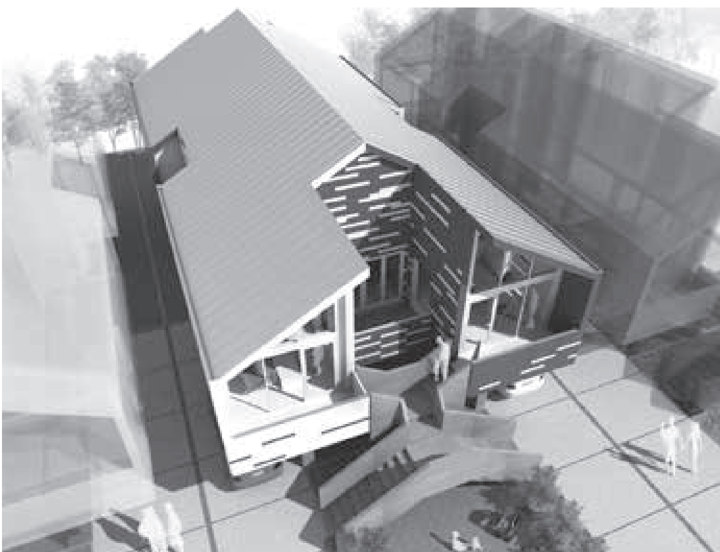
Fig. 7. The crowd arrives as the TRANS-FORMers projects are set up. Photograph by Sav Schulman.

Hot Links

Lower 9th Ward, New Orleans

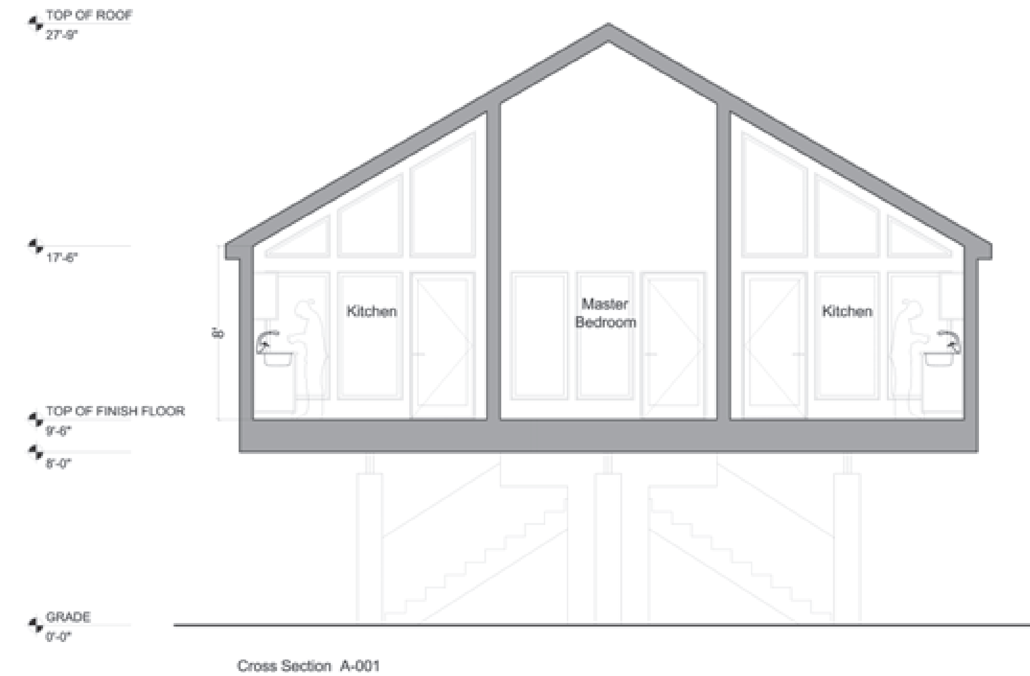
Atelier Hitoshi Abe

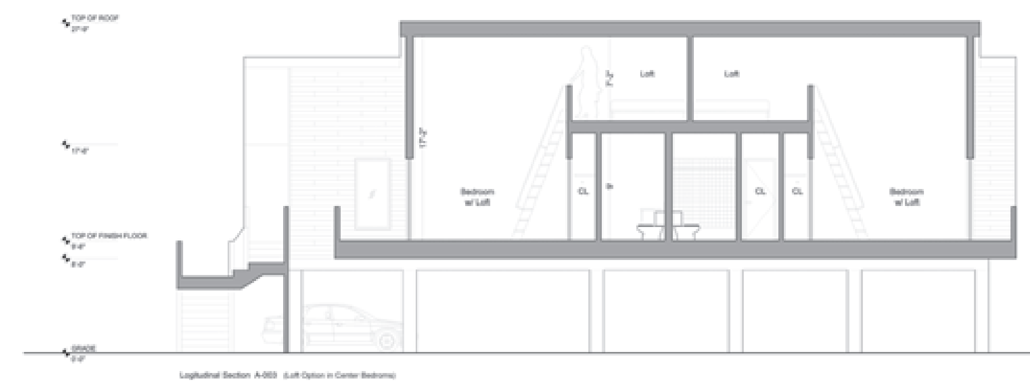
Hot Links offers many different options for smart living. Through the inherent flexibility of its organisation, this house can accommodate many arrangements – single family, multiple family, renter, tenant and live/work arrangements.



Two shotgun houses are linked together and able to open, close or share the space between. In this way, much larger open spaces are created for private bedrooms or public living spaces. The flexible boundary between the residences can be soft and adapt to the changing needs of a family throughout the years. The array of 45 different plan options gives families the freedom to adapt their house size to their economic situation at little cost. If an owner desires a single-family house, they can choose from three-, four-, five- or six-bedroom designs. If even more space is required, opening up the attic and using it as loft space is also an option. If an owner's family requires less space, they can split the residence into a duplex, granny-unit or a live-work unit to enable the development of a small business. Owners are able to re-create and customise their living situations as needed. The economic benefits of a flexible structure also translate into the ecological benefits of a re-usable or re-purposed structure.

2 x 2





The façade of the building has also been developed following a strategy of flexibility. It can absorb different colours, sizes and quantities of cladding, depending on the availability of materials or economic conditions at a given time. Weaving different colors into one façade and taking advantage of this adaptability creates a new identity and residential fabric.

Project Manager: Midori Mizuhara
Team: Ryohei Koike, Joe Willendra, Carmen Cham, Mina Nishio

Make It Right Foundation

The Make It Right Foundation is committed to building 150 energy-efficient, solar-powered, storm-resistant homes in New Orleans Lower 9th Ward, a neighbourhood wiped out by Hurricane Katrina and the breach of the Industrial Canal levee. The Foundation began in December 2007 as a collaboration between actor Brad Pitt, Graft Architects, Cherokee Gives Back and William McDonough + Partners. Today 32 families are either living in a Make It Right home or have one under construction. Another 50 Lower 9th Ward families are in the process of becoming Make It Right homeowners.

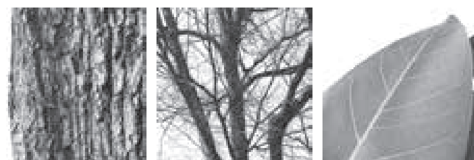
For more information: www.makeitrightnola.org

Tree-ness House

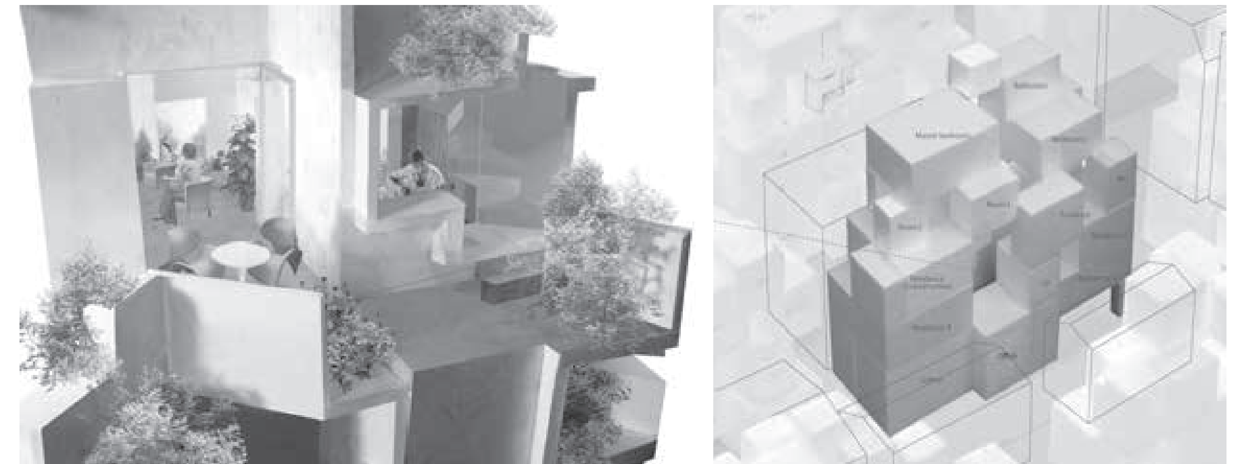
Otsuka, Tokyo

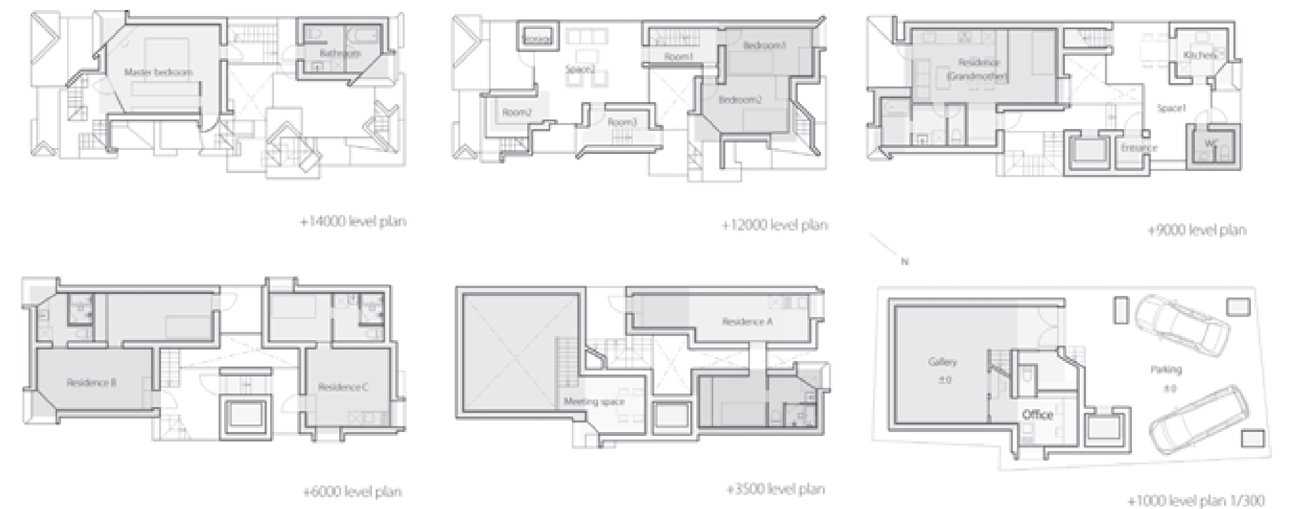
Akihisa Hirata Architecture Office

The intention of this project is to develop the potential for a nature-like architecture explored in our previous work, but the approach is developed further here. A tree consists of different parts such as roots, a trunk, branches, leaves and flowers, but these parts are not totally independent. The trunk and leaves differ in appearance, but are very similar in their basic structure – their inter-relationship creates a kind of nested or layered organic structure. It is possible to create an architectural logic that creates a similar organically layered and "tangled" structure. The design seeks to develop this new architectural principle, with the intention of creating a complex ecosystem connected to the city.



This building is a residential complex with spaces for commercial tenants and is located in the Otsuka district of Tokyo. The site is narrow and deep, thereby defining the building as a narrow volume. In contrast to typical buildings that are simple stacks of floors, this design employs an organic layering system. It draws in elements not typically included in architecture, such as the street and other exterior spaces, generating fully three-dimensional spaces. Much as a tree defines various spaces in the air, this design creates for its occupants a "tangled" space characterised by ambiguous interior-exterior relationships.





+14000 level plan

+12000 level plan

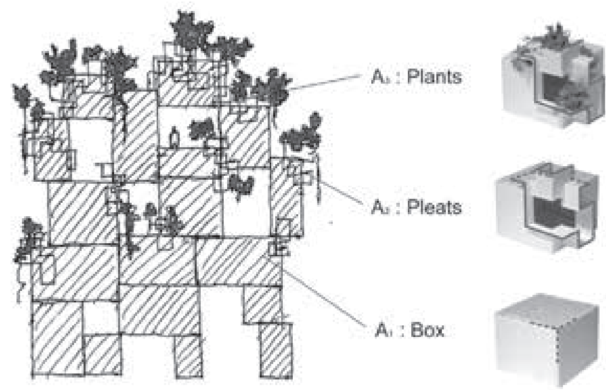
+9000 level plan

+6000 level plan

+3500 level plan

+1000 level plan 1/300

Section 1/300



BOXES: Boxes are composed into a layered volume that includes numerous voids. Within this volume, internal boxes define enclosed spaces like bedrooms and external boxes create terraces; more open interior spaces are defined with the voids by glass walls.

PLEATS: The openings in the boxes have been pleated, creating an ambiguous relationship between inside and outside.

PLANTS: Greenery is planted around these pleats, resulting in three-dimensional gardens around the building's perimeter. The arrangement of functional volumes and voids, openings, and greenery integrates and entangles the building into a single organic whole.

Interview with Momoyo Kaijima of Atelier Bow-Wow

Sarosh Mulla and Patrick Loo

Momoyo Kaijima was born in Tokyo in 1969. She founded the Tokyo-based firm, Atelier Bow-Wow, with Yoshiharu Tsukamoto (born 1965, Kanagawa) in 1992. The pair's interests range from urban research to architectural design and public artwork. Their research works are epitomised by the publications *Pet Architecture Guidebook* and *Made in Tokyo*. While on the one hand the practice has designed over 20 detached houses such as Gae House (2003) and House & Atelier Bow-Wow (2005), recent projects such as Hanamidori Cultural Centre in Tokyo (2005) mark an expansion towards a larger scale. Their artwork has been exhibited across the world at Biennales in Korea, China, Japan, Italy and Brazil.

Momoyo Kaijima visited New Zealand as The University of Auckland School of Architecture and Planning International Architect in Residence for 2010. Sarosh Mulla and Patrick Loo interviewed her at the Auckland Regional Council offices on 6 August 2010.

Since forming Atelier Bow-Wow in 1992, Yoshiharu Tsukamoto and Momoyo Kaijima have been responsible for some of the quirkiest and most subtly nuanced work produced by their still-young generation of architects. Their seemingly light-hearted name masks an extremely insightful research-based practice; this is not to say they are paper architects. Their projects range in scale and are defined by spatial inventiveness rather than aesthetic brand. They have gained notoriety for shoehorning complex buildings into tightly-packed urban neighborhoods. This notoriety has developed steadily into a loyal following, and as Japanese architecture becomes more and more the focus of the international discourse, Atelier Bow-Wow seems set to become a central figure in the development of architecture globally.

The Atelier Bow-Wow pair is prolific. They have published and built an enormous amount in their relatively short careers thus far, and the quantity of this work is matched by its quality. The work has its roots in effective, practical research, and is aided by the laboratory system of Japanese architecture schools; each student joins the laboratory of a particular professor, with the lab often taking on larger or ongoing projects as a group. Kaijima's own laboratory is based at Tsukuba University and is a mixture of undergraduate, masters and doctoral students. In her own words, "the university provides a good framework by which to be responsible to the public", and this belief can be seen throughout Atelier Bow-Wow's academic and practice-based pursuits. For Kaijima, her work at the university allows dedication to design ideas, meaning that architecture does not have to submit to being "business more than research". For Atelier Bow-Wow, design at the most fundamental level needs to be "for our enjoyment, for our pleasure", otherwise, in their eyes, "quality will go down". When asked how they manage to squeeze in time for both practice and research, Kaijima points out that their work time is "always continuous. When the two types of work are similar, you can get them to work together a little bit easier."

Both Tsukamoto and Kaijima have taught at some of the most progressive institutions in the world, including the Harvard Graduate School of Design and the Eidgenössische Technische Hochschule (ETH) in Zurich. These schools are known for pursuing new approaches to design, and Atelier Bow-Wow's contribution is apparent in their research into what might be described as "evolutionary urbanism", that is, the way the city makes and remakes itself following its own laws of selection. Their investigations into tiny "pet architecture" showed how in-between spaces get adopted and developed in Tokyo, often resulting in quirky buildings that wouldn't occur on green field sites, or even in less densely populated cities. Following these investigations the practice also presented their own speculative designs for "pet architectures". Of course, understanding that no space in the city need be wasted will inevitably translate into their domestic designs; within Atelier Bow-Wow's houses, every space is exploited. There are lessons here for our own cities, as we learn to deal with urban densification. Atelier Bow-Wow's work shows that even if the quarter-acre dream is now slipping beyond the means of most, we need not view being squeezed into the city as a necessarily bad thing – it can force an exciting re-imagining of what constitutes domestic space.

Atelier Bow-Wow's latest publication is *Behaviorology* (Tsukamoto & Kaijima 2010). The meaning of the book's title is defined on its cover, and gives an indisputable sense of direction for the work inside. Behaviorology, the book cover says, is a subjective field of interpretation that focuses on the study of "functional relations between behavior and its independent variables in the behavior-determining environment". Anthropologists and psychologists might be entirely comfortable with such a definition, but within the field of architecture it represents a distinctly provocative change of direction. Behaviorology stands to completely reverse the ubiquitous uniformity of style, colour, shape and volume that characterised the International Style as well as the reticent architecture produced in the decades following the demise of post-modernism. It sets the scene for pluralistic solutions and binds program into a driving role in the design process. A way of living can be designed in parallel to the architecture, rather than simply resulting from it. Atelier Bow-Wow refer to this as "behavior-engineering".

In this respect, Atelier Bow-Wow's projects are humanist. They study the role of humans within architecture in a way that goes beyond the empirical analysis of data employed as a methodology by offices such as OMA or MVRDV. Atelier Bow-Wow embraces more the subjective facets of the brief, such as the client's dreams, personal goals, and even their desire to make their pets happy. While such subjective issues could prove slippery, it seems that with each brief the pair are able to move beyond any obvious responses and to deliver instead a novel rethinking of program and occupation.

While at first glance some Atelier Bow-Wow projects could be written off as pure formalism, each is anchored by a genuine consideration of the inhabitation of the interior. The resulting spatial complexity, particularly in their residential projects, results in a new way of living. The House Tower in Tokyo (2006), which is based on their observations of the way land in Japan is subdivided over the generations, exemplifies this approach. Producing a family home with a total floor area of 65.28sqm on a 42.29sqm site while only creating a building footprint of 18.44sqm takes skill. It takes even greater skill to produce such a building with moments of genuine spatial delight and generosity. Living spaces flow vertically into each other, creating elegant volumes and articulating the program across the various split-levels. The idea is materialised in concrete and glass, distilled to the point where the form of the house represents the program, the history of the city, and the social processes that have made this type of housing necessary. The finishing of this project is of the usual high Japanese standard, but it is its reconsideration of high-density housing typologies that is particularly interesting. Kaijima explained how this vertically works in her own house (Fig. 1): "In the case of House and Atelier Bow-Wow, we had a twelve meter difference in height

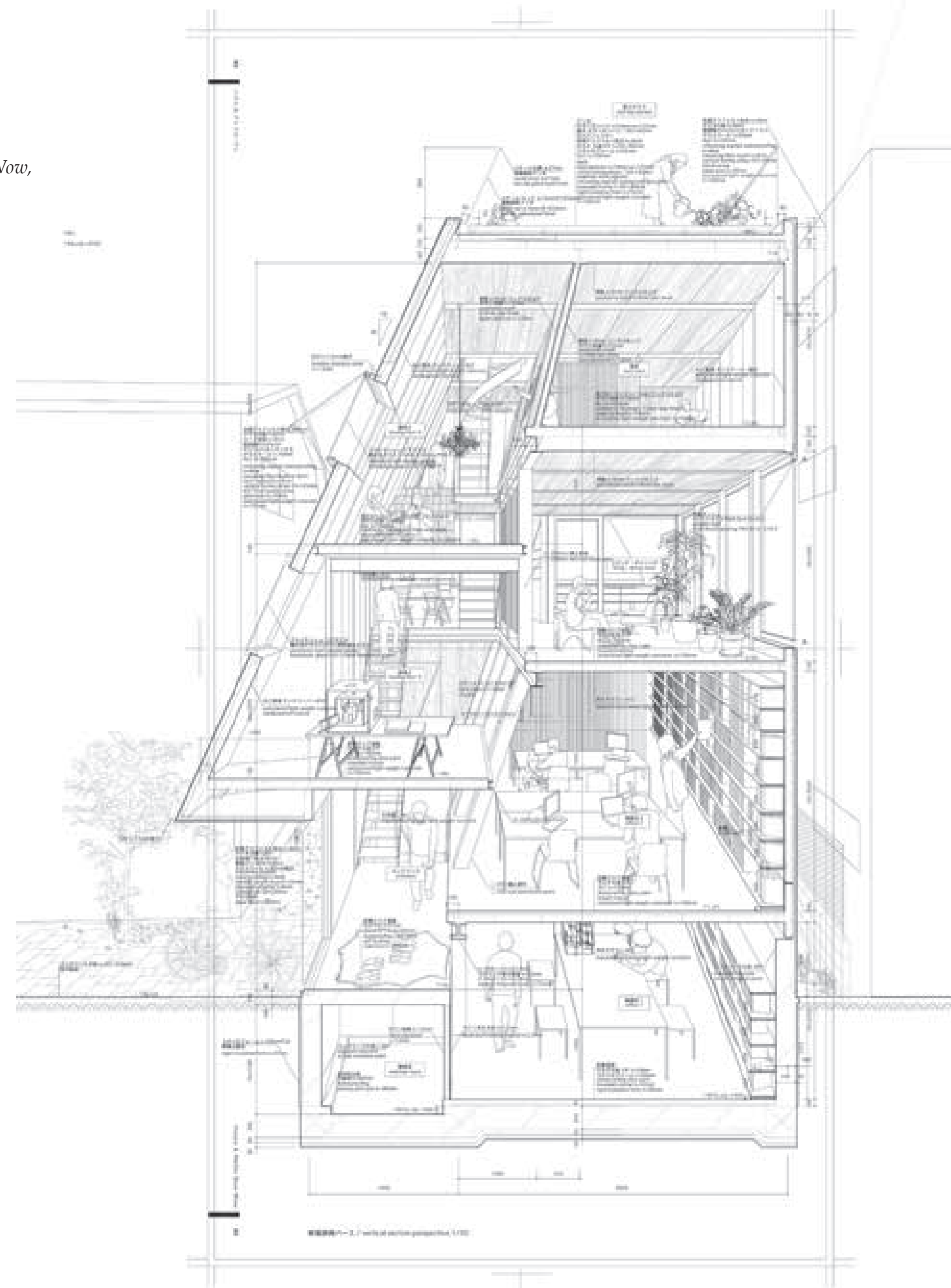


Fig. 1: House and Atelier Bow-Wow, Shinjuku, Tokyo (2005)

from bottom to top … I tried to create connectivity, but in person the experience of this is more one of this corner, that corner, another corner. That means the contact you feel is not so strong: you are aware that other people are there, but it is not so disturbing. This vertical type of connection is very interesting."

The practice conveys their concern with occupation through their drawings by adding a perspectival projection to plans and sections. These drawings show the occupants sleeping, eating and generally living in the space. These drawings are not simply ink sketches showing a stylised image of the volume, but are highly detailed construction drawings that also communicate texture, light and other tactile elements rarely included in CAD drawings. Another feature of these drawings is that they show an understanding of the building in relation to the client. Atelier Bow-Wow's architecture does not imagine an idealistic living environment littered with objects cut from magazines; they are concerned with producing a direct response to client needs that doesn't rely on creating a neutral, 'flexible', and gallery-like backdrop. Why should the occupant have to buy new furniture?

To facilitate the successful delivery of such spaces, Atelier Bow-Wow conducts discussions with their clients about their previous spatial experiences – what their previous homes were like, and what they did and didn't enjoy about their workspaces. These discussions lead to consideration of how the designs of spaces might affect the behavior of the occupants, resulting in a re-evaluation of the way in which people conduct their lives. This raises an interesting point about the work of Atelier Bow-Wow: its quality is not linked to its context or scale. The office also has no defined aesthetic style. Their output is defined instead by a way of working that focuses on the uniqueness of their clients. "Every client is looking for something different. That's why our designs are so different for each project. We always try to find something new in the surrounding area. Our method is based on research, but we always adapt and change. The objective is the same but the approach is different."

When asked whether or not Atelier Bow-Wow gets to choose its clients, Kaijima answers, "Basically we don't choose. We give some kind of conditions based on time or budget and so on. If the project doesn't fit the conditions then it's very simple, we don't do it." Kaijima does point out that most of their clients are architecturally knowledgeable, and as they are often also from creative fields they are not strangers to the creative process. This awareness allows the pair to start the design process one step ahead, which in turn allows them to push the client and their brief further within the time and budget provided. Clients who have made a deliberate and educated decision to engage a practice like Atelier Bow-Wow are expecting their brief to generate a challenging response.

Atelier Bow-Wow's practice is based on discussion, and on the idea that what is around us is worth interrogating. It also assumes that architecture can be both a lens for viewing the society in which we live, as well as a mechanism for changing that society. "I like to talk to people through architecture issues. The subject of the discussion might be some other issue, but we always try to look for its relationship to architecture and society or culture. Architecture always helps me to understand what's happening in each different city or society."

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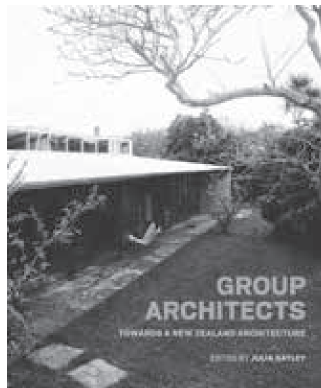
Tsukamoto, Y. & Kajima, M. (2010). *Behaviorology*. New York (NY): Rizzoli.

Group Architects:

Towards a New Zealand Architecture
Edited by Julia Gatley

Review by David Mitchell



Gatley, J. (Ed.). (2010). *Group Architects: Towards a New Zealand Architecture*. Auckland: Auckland University Press.

Every year another monograph or two is published on the work of contemporary New Zealand architects, and we can only welcome these additions to our national library. They are, however, generally produced – at least in part – by the architect who is the subject. This casts a critical shadow over the writing. If content does not firmly reinforce the main character, it will not grace the page.

Group Architects are now historical figures, and no such limitation constrains writing about them. Julia Gatley has assembled writers eager to cast new light or new interpretations on the Group. *Group Architects: Towards a New Zealand Architecture* is the first comprehensive presentation of Group Architects' work. It is a major document in our architectural history, a handsome book and a pleasure to read. The authors are a generation or two removed from their subjects, which gives freshness to their views, and a chance to re-open questions older commentators might have thought settled.

The book is admirably rich in illustrations, with many archival photos, and excellent new ones by Simon Devitt and Paul McCredie. Plans of most of the houses have been cleanly redrawn, and some revealing drawings by the architects are included. Seeing a great deal of the Group's work in a single book clarifies their strengths and, it should be admitted, a few of their shortcomings.

Julia Gatley is the editor, and the largest contribution comes from thoughtful writing by her and Bill McKay. The work is amplified in various (not closely related) ways by other writers, most of whom are architectural academics with strong links to their topics in the book. All the work has been thoroughly researched, carefully annotated, and presented with the visual and the written material in a pleasing balance. The book is academically strong, but readily accessible to any intelligent reader interested in architecture and the people who make it.

The story of how a handful of stroppy post-War students rebelled at architecture school, wrote a manifesto, designed and built their own first houses, and very rapidly stamped their brand on New Zealand architecture is retold here. Julia Gatley then presents an ordered and rewarding analysis of the forms of significant Group houses from 1948 until 1968.

Gatley rarely passes judgement, and her even-handedness with the Group's commercial and public buildings is perhaps over-generous. Their row housing for the Navy at Devonport, cut loose in a suburban paddock, looked almost as gauche in its preferred drawn version as in the built one. It seems to have sent Bruce Rotherham overseas for good. The failure to submit their Sydney Opera House Competition entry will not be regretted by many, and the Flanshaw Shopping Centre design seems as cheerless as Plischke's designs for Naenae 10 years earlier.

It is the houses and the house-like buildings (kindergartens and an ambulance station) that are most convincing. The Group was destined by fate or desire to do their best work in the suburbs, to build a reputation on buildings few have seen, enlarged by the articulate utterances of the charismatic Bill Wilson.

The nationalist desire of the Group to invent a New Zealand architecture was paralleled in New Zealand literature and art. Francis Pound presented a sustained discussion on this theme in his recent book, *The Invention of New Zealand: Art and National Identity* (2009). Gatley and McKay avoid the jingoistic overtones of the term nationalist, referring to the Group as regionalist. Set against international movements in architecture, there is a provincial ring to the regional, which promises recognition no wider than the country of its birth. Perhaps New Zealand was big enough for the Group. Some architects here (like Ernst Plischke) saw the Group as little more than a sideshow to the great parade of Modern Architecture. As McKay and Gatley point out, some very good local and *émigré* designers in Auckland were contemporaries of the Group. Why, they seem to wonder, did earlier writers "marginalise" these people in favour of the Group?

Certainly, the direct connections between teachers and students through several generations in the Auckland School, from Vernon Brown onward, produced "graduates enculturated in the Auckland architectural scene". Certainly, *The Elegant Shed* was regionalist (Mitchell & Chaplin 1984). But the book version of it arose from a television series, and regionalism was at the heart of TVNZ's brief for it. It was the easiest way of ensuring a national audience.

Yet there was more to it than that: mainstream modernism was everywhere in the world architectural press, and one was hard-pressed to find particular distinction in the local version of it, especially while the godfathers of 20th century architecture were still leading the pack. The regionalists here, for all the influences upon them, tried to be particular, and they did produce coherent bodies of work that varied from place to place. They were good to write about, as Gatley and McKay demonstrate. In discussing New Zealand architecture (in relation to the Japanese and the Swiss), Tom Heneghan has pointed out that the world's "recent fascination with Swiss architecture seems to be because it doesn't look like everything, everywhere else. Decades of internalised conversations and internalised references have given Swiss work a self-contained integrity." (2005: 116) That is, perhaps, the regionalist dream.

Kerry Francis writes about the *émigré* landscape architect Odo Strewe's relationship with the Group, pointing out that while Strewe and Wilson worked on the relation between landscape and buildings, and investigated radical constructions in sprayed concrete, nationalism of any kind (including the Group's search for New Zealandness) could not be tolerated by Strewe. Other *émigrés* from Nazism, like Plischke and Kulka, doubtless felt the same. Many of us would now agree with them.

The multiple sources of Group work – in particular the influence of Japanese timber architecture, and also Scandinavian and American architecture – are discussed by Andrew Barrie, exposing the curious irony that men seeking New Zealandness had half an eye off-shore.

Though two of the original members of the Architectural Group were women, neither Barbara Parker nor Marilyn Hart became architects. Gill Matthewson's chapter "House Work" shows that the Group boys were no less chauvinistic than most of their contemporaries. Freddie Hackshaw and Marilyn Reynolds have let fly to Matthewson with some scorching comments about their attitude to housework, to comfort, and to the tastes of the bourgeoisie. Poor Dorothy Catley felt she had to give away all her crystal wedding presents to keep pace with her new Group house!

Brenda Vale makes measured assessments of the structural and thermal performance of the Group's First House in relation to the material used, and compares it with a State house of the same size. It is no surprise really to find the Group house falls short in most respects: minimal shelters tend to be cold, and small open-plan houses make very difficult family homes.

I still see the early Group houses as artworks about the subject of house. Their exposed structures – generally of imported Australian hardwood or Oregon, imported cedar or redwood windows, and floors and linings of timbers from our last millable native forests – hardly expressed the essence of New Zealandness. Even the obsession with uncut sheet linings, producing battened modular planning, was more uncomfortable than it was useful. The prefab systems it mimicked, which were later seriously explored by Ivan Juriss, were, as Brenda Vale says, appropriate to a much bigger mass market than ours. In the late houses of Juriss, all this is gone. The Robertson, Mann and Worrall houses were relaxed, liveable and richly textured.

Paul Walker and Justine Clark add a considered closing chapter to the book in which they reflect on "The Group and the New Zealand Architectural Canon", noting that, "the Group has subsumed a network of ideas pursued by a whole range of architects in New Zealand. Now anyone who was active at the time is almost always located in relation to the Group." (223) Despite its clarifications, this book will probably reinforce that myth. There were at least a dozen other very good architects in Auckland when the Group were working, and most were friends. Time calcifies as much as it dissolves.

In 1959, as a first-year student at the Auckland School, I heard Bill Wilson for the first time, talking brilliantly to a slide show of recent work by the Group. It was a revelation I have never forgotten. The intelligence, erudition and warmth of the man, and the freshness, the zest for construction, and the localism of the work were truly thrilling. It seemed New Zealand architecture had been invented.

Group Architects: Towards a New Zealand Architecture brings it all back.

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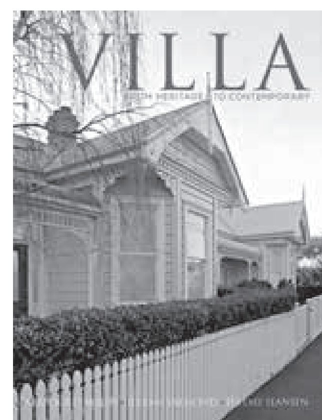
Villa:

From Heritage to Contemporary by Patrick Reynolds, Jeremy Salmond, and Jeremy Hansen

Review by Bill McKay

At first sight this book is rather like the contemporary villa: large and lovely to look at, but more expensive than you would think. And, as with any open home, a casual leafing through its pages had me pondering if it were really for me. But reading it has won me over in much the same way as the authors characterise the villa: for its "combination of charm and utility".

Villa: From Heritage to Contemporary has three authors, each contributing a substantial section. Patrick Reynolds, instigator of the project, has contributed all of the photographs, but it is his short-but-spirited introduction that gets the book off to an excellent start. He manages in a couple of entertaining pages to encompass key aspects of the villa that the book explores, as well as charting the trajectory of his life from boyhood in a modernist "anti-villa" to acceptance of fate as an architectural photographer living in a villa alteration in Auckland's western bays.



Reynolds, P., Salmond, J. and Hansen, J. (2009). *Villa: From Heritage to Contemporary.* Auckland: Random House.

Jeremy Salmond is of course one of our preeminent heritage architects. Like the others he starts his text *The Villa: 1860 - 1910* with a little autobiography, the kind of thing that can veer towards the nostalgic and sentimental in a context such as this. Luckily, once he gets into what he knows, he produces a very smart and readable essay. This is probably the best summation of the development of the villa that I have come across: he traces it stylistically, as Italianate architecture in the dress of Gothic Revival, but also socially, through its appeal to a better way of life and through the mechanics of early Antipodean city development. He comes up with the most accurate definition I've heard so far of the difference between a large cottage and a small villa: any house that can't be "dismissed as a mere cottage" becomes "entitled almost by default to be called a villa", something that still holds true in the Auckland property market today.

Salmond's essay is quite well illustrated with a balance of period and contemporary images; after all, too many pictures of contemporary villas can leave one feeling rather enervated, an exercise akin to leafing through the Homes for Sale section of the Saturday paper. It is always good to see period information as well, such as this sale notice from 1846:

> … superior Clover Paddock… Garden and well stocked Orchard in rear… Dwelling House (newly built of best materials) …four spacious rooms, handsome Verandah Front. A detached kitchen, well fitted up, an Outhouse; Coach House and Stabling for Four Horses; a Well of Water; an Aviary, and sixteen double Bee-Hives: with every other requisite for a Gentleman's family.

I knew Epsom was desirable but never quite realised it was literally the land of milk and honey. But advertisements such as this do give a good sense of how some lived and to me there should be little difference between a social history and an architectural history; an appreciation of architecture is hollow without context.

Salmond also addresses the important evolution of the villa from the earlier Victorian residence described above, sedate on its large section, to the later products of a kitset cornucopia that spewed out lines of houses cheek by jowl on Auckland's inner city streets. This description of our pretty streets may seem harsh, but bear in mind that the villa and its clutter of contents are the output, as both Reynolds and Salmond make clear, of Victorian capitalism allied with industrialisation. This process involved the pitiless exploitation of local resources, land speculation and the beginning of the consumer society we know so well today. The Kauri Milling Company alone, on the shores of Freeman's Bay, churned out 139 million metres of timber from 1898 on, disemboweling the centuries-old kauri forests of Northland and the Waikato to produce cold and drafty houses closeting the Victorian family. And these Auckland streets were the equivalent of the stucco acres of housing we now see in Botany Downs, houses for new immigrants or those climbing the social ladder, anxious to impress the neighbours.

Salmond also briefly discusses the interior design of villas and the extent to which there are regional styles; interestingly, the faceted (as opposed to square) bay villa is "essentially an Auckland style". This is an improvement on previous books on the subject as well as a reflection on the subtleties of Salmond's knowledge (as one would expect since the first villa he lived in was in Gore). He is at his most arch when he comes to discussion of the contemporary villa and the phases of "villafication" ("plague of aluminium windows sweeps the land", ceilings are lowered with new "wonder materials of the age: Pinex and Gib") and how gentrification leads through an increase in property values to the pressure to replace neighbourhood housing such as the villa. "The growth of towns is not unlike an onion," he says, "it makes one weep at times."

Although brief for a book of this size, this section of the book is very well-rounded in its appreciation of the villa not just as an architectural form, but through consideration of its social and economic context as well; after all villas were the "building blocks of late 19th century towns" and now occupy architecturally contestable chunks of the inner city landscape. Salmond addresses the issue of whether or not the typical villa requires "open heart surgery" for modern needs or whether alterations can be conducted in a more conservative manner aligned with period style. He comes down on the side of "good design" (who doesn't?) but it's an easy answer in relation to the villa. These houses have always been flexible and adaptable from the interior through to the backyard and with the street façade left intact to shore up the character of the neighbourhood; a compromise of sorts keeps most of the people happy most of the time.

This is explored in the next section, *The Villa Today*, primarily through Patrick Reynolds' photographs and Jeremy Hansen's short texts on the "diversity of modern day occupation". This is where the book takes on more of the characteristics of coffee table tome rather than useful reference; something mainly for dipping into. Hansen, editor of *Home NZ* magazine, makes an affable tour guide but his several short pieces on various villa do-ups can be relentlessly positive after a while. He does enthusiasm well but when he allows himself to muse, his prose matches more the tone of Reynolds' photography. These images are a long way from the cheerful portrayals found in the real estate world: they have an introspective quality that draws you in. It is ironic that the villa, with its original layers of strict social hierarchy, in which a visitor would never get beyond the hallway arch or drawing room, is now opened up for inspection. We are invited to poke our noses deep into the detail and detritus of how people live. Certainly the most interesting are those in which the villa is background; it becomes merely a cave in which we peruse the collections of mainly creative types. The habitations of Lloyd Jenkins and Wells, and Knox and Ward, certainly have nothing to do with the accepted niceties of interior design as retailed in the lifestyle magazines. Reynolds' images aren't prurient, though, nor are they excessively styled, though they are posed. They are of people like us at home in their environment, and except for the more modern intimacy, are reminiscent of the period photographs also presented in the book.

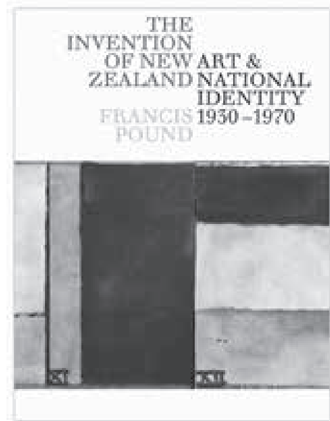
Perhaps this is the success of the villa. Beyond the fairly uniform façade these houses can be occupied in myriad ways and indulge one's idiosyncrasies. As these three authors maintain, although the fancy frontage is beguiling, that is not the primary appeal of the villa to them. It is the scale, simplicity and flexibility (and flimsy construction!) which allow us to make of them what we want. This has maintained their appeal and survival into the modern era, beyond the street appearance that preoccupies planners and real estate agents.

This book does not aim to be the definitive word on the villa, a history or critical analysis. It sets out to be a "generous tribute" and it achieves just that: it is a smart, intelligent and enthusiastic guide and, like any tour, has a little something for everyone. Would I recommend it to someone who has acquired a villa and is keen to restore it "properly"? It could do them good. This is not a book for the doctrinaire; it is quite the opposite. As Reynolds puts it "a villa-like book, rambling, generous, textured, every room off the hall another possibility for surprise".

The Invention of New Zealand

Art & National Identity 1930-1970 by Francis Pound

Review by Pip Cheshire



Pound, F. (2009). *The Invention of New Zealand: Art & National Identity 1930-1970.* Auckland: Auckland University Press.

Poet Allen Curnow's comment in the *First Yearbook of the Arts in New Zealand* lays out the general argument for the necessity of invention: "… strictly speaking New Zealand doesn't exist yet, though some possible New Zealands glimmer in some poems and in some canvases. It remains to be created – should I say invented – by writers, musicians, artists, architects, publishers." Curnow writes in 1945, the Second World War has ended, the country has roads, railways and hydro schemes; the land is cleared, irrigated and farmed. His comment is, like Cook's comments some 180 years earlier, a conceit, an hyperbole; where Cook saw a land without habitation Curnow sees a land physically occupied, yet here in body only – tied still to the culture of England.

In his preface Pound couples Curnow's text with a McCahon *Landfall* essay of 1966 entitled "Beginnings", in which McCahon refers to "... something… belonging to the land and not yet to the people. Not yet understood or communicated or even really yet invented." The two texts point to a way of understanding creative endeavour, primarily that of painting and writing, that became so pervasive as to be a canon, a Nationalist canon – an unquestioned tenet by which all creative work was measured. The extent to which the necessity of inventing a nation dominated the critical frameworks of writers, reviewers and curators is measured yet in the unbalanced collections of the nation's museums, the hearts and minds of some more public commentators and the marginalising of some of our more interesting artists.

Pound examines a number of themes central to the establishment of a Nationalist sensitivity: the necessity for particularising and naming (Rita Angus's *Cass*, Robin White's *Mana Railway Station*), the ubiquitous strong clear light (Don Binney's bird, Brent Wong's clouds), the engendered land – the nurturing earth mother ravished by the invariably male artist, and so on. For each such tenet there is a carefully articulated and illustrated argument, and an ever so gentle demolition of that argument as each is subject to his erudite examination. So gentle are his refutations of the arguments that it is, as Pound himself says in the preface, as if he has become enamoured of the canon, wistfully nostalgic for the certainty and singularity of vision implicit in such a dominant idea. There is too an heroic task at hand – the making of a country. Is one therefore unmaking the country to some degree by questioning its clarion call and yardstick?

Pound's use of McCahon's *The Listener (Head)*, as the first plate of the 190 that are grouped throughout the book, becomes a reference, an introduction to those aspects of the country that need inventing: the cleared and empty land, and the rear view of the listener's observing head gazing out. By the end of the thesis the land may not be so empty: Theo Schoon has recorded cave dwellings, connections to a wider world have been discovered and the necessity of a New Zealand way of painting looks increasingly like a convenient shibboleth of the handful of curators, writers and publishers who held sway over what was seen in the country's museums and its few galleries in the early part of last century.

In a small society the power of a prevailing canon of thought is significant: too few critics have too few opportunities for publication and thus those that are published have undue influence. Where those commentaries are within the mass media those few key figures have the power to skew the public's understanding of art to fit that canon. Throughout this extraordinarily written and crafted work Pound runs parallel arguments; a coherent argument in favour of a Nationalist reading is made, then work is discussed that either doesn't fit, and was thus ignored by the canon, or is of such profundity as to make the Nationalist reading somewhat trivial. McCahon's work for example is dominant throughout, yet, in Pound's words "its shifting meanings" invariably suggest themes larger than those dealt with by the tropes of Nationalism. His *A piece of Muriwai canvas* can certainly be employed to illustrate the searing white light between dark sea and the underside of the long white cloud, yet that is to barely engage in the more complex ideas and emotions provoked by the work.

A piece of Muriwai canvas illustrates too the uncertainties and failures of the Nationalist canon to engage in abstract, non-figurative work. Milan Mrkusich's abstract work of the 1940s sits like an elephant in the Nationalist room, his work, as Pound notes, never having been figurative. It is consigned, by analogy with the influx of European modern artists and architects to pre-war America, to a kind of immigrant holding station. Where we see John Weeks' undated Cézanne-influenced abstraction of the land (*Landscape Sketch, Abstract, Green and Orange*) and Gordon Walters' transition to non-figurative work (*Painting no. 2, 1952*), Mrkusich's 1946 *Constellation with red* is shocking in this context for both its clear engagement in an international discourse unconcerned with the occupation of a new land and for the self-referential nature of the work itself.

Just as the Nationalist trope fends off the outer world, and in particular the distractions of modernism, in favour of inventing the new land so the prior existence of a vibrant visual culture before the colonial mapping of new-found exotica is something of an embarrassment. Pound tracks Theo Schoon and Gordon Walters' discoveries of South Canterbury cave drawings and the incorporation of Maori pattern and motif within their work. This synthesis is placed within the context of paintings depicting dejected 'natives' and presented as evidence of a declining Maori population and the loss of pre-colonial innocence.

These are crude abbreviations of a superb book which raises academic writing in this country to an extraordinary new standard. Though its focus is on a relatively short but critical period of New Zealand art, its text is an endlessly effervescent provocation that has one wishing for a wider education and more time to read the very many referenced texts. The book is thoughtfully organised, with usefully explanatory footnotes immediately at hand at the page's bottom, an extensive bibliography and index, and well-selected and referenced full colour plates.

If there is critique then Pound shows himself all too aware of it; in his preface he refers to the length of time taken for the book to come to print. This has clearly given time for polishing the manuscript but perhaps some of the arguments may have benefitted from an updating. Though the period of study is well past and our art now reflects the currents, complexities and contradictions of the wider world, the shadow of a singular paternalistic and constraining reading of art lingers in the country's asymmetric public art collections.

We might also point to a collective inability to engage in coherent discussion about abstraction of any kind as a legacy of Nationalism's bias to the figurative, witness the public gnashing of teeth over the artist et al's Venice Biennale work of 2004, or almost any other publicly funded abstract art for that matter. Architecture is similarly tongue-tied in discussion of the abstract and retains a strong emphasis on the relationship with the land, though invariably the focus is on the search for a rapprochement with nature rather than a transformational occupation. This has conferred a moral certitude on the farm shed which is consistently referenced by architects today, though their projects invariably owe more to those of immigrant Europeans in post-war America than the hayricks of the Waikato or Southland.

Pound's thesis ends with the outside world no longer able to be held at bay by the constructs of a Nationalist ideology; by the early 1970s the Vuletic gallery in Auckland is showing New Zealand art, made here, engaged in current contemporary discourse current in the rest of the world and without a figurative stroke in sight! The large public response to the recent Rita Angus show in Wellington and Auckland city galleries is testimony to the current popularity of a nostalgic look back to an austere and circumscribed time of our history. *The Invention of New Zealand Art & National Identity 1930-1970* is a superb work that offers rich insights into the time when artists, writers and those of our own trade were exhorted to create an intellectual infrastructure to complement the labours of the black-singleted and pinnied colonial forebears.

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Tensions.

Design proposals for the Confucius Institute at The University of Auckland

George Fraser Gallery, Auckland, 24 – 29 August 2010

Work by Yan Chen, Joseph Crowe, Angus Muir, Bhavina Patel, Divya Purusotham, Min Tian and Cynthia Yu. Curated by Mike Davis and Sou Muy Ly

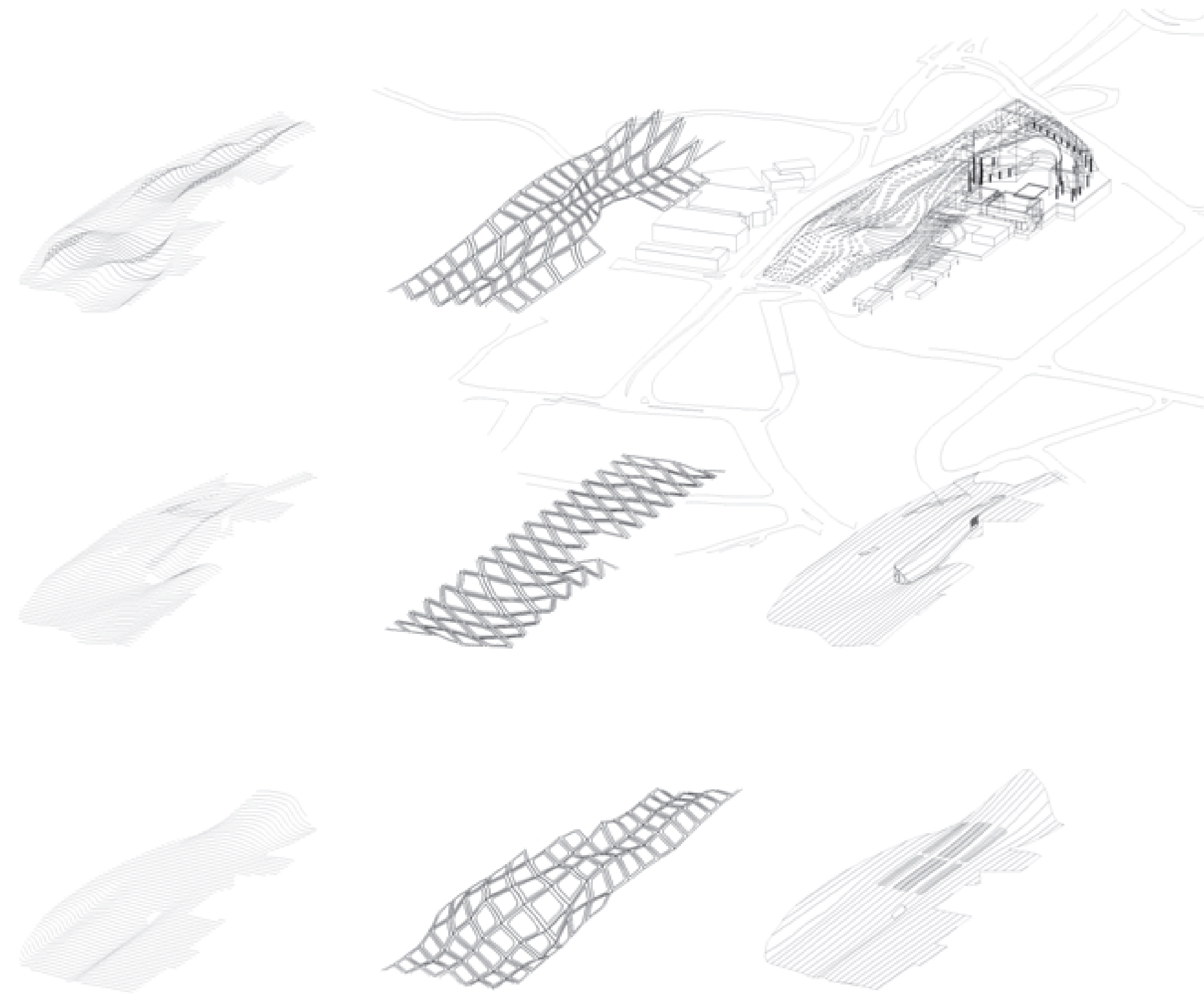
Review by Carl Douglas

Although *Tensions*, an exhibition of work by MArch(Prof) students from The University of Auckland's School of Architecture and Planning, addresses a concrete brief for the Confucius Institute, it is best viewed as an index of architectural process. Dressed in the matte white uniform of the gallery, it may take a moment to notice that the work doesn't advance a unified stylistic agenda: within the group are represented Siza-like plays of mass and volume, continuous surfaces like those of Foreign Office Architects, programmatic envelopes like those of OMA, hybrids of Chipperfield and RCR Arquitectes, and Fujimoto-style villages. What the work shares is an experimental approach to the instruments of architectural generation: sections, diagrams, maps, algorithms.

The graphic preference for the lucid and orderly cannot mask a state of agitation within each project. There is only provisional completeness to be found here. The process is non-linear, interrogative, and intensive. A collectively-produced sketchbook opens a window into the raw state of design that is welcome in a context obsessed with completeness and closure. Mike Davis, in his catalogue essay, describes an oscillation between the material practice of representing and reflective cross-examination. Sarah Treadwell, in her adjacent essay, speaks of

George Fraser Gallery (Photo by Sou Muy Ly)

Min Tian - diagram



this oscillation as a kind of high-wire dance along the line of the cutting-edge, writing: "The danger for the maker lies in going too far or not far enough; there is no certainty in decision-making – just a strange sense of rightness, a momentary satisfaction with one particular cut or instance" (2010: 4). This sense of feeling one's way in design is directly implicated in the selection and design of the architect's toolkit.

Design tools are not necessarily physical implements. A conceptual framework like Renaissance perspective is a tool, as is a Gantt chart, a digital algorithm like a Grasshopper script, or analog algorithms like those of sciagraphy. A minimum definition of "tool" might focus on its basic role as a differentiator or translator: something that generates a difference or produces a transformation. The exhibition sketchbooks reveal the operation of tools ranging from muscular and assertive to delicate, from general to specific, from theoretical frameworks to life-hacks, project strategies to spatial patterns.

Diagrams, for example, are prominent. As a kind of affine representation, they are minimally specified and portable: articulating a structure rather than an image. A topological circulation diagram, for instance, could find infinite concrete applications. But diagrams should not be understood as a "free" state which is then constrained by practicalities or codes. On the contrary, diagrammatic operation must always be balanced with a corrective – the understanding that the world is, strictly speaking, irreducible. One of the strategies deployed to this end here is the pairing of abstract diagrams with a more heavily coded representational tool like section drawing. Davis explained to me that, far from strangling the projects, he found representational strictures released the designs from the designer's mind into the open space of external relation.

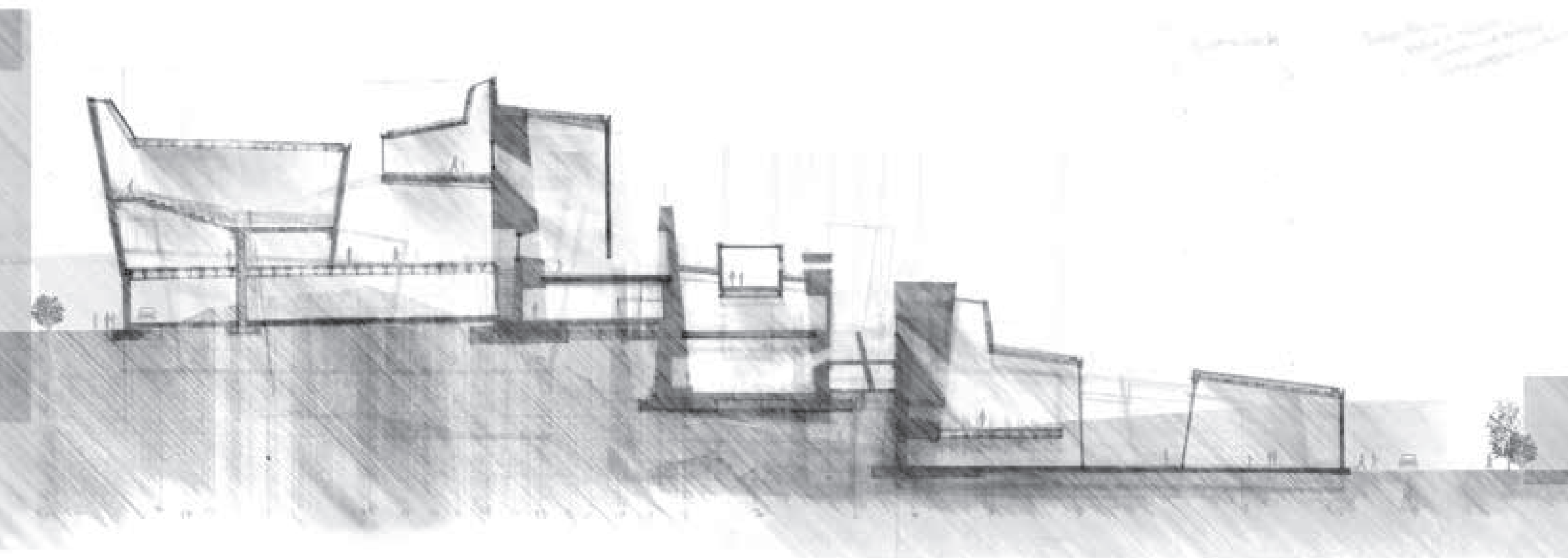
Another class of tool is the architectural pattern. One recurring pattern in *Tensions* is the architectural device of using through-passage to break institutional seals and maximise the surface of contact with the mobile public of the university campus. Joseph Crowe, for example, positions a series of folded ramps threaded through the building skin, allowing a pedestrian shortcut to brush up against the meandering programme of the interior. Similar in strategy although not in appearance, Cynthia Yu proposes that pedestrians filter through a cellular village. Angus Muir is the limit-case of this approach: pointing out that the requirements for meeting-spaces, lecture theatres and function rooms can already be accommodated in existing university spaces, he elaborates a plaza stretching from the clocktower to the northeastern edge of the campus, providing the institute with a far greater public face than a single building could. These students, resist the idea that the site be a closed venue, a perimeter within which the two nations with which the Confucius Institute is concerned – China and New Zealand – are permitted only formal encounters; in doing so they fulfill the Institute's collaborative and public spirit.

Seeking and producing site disturbance was another effectively-deployed tool. In the same way that Lucretius' atoms generate all the world's complexity and differentiation from the merest of swerves, complex and elaborate proposals arise from the smallest detail of the site's specificity. Bhavina Patel, finding that the historical coastline bites the edge of the site slightly, uses this disturbance to generate a volumetric play of deep shafts and shadowy voids. Yan Chen samples the density of the foliage on the site. Divya Purusotham reifies tiny slivers of shadow. Min Tian treats the site as a uniform field plastically deformed by external pressures.

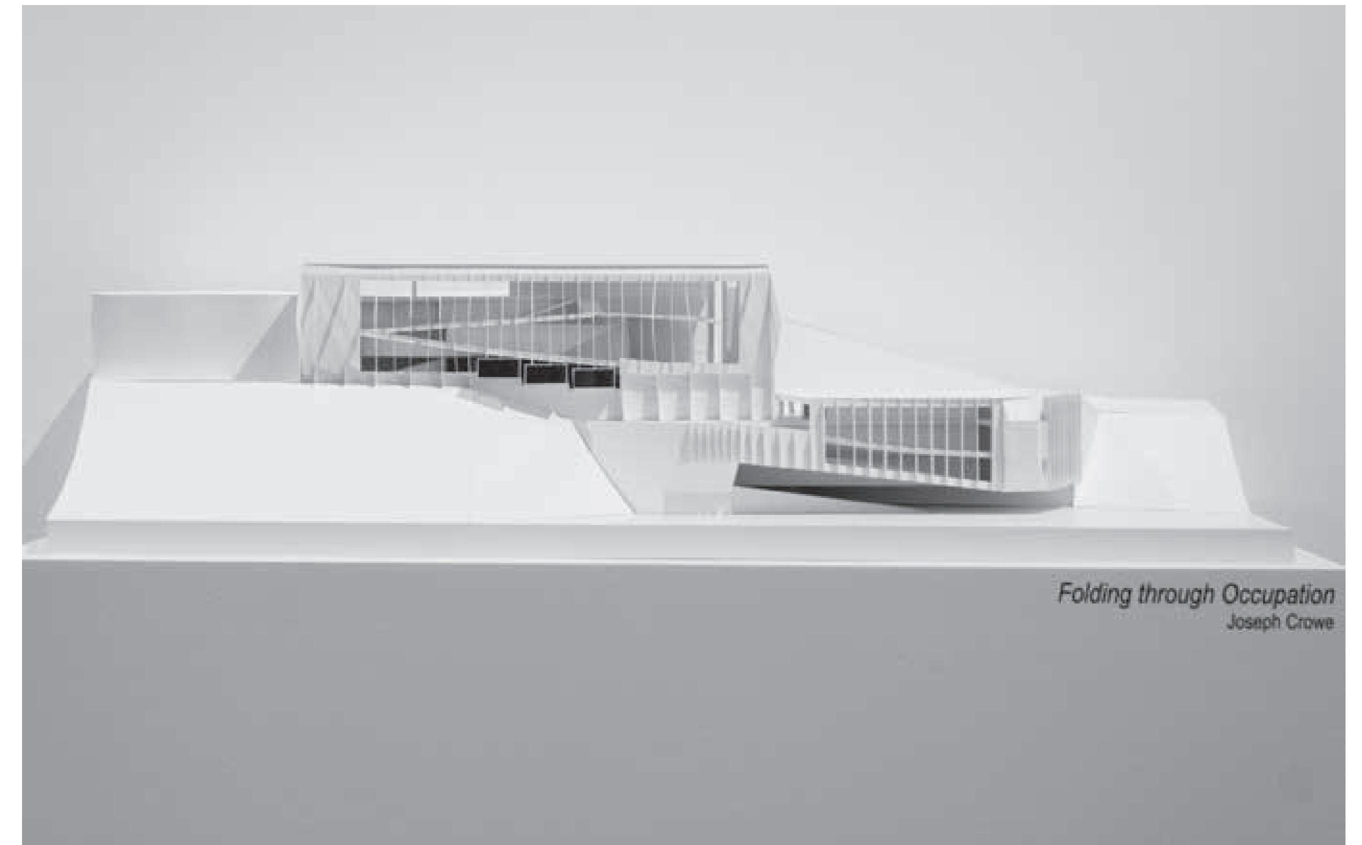
By analysing the site for something that individuates it, distinguishes it from any other place, the site itself becomes a generator, not just a canvas.

According to Richard Sennett there are two types of expertise: antisocial, in which each problem is treated in isolation by means of rules; and sociable, which "addresses other people in their unfolding prospects, just as the artisan explores material change" (2008: 251). Finding ways to open up the design process to external agents, pressures and effects is not a limitation on the artistic freedom of the designer. On the contrary, we should welcome the displacement of a singular antisocial designer in favour of more exhaustive engagement with a dynamic world of mixed agencies.

Architecture might be better defined in terms of its craft: instrumentally or equipmentally, rather than institutionally. Generative strategies like those exhibited in *Tensions* cause us to refocus on architectural craft. Reyner Banham, in his essay "A Black Box", writes of the unspoken assumptions of the architectural profession. There is a whole series of unwritten assumptions about what architecture is, most tellingly revealed by the thought, "I know architecture when I see it." Nikolaus Pevsner's snooty comment that a bicycle shed isn't architecture ("a piece of academic snobbery that can only offend a committed cyclist like myself," writes Banham, involving "a supposition about sheds that is so sweeping as to be almost racist" (1990: 23)) belongs to this class of statement. We should be rigorously suspicious of those who claim that the detection of architecture requires a priestly faculty, and of the uncriticised assumptions buried in professional common sense. *Tensions* is noteworthy for the attention it directs to the question: what do architects do? Architecture should not be what Banham accuses it of being: "the exercise of an arcane and privileged aesthetic code" (25). Demystifying architectural process is not a threat to architectural autonomy, but an opportunity to make explicit the rich and tense operations necessary to the fabrication of our shared space.



Divya Purusotham - long section



Joseph Crowe - model (Photo by Sou Muy Ly)

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Sep Yama:

“Ground you cannot see” Finding Country (a primer)

Don’t Come Gallery, Melbourne, 30 April - 6 May 2009 &
Sling Exhibition, Brisbane, 25 June 2009

Co-curators: Kevin O’Brien and Michael Markham
Contributors: Gina Levenspiel, Peter Steudle, Eugene Nemisi, Claire Humphreys

Review by Carroll Go-Sam

Sep Yama / Finding Country (a primer) – a foundation exercise in resurging insights into rights in country[1] pursued provocative expressions of Indigenous place as resistance in order to catalyse an audience response. *Sep Yama* reinstates rival notions of occupation and geography as a means of reordering what has been colonised. The first instalment, labelled “a primer”, the culmination of many streams of activity over a period of time, comprised two separate exhibitions, one at Don’t Come Gallery, Melbourne, the second at Sling Bar, Brisbane. The exhibits were a composite of disparate elements and endeavours, that were by no means seamless or easily comprehended, and demanded considerable decryption. A number of ancillary elements added to the conceptual and semantic explorations of Finding Country, including a catalogue, a film relay of skaters, image projections, and a series of colourful skateboards painted in traditional Meriam Mer abstract motifs.

Sep Yama is both process and exhibit, encapsulating pan-Indigenous and non-Indigenous constructs of place. Unlike the exclusivity of Indigenous custodial tenure, its extended process and realisation is clearly inclusive of non-Indigenous place-making. It is also a way of thinking that links human activity with the natural world in pursuit of pan-sacred notions of Country.[2] As an exhibit, *Sep Yama* did not seek to invoke traditional Indigenous concepts of Country but borrowed linguistic etymology and cultural constructs to alter perceptions of place. It was neither distinctly Indigenous nor non-Indigenous, but co-existing. The ground zero of *Sep Yama* consists of select sites within the city of Brisbane, the contested country of the Yagera, Jagera, Turrbal, Ugarupul and Kurnpal peoples.

1. O’Brien conceives Country as a “pre-settlement space” (http://www.finding-country.com/tUG_lightbox/index.html): “Country is an Aboriginal Idea. It is an Idea that binds groupings of Aboriginal people to the place of their ancestors, past, present and future. It understands that every moment of the land, sea and sky, its particles, its prospects and its prompts, enables life. It is revealed over time by camping in it and guides my way into architecture” (Kevin O’Brien, https://www.lib.uts.edu.au/about-uts-library/news-and-communication/markets-forum/2010/forum-35).

2. Also expressed in other related works through amorphous poetic constructs concerning architecture and place, see *Architectural Review (Australia)*, 2009: 103, 92-98.

Co-curators O'Brien and Markham extended their curatorial role to that of contributors, propositioning their collaborators to devise an intervention within a designated zone, to contrive their own fragment of the city (for only half the current population), and to expropriate its redundant structure and artefacts. The exercise was alluring since it countered models of development and speculation premised on the inevitable growth of the future city. Could this disrupted urban state give rise to new theoretical or imaginary propositions, along with new processes of reconstructing urban space?[3]

The 19 intervention schemes produced by the collaborators represent a hybrid of orthogonal, radial and organic systems of city planning models. In the exhibit, each intervention was restricted to its designated zone on a single A4 sheet, identified by map coordinates: hence, B19 is a combination of vertical [A-J] and horizontal [01-38] reference points. On completion, each intervention was slotted into its grid location to form the composite of the final large-scale exhibition panel – an alternative city redesigned by a diverse group. The organising model for each endeavour was constrained within the boundaries of its coordinates, with propositions ending abruptly at the limit. This assemblage emphasised contrasting strategies between adjoining sub-panels, and between new and existing morphologies. In the process, the known city was reconfigured beyond recognition.

The consequence is an anti-city, fragmented, disintegrated and disrupted, where neighbouring themes suddenly change, yet some continuity occurs between major geographic and morphological features. If the viewer focused on the individual unit and its contextual neighbours, however, any expectations of unified constancy of city planning have already been radically undermined. Dismantling and interrupting the prevailing order, the chaotic intention is further heightened by the clustering and scattering of individual themes across the city. Memories of the displacement of the 'organic nature' of Indigenous settlement planning arise, yet in reverse – the orthogonal grid structure is subverted by revisionist inconsistent utopias.

Sep Yama not only infuses the city with tension (indeed, tension seems too polite a descriptive) – the reordered morphology brazenly usurps existing systems and provides new directions, which seem difficult to conceive at first glance. Some propositions are decipherable, others are esoteric and impenetrable. The city and its architecture are severed: viewers are made to consider them as separate dimensions. Architecture is only contemplated for its operational or classificatory use, not its value as an artefact.

There are discrepancies between exhibition and catalogue: in the latter, a single graphic depicts the completed plan, supported by text explaining this exercise of interrogating the city. At the exhibition, the point was lost somewhat, due to a lack of translation. The viewer was left appreciating the aesthetic quality and collective power of the composition, solely, as *objet d'art*. In the exhibition catalogue, each of the interventions is given equal status, highlighting the egalitarian premise that *Sep Yama* is a medium inviting free exploration. Contradicting this inclusivity, though, is the considerable editing of the image content; there is a disparity between the final composite details and those represented in the catalogue. It suggests that a particular graphic product was given preference over specific themes or propositions. The tension and unevenness of the composite panel at the

3. For instance, lower density lends itself to a reduction in built fabric, allowing the exposure of an imagined morphology and devising of an alternate typology. Yet the density of the reconfigured patchwork city is surprising. Also, it is difficult to determine whether emphasis was placed here on the process prescribed or the significance of the state arrived at. Once arrived at the fragmentary final condition, does the conceptual achievement then have any attributes worthy of implementation? And, does *Sep Yama* advance a generative framework for place-making by melding pan-Indigenous concepts of place with the dominating hierarchy of the city's morphology?

exhibition was perhaps a consequence of its procurement, where communication of intent and resolution had been achieved through surprisingly unrelated streams of undertakings that were by no means completely consolidated.

Sep Yama proposed multi-hued readings of objects, event and actions. Next to the panel, the project attempted to orchestrate meaning into painted skateboards, footage of skaters in abandoned swimming pools and image projections. These elements were then tied to compositions of digital statements about Indigenous dispossession and oppression. But these were implicit not explicit. The painted skate decks were displayed like Indigenous fighting shields, scarified after their use in empty pools: implements of a ritualised settling of dispute. Their inclusion stresses that this dispute has not achieved reconciliation. It is ongoing and unresolved.

The disenfranchisement of skaters from free access to pedestrian space (and their subsequent anonymous claim of useless spaces) subliminally corresponds to the historical exclusion of the Indigenous from the city heart. To imbue power into the mundane, the observer had to leap to an alignment in thinking through an altered perception which registered the correlation between the skaters (who are regulated not as a consequence of race, but recreational choice) and Brisbane's apartheid, or Indigenous oppression. This link, forged by the exhibition's choice of media and communication, was a little too vague, which partially diminished the overall strengths of *Sep Yama*'s assertions. A different editing of the documentary film might have added to the impact of the message.

The general tension exuding from the wall-mounted composite culminated in an assault on the monumental and historical artefacts of the city through three sites of projection. Borrowing from the technique of the guerrilla street art movement, of throwing images onto buildings, the projections expanded on under-explored Indigenous resistance themes. Indigenous people, once the 'dominant culture' in Australia, became subordinated and displaced through traumatic events, by destructive technologies of warfare and suppressive legislation. In this exhibition, visual media technologies acted to subvert commonly-held views of place. Carefully-edited images, in particular one image repeatedly appliquéd on known sites of usage by traditional owners, sat uncomfortably against the projection screens of the 'Gabba' (the Brisbane Cricket Ground), the Gallery of Modern Art and the infamous Windmill Tower – all Brisbane landmarks. Each of these three sites had diverse uses that resonate in contemporary Indigenous knowledge: one sacred, another economic and the third destructive (e.g., an early site for hanging Aboriginal frontier guerrilla fighters). The fleeting presence of each projection and the repetitive use of one image reinforced the contrast between the presumed ephemeral nature of Aboriginal existence and the city's monuments to permanence.

Finally, *Sep Yama / Finding Country* was defined by what it was not. It was not an enactment of longing for an idealised, imagined place of the past, since destroyed by dispossession and trauma. It did not seek to uncover or reveal a strength inherent in contemporary notions of place and country that sustain Indigenous identity. In many ways, *Sep Yama* was even tangential and alien to known Indigenous constructions of place. Yet, through its imagery, projection and curatorial processes the exhibition exposed prior occupation through the overlay of several thematic explorations. Rather than a sentimental return to the past, *Sep Yama* was a prompter, to push those living in the present to remember that the city of today must be vigorously interrogated, and that it is the culmination of earlier historical displacements.

Seeing in Section:
The practice of photogrammatic drawing

Shelley F. Martin

The photogram as material drawing

The science of photogrammetry accesses the space of photographs for the measurement, translation and production of data about an object or environment that has been stilled by a camera, and in doing so indirectly senses its qualities. This translation of the photographic image distills multiple reference points to estimate and map the three-dimensional qualities of objects, surfaces, and terrains. Just as principles of photogrammetry mine geometric properties from photographic records and project them as formal gestures, the photogram's direct transposition of a three-dimensional object onto a surface produces a field of inquiry rich in spatial consequence by examining light as a tectonic object. Yet the photogram does not merely record the object, it also transforms the object.

Laszlo Moholy-Nagy's initial photographic material practice of recording the form of light revealed a surface constructed solely by means of drawing. Moholy-Nagy saw photography as an act that inscribed both tangible and intangible qualities of light, surface, profile, and depths. Seeking to "… deal more with the artistic function of expression than with the reproductive function of portrayal" (Kostelanetz, 1970: 51), Moholy-Nagy produced the dynamic presence of the image of light as a material engaging a surface. The two-dimensional plane of the photograph became a surface record presenting the ability to see light transparently, translucently, opaquely and refractively, thereby changing the state of both the light and the object. By actually drawing with light, the photogram, as Moholy-Nagy named this production, reveals a continuous presence and shifts both drawing and photography to a space in between stasis and motion.

Folded Plane. Photogram: Kate Godfrey

Folded Light. Photogram: Aubrey Lynch

Folded Plane. Photogram: Kate Godfrey

Folded Section. Drawing: Katrina Neirgarth

The examples of such investigations shown here are produced in the setting of the architecture studio, an educational construct that initiates the plastic nature of design as discovery occurring through autonomy natural to open observations and practices. The studies engage the presence and physicality of behaviours of light arrested by a planar surface, and yield artifacts composed by the dynamic spatial relationships of the form and force of light. The artifact's ability to physically produce and make visible what was once invisible in a thing or action stands as a lesson for drawing and announces the opportunity for apprehending correspondences between section and material production. As a direct artifact of light, and the interrelationship of an object placed in tension with light, the photogram is a materially productive tool that registers, activates and transforms both material and phenomenon.

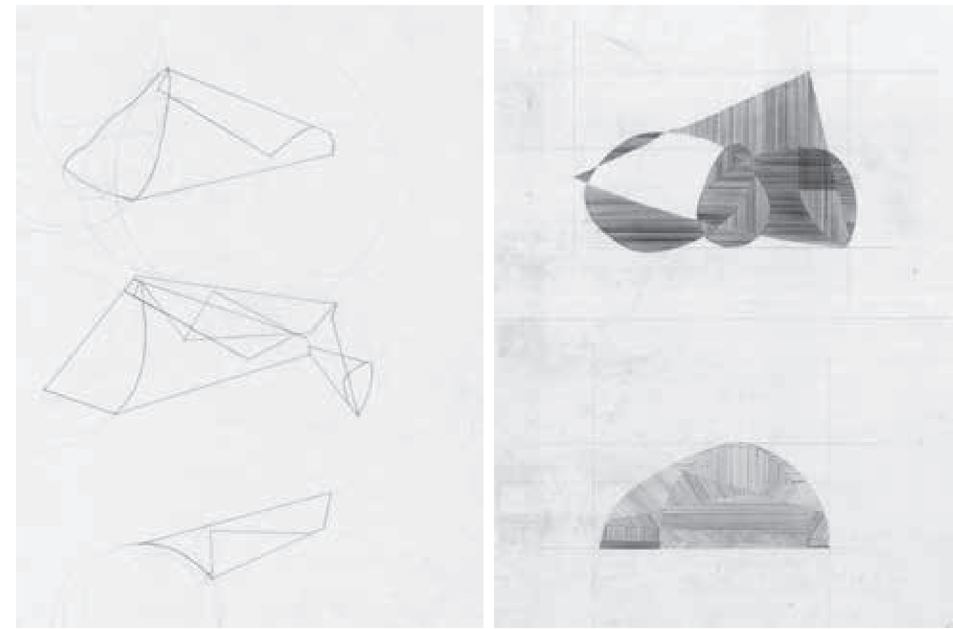
Re-registration: the frame and photogrammatic space

In 2000, I witnessed a commercial aired on television by Dodge Motors of the Dodge Chrysler Group LLC that beautifully presented a new sliding side van door feature, and intended to promote its ability to remain open even when parked on a downward slope. The commercial was highly organised to convey relationships in ways just as in the complex spatial prospect of drawing, and, by initiating the multiple depictions of the van in reference to on object seen through it, demonstrated the registrations, re-registrations, and inhabitation of sectional planes.

An axis through the van was imagined as a crucial origin in establishing given relationships, allowing the camera to tightly focus on a goldfish swimming in a fishbowl seen through a picture window in a house directly facing and parallel to the street on which the van was parked. The van itself was not yet in view; only later were the objects through which the axis cut revealed. The fish was the fragment that told the story, and as the fish looked happy, it swam in water that curiously was not level. In order to present the door feature of the van, the ground plane of the frame of reference of the street was recast in an orientation parallel to the horizon. By justifying the frame to a level ground plane, the environment was re-registered, making the axis of the street level, thereby allowing a van with two open heavy side doors to seemingly sit calmly and lightly on a horizontal surface. As the camera began to pull back through the window, and through the open van doors to the elevation of all the objects in view, we ultimately saw the fundamental axis of the ground plane move and shift to its true slope, allowing the water in the fishbowl to seek its own level, and demonstrating what all the fuss was about: the van doors remained open even if parked on a downhill slope. I find the re-framing, extension of reach, depth and breadth, and the resultant re-imagining of the frame with respect to the object it presents to be the strongest visual demonstration of the facts and experiments of the condition of section as sensed and understood in drawing.

The profiles revealed by section and the space between and around the object of study re-situates the total environment and extends the geographic prospect of the frame, making it elastic: a line that shuttles and continually moves. Seeing section as a mobile figural operation based on the re-organisation of frames is a prerequisite for understanding the phenomenon of luminosity as material shape and presence.

The sectional records presented in the plates investigate the instrumentality of light by moving between the technical and the imaginative states of lines and spatial occupation, continually recording, regulating and propagating material illuminations. The instrumentality of drawing acts as a catalyst and makes legible the correspondences of graphic processes of construction and continually constructs and re-constructs interplay within the picture and the line, the *gramma* and the *gramme*. As the state of drawing moves between surface and frame, it at times hovers or connects between similar and dissimilar inscriptions of light, concurrently recognising and retrieving, and imagining and projecting. It is in this space that drawing becomes an operation seeking questions as well as rules, and at times simultaneously imposes and derives patterns. Both an act of recognition and an act of invention, the production of sectional drawings from transformative photographic space considers the nature and demonstration of geometric construction as an act of both contingency and specificity, and within a rarefied space of drawing makes shape palpable prior to construction.



Frame. Drawing: Kate Godfrey *Surface. Drawing: Kate Godfrey*

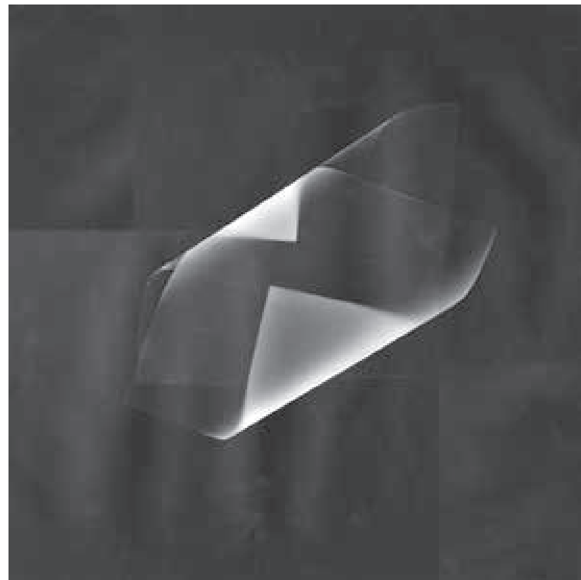
The surface: "seeing-in" the vessel of drawing

Drawing sectionally through photogrammatic space produces an environment that does not attempt to verify the preceding object's original or transformed material dimensions or qualities; instead it seeks to re-recognise material form and potential. Each mark is wholly three-dimensional in its spatial occupation of the plane of the page, and it directly deals with the thickness of shape. Shape is revealed as more than a perimeter, and becomes a surface that can be occupied. A new space of drawing is made where light records the consequence of sectional space prior to material existence. The space is a relic of light. Richard Wollheim recognises this activity as a perceptual state, and imbues this "simultaneous attention" (Wollheim 1980: 213) with the ability to perceive object and medium.

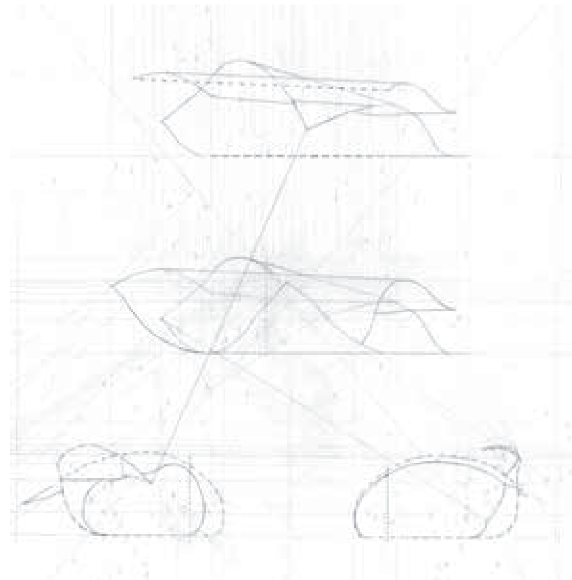
> Seeing in is a natural capacity we have – it precedes pictures, though pictures foster it – which allows us when confronted by certain differentiated surfaces, to have experiences that have a dual aspect, or 'twofoldedness': so that, on the one hand, we are aware of the differentiation of the surface, and, on the other hand, we observe something in front of, or behind, something else. (Wollheim 1993: 188)

Drawing is a vessel for both veridical and non-veridical modes of thought, vision and material inquiry. Moving between Wollheim's "seeing-in", or representational seeing of relevant three-dimensional aspects in a surface, and a type of non-veridical imaginative resurrection of what already may exist, the photogram, considered as a basis for drawing, understands the sectional projective action. In this photographic space, drawing studies the transformation of the original

object, and seeks to materially express both interior and exterior, volume and profile, and to engage the construction of drawings as fields of inquiry. The photographic works are a totality of layers, and like the layering practice of Sinopia, a pigment applied before the final painting of the fresco, the under-drawings are initial markings that become a part of the deep surface of the work.



Vessel. Photogram: Patrick Hummel

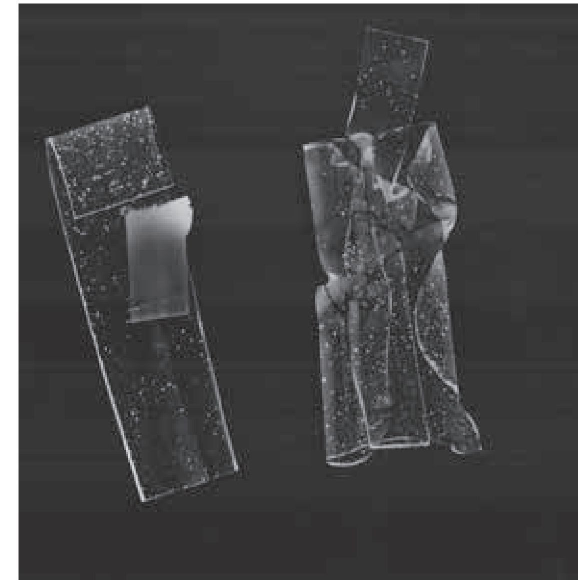


Section. Drawing: Patrick Hummel

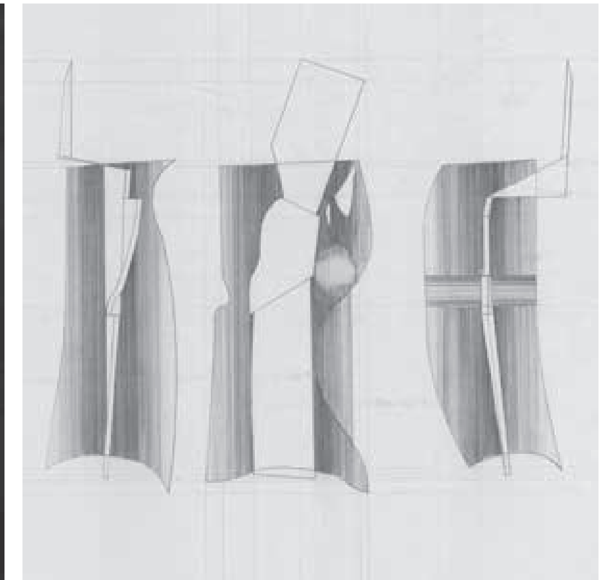
Investigative works produced within the educational setting, these drawings are made with light and graphite, and propose that there are laws found in the acts of forming and the acts of seeing which create new knowledge. Drawing exists in an emergent condition activated by its own means, where the nature and demonstration of form-making determine each drawing's existence, and behaviours both specific and contingent to production manifest an ability for a drawing to build a particular presence. The recognition of movement within the plane, density and dynamism found through material means, celebration of the internal logic of a given material, and the ability of matter to receive and express transformation through action were ideas developed by Theo van Doesburg in the forms, inquiries, and works he termed Plasticism.

The material qualities and formal behaviours in these drawings share the fundamental tenet of Plastic Art, whose problematically-based practices propose that form emerges and is not fixed, having been activated by an origin located solely within the work's own means of production, and by absolute or elemental terms that arose directly out of its own being (van Doesburg 1966: 27).

"Plastic – the sense of existence which a painting achieves." (Rothko, 2004: 43)



Plasticity. Photogram: Samson Chang



Sovereignty. Drawing: Samson Chang

The author Walker Percy writes that the essential nature of education should be openness (1975: 56-62). This, he believes, is the only condition and environment within which true knowledge may develop. Such true discoveries depend upon the condition of autonomy, and require an environment predicated on the cultivation of the free sovereignty of an individual pursuit. The interrelationship of the idea of form and the act of making require that it is more important for a work to reveal its own nature rather than revel in received ideas. These means of discovery are as critical to the acts of seeing and drawing as they are to education.

Seeing in section: drawing as a relic

> " … it is just not true that we see pictures in what they depict; rather, we see their depicta in them." (Schier 1986: 199)

In these works, drawing acts as both a carrier to read consequences through the material processes of construction, and a speculative venture that moves the act of drawing closer to the form of poetry. Remnants, traces and pieces of light cast out new frames and net new unified wholes. These may be definite in relation, but temporary in nature, as drawing becomes more like the sensible relics of

Relic of Light. *Photogram: Lisa Cox*

light's activity through a surface, a surface whose intangible content is recognisable through traces of form, imagery, and the spirit of material imagination.

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Luke Pearson currently runs a design unit at the Bartlett School of Architecture which focuses on the synthesis of drawings directed through character and duration. He also works as part of a design "think-tank" for a multinational architecture firm. His own research is directed towards the notion of *thinking through drawing* and he also designed and forms part of the editorial team for the periodical ELEVEN, which has recently emerged from the Bartlett.

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Chris Tucker is a lecturer in the School of Architecture at The University of Newcastle and is a director of the architectural practice Herd. Chris has an MPhil on computational analysis and his designs have been awarded regional and international prizes including *The Japan Architect* magazine's international prize in 2007.

Michael Chapman lectures in architectural design and theory at The University of Newcastle where he is completing a PhD concerned with the relationship between Surrealism and contemporary architectural discourse. His designs have been exhibited and published internationally including being featured in the Australian Pavilion at the 2008 Venice Biennale.

Christopher Morgan is an associate lecturer in the School of Architecture and Design at The University of Tasmania. He is currently undertaking a PhD by project at RMIT University, which is significantly informed by his continuing art practice. His current research addresses the frame, faciality and their relationship to the architectural.

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Carl Douglas is a lecturer in Spatial Design at the School of Art and Design, AUT University, where he teaches spatial theory and leads Unit 2, a speculative studio concerned with the intersections of architecture, interior, landscape, infrastructure and urbanism. His recent research has addressed the Parisian barricades of the nineteenth century; theorized lateness; and explored the spatiality of archaeological sites. Carl is also a member of the Emergent Geometries experimental practice group.

Carroll Go-Sam is a descendant of the Dyirrbal/Gumbilbarra people of far north Queensland and is one of a handful of indigenous architectural graduates in Australia. Working both as practitioner and researcher in private practice specialising in indigenous projects, she currently works at the Aboriginal Environments Research Centre at The University of Queensland. Over the past thirteen years she has lectured nationally and internationally on indigenous themes in architecture, in particular indigenous housing and identity constructs in public buildings. Carroll completed her own residence incorporating a fusion between contemporary architecture and Dyirrbalgn symbols.

Shelley F. Martin is an Associate Professor in the School of Architecture and Design at Virginia Polytechnic Institute and State University. She teaches architecture studios at graduate and undergraduate levels, theory seminars relating photography, film, and drawing, and an introductory architecture course for non-majors framed as fundamental lessons on form and culture. Her research focuses on the correspondences between the means of production found in photographic images and the qualities of material practice revealed through drawing. Grounded in both the experimental and documentary natures of photography and film, she writes on the practices of image making in architecture, and produces photographic studies and 16mm films investigating material properties and sectional dimensions of landscapes as propositions of form and shape.

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Graphics or images must be provided as separate JPG files in publishable quality (300dpi at high quality compression rate, at approximately 1.5 the size of the anticipated reproduction). Please indicate their placement in the text – preferably by inserting 100dpi images into the word file in the appropriate sizes and places. Alternatively, state in the text, in square brackets, where the image or table should be inserted: [Insert "filename.jpg" here, caption: "caption text"].

Quotations: Double quote marks around a quoted word, phrase, or sentence and use single quotations marks for quotes within quotes, as follows:

Heidegger would make this point very clear in later two essays, in which he introduces the "*primal* oneness" of the fourfold where "to be 'on earth' already means 'under the sky'" as a counter to a world in a process of planetary dissolution, in which "everything is washed together into the uniform distancelessness" (1954: 149), and "airplanes and radio sets are … among the things closest to us" (1975: 21).

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> The axonometric drawings of Sartoris can be considered ... the locus of a cognitive transcendence: in the finished perfection of the design, where geometry discloses its suprahistorical authority, the architect-theologian catches the 'philosophical and poetic matrix' of the new architecture in the mirror of the 'dreamt image', and anticipating the ends by the mastery of the means, prefigures a reality to come … (Reichlin 1978: 91)

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Acknowledgements:

We gratefully acknowledge the support of the very many people who have contributed to the realisation and quality of *Interstices* 11 in various ways, including but not limited to, the blind refereeing of papers. They are Mike Austin, Len Bell, Jan Bryant, Dana Buntrock, Rex Butler, Andrew Douglas, Carl Douglas, Tina Engels-Schwarzpaul, Sue Gallagher, Julia Gatley, Tom Heneghan, Tim Ingold, Ruth Irwin, Fiona Jack, Mark Jackson, Rafik Patel, Ross Jenner, Derek Kawiti, Misha Kavka, Kate Linzey, Mike Linzey, Stephen Loo, Mirjana Lozanovska, Christine McCarthy, Branko Mitrovic, Fleur Palmer, Albert L. Refiti, Nigel Ryan, Mark Southcombe, Nicholas Temple, Sarah Treadwell, Linda Tyler, Caroline Vercoe, Paul Walker and Peter Wood. Thanks to the contributors to the symposium, who included, apart from the contributors to this issue, Deborah Cain, Philippe Campays, Carl Douglas, Ross Jenner, Stephanie Liddicoat, Kate Linzey, Sou Muy Ly, 'Okusitino Mahina, Christine McCarthy, Michael Milojevic, Katica Pedisci, Semisi F. Potuaine, Albert L. Refiti and Linda Tyler. Thanks to Patricia Burgetsmaier, Minna Pesonen and Alice Leonard for designing and copy editing this issue. If we have inadvertently overlooked anyone, we apologise.

Thanks also to The University of Auckland Distinguished Visitors Award, the School of Architecture and Planning at The University of Auckland, the School of Art and Design at AUT University, Architectus, Jasmax, ASC Architects, The Block Foundation, Pete Bossley Architects, Mitchell & Stout Architects, Moller Architects, Warren & Mahoney and *Architecture New Zealand* for the support and sponsorship that makes the publication possible. And, finally, a big thank you to all the contributors to *Interstices* 11.

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Photographs: Patrick Reynolds. Clockwise from top left: Walker, Cheshire, Watkins, Moller.

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